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SHOULD THE MISAPPROPRIATION OF TRADE SECRETS BE A CRIMINAL OFFENCE IN OMAN? A COMPARATIVE ANALYSIS WITH ENGLAND AND THE UNITED STATES

By
Khalid Al-Shaaibi

A thesis submitted in fulfillment for the degree of Doctor of Philosophy
2019

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DECLARATION OF AUTHENCITY AND AUTHOR'S RIGHT

This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination which has led to the award of a degree.

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Abstract

This study considers the criminalisation of the misappropriation of trade secrets, which is conceptualised primarily as the dishonest acquisition, disclosure or use of the confidential commercial information of another. This consideration of the criminalisation question is generated mainly by the situation in Oman, the case in point. While the economic importance of trade secrets is substantial and the threat of misappropriation is serious, the Omani legal system currently provides only very limited *civil* protection for individuals and enterprises against the very real problem of the misappropriation of industrial and commercial information.

An examination of the present civil remedies relating to the protection of trade secrets leads to the conclusion that these civil solutions are not adequate for Oman because of either the economic efficiency of the civil law itself, or its application and enforcement in Oman. It would remain inappropriate even if remedies were made widely available because Oman lacks sufficient deterrents for less affluent defendants and wealthy corporations.

Arguably, a criminal law intervention could overcome many of the deficiencies in the civil law and could provide the necessary deterrent. However, the criminalisation solution still provokes significant academic and political controversy. Certainly, the criminal law is not an alternative tool that could be used lightly; rather its possible use requires plausible justifications. This study examines the case for criminalising trade secret misappropriation based on the interference with *proprietary* information, economic *harm*, and commercial *immorality*.

This three-fold normative paradigm contributes to the scant literature on the criminalisation of trade secret misappropriation. Equally, the study is an original contribution to the development of an effective trade secrecy law in Oman, as it presents a new proposal for reform that is based on a comparative analysis with England and the United States. More importantly, the proposed criminal reform is *Sharia*-compliant and consistent with the social and economic conditions of Oman.

Acknowledgements

My foremost gratitude I give to my wife, Aisha Al-Shaaibi for her unfailing support and great patience at all times and my five children, Ahmed, Noor, Mohammed, Hiba and Omar, for putting up with a non-conventional father for the past four years.

Not to mention, I am deeply indebted to my mother, father, brothers and sisters for their unequivocal support throughout, as always, for which my mere expression of thanks does not suffice. I am also grateful to the Omani Government, the Ministry of Higher Education and the Omani Embassy in London for the scholarship and their generous support that has enabled me to pursue my study. I give thanks also to the Ministry of Trade and Commerce, the Ministry of Manpower, Royal Oman Police and the Library of Sultan Qaboos University for the unavailable Arabic materials relating to my thesis.

Along with my particular gratitude to many academic staff of the University of Strathclyde, who have lent their experience and skills to my effort, in particular, my reviewers, Dr. Genevieve Lennon and Dr. Lorna Gillies for their faithful dedication to duty. I thank Dr. Emily Rose and Dr. Sylvie Da Lomba for their administrative support and assistance. My appreciation also goes to all the staff of the Graduate school, the Andersonian Library and the Main Library of the University of Glasgow.

I reserve my profound gratitude and deepest appreciation for my great supervisory team: Professor Claire McDiarmid, the main supervisor, Dr. Mary Neal, the second supervisor and Dr. Benjamin Farrand, the former first supervisor. For their constructive comments, sophisticated discussion and careful reading, thanks to which I was able to complete this study.

Finally, I would like to thank my external examiner Professor Sarah Green (University of Bristol) and my internal examiner Professor Alastair Hudson (University of Strathclyde) for their comments and suggestions.

Table of Contents

CHAPTER 3

EVALUATION OF THE STATUS OF TSs IN OMAN: ECONOMIC IMPORTANCE, PERCEIVED THREATS AND CIVIL PROTECTION

CHAPTER 4

PHILOSOPHICAL JUSTIFICATIONS FOR CRIMINALISING THE MISAPPROPRIATION OF TSs

CHAPTER 5

A CONSIDERATION OF THE PRESENT CRIMINAL LAW AND TSs: WAYS OF IMPROVEMENT AND INTEGRATION

CHAPTER 6

CONCLUSION OF THE STUDY

Table of Cases

England

Seager v Copy de x Ltd [1967] 2 All E.R.415

Thomas Marshall v Guinle [1978] 3 All ER 193

Varec SA v Belgium [2008] 2 CMLR 24

Yovatt v Winyard [1820]

Wright v Gasweld Ltd. [1991] 20 I.P.R. 481

Oman

Abdulaziz v Nawras [208/2011]

Al-alwi v Omani National Bank Ltd [413/2013]

Alhanai v Petroleum Development Oman (PDO) [66/2014]

Diet and Nutrition Centre v Smart Diet, 191/2014

Fatima v The Oasis for Trading & Equipment Ltd [275/2013]

Jalfar Engineering Ltd. v Al-Masri [576/2014]

National Aluminum Products Ltd. v Sultan [212/2014]

Ramasuami v Towell (Engineering) Ltd [851/2015]

Smart Drilling Ltd v Smart Vision Ltd [522/2013]

The United States of America

Carpenter v. United States, 108 S.Ct. 316 (1987)

Desny v. Wilder 299 P2d 257, 265 (Cal 1956)

DuPont v. Christopher, 431 F.2d 1012 (5th Cir. 1970)

Ferroline Corp. v. General Aniline & Film Corp., 207 F.2d 912 (7th Cir. 1953)

Peabody v. Norfolk, 98 Mass. 452 (1868)

Phillip Morris, Inc. v. Reilly, 312 F.3d 24 (1st Cir. 2002)

Ruckelshaus v. Monsanto Co., 467 U.S. 986 (1984)

Sinclair v. Aquarius Electronics, Inc., 116 Cal. Rptr. 654 (1974)

Syntex Ophthalmics, Inc. v. Tsuetaki, 701 F.2d 677(7th Cir. 1983)

United States v. Aleynikov, 676 F. 3d 71, 76 (2nd Cir. 2012)

Vickery v. Welch, 36 Mass. 523 (1837)

Table of Legislation

England

Copyright, Designs and Patents Act 1988

Criminal Justice Act 1993

Criminal Law Act 1977

Fraud Act 2006

The Trade Secrets (Enforcement, etc.) Regulations 2018 No. 597

Theft Act 1968 & 1978

Oman

a. Statutes

Basic Statute 1996

Capital Market Act 1998

Copyrights and Neighbouring Rights Act 2008

Expatriate Residency Act 1996

Industrial Property Rights Act 2008

Labour Act 2003

b. Codes

Civil Transactions Code 2013

Commercial Code 1990

Penal Code 1974

The United States of America

Defend Trade Secrets Act 2016

Economic Espionage Act 1996

First Restatement of Torts 1939

National Stolen Property Act 1934

Securities Exchange Act 1934

Uniform Trade Secrets Act 1985

Abbreviations

ECHR	European Convention on Human Rights 1970
EFA	English Fraud Act 2006
ETA	English Theft Act 1968
EU	European Union
EU TSs Directive	Directive EU 2016/943 on the Protection of Undisclosed Know-How and Business Information (Trade Secrets) Against their Unlawful Acquisition, Use and Disclosure 2016
FTA	Free Trade Agreement
GCC	The Cooperation Council for the Arab States of the Gulf
GCC TSs Proposed Regime	Proposed Regime of Trade Secrets Protection 2015
IMF	International Monetary Fund
IP	Intellectual Property
IPRs	Intellectual Property Rights
Law Commission	Law Commission for England and Wales
NOC	Non-Objection Certificate
OBFA	The Omani British Friendship Association
OCTC	Omani Civil Transactions Code 2013
OCCI	Oman Chamber of Commerce and Industry
OECD	Organisation for Economic Co-operation and Development
OIPRA	Omani Industrial Property Rights Act 2008
OPC	Omani Penal Code 1974
SMEs	Small and Medium-Sized Enterprises

TRIPS Agreement	WTO Agreement on Trade-Related Aspects of Intellectual Property Rights 1994
TS	Trade secret
UAE	United Arab Emirates
UDTSA	The US Defend Trade Secrets Act 2016
UEEA	The US Economic Espionage Act 1996
UK	United Kingdom
UMPC	The US Model Penal Code 1985
UNSPA	The US National Stolen Property Act 1934
UTSA	The US Uniform Trade Secrets Act 1985
US/USA	United States of America
USD$	United State Dollar
US-Oman FTA	The Free Trade Agreement between the US and Oman 2008
WHO	World Health Organisation
WIPO	World Intellectual Property Organisation
WTO	World Trade Organisation

CHAPTER 1
INTRODUCTION

1.1 Background to Study

Trade secrets are an increasingly crucial factor in the world's competitive economy and industry,[1] consequently, the development of appropriate protection has become vital. This is in part due to the fact that the flows of investment in innovation, the exchange of knowledge and the transfer of the latest technology might be determined by the efficiency of the legal protection in the host country.[2] It is asserted[3] that, before choosing their preferred markets, multinational innovative corporations normally look at the effectiveness of trade secrets regulations in the countries of their would-be investments and business partners.[4]

The central concern that underpins this study is that the current Omani legal system provides insufficient and inadequate protection for trade secrets, and thus, it may be failing to comply with both nationally and internationally-recognised standards of protection.[5] It will be argued throughout this study that the current inadequacy of trade secret protection undermines the governmental strategy of strengthening the national economy; therefore, an effective legal protection is necessary.

The term “trade secret” (hereafter TS) can be described at its most basic as confidential commercial information that provides considerable competitive and economic advantages for the owner over their competitors who, in turn, could gain an

[1] Douglas Lippoldt and Mark Schultz, *Trade Secrets, Innovation and the WTO* (by International Centre for Trade and Sustainable Development (ICTSD) 2014) 4.
[2] Nathan WAJSMAN and Francisco GARCÍA-VALERO, *Protecting Innovation through Trade Secrets and Patents: Determinants for European Union Firms* (EUIPO 2017) 10; Amanda Perry, 'Effective Legal Systems and Foreign Direct Investment: In Search of the Evidence' (2009) 4 ICLQ 779, 779.
[3] Francois Dessemontet, 'Protection of Undisclosed Information' in Carlos Correa and Abdulqawi Yusuf (eds), *Intellectual Property and International Trade* (3 edn, Wolters Kluwer 2016) 340.
[4] For the importance of the legal protection of trade secrets, see below section 3.4.
[5] In this regard, many countries have reformed their trade secrecy laws to include criminal provisions against misappropriation activities. See below section 5.2.

economic advantage by obtaining it improperly.[6] This is an ongoing problem in Oman, which this study explores systematically.[7]

The genesis of this study lies in different Omani reports and cases of TS misappropriation.[8] The most striking of these relates to Abdulaziz, an Omani inventor, who was defrauded of his telecommunication-related innovations by approximately US$30 million.[9] The civil court dismissed the case by reasoning that the law does not protect mere ideas and data.[10] This case shall be returned to in more detail later,[11] but it serves to put into sharp focus the type of harm suffered by direct victims of TS misappropriation and the lacunas that exist in Omani law.

A major contributory factor to the problem of TS misappropriation in Oman is the lack of appropriate deterrents. A serious weakness with the current regime to eliminate the harmful practices of TS misappropriation arises from the exclusive reliance on civil law, which tends to suffer from a number of limitations that relate to its efficiency and enforcement, as explored in-depth in Chapter 3. Combating dishonest practices against TSs through civil liability alone is unlikely to be the most effective approach in the Omani context.

The following assumption, derived from analogous cases,[12] illustrates the problem caused by the lack of criminal sanctions in the area of trade secrecy. Suppose

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[6] Rembert Niebel, Lorenzo de Martinis and Birgit Clark, 'The EU Trade Secrets Directive: all change for trade secret protection in Europe?' (2018) JIPLP , 7.

[7] It is worth noting that the misappropriation of TSs is a global activity but in modern economies and industrialised societies, without adequate protection, the problem could cause widespread damage. See Douglas Lippoldt and Mark Schultz, *Protection of Trade Secrets* (OECD, 2014). For a complete discussion on issues with the current TSs protection in Oman, see Chapter 3.

[8] As will be discussed in section 3.3, the term "TS misappropriation" is specifically taken by this study to cover various improper means of acquiring TSs. In this regard, it is broader than the English technical legal term "misappropriation" which often refers to the action of appropriating something trusted to wrongly.

[9] The figures in this study will be stated in US$ because the currency of Oman "Rial" is pegged to the US dollar since 1973 (US$ 2.6 per 1 OMR).

[10] *Abdulaziz v Nawras*, Appeal Court, Commercial Department, (208/2011).

[11] See sections 3.6.1 and 5.7.4.1 below.

[12] A number of court cases will be consulted throughout this study to indicate the weaknesses in the present regime and to interpret some provisions in Omani law.

that A appropriated a TS from B and sold it to C for US$1 million. B sued A and the court ordered A to pay compensation of US$500,000. A is still US$500,000 in profit. In order to prevent people such as A from misappropriating TSs, criminal sanctions might be a more effective deterrent. Such sanctions might work particularly well in the Omani context due to the associated reputational damage that accompanies criminal conviction.

One key issue to be addressed is that Omani criminal law does not recognise the theft of intangibles.[13] Unlike in England and the US, where various types of "intangible property" enjoy criminal protection,[14] in Oman there is no recognition of valuable intangibles as property, and yet intangible intellectual assets are increasingly important to the modern Omani economy as the fate of modern businesses largely depends on intangible assets.[15]

To illustrate the gaps in the traditional Omani penal law in this area, suppose that D dishonestly photocopied a TS and disclosed it to V. The Omani courts, in some circumstances, are competent to provide damages against D's conduct. However, the court is not competent to impose criminal sanctions on D. Although the TS is not physically removed, the value of the TS is permanently lost because its value lay in the fact that no one else knew it or could apply it.

The following question can be asked here: What is the difference between the above example and the theft of a tangible object? Do both not cause economic loss in practice? Do not TSs capable of being stolen, despite their intangibility? Is it consistent for the Omani legislator to criminalise the infringement of intellectual property and insider trading but not the misappropriation of TSs?

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[13] For criticism of this position under the current Omani Penal Code, see below sections 5.4 and 5.7.2.
[14] See below sections 5.5 and 5.6.
[15] Josef Drexl, 'Designing Competitive Markets for Industrial Data – between Propertisation and Access' (2018) 13 Intellectual property Quotient , 10.

It is necessary at the outset of a study of this kind to attain certain clarity in the difference between "theft" and "larceny", which are referred to throughout. The traditional Omani term "larceny" applies to a taking of tangible property out of the possession of another without consent.[16] By contrast, the modern English term "theft" applies to a much wider range of property interests and broader aspects of infringing these interests.[17] Such expansion of the notion of theft "to a wide variety of dishonest violations of another's property rights"[18] is a modernisation that Omani law is lacking.[19]

Thus, Oman seems to have one principal problem in connection with the legal protection of TSs. Currently, there is a lack of criminal sanctions against the misappropriation of TSs. To be more precise, Oman does not include criminal provisions against TS misappropriations. At the moment, the misappropriation of TSs cannot found a charge of larceny or any other existing offences.

Notwithstanding this problem, some steps towards protection of TSs in Omani law are evident. In the wake of misappropriation scandals involving foreign workforces, in 2014 the Omani government enacted the Two-Year Visa Ban Law.[20] The law simply confers on businesses the power to bring deportation cases against former foreign employees and then prevent them from returning to the country and joining another company for up to two years. One of the main reasons the law was passed was to ensure that business secrets are not revealed to competitors. Whilst this unique law highlights the seriousness of the problem, whether it constitutes, legally and practically, an efficient mechanism for dealing with the misappropriation of TSs is questionable. The purpose of this study is to consider whether new legal methods are needed in order to improve the protection of TSs in Oman.

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[16] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (32, 33/2007) 322.
[17] George P. Fletcher, *Rethinking Criminal Law* (2ed edn, OUP 2000) 30. For further detail about the crime of theft in English law and the US law, see below sections 5.5.2 and 5.6.1.
[18] Andrew Ashworth and Jeremy Horder, *Principles of Criminal Law* (OUP 2013) 368.
[19] Hence, for the purpose of this study, the term "larceny" will be used to describe the Omani law, whereas the term "theft" will be used to refer to the Anglo-American law.
[20] For full discussion of the law, see section 3.6.

Despite the potential consequences of the current situation, there has been very little governmental consideration of the issue and very little academic analysis. This will be the first study to examine in-depth the effectiveness of TSs protection in Oman. It identifies existing weaknesses in the Omani legal system and establishes how protection could be enhanced using criminal law. As will be argued, the problem of TSs misappropriation demands a more considered approach than the Omani law currently offers.

The present Omani Penal Code of 1974 (hereafter OPC), which is the country's primary source of penal law, does not include any specific provisions concerning TSs misappropriation, nor do criminal sanctions against misappropriation exist under special legislation.[21] Yet the nature and wrongfulness of such conduct appears to be more serious than many acts that are penalised under the OPC, for example, begging or defamation.[22] This perceived inconsistency could be the result of the age of the OPC, which does not seem to accommodate the current realities of domestic economy and international trade. It is important to grasp the structure of the Omani socio-legal system at the outset to understand the importance of legal protection within the Omani context.

1.2 Socio-cultural and Legal Environment

Oman is a relatively wealthy and sparsely populated country at the mouth of the Arabian Gulf. In the 17th century, Oman was one of the major commercial states in the world, with the longest and strongest trading routes at that time.[23] In the 20th century, and especially after losing its colonies to the British Empire, its trade and industry declined. Today, Oman tries to use its well-situated seaports to attract foreign

[21] In this regard, although there is no separate trade secrecy law in Oman, the present OPC provides a possible framework for criminal protection of TSs, see Chapter 5.
[22] Articles 312 and 269 of the OPC.
[23] AbdulAziz El-Ashban, 'The Formation of the Omani Trading Empire under the Ya'aribah Dynasty (1624-1819)' (1979) 1 Arab Studies Quarterly 354.

investment and develop into a logistical hub. Dubbed "the Switzerland of the Middle East",[24] Oman sits at the crossroads between East Asia and Europe and so is the gateway to international trade in the region.

One of the reasons this research is timely, is that if TSs have recently been deemed the emerging currency of the 21st century,[25] they have also become the new currency of the modern Omani economy. The role that TSs play in the developing Omani manufacturing sector is increasing.[26] Thus, the problem of the misappropriation of such information is also growing.[27] Therefore, tolerating TS misappropriation would block a major growth area for the national economy. However, preventing it would encourage investment, innovation and contribute to successful economic growth. These national goals are important pillars of Oman's Economic Vision 2020.[28]

Socially, Oman is a conservative country in which social rules play a significant role. People, in Oman, are expected to follow the social-cultural rules and respect the law. This can be a sign of learned obedience to *Sharia* teachings, which generally promote public good and prohibit evil. Accordingly, if one's behaviour conforms to the social rules and economic well-being, it should not be prevented, nor should there be any sanctions against it. This is a basic principle of Omani culture.[29]

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[24] https://www.realclearworld.com/articles/2015/09/23/oman_switzerland_of_the_middle_east.html, accessed 15 March 2018. It is noteworthy that Switzerland has an extensive criminal framework of TS protection, where article 162 of its Criminal Code 1937 punishes violations of TSs and industrial espionage.

[25] The EU TSs Directive on the Protection of Undisclosed Know-how and Business Information (Trade Secrets) Against their Unlawful Acquisition, Use and Disclosure 2016, recital 1.

[26] For a detailed discussion on the economic importance of TSs, see below section 3.2.

[27] Said Al-saqri and Ann Al-kindi, 'Oman's Economy 2020: Between Reality and Hope' (2017) 2 Gulf Centre for Development Policies 6, 20 (Arabic).

[28] This national plan for economic transformation was adopted in 1995 following a government conference to formulate the vision for Oman's economy and its associated policies and mechanisms. See Ministry of National Economy, *Long-Term Development Strategy (1996-2020): Vision for Oman's Economy 2020*, (2nd edition, 2007) 5.

[29] Adil Qurani, *Omani Penal Code - The General Part* (2 edn, Sultan Qaboos Academy 2011) 15 (Arabic).

As regards the legal background, although Oman is an Islamic country, most of its laws have Western characteristics.[30] Prior to 1970, the *Sharia* (Islamic) Courts had the jurisdiction to decide on civil, commercial and criminal matters. However, following 1970 when Sultan Qaboos was in power, there has been a shift and various efforts have been taken to reform the legal and judicial system in Oman. With that radical regime change, the role of Islamic *Sharia* has remained the supreme source of legislation,[31] but the role of Islamic Courts has been narrowed considerably to personal (family) status matters, including marriage, divorce, wills and inheritance. Thus, the Omani legal system, presently, can be described as "a mixture of the *Sharia*, common law and civil law".[32]

It is true that Oman's judicial system developed gradually in accordance with changing social and economic conditions and global developments. In order to meet the requirements of modem international trade, an extensive programme of modem legislative action was developed in the early 1970s. Legislation such as the Commercial Companies Act (1974), the Commercial Agencies Act (1977), the Foreign Business and Investment Act (1977), the Banking Act (1974), the Protection of Developing Industry Act (1974) and the Muscat Securities Market Act (1988) were primarily derived from Western laws.[33] Likewise, a variety of commercial offences under the Penal Code, such as cheque offences, criminal bankruptcy and the counterfeiting of goods were largely drawn from English law.[34] The promulgation of these crimes does not mean that the principles of *Sharia* law were contradicted,[35] but these laws were enacted to mirror Western law.[36]

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[30] Amjad Khan and Charles Laubach, 'Further Development of Oman's Legal System' (2000) 15 Arab Law Quarterly 112, 4.

[31] Article 2 of the Basic Statute (known also as a Constitutional law) of 1996.

[32] Amjad Khan and Charles Laubach, 5.

[33] Alastair Hirst, 'Contemporary Mercantile Jurisdiction in Oman' (1992) 7 ALQ 3, 5.

[34] Adil Alani, *Crimes Against Property in the Omani Penal Law* (College of Law 2004) 8 (Arabic).

[35] As will be shown in Chapter 4, *Sharia* has a number of principles which support criminalisation in regard to TS misappropriation.

[36] It is stated that "the emergence of Western hegemony in the nineteenth century greatly affected the legal system in the Islamic world. In most Islamic countries that came under European colonial rule, Sharia criminal law was immediately substituted by Western-type penal code". In some other countries, however, the departure was a result of the intervention of international organisations, see Peters

The Omani law is mainly structured around the criminal law and the civil law[37] distinction.[38] However, unlike the English common law, which allows courts to interpret Acts and set precedents and legal principles when there is an area of ambiguity or deficiency,[39] Omani courts are not empowered to remedy statutory gaps but are only authorised to apply the law; so they are not permitted to go beyond the law or set a new legal principle except in rare cases and only in the Supreme Courts. Some of these precedents will be consulted throughout this study.[40]

The Omani judicial system whilst is an independent,[41] Omani courts like the English division,[42] are divided between the criminal and the civil branches, and of these much the greater is the civil law. (A) Civil courts have three degrees (first instance, Appellate and Supreme)[43] and are divided into three main areas: (1) Courts of general civil wrongs (tort, breach of trust, rents, etc.); (2) Labour Courts; and (3); Commercial Courts. (B) Criminal courts also have three degrees (first instance "misdemeanours", Appellate "felonies" and Supreme)[44] but they are not specialist in specific criminal areas as they investigate all crimes. Examples of analogous crimes dealt with under these courts include larceny, IP infringements, cybercrimes, money laundering, insider trading, and yet not TS misappropriation. See the diagram below.
Figure 1: Omani Judicial System and TSs Protection

Rudolph, *Crime and Punishment in Islamic Law: Theory and Practice from the Sixteenth to the Twenty-First Century* (CUP 2005) 3-4.

[37] "Civil law" is a phrase that will be used in this thesis to mean "not criminal", as in the above context, and the phrase "civil law tradition" will be used to refer to "not common law".

[38] See below section 3.5.1.

[39] G Slapper and D Kelly, *The English Legal System* (Routledge 2009) 3.

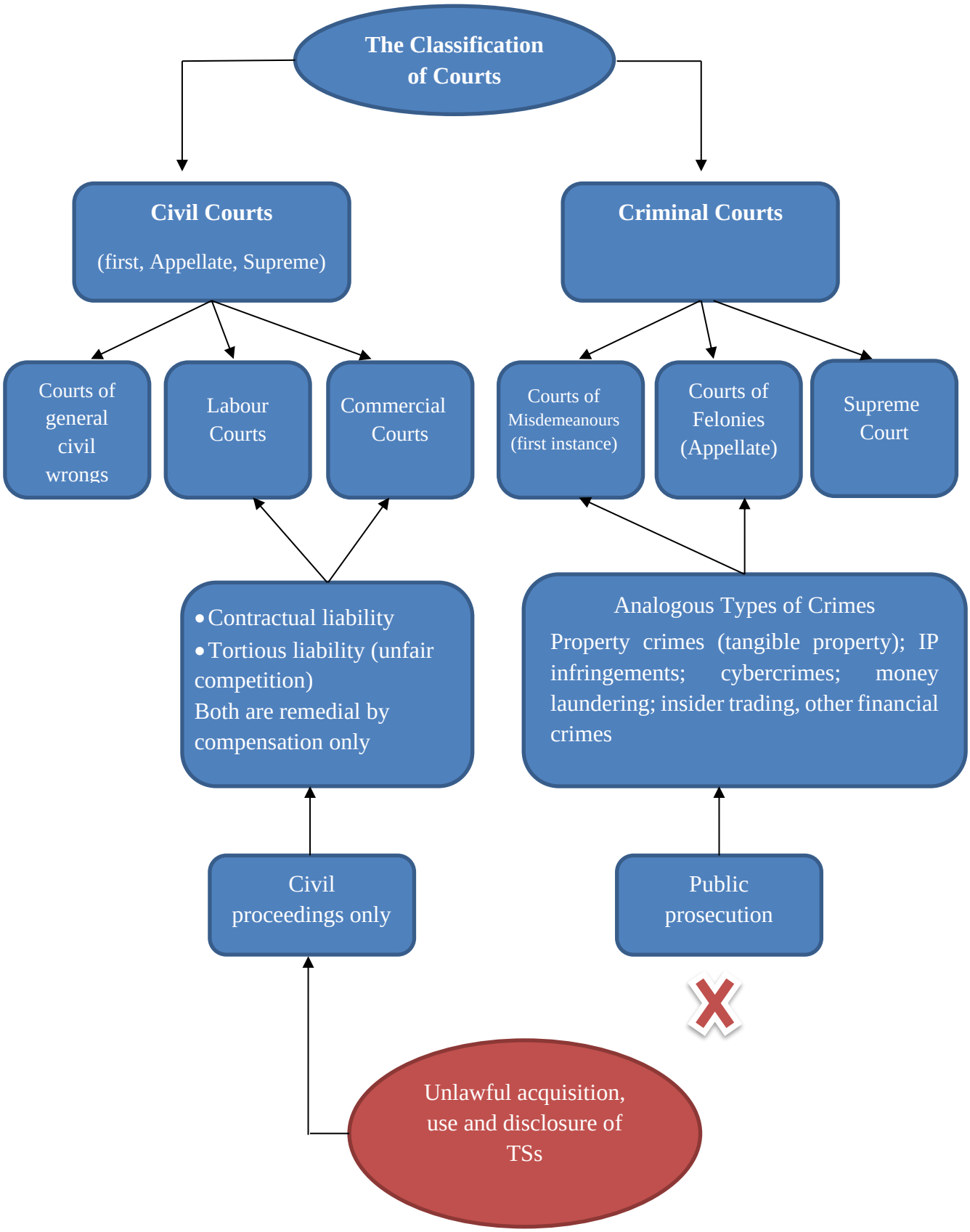
[40] It is worth noting that Oman has no "jury" system, but the appeal court consists of three judges and the Supreme Court consists of five senior justices. See the Civil and Commercial Procedures Act (29/2002) and the Penal Procedures Act (97/1999).

[41] Oman adopts the separation of powers doctrine. According to article 60 of the Basic Statute, "The judiciary is independent and its functions are exercised by the different types and grades of courts which issue judgements in accordance with the Law".

[42] For a coherent discussion on the structure of the English legal system, see Glanville Williams, *Learning the Law* (15 edn, Sweet & Maxwell 2013) 3-17.

[43] The Judicial Authority Code 1999, article 1.

[44] It should be noted that the Omani appeal system, as explained by article 245 of the Penal Procedures Act, enables any misdemeanour to be appealed to the Appellate Courts, while appeals to the Supreme Court are limited to three cases: (1) a breach of law or a legal error in its application or interpretation; or (2) the invalidity of convection; or (3) the invalidity of proceedings that affected the convection.


The Classification of Courts
Civil Courts
(first, Appellate, Supreme)
Criminal Courts
Courts of general civil wrongs
Labour Courts
Commercial Courts
Courts of Misdemeanours (first instance)
Courts of Felonies (Appellate)
Supreme Court
• Contractual liability
• Tortious liability (unfair competition)
Both are remedial by compensation only
Analogous Types of Crimes
Property crimes (tangible property); IP infringements; cybercrimes; money laundering; insider trading, other financial crimes
Civil proceedings only
Public prosecution
Unlawful acquisition, use and disclosure of TSs

1.3 Study Aim, Objectives and Questions

The importance of this study stems from the importance of having effective trade secrecy protection in Oman that boosts its economic growth. Industrial competition has become fierce. Therefore, legal protection of business information is now considered more important by society, as there are those who would take unfair advantage in competition by obtaining business information improperly.

Hence, the main objectives of this study are to assess the appropriateness of the current legal protection of TSs in Oman and to offer specific proposals for trade secrecy reform that can be adopted by the Omani legislator.[45] The study is also an in-depth investigation into the use of criminal law for protecting TSs. The study will argue that there is an urgent need to establish a robust regime of TS protection in Oman for both economic and social reasons. These concrete reasons, as discussed in Chapter 3, are in fact, the seeds that planted this study and the rationales for establishing it.

Little is known about Arab and Islamic law in the area of TSs. Therefore, the study will analyse how the protection of TSs under the Omani legal system, including the introduction of criminal sanctions, can correspond to principles of *Sharia*. The inappropriateness of the current solution adopted by Omani law involving limited civil liability as the sole protection for the owners of TSs, will be subjected to critical analysis and systematic evaluation with the aim of developing a proper legal response based on international standards of protection.[46]

Currently, Omani law offers very little protection for businesses and individuals who suffer misappropriation of their most valuable knowledge-based assets. A comparison with other selected legal regimes will help to contextualise the current Omani provisions for protecting TSs and so be able to offer insights into global best

[45] See the Appendix.

[46] As will be discussed below, Oman has an obligation in international law to conform its domestic law to the requirements of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 (TRIPS), see below sections 2.3.1 and 5.2.

practice, which can assist the Omani legislator in developing appropriate legal protection.

Having identified the problem of the study and the importance of tackling it, the core question of this study is what are the appropriate legal tools by which an effective protection system for TSs in Oman can be provided? The departure point to answer this question is the fact that deterrence is one of the most important elements to consider when discussing the legal protection of TSs in Oman, where, as the above examples illustrate, TSs are currently open to misappropriation.

Accordingly, this study critically examines the present civil measures and the traditional criminal offences related to the protection of TSs in order to discover how they can be improved to function as an adequate deterrent. In this regard, the main questions that arise are whether a *prima facie* justification for the criminalisation of TS misappropriation can be established in Oman and whether the criminalisation solution is workable. Following this, how can criminal sanctions be integrated into the current Omani legal framework? To that end, this study is a specific academic investigation into whether and how criminal law can be employed for the protection of TSs in Oman.

1.4 Methodological (Theoretical and Doctrinal) Approaches

The study's questions and objectives outlined above lend themselves readily to the adoption of both doctrinal and theoretical methods of inquiry. Whilst the ineffectiveness of the current Omani civil laws in relation to TS protection can be addressed by a doctrinal analysis, the ultimate criminalisation question can only be appropriately pursued through a theoretical method, which involves the application of established political and philosophical theories as they relate to the legitimacy of the criminalisation of conduct.

Criminalising TS misappropriation is a surprisingly difficult question, which requires a complete social, economic and legal integration. Presently, there is an

ongoing conceptual discourse concerning the identification of a coherent justification for criminalising TS misappropriation,[47] at least in the jurisdictions affected, which includes Oman. For a plausible and a convincing justification for legitimate criminalisation, this thesis undertakes a theoretical approach that is capable of analysing questions of policy and morality.[48]

Any single philosophical justification offered by criminal legal theory is insufficient for addressing the complexities of establishing protection against TS misappropriation in Oman. Thus, the reliance on black-letter criminal law to establish threshold criteria for criminalising TS misappropriation will be incomplete. This is because, as Nuotio claims: criminalisation decisions must attend general theories of criminalisation since no sufficient grounds are often found in criminal codes or statutes.[49] In the same way, Peršak suggests that "criteria of criminalisation should be based on normative and ethical considerations and not merely on existing positive law".[50] More specifically, Ferguson and McDiarmid suggest that "criminalisation principles" are fertile soils for finding answers to questions related to criminalising the theft of incorporeal information.[51]

The question of criminalisation from a jurisprudential perspective is complex. Scholars have generally contested several philosophical underpinnings for tackling this vexed question.[52] It could be inadequate to allege that these general justifications should apply automatically regardless of the nature of a given behaviour. In the field of TSs, while there have been some arguments for criminal intervention, these are

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[47] See below section 4.2.1.

[48] Michael Salter and Julie Mason, *Writing Law Dissertations : An Introduction and Guide to the Conduct of Legal Research* (Pearson Education Limited 2007) 43.

[49] Kimmo Nuotio, 'Theories of Criminalization and the Limits of Criminal Law: A Legal Cultural Approach' in R.A. Duff and others (eds), *The Boundaries of the Criminal Law* (OUP 2010) 239.

[50] Nina Peršak, *Criminalising Harmful Conduct* (Springer 2007) ix.

[51] Pamela Ferguson and Claire McDiarmid, *Scots Criminal Law: A Critical Analysis* (2ed edn, Edinburgh University Press 2014) 356.

[52] eg, see Jeremy Horder, *Ashworth's Principles of Criminal Law* (OUP 2016) Chapter 4; Ferguson and McDiarmid Chapters 2&3; SR Kyd Cunningham H M Keating, T Elliott & MA Walters *Clarkson & Keating's Criminal Law: Text and Materials* (Sweet & Maxwell 2014) Chapter 1.

generally confined to the property analysis, which might not be robust justification for the Omani environment.

To that end, the thesis adopts a theoretical framework comprising three main theoretical grounds, namely, "property", the "harm principle" and "legal moralism". The property theory is a key component regarding the legitimacy of utilising criminal law for the protection of TSs or proprietary information. Anything of economic value, whether tangible or intangible, should be entitled to protection as property. However, as has been suggested, "a decision to criminalize conduct that was previously subject only to civil remedies depends on identifying some component of harmfulness or immorality".[53] Arguably, the adoption of this triadic model encompasses most of the proprietary rights, harm and immorality associated with TS misappropriation. These are taken together to offer a solid theoretical justification for the criminalisation of TS misappropriation, as analysed in-depth in Chapter 4.

The lead up to this three-fold normative framework is dominated by the doctrinal method, through which the thesis attempts to draw some lessons from Oman's oldest commercial partners and biggest investors, the UK and the US.[54] The overall objective of the comparison is to address the shortcomings in Omani law as far as an effective protection of TSs is concerned. This comparative method chiefly helps to provide an analysis of the relevant criminal law in these jurisdictions.

The English Theft Act 1968 (ETA) (which encompasses a variety of "intangible property" and "appropriation" techniques)[55] and the American Economic Espionage Act 1996 (UEEA) (which broadly defines a "trade secret" and "misappropriation" activities) are advanced TSs-related laws, which may offer some key lessons that are useful in addressing the similar problem in Oman. Specific focus will be given to main

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[53] Geraldine Moohr, 'The crime of copyright infringement: An inquiry based on morality, harm, and criminal theory' (2003) 83 Boston Univ L R 731, 752.

[54] Oxford Business Group, *The Report: Oman* (2017) 10.

[55] It should be noted that like Oman, the crime of theft in Scotland is entirely limited to tangible moveable property. In *Grant v Allan*, 1988 S.L.T. 11, the court held that theft applies only to corporeal property and information cannot be stolen.

issues including (1) the definition of "trade secret", (2) the scope of prohibited behaviour, (3) available offences existing in the current criminal law, and (4) the conceptual basis of criminalisation. Samuel confirms that a combination of comparative and theoretical methods compensates for each other's potential limitations and so enable the development of a more rounded analysis.[56]

Other reasons for selecting England and the US as comparators to Omani law include Oman's strong historical commercial and political relationships with England and the US. Historically, Oman signed a number of commercial treaties with these two countries. The first was with Britain in 1798[57] and the second was with the US in 1833.[58] HRH the Duke of York, who is the British Patron of the Omani-British Friendship Association (OBFA),[59] said: "the longstanding close relationship between Oman and the UK" will "foster the commercial and industrial relations between the two nations".[60] These historical relationships have led to accusations that Oman has traditionally been more influenced by common law more than by *Sharia* law.[61] As mentioned earlier, Oman's Penal Law, Commercial law, Company law, and other trade-related legislations[62] are mainly imported from Western jurisdictions,[63] namely

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[56] Geoffrey Samuel, *An Introduction to Comparative Law Theory and Method* (1 edn, Hart Publishing 2014) 15.

[57] Other treaties were of 1891, 1902, 1923 and 1951. J. C. Wilkinson, 'Oman and East Africa: New Light on Early Kilwan History' (1981) 14 IntJAfrHistStud 272.

[58] Known as the "Treaty of Amity and Commerce". Interestingly, this treaty was the genesis of the American law of "Minimal value" where the Omani present (a pair of Arabian horses) to the US President (Tyler) was debated in the Senate to authorise its disposition. Finally, the law that restricts the President from receiving any "presents" exceeding a "Minimal value" (200 USD or less) was established (Article 1, s. 9(8) of the US Constitution). J.E. Peterson, 'America and Oman: The Context for Nearly Two Centuries of Relations' (2014) .

[59] Was formed in 1991 to promote bilateral trade, partnerships and investment between the two countries. http://obfaoman.com/business-in-oman/, accessed 20 April 2018.

[60] http://omangbnews.com/news/2016/01/28/anglo-omani-society-40th-anniversary-sees-prince-charles-pay-tribute-to-one-of-britains-closest-relationships, accessed 15 March 2018.

[61] M. Cherif Bassiouni, *The Sharia and Islamic Criminal Justice in Time of War and Peace* (CUP 2014) 123.

[62] It should be noted that the Omani Act Relating to the Interpretation of Certain Terms and General Provisions (3/1973) introduced a number of technical provisions normally encountered in western jurisdictions.

[63] For a comprehensive discussion of Oman's historical trade relationships with the west, see Khamis Al-Jabry, 'Multilateral Versus Bilateral Trade: Policy Choices for Oman' (PhD, Durham University 2009).

the UK and the US.[64] This historical and legal relationship, along with shared political and economic interests underlines the fact that the UK and US are useful comparators for this study.[65]

Further, the three countries selected for the purposes of this study are bound by the same economic policy under the ambit of the World Trade Organisation (WTO). This is particularly important when evaluating Oman's implementation of international standards of TS protection. In other words, ascertaining how the UK and the US have implemented the same measures provides a key insight into the shortcomings of Omani law in this regard. According to the World Bank, economic cooperation can legitimate and aid successful importation of trade laws between common law and civil law systems, [66] and this is an area that the study considers.

Since the aim of this study is to develop effective trade secrecy protection in Oman, lessons can only be learned from more developed systems. The UK is described as having a "robust, well established" and "well-developed system of legal protection for trade secrets".[67] The US is selected for comparative purposes because it has a separate trade secrecy regime that is considered to be among "the strongest and best-developed bodies of trade secret law in the world".[68] Oman currently lacks the experience of dealing with the problem of TS misappropriation, whereas the UK and US have extensive experience in this area. Thus, these systems can be rich sources of information and guidance on how Omani law can develop. As Örücü advises, solutions should be derived only from those legal systems that have dealt with the same problem "in different ways, better ways or more efficient ways".[69] Hence, it is at the core of

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[64] Hirst, 6.

[65] Peter De Cruz, *Comparative Law in a Changing World* (third edn, Routledge-Cavendish 2007) 22.

[66] Miche`le Schmiegelow, 'Interdisciplinary Issues in Comparing Common Law and Civil Law' in Michèle Schmiegelow and Henrik Schmiegelow (ed), *Institutional Competition between Common Law and Civil Law: Theory and Policy* (Springer 2014) 5.

[67] 10.

[68] Douglas Lippoldt and Mark Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper* (OECD Trade Policy Papers, No 162, 2014) 317.

[69] Esin Örücü, *The Enigma of Comparative Law : variations on a theme for the twenty-first century* (Martinus Nijhoff Publishers 2004) 37.

this study to observe the experience of both England and the US and explore to what extent the Omani legislator can benefit from their experience.

It is worth mentioning that in choosing England and the US regimes, this study does not intend, nor is it workable, to import a fully-fledged legal solution to Oman. Rather it will try to bring together elements of best practice to improve the situation in Oman. To that end, the comparative analysis will identify aspects of TS protection in English and American law, and discuss their differences and similarities with the current weak Omani regime. Zweigert and Kötz suggest that conducting a comparative analysis between different legal systems has proved extremely useful in producing solid domestic laws.[70] Nevertheless, principles deemed suitable for legal transfer to Oman must be in harmony with *Sharia* principles and the fundamental foundations of Omani society.

To construct the methodological approach of this study more coherently, the conceptual findings of the theoretical analysis will be applied in order to evaluate doctrinally some property-related crimes. The principal purpose of this exercise is to identify gaps between the theoretical rationality of criminalisation and the operational reality of existing crimes; whether relevant crimes are consistent with the philosophical underpinnings of criminalisation and therefore are able to encapsulate the various activities associated with the misappropriation of TSs. This exercise is important for assessing the functionality and workability of the proposed model within the Omani context before implementing it, and before considering whether the creation of a *sui generis* framework is more appropriate. The evaluative approach is presented through a lens of functional comparison of the law of Oman, England and the US. This comparative method is employed primarily from a "black-letter" perspective, its overall objective being to provide lessons on how to criminalise TSs misappropriation and formulate an appropriate legal instrument for Oman.

[70] K. Zweigert and H. Kötz, *An Introduction to Comparative Law* (3 edn, OUP 1998) 15.

Using this combination of comparative doctrinal analysis and normative theories of criminalisation, this thesis presents an original analytical framework through which to investigate whether the misappropriation of TSs can be legitimately and effectively criminalised in Oman to alleviate the problems that arise from the inadequacies of civil law to protect valuable confidential commercial information.

1.5 The Structure of the Study

The study is structured into six chapters together with an introduction and a conclusion. Having primarily discussed the issues with the current TS protection in Oman and established the background of the study, the next chapter (Chapter 2) deals with the definition of the term "trade secret". It introduces the subject matter of this thesis from both theoretical/legal and international/national perspectives and articulates questions in relation to the scope of protectable information. The definition of "TS" is an essential and inevitable part of a full response to the problem of TS misappropriation.

Chapter 3 contains an evaluation of the present civil law relating to protection of TSs in Oman. It initially establishes the economic arguments for developing legal protection of TSs. It then explores threats against TSs that may affect the level of protection necessary for TSs. The rest of the chapter is an examination of the effectiveness of existing civil remedies to safeguard the economic importance of TSs as well as defend against widespread threats. The review of this body of law includes industrial property law, labour law, unfair competition, general tort and other civil measures, namely, the two-year visa ban law. Questions arise regarding the adequacy of civil law to protect TSs, which leads to a discussion on the possible role of criminal law. The chapter closes with practical arguments for developing criminal protection of TSs.

Chapter 4 undertakes the theoretical search for a justification of criminal protection by examining the first and most complex basis for criminalising the theft of intangible information, the "property" concept. While property theory is persuasive (in case of pure intangibles), it might not provide sufficient justification for

criminalisation on its own. Therefore, the analysis of property theory is supplemented by two other major normative theories of criminalisation: harm and legal moralism. This approach to the theoretical analysis of criminalisation concludes with conceptual findings that should provide the Omani legislator with plausible justifications for using criminal sanctions against the misappropriation of TSs.

Having discussed the relevant theories of criminalisation and examined the current civil protection in Oman, Chapter 5 attempts to propose a criminal protection of TSs that is suitable for Oman. That is to say, Chapter 5 is dedicated to the exposition of some existing crimes to determine the consistency of the theoretical model within the present Omani penal framework, an exercise that is justified because of the *prima facie* case for criminalisation. The application of the theoretical arguments to the law in action and the law in the books assists in answering a number of questions including whether the present crimes against property are right not to cover TSs. It considers whether the current laws have sufficient breadth to be applicable, and, if so, why they are not being applied; how criminalisation should be applied, and how lessons taken from the English and American contexts can help Oman to develop its domestic legislation.

Chapter 6 articulates the overall conclusions of the study. It summarises the primary outcomes of the study and identifies some areas that could benefit from further academic research. There is an Appendix at the end of the thesis that offers a specific criminal reform proposal to be adopted by the Omani legislator.

CHAPTER 2
THE CONCEPT OF TRADE SECRET: THEORETICAL AND LEGAL PERSPECTIVES

2.1 Introduction

This chapter examines what is meant by the term "trade secret". By so doing, it explores the nature and quality of protectable information. Given the main goal of this thesis, which concerns the extent to which the criminal law does or should protect this category of confidential information, it is important at the outset to define what information constitutes a TS as opposed to other categories of secret information. In other words, before any criminal protection can be conferred, a precise object needs to be identified.

Doing so will not only establish a clear focus and understanding of the scope of information to be legally protected but will also distinguish TSs from other overlapping categories of confidential information. In effect, the discussion of this preliminary issue is an essential prerequisite to our ultimate question of criminalisation, the appropriateness of which may be contingent on the economic value and commercial secrecy of the information in question.

Examining the criminal protection of TSs implies that TSs can be straightforwardly defined. However, Omani law has no rigid definition of the term, nor is there a universally agreed-upon definition of TS. As generally acknowledged, defining the concept with precision is far from settled.[1] A T H Smith suggests that if TSs were to be criminally protectable, a difficult question that would need to be settled first is "what sort of information ought to be protected?"[2]

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[1] eg, Nuno Sousa Silva, 'What Exactly is a Trade Secret under the Proposed Directive?' (2014) 9 JIPLP 923, 924; Arun Kaushik and Luigi Franzoni, 'The Optimal Scope of Trade Secrets Law' (2016) 5 Int Rev L Eco 46, 48.

[2] A. T. H. Smith, *Property Offences: The Protection of Property Through The Criminal Law* (Sweet & Maxwell 1994) 55.

These definitional difficulties can be broadly attributed to the dynamic nature of business information and highly-contested range of information to be covered under this relatively new concept. Indeed, Coleman concluded that a definition of a TS is probably not possible.[3] Nonetheless, it is submitted that the definitional difficulties surrounding the meaning of TSs should not prevent a definition from being developed and applied as this may hinder the proper application of the law. It is apparent that the lack of a clear legal definition of a TS constitutes a serious legal obstacle to effective protection and enforcement of TSs generally.

Hence, this chapter investigates the concept of a TS and the types of information which fall under its remit. It is inevitable that discussion of trade secrecy will involve discussion of the notion of "secrecy" as an underlying concept, which is relevant, indeed vital, to an understanding of commercial secrecy. This is followed by a comparative analysis of the legal concept of trade secrecy in international law and in the national laws of the three jurisdictions chosen. From this, it will be possible to provide a working definition of a TS for use in the rest of the thesis.

2.2 The Theoretical Definition of Secrecy

The word "secret" is a key component in our concept. If secrecy is the fundamental characteristic of any secret including a commercial one, it is necessary to understand what is meant by "secrecy", what justifications are there for its protection, and how it is bestowed. These theoretical inquiries into the wider concept of "secrecy" are useful in helping to define the narrower concept of trade secrecy.

[3] Allison Coleman, *The Legal Protection of Trade Secrets* (Sweet & Maxwell 1992) 4.

2.2.1 Secrecy: its Social and Legal Meaning

Linguistically, in Arabic, "secret" is what people keep close to their chest or share only with trusted ones in order to protect interests or prevent harm.[4] By comparison, in the English language, a "secret" is what is "kept from public knowledge, or from the knowledge of persons specified".[5] *Per se*, a secret is information that is not allowed to travel "into the open air of free discussion and circulation".[6] It has also been suggested that the word "secret" is originally derived from the word "sacred", which implies that the information has holy nature that must be respected.[7]

It could be noted that the English meaning appears to focus more on value and control of the information itself, whilst the Arabic meaning is more concerned with the confidential relationship under which the secret is communicated. The Arabic position is, in fact, a reflection of the deep influence of religious (Islamic) teachings, which generally respect secrecy and prohibit its breaking. As these norms were officially formulated by the Islamic Jurisprudence Council,[8] secrecy extends to any sensitive information that a person relies on another to conceal, particularly if disclosure is likely to be detrimental to the reputation or dignity of the individual and if custom requires its concealment.

In the Omani primary legal sources, there is no such definition of "confidentiality". Rather, statutory attention is only given to specific categories of secrecy, like personal secrets, professional secrets and official secrets. As one commentator suggests, determining the exact scope and coverage of confidentiality is not possible; instead, reference needs to be made first to the customary law and then

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[4] Al- Munged, *Dictionary in Language, Literature and Science* (5th edn, Beirut 1968) 337.

[5] E. S. C. Weiner and J. A. Simpson, *The Oxford English Dictionary* (2 edn, Oxford Clarendon Press 1989) Volume XIV Rob - Sequyle, 863.

[6] *Attorney General v Observer Ltd [1990] 1 AC 109*, Scott J., 47.

[7] http://dictionary.cambridge.org/dictionary/english/sacred.

[8] The Council was established in 1977 as a part of a larger independent organisation called the Muslim World League. Rulings provided by the council function as an international non-compulsory reference for the Islamic world. Available at http://en.themwl.org/taxonomy/term/19, accessed 1 June 2017.

to the circumstances and consequences of each case separately.[9] Perhaps it is also necessary to consider the interests of the individuals to whom the secrets belong and society more generally.

On the other hand, confidentiality in English law, although it is a difficult area, has received far more attention. In England, the law of confidentiality has been developed by the courts rather than statutes. The English courts have provided an objective test of confidentiality by questioning: "Is the information public property, public knowledge or publicly available?",[10] if the answer is negative, then it is sufficient for the court to recognise the information as confidential "without further defining the scope and limits of the jurisdiction" or the nature of the confidential relationship.[11]

In the context of English law, it would seem that the basic characteristic of confidentiality is inaccessibility.[12] In simple words, confidentiality is defined by the accessibility of the information, whether this is restricted on pain of penalty or freely available and publicly observable. If the public has access to the information by reason that it has been published generally or it has been stored in a public archive for a permissible use, it cannot be regarded confidential as its availability ends its secrecy. Linda Clarke states that the obligation not to use or disclose confidential information is the key factor in determining the boundary between "openness" and "secrecy".[13]

From this analysis, a secret is distinguishable from the diverse range of information that is publicly accessible. Moreover, it is clear that a very wide range of different types of information may be regarded as confidential or "not public

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[9] Adil Alani, 'The Offence of Divulging Professional Secrets' (1990) 2 Journal of Comparative Law, Baghdad 5 (Arabic).

[10] *Management Solutions Ltd v Brakes Bros Ltd* [2014] EWHC 3495 (QB); and see *Peter Pan Manufacturing Corp v Corsets Silhouette Ltd* [1964] 1 W.L.R. 96.

[11] *Duchess of Argyll v Duke of Argyll* [1967] Ch. 302 (Ungoed-Thomas J).

[12] Tanya Aplin and others, *Gurry on Breach of Confidence: The Protection of Confidential Information* (OUP 2012) 149.

[13] Linda Clarke, *Confidentiality and the Law* (Informa Pub 1990) 1.

knowledge". Eventually, an information can be secret if it is confidential in character and not publicly available.

In the following section, three particular categories of secret information are differentiated so as to delimits the boundaries between different types of protectable information and the basis of legal protection.

2.2.2 Categories of Secret Information: Personal, Commercial and Governmental secrecy

In light of the above social and legal characteristics by which secrecy is determined, secret information may be divided, for the purposes of this study, into three specific categories, namely, personal privacy, commercial secrecy and governmental confidentiality.[14] Before discussing these particular categories and clarifying the taxonomy of them, it is worth pointing out that although "confidentiality" is used as a synonym for "secrecy",[15] there are some technical differences between the two.

Confidentiality has a *broader sense* as it extends to all sorts of non-public information that is always disclosed or imparted in confidence,[16] whereas "secrecy" has a *narrower sense* and it deals with a specific set of information that is gathered secretly within the public sphere or a specific community. As Raymond Nimmer has noted, secrecy entails some novelty or technicality as a distinct element from general confidentiality.[17] This is why confidentiality has been described as a "chameleonic" due to the range of confidential relationships it covers.[18] In this respect, confidentiality

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[14] Similarly, Aplin et al. divide confidential information into four broad classes: trade secrets, artistic and literary information, government secrets and personal information. Aplin and others 242-309.

[15] *Thomas Marshall (Exports) Ltd. v Guinle*, [1978] 3 All E.R. 193 (Megarry J speaks of protectable information as being "confidential or secret").

[16] It must be acknowledged that the legal phenomena of confidential information in English law, in general, is enormous and any attempt to provide even a preliminary overview of this area and variety of confidence cases would far exceed the scope of study.

[17] Raymond Nimmer, *The Law of Computer Technology: Rights, Licenses, Liabilities*, vol 1 (4 edn, Thomson Reuters 2013) 3-21.

[18] Brian Reid, *Confidentiality and the Law* (Waterlow Publishers 1986) 3.

is often equated with privacy, as the difference between the two is often unclear.[19] However, "privacy" is a distinct type of secret information in its own right.

Privacy or "inaccessibility to a person's [private] information",[20] distinctly, relates to information associated with an individual's dignity and personality.[21] This is not to limit privacy to only control over the use or disclosure of personal information, but rather it incorporates other interests such as "personal space, or the home, and family relationships".[22] Given the sensitivity of domestic information and protection of personal autonomy, privacy applies to the information itself, which need not have been transmitted as part of a relationship of trust and confidence.[23] Furthermore, unlike confidentiality, private information may not be entirely secret and yet considered confidential, as further disclosure of the personal information causes damages to the person's liberty or intimacy. Of course, the violation of privacy will probably have personal and reputational consequences more than commercial and economic consequences.

The second category refers to commercial confidentiality or trade secrecy. The essence of a "trade secret" is that it is information that is kept confidential and used in particular trade or industry.[24] That is to say, if privacy concerns the personal domain and confidentiality relies on trust or confidence between persons, trade secrecy relates to purely commercial or industrial interests. These commercial aspects may provide a clear taxonomy. As will be seen, commercial secrecy requires something extra or some higher degree of confidentiality, in which the creator of the information must limit its dissemination or at least not encourage widespread publication.[25] Ultimately, business

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[19] *Douglas v Hello! Ltd (No.1)* [2001] Q.B. 967, Keene LJ, 35.
[20] Leslie Francis, 'Privacy and Confidentiality: The Importance of Context' (2008) 91 The Monist 52, 53.
[21] Paul Stanley, *The law of confidentiality : A Restatement* (Hart Publishing 2008) 159.
[22] Articles 8 and 10 of the ECHR provide that "Everyone has the right to respect for his private and family life, his home and his correspondence."
[23] Francis, 57. It should be noted that the modern law on privacy takes place in tort and human rights law.
[24] *Lancashire Fires Ltd v S.A. Lyons & Co Ltd* [1996] F.S.R. 629, 676 (Carnwath J.).
[25] *Lansing Linde Ltd v Kerr*, [1991] 1 All ER 418, 425 (Staughton LJ).

secrets are limited to confidential commercial information of a particular nature, value and function, like official secrets.[26]

The third category is called governmental secrecy or confidential official information that is generated by the government in the discharge of its function.[27] As has been described, government secrets apply only to "information obtained, or to which a person has had access, owing to his position as one holding, or who has held, office under the Crown or who is or has been a government contractor or someone in his employ". [28] Arguably, what distinguishes this narrower legal category is the special sensitivity and public interests involved, not mere inaccessibility.[29] Unlike privacy and trade secrecy, these secrets are with national security implications.

On the other hand, the distinction between private and commercial secrets is sometimes uncertain. For example, financial history, bank records, mortgage account information and tax returns can be both personal and commercial. Leslie Francis distinguishes that, "privacy is *invaded*, and confidentiality is *breached*; violations of privacy are *invasions*, and violations of confidentiality are *breaches*."[30] A clearer distinction was drawn by Lord Nicholls in *Douglas v Hello! Ltd*:

> "As the law has developed breach of confidence, or misuse of confidential information, now covers two distinct causes of action, protecting two different interests: privacy and secret ('confidential') information. It is important to keep these two distinct. In some instances information may qualify for protection both on grounds of privacy and confidentiality. In other instances information may be in the public domain, and not qualify for protection as confidential, and yet qualify for protection on the grounds of privacy. Privacy can be invaded by further publication of information or photographs already disclosed to the public. Conversely, and obviously, a trade secret may be protected as confidential information even though no question of personal privacy is involved."[31]

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[26] For a complete discussion on the English legal meaning of trade secrecy as a mechanism of legal protection, see below section 2.3.3.

[27] See article 3 of the Omani Job Secrets and Protected Areas Act of 1975.

[28] Clarke, 3.

[29] For the highest profile cases in this regard, see *Attorney General v Observer Ltd* [1988] 3 W.L.R. 776; *Attorney General v Guardian Newspapers Ltd* [1988] 3 All E.R. 545 (Spycatcher) and *Attorney General v Blake* [2001] 1 A.C. 268.

[30] Francis, 53.

[31] [2007] UKHL 21; [2008] 1 A.C. 1, 255.

These similarities between privacy and secrecy can be less significant for practical purposes. As Clarke concludes, personal information and secret information are separable and cannot co-exist.[32] TSs, we will see, are sensitive industrial or commercial know-how and independent from bodily space information or private secrets. In the landmark case of *Prince Albert v Strange,*[33] although the etchings produced by Queen Victoria and Prince Albert were commercially abused by the defendant publisher, the court found that the confidential information was of private character and for personal enjoyment.

The vital point to note here is that any piece of information that is not public knowledge can be confidential. However, trade secrecy relates to specific business contexts, has the potential of money-making, and depends on the efforts of the creator to prevent the TS from entering the public domain. Contrariwise, privacy concerns private lives on the presence or absence of a confidential relationship between the parties.

Of course, there is a discernible public benefit in keeping certain information secret, arguably more than personal secrets that are attached only to the individuals concerned. While privacy, confidentiality and secrecy are all treated as protectable, they are protected differently. Secrecy (such as governmental secrecy, banking secrecy, 'inside information' and financial services secrets) has stimulated more criminal provisions than general confidentiality, which is traditionally deemed a matter of civil liability.[34] It appears that the importance of the interests protected and the significant economic value of such information have facilitated the introduction of criminal law into the narrower category of trade secrecy.

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[32] Clarke, 5.

[33] [1849] 2 De G.

[34] For the requirements of the action of breach of confidence and quality of confidence under English law, see below section 2.3.4.

2.2.3 The Conceptual Basis of Secrecy: Relationship or Information?

It is common to talk of confidentiality as a moral obligation of conscience not to interfere with confidential information generally.[35] Certainly, societal interests and legal rights in information are also pivotal to the above understanding of secrecy. This notwithstanding, the idea of confidential information is a multifaceted one because of the multiple rights and legal bases crystallised. There are various conceptual bases of protection concerned in most jurisdictions, such as contract, equity, tort, property and fraud.

Obviously, not all of these legal rationales are concerned with protecting confidential relationships, which suggests that the protection of "secrecy", at its very essence, is the protection of valuable secret information. As observed by some commentators, English courts have "shifted away from protecting relationships and more towards protecting the information itself."[36] Though one may assert that information itself is not confidential but merely represents the *object* of confidential relationships, what makes the information valuable is its secrecy.

In the area of commercial secrecy, the information must be also financially valuable. For example, in cases of industrial espionage or surreptitiously obtained information by third parties who are not obliged to keep the information confidential, the underlying basis for protection is not confidentiality but a breach of other social values and legal duties, such as prevention of unjust enrichment and maintenance of ethical standards. Sometimes there is also an absence of a duty or obligation of confidentiality after the termination of employment or contract. Here the protection lies in proprietary-based interests or the economic value of the information itself, as will be discussed in detail in Chapter 3.

The emphasis on the consideration of the information as secret, rather than mere confidential relationship, is compelling because the purpose of this study is to find a

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[35] For in-depth moral argument of TSs protection, see below section 4.4.
[36] Aplin and others, 4.

proper protection for TSs, which will be aided by direct protection of secret information. This view is in conformity with the Islamic Jurisprudence Council, which ruled that "recognizing the rules of Islamic law and the principles of chivalry and etiquette, secrets given their own exclusive nature, should be respected and concealed. Hence, their disclosure without legitimate reasons is a cause of culpability under the law".[37]

It could be said that the Islamic doctrine of secret information rests on the moral precept that demands observance of the secrecy of information. As commanded in the holy *Quran*: "honour every pledge and do not corrupt on society".[38] In the common law, though protection of secrecy is largely founded on broad moral or ethical duties,[39] there is also a utilitarian rationale which stands on the pecuniary value of the secret information itself and the negative impact of its divulgence. Thus, under both legal traditions, prevention of harmful consequences to individuals' legitimate interests forms a clear justification for protecting secrecy.

Having discussed the non-legal meaning of secrecy and delineated between various forms of confidential information, it is important to remember that secrecy is the valuable element if a piece of information is to be protected as a secret. Defining the status of information as secret depends very much upon its sensitivity, value and functionality. These categories accommodate a wide variety of information, into which commercial secrecy clearly falls. Additionally, TSs have money-making potential that makes them more qualified as confidential or commercial secrets.

It can be concluded that societal expectations do not provide conclusive lines between openness and secrecy. Rather, the boundaries of secrecy may change in line with societal, technological and economic developments, where new legal rights of information may evolve. Now it is not the purpose of this study to examine privacy

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[37] The Islamic Jurisprudence Council, 'Ruling on Medical Confidentiality' (1993) 5 contemporary jurisprudential researches journal.
[38] CH17:34.
[39] Stanley, 45.

and governmental secrecy, although are interesting areas to study, but to critically examines one special category of secret information, namely, trade secrecy (TS).

2.3 The Legal Status and Definition of TS

The above theoretical discussion established some idea of what a secret can be considered to be. Moreover, it differentiated TSs from the general phenomena of confidential information, but the legal meaning is still incomplete. This illustrates why it is often necessary for legislators to seek to create their own precise definition especially if there is a commitment to an international standard.

Before discussing the national definitions in the US, England and Oman, it is useful here to draw an overview of the origins of the concept of the TS in *international* intellectual property law. In effect, despite the TRIPS Agreement on intellectual property rights (as discussed below), there remains an important debate concerning whether or not TSs are a category of intellectual property.

2.3.1 The Categorisation Debate: Whether TSs Constitute "Intellectual Property"?

We have seen that TSs constitute confidential information that is of commercial value. Similarly, intellectual property (IP), such as patents, copyright, industrial designs and trade marks, have commercial value and partly confidential. According to the World Intellectual Property Organisation (WIPO), IP are "products of the mind, inventions, literary and artistic works, any symbols, names, images and designs used in commerce".[40] While TSs are also creations of minds and of intangible nature , TSs have some characteristics that are dissimilar from other areas of IP.

[40] WIPO Cited in J. Davis, *Intellectual Property Law*, Butterworths Core Text Series 2003 (Reed Elsevier: London) 1.

Unlike copyright and patent, TSs require no public disclosure. Instead the TS owner is required to keep the information secret in order to be protected. In fact, TSs need not be unique or novel as patent, nor original as copyright.[41] Moreover, unlike trademarks, patent and copyright, TSs do not require registration. With respect to the period of protection, which is at least 20 years for patents, TSs are not expressly confined to a certain time period. Finally, and more importantly, unlike all other forms of IP, the right to exclude applies only when TSs are obtained by improper means. Obviously, patent and trademark do not require any wrongdoing other than the appropriation itself, whereas TS misappropriation requires appropriation in addition to other wrongful methods.[42]

Because of these differences, the IP character of TSs has been denied by some scholars. For example, Professor Robert Bone concludes that TSs are fundamentally dissimilar and disassociated with IP.[43] Aplin and Davis agree that TSs combine different types of technical-commercial information, confer non-exclusive rights and allow reverse engineering, therefore, they should not be classified as IP.[44] Correa argues that TSs do not have any physical manifestation or expression in material forms like copyright, therefore, intellectual property rights (IPRs) do not easily map on intangible business ideas.[45]

In contrast, Bronckers and McNelis maintain that some differences between TSs and other IPRs should not cause us to deny their *intellectual* character, as in the field of IP, even with important exceptions to exclusivity, an IP right can still be considered.[46] Michael Risch also argues that like IP, TSs provide great economic

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[41] Article 65(2) of the OIPRA.
[42] For more details, see section 3.3 below.
[43] Robert G. Bone, 'A New Look at Trade Secret Law: Doctrine in Search of Justification' (1998) 86 CLR 241, 244.
[44] Tanya Aplin and Jennifer Davis, *Intellectual Property Law: Text, Cases & Materials* (3 edn, OUP 2016) 2.
[45] Carlos Correa, *Trade Related Aspects of Intellectual Property Rights: A Commentary on the TRIPS Agreement* (OUP 2007), 368.
[46] Marco Bronckers and Natalie McNelis, 'Is the EU Obliged to Improve the Protection of Trade Secrets? An Inquiry into TRIPS, the European Convention on Human Rights' (2012) 34 EIPR 673, 678.

benefits and should be entitled to the same treatment as other forms of IP.[47] Lemley asserts that TSs *ought to* be recognised as a form of IP. In his view, TSs "serve the purposes of IP law better than more traditional IP rights, at least for certain classes of inventions".[48]

Perhaps the argument that TSs constitute a form of IP should be favoured. Because IP, in its core, protects applications of ideas and information that is commercially valuable.[49] This is a strong analogy with TSs. In addition to these straightforward commercial reasons, there are policy reasons. IPRs are founded on the notion that creativity and innovation are protected to facilitate recoupment of the costs of creation.[50] For the same reason, people who have developed new ideas or new products or processes should receive their just commercial deserts, without distinction or discrimination. Otherwise, innovation is likely to be stifled.

Although TSs are controversially denied as a type of IP, the TRIPS Agreement (as will be shown below) accepts TSs as IP. More interestingly, some jurisdictions accept TSs as *property*.[51] Historically, the notion that TSs should be regarded as property was debatable.[52] In order to better understand the legal concept of TSs, it is helpful to resort to the TRIPS's negotiating history to trace the roots of the concept and to grasp the legal character of protectable subject-matter. Such background will also offer a closer analysis of the proprietary status of TSs and discern the extent to which Oman adheres to the TRIPS principles (the central international standard) in this regard.[53]

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[47] Michael Risch, 'Why Do We Have Trade Secrets?' (2007) 11 MarqLRev 1, 3.

[48] Mark Lemley, 'The Surprising Virtues of Treating Trade Secrets as IP Rights' in Rochelle C. Dreyfuss and Katherine .J. Strandburg (ed), *The Law and Theory of Trade Secrecy: A Handbook of Contemporary Research* (Edward Elgar 2011), 139.

[49] W. Cornish, D. Llewelyn and T. Aplin, *Intellectual Property: Patents, Copyrights, Trademarks & Allied Rights* (8th edn, Sweet & Maxwell 2013) 6.

[50] Risch, 11.

[51] This section focuses on the question whether TSs are IP in the first place. The relevant question whether IP is even a form of property is discussed in chapter 4.

[52] Lemley, 109.

[53] More will be said on this debate later in section 3.6.1.

2.3.2 The TRIPS Agreement: TS as IP and TS Definition

As a member of the World Trade Organisation (WTO), Oman[54] is formally obliged to implement the requirements set down in the TRIPS Agreement.[55] The WTO TRIPS Agreement or, as it is officially known, the Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 "TRIPS", has been considered by some to be the most prominent achievement in international IP law during the last century.[56] It covers, and ties to international trade, many of the categories of IPRs. It also, for the first time, incorporated TSs into a comprehensive international legal framework.[57]

Nonetheless, the inclusion of this new category on a multilateral binding basis was not a straightforward task. A review of the drafting history of the TRIPS Agreement showed that the insertion of TSs was strongly resisted by countries representing different levels of development during negotiations. For example, India, Brazil, Egypt and Peru raised concerns that proprietary recognition of TSs would impact on the free use of information. [58] Generally, the refusal to acknowledge TSs as a new form of IPRs can be traced to factual and legal arguments.

First, as a factual barrier, the argument was that unlike conventional forms of IPRs which had, for a long time, been protectable under detailed and well-settled IP conventions and treaties,[59] TSs had no presence in international law and therefore could not be claimed to fall into the normal territory of IP. Similarly, from a jurisdictional point of view, it was opined that if there were to be newly improved

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[54] Since 2000 through Royal Decree No. 112/2000, only five years after the US and the UK acceded to the WTO in 1995.

[55] It should be noted that the TRIPS Agreement is an annex (1C) to the Marrakesh Agreement 1994 establishing the WTO and therefore a key component of the WTO system.

[56] Michael Blakeney, *Trade related aspects of intellectual property rights: a concise guide to the TRIPs Agreement* (Sweet & Maxwell 1996) v.

[57] Duncan Matthews, *Globalising Intellectual Property Rights: The TRIPS Agreement* (Routledge 2002) 64.

[58] UNCTAD-ICTSD, *Resource Book on TRIPS and Development* (CUP 2005) 523.

[59] eg, the Berne Convention for the Protection of Literary and Artistic Works 1886; the Patent Cooperation Treaty 1970 and the Trademark Law Treaty 1994. All of which Oman is a signatory to.

provisions on IP-protection, it should be conceded to the World Intellectual Property Organisation (WIPO), the only international administrator of IPRs, not the WTO.[60]

Second, as to the legal argument, the comparative law at the time of the TRIPS negotiations was full of various ways of addressing the protection of secret information. Most common law jurisdictions protected confidential information under their existing rules on confidence, trust and property, while civil law jurisdictions treated the matter under general tort.[61] That meant no jurisdictional basis of TS protection could be agreed upon.

With this in mind, the US delegation tried to avoid the sensitive word "property". Instead, focus was placed on the essential fact that TSs "were designed to protect a form of intellectual endeavour, that either was not eligible for protection under one of the normal forms of protection of intellectual property or would lose its value through the public disclosure required to receive such protection".[62] Another attempt to persuade "least-developed countries" to agree on the inclusion of TSs was made by the Swiss delegation as, under Swiss law, preserving exclusive commercial use was linked to the proposed protection for secret information. The core principle underlying the TRIPS negotiations, which was the need to establish an international trading climate in which all forms of intellectual endeavours are protected, was probably the most influential factor in getting TSs included.

Ultimately, a compromise solution was reached via an interpretation of article 10*bis* of the Paris Convention for the Protection of Industrial Property 1979.[63] It was found that member States were already obliged under article 10*bis* of the Paris

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[60] Daniel J Gervais, *The TRIPS Agreement : Drafting History and Analysis* (4 edn, Sweet & Maxwell 2012) 274.

[61] Surinder Verma, 'Protection of Trade Secrets under the TRIPS Agreement, and Developing Countries' (1998) 1 J WIPO 723.

[62] Sharon Sandeen, 'The Limits of Trade Secret Law: Article 39 of the TRIPS Agreement and the Uniform Trade Secret Act on which it is based' in Rochelle C. Dreyfuss and Katherine J. Strandburg (eds), *The Law and Theory of Trade Secrecy* (EE 2011) 547.

[63] Oman acceded to through Royal Decree No. 63/1998. Available on line on http://www.wipo.int/treaties/en/text.jsp?file_id=288514, accessed 1 August 2017.

Convention to provide "effective protection against unfair competition", including "any act of competition contrary to honest practices in industrial or commercial matters".[64] This meant that the protection of TSs was secured, at least indirectly, by reference to existing international law without involving proprietary rights since these are not directly included as part of unfair competition.

More fundamentally, now TSs were recognised as a protectable category of IPRs under the TRIPS agreement. Pursuant to Part II of the Agreement IPRs are: (1) Copyright and Related Rights; (2) Trademarks; (3) Geographical Indications; (4) Industrial Designs; (5) Patents; (6) Layout-Designs of Integrated Circuits; and (7) Undisclosed Information. Indeed, the inclusion of undisclosed information under IP was one of TRIPS's main achievements. To not characterise TSs as IP, undermines their inclusion in TRIPS, particularly as TSs are already protected against unfair competition under the Paris Convention, but the TRIPS was apt to strengthen the protection.

Against this historical background, it is clear that the negotiations affected the formulation of the concept of TSs in international convention. The inclusion of TSs unavoidably required the creation of a definition, which was not provided by the Paris Convention. However, because of the above contradictory views, the definition of TSs was not easy to formulate. The next appropriate question would be the extent to which the legal definition of TS was affected?

Since both the EU TSs Directive on the Protection of Undisclosed Know-How and Business Information (Trade Secrets) Against their Unlawful Acquisition, Use and Disclosure 2016 (hereafter EU TSs Directive),[65] and the Gulf Cooperation Council

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[64] The same obligation was incorporated in article 2 of the TRIPS, where members must comply with the Paris Convention.

[65] The EU TSs Directive (2016/943), which came into force on 5 July 2016, obliges EU Member States to incorporate its provisions into national law by 9 June 2018. Despite Brexit, the UK in February 2018 officially started the process of implementation by publishing a "Consultation on Draft Regulations Concerning Trade Secrets". In this regard, it is worth noting that, in May 2017, the EU and GCC (including Oman) launched a dedicated dialogue on trade and investment issues. Moreover, currently, there is an ongoing EU-GCC negotiations for a Free Trade Agreement (FTA).

(GCC)[66] Proposed Regime of Trade Secrets Protection 2015 (hereafter GCC TSs Proposed Regime)[67] are the most recent regional (multilateral) legal development in the field, their provisions will be compared with the TRIPS. Obviously, the TRIPS Agreement was passed in 1994, therefore, these newer conventions will complement the discussion of the definition of TRIPS where there is ambiguity or uncertainty.

Article 39(2) of TRIPS – which is the only article concerning the subject matter and which encompasses three sections and one footnote – sets out what can be described as a broad, three-part working description of "undisclosed information" as follows:

> "so long as such information:
> (a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
> (b) has commercial value because it is secret; and
> (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret." [68]

An initial characteristic to be observed in this article is the adoption of the term "undisclosed information". In effect, the term was chosen over the term "trade secret" suggested by the US and "proprietary information" proposed by Switzerland. Reasons for the adoption of this odd terminology were, first, the neutrality of the term that does not characterise the content of the information, but just its "undisclosed" nature.[69] This was intended to save the need for finding a common and acceptable understanding of the nature of the information covered. Second, the term avoids referring directly to one

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http://ec.europa.eu/trade/policy/countries-and-regions/regions/gulf-region/index_en.htm, accessed 29 March 2018.

[66] Came into existence in 1981, consisting of six Arabia Gulf states, which are: United Arab Emirates; the Kingdom of Bahrain; the Kingdom of Saudi Arabia; the Sultanate of Oman; The State of Qatar; and the State of Kuwait.

[67] The Purpose of the Regime as stated in article 2, is to strengthen the protection available against the misappropriation of TSs.

[68] See article 2(1) of the EU TSs Directive and article 2 of the GCC TSs Proposed Regime which adopted very similar definitions.

[69] Correa 368.

particular legal system, namely the US's established term TS.[70] Third, the term does not imply the acknowledgment of proprietary rights over commercial secrets.

Despite the impartiality of the term "undisclosed information", it is rather misleading. Principally, what is protected is not really undisclosed information since "if no one has disclosed it to anyone, it could not be used at all, but rather information disclosed selectively and under precise conditions".[71] For the same reason, technically, the term does not cover a substantial part of TSs known as "test data" which are often *disclosed* to governmental agencies as a condition for gaining marketing approval for pharmaceutical or agricultural chemical products but remain protected secrets.[72] The breadth of the term is actually detrimental to its certainty as it can easily overlap with other categories of confidential information protected under different laws, where certainty is more important. As suggested earlier, what is supposed to be being protected here is not the broad area of confidentiality, but secret trade-related information.

This thesis advocates the term TS. The above limitations identified for the term "undisclosed information" may suggest a return to the term TS which has been overlooked for political rather than legal reasons. As a distinctive term, TS is more specific and enjoys familiarity in business and social spheres as it best mirrors the trading nature of the information concerned. It also more appropriately indicates that the owner desires to keep the information unknown to third parties. Further, it expresses the requirement of economic value where information pertains to the business of the owner (pursuant to the property theory that is endorsed here). For these advantages, both the EU TSs Directive and the GCC TSs Proposed Regime have adopted the term.[73] However, this is not to suggest that the term is self-explanatory.

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[70] UNCTAD-ICTSD, 529.
[71] Gervais, 274.
[72] The TRIPS, article 39(3).
[73] See, for example, article 2(1) of the EU TSs Directive which provides that "trade secret means", and article 2 of the GCC Regime which states that "this Regime aims at protecting trade secrets".

Returning to the TRIPS definition stated above, certainly it is different from the definitions of patent[74] and copyright.[75] Article 39(2) enumerates three-essential elements that a piece of information must meet in order to be deemed a TS. Firstly, *secrecy* is the inherent characteristic and central element that takes precedence over all other elements. Expressing the essentiality of secrecy, François Dessemontet equates it with the novelty requirement under patent law.[76] Therefore, if there is no secrecy there is no TS labelling. Nonetheless, a question that arises here is what degree of secrecy the information must satisfy.

The clause not "generally known" seems to demand no *absolute secrecy* or the information to be totally locked.[77] Instead, it implies a *relative secrecy* where information is not generalised but accessible by only a limited number of persons, such as a group of professionals or employees with a common field of business. In fact, such an interpretation complies with the economic nature of TSs, which is that to maximise their value they eventually need to be licensed and shared.

On the same point, some commentators have argued that the expression not "readily accessible" might encourage TS violations as defendants may use it as a defence or set out to prove that the information was accessible and, therefore, that this element could not be established.[78] However, it is commonly stipulated that if information is easily ascertainable by *proper* means such as "reverse engineering" or "independent discovery" it cannot qualify as a TS.[79] That is to say, if a product can simply be disassembled to discover how it was developed and manufactured, then this

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[74] According to Article 27 of the TRIPS, "patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application".

[75] As defined by Article 9(2) of the TRIPS, "Copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such". For more differences, see section 2.3.1 above.

[76] Dessemontet, 349.

[77] Correa, 373.

[78] Ibrahim M. Obaidat, *Trade Secrets: Concept, Legal Nature, Mechanism of Protection* (Althaqafa 2015) 83; Risch, 54.

[79] Article 3 (1) (a) of the EU TSs Directive and article 15 of the GCC TSs Proposed Regime.

general availability negates its secrecy. This lawful accessibility is in accordance with TRIPS provisions that foster commercial innovation and legitimate trade.

Secondly, the information must possess *"commercial value"*, as Lederman describes, the "economic value is naturally related to the definition of a clearly marketable object".[80] This requirement can also be seen as an indirect condition that the information must be used in trade or business. Consequently, one cannot argue that the scope of protectable information extends to all secret information. In other words, "information that is not economic in nature and not intended to be converted into an economic entity does not meet the condition at hand, and does not enjoy the protection of the law, despite having been kept secret".[81]

A key question here is what threshold of commercial value is sufficient to trigger protection? Some writers submit that *potential* value should suffice,[82] while others argued for *actual*, not merely probable, value.[83] The word "potential" was, in fact, included in the TRIPS Draft of July 1990 (W/76), but was then removed from the final and present Agreement. However, the addition to the treaty of the phrase "because it is secret" may suggest that the independent economic value of the secret, whether actual or potential, may be a factor. Practically, the reason for keeping the information secret is its commercial importance, which is also the reason for it being targeted by individuals who do not deal in worthless or generally ascertainable information. Thus, part of the value of the information derives from the fact that it is secret. It is realistic then that "information can have independent economic value even if there is no actual product on the market utilizing it" [84] as far as it is intended to be used in trade and it gives its creator an opportunity to obtain financial advantages. This is the position the EU TSs Directive has adopted[85] and what the GCC TSs Proposed Regime might

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[80] Eli Lederman, *Infocrime: Protecting Information Through Criminal Law* (EE 2016) 265.
[81] Ibid, 266.
[82] Sandeen, 556; Gervais, 542.
[83] Correa, 373; UNCTAD-ICTSD, 529.
[84] Lederman, 266.
[85] The EU TSs Directive, recital 14. For a related discussion see Niebel, de Martinis and Clark, 4.

consider.[86] Thus, an independent commercial value, actual or potential, should satisfy the protection requirement.

Due to the vagueness of the economic element, the WIPO Model Provisions on Protection against Unfair Competition and Dishonest Practices against Trade Secrets 1996[87] offered helpful tests of how the commercial value can be determined. These tests rely on the amount of resources invested in producing the information, its performance in the market, for instance, the number of licences it has, and the overall economic advantage it brings to its owner.[88] Further practical ways for verifying that economic worth can be the willingness of others to gain access to it or their attempts to develop a competitive secret and the efforts of the owner to maintain its secrecy.

Thirdly and lastly, the information must be subjected to *reasonable steps* "to keep it secret".[89] In contrast to the first two elements of secrecy and commercial value that concern the quality of the information itself, this element has to do with the owner of the information. It stresses the efforts that the creator of a TS must undertake to guard their information. A rationale for such preservation of secrecy has been that those who do not protect their TSs should not be entitled to expect the law to do it for them.[90] In a sense, the desire for commercial secrecy alone is not sufficient; but prevention of disclosure must be active.

Like the two earlier elements, this final element triggers a debatable question as to what constitutes "reasonable steps" against misappropriation. On the one hand, Correa proposed that whether means were reasonable or not should be judged,

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[86] Article 2 (2) of the Regime requires an actual value.

[87] The Model was introduced by the WIPO to provide guidelines (based on previous studies in the area) on combating dishonest practices against trade secrets. Available at: ftp://ftp.wipo.int/pub/library/ebooks/wipopublications/wipo_pub_832(e).pdf

[88] Article 6 (3) (iii) of the WIPO Model.

[89] The same element is also required by article 2(1) (C) of the EU TSs Directive and article 2(3) of the GCC TSs Proposed Regime. See also article 6.01 of the WIPO Model which provided that "the rightful holder of the information must take certain measures or must behave in a certain way to keep the information unknown to third parties".

[90] Dessemontet, 351.

objectively, in accordance with the protective measures that are usually adopted in similar circumstances, taking into account the value of the information and the threats surrounding its use.[91] On the other hand, some writers advocate a subjective test where the sufficiency of the measures can vary from case to case depending on the nature and type of information.[92] Most scholars would agree that reasonableness is a frequent legal test that is easy to state but often hard to establish. Clarification of what constitutes reasonable measures is further problematised in the sphere of TSs due to the variety of forms, sizes and financial strength of enterprises.

It may be argued that the provisions in the TRIPS Agreement do not seek to burden the owner of the TS excessively. Their main function is to ensure appropriate control over the commercial secret. Therefore, any protective step that expresses very clearly the intention to maintain the secrecy of the information, such as contractual restrictions, video controls, or restrictions to access should fall within the meaning of reasonable steps. Otherwise, the cost of extensive security measures could be higher than the value of the TS. This could hinder investment in innovation and so contradict TRIPS' purpose of effective and accessible protection. For these reasons, it seems reasonable to argue that protective steps "need to be *optimized* rather than *maximized*".[93]

As the above-detailed discussion indicates, the TRIPS inclusion and definition of TS have been arrived at through compromise. The analysis of the three core elements of TS has shown that article 39(2) of TRIPS is written in broad terms and leaves several uncertainties. From the term "undisclosed information" to the elements of secrecy, commercial value and precautionary steps, the definition is not without ambiguity. Political necessity may have been the underlying reason, however, international laws are often broader than their domestic counterparts. That said, the TRIPS Agreement was substantially influenced by existing US law;[94] as Dessemontet

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[91] Correa, 384.
[92] Antony Taubman, Hannu Wager and Jayashree Watal, *A Handbook on the WTO TRIPS Agreement* (CUP 2012) 127.
[93] Lederman, 261.
[94] Gervais, 545.

posits, "[a]rticle 39 TRIPS unifies American definitions of trade secrets".[95] The extent of this influence is examined in the following sub-section.[96]

2.3.3 Definition of TS in the US Law

Historically, the country that has made the greatest effort to provide a robust protection of TSs is probably the US. TSs are long-ago considered *property* under the US law.[97] This is not the only reason for discussing US law but US IP law, in particular, has been the model for Omani IP laws.[98] Although these laws are based on various international standards, substantial elements are taken from the US system. For instance, the current IP laws provide that software patents are not excluded subject matter. This might have been introduced as a result of the US influence even though the Free Trade Agreement (US-Oman FTA) 2008 does not explicitly require it,[99] and no other Arab countries have a similar provision. The US-Oman FTA generally promotes strong patent protection.

Lemley claims that "modern trade secret law is primarily an Anglo-American doctrine".[100] The development of the US TS law grew from traditional common law to codified legislation and from state regulation to federal jurisdiction.[101] Historically, there have been several definitions of a TS in US law. The very first of these was that stated in the Restatement of Torts 1939, section 757 of which provided an early definition of TS as follows:

> "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to

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[95] Dessemontet, 358.

[96] For a detailed discussion of the TRIPS's enforcement of IPRs, including "undisclosed information, see section 5.2.

[97] *Peabody v. Norfolk*, 98 Mass. 452 (1868).

[98] David Price, *The Development of Intellectual Property Regimes in the Arabian Gulf states: Infidels at the Gates* (Routledge 2012) 220.

[99] See article 2(2) of the Act and section 15:10 of the FTA.

[100] Lemley 112.

[101] The first TS case in the US was *Vickery v. Welch*, 36 Mass. 523 (1837), but the most famous one was *Peabody v. Norfolk*, 98 Mass. 452 (1868), which protected TSs against disclosure made by former employees.

> obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for machine or other device, or a list of customers [...] for continuous use in the operation of the business".

The relatively clear language and detail of this definition made it popular in the American courts.[102] However, the requirement of "continuous use" in a business, that excluded information relating to a single event, was criticised.[103] The courts assumed that single or ephemeral events information could still qualify as a TS if it remained secret. This was not the only gap which affected the Restatement definition but also the belief that TS protection had become a subject of such importance in its own right that it no longer belonged to the general law of torts.[104] This further rationalised enhanced protection.[105]

The second important source of TS laws is the Uniform Trade Secrets Act of 1979 (UTSA), amended 1985. As its title suggests, the aim of the UTSA was to make the state laws governing TSs uniform. However, the aim of uniformity is dependent upon the number of states that choose to adopt it. Though it did bear some resemblance to the provisions of the Restatement of Torts, the UTSA developed a specialised and sounder definition of TS. Section 1(4) reads:

> "Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:
> (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and
> (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy."

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[102] Robert Denicola, 'The Restatements, the Uniform Act and the status of American trade secret law' in Rochelle C Dreyfuss and Katherine J Strandburg (eds), *The Law and Theory of trade Secrecy* (EE 2011) 20.

[103] eg, *Sinclair v. Aquarius Electronics*, Inc., 116 Cal. Rptr. 654 (1974) and *Ferroline Corp. v. General Aniline & Film Corp*., 207 F.2d 912 (7th Cir. 1953).

[104] Denicola, 20.

[105] It should be noted that the Restatement (Second) of Torts 1979 and the Restatement (Third) of Unfair Competition 1995 are irrelevant here since they add nothing substantial to the Restatement (first) definition.

The close resemblance between this definition and the TRIPS definition is apparent. Although the three elements are analogous, the UTSA formulation (with the indicative list of examples) is less ambiguous and more far-reaching. This may help courts to overcome difficulties in classifying information as a TS and accordingly provide protection for national commercial and industrial secrets.

Notably, the abolition of the requirement that a TS be continuously used in business meant that "negative knowledge", which by its nature will *not* work continuously, and information which has not yet had an opportunity to be put into use were included under the UTSA.[106] Robert Denicola demonstrated that the UTSA constituted a great expansion in coverage of information that was outside the former scope of TS law.[107] One may observe that the "customer lists" specifically mentioned in the Restatement, were excluded, possibly suggesting that they no longer amount to TSs. Perhaps the phrase "trade secret means information *including*…" intended to convey a non-exhaustive list of TSs. Moreover, the terms "compilation" and "economic value" are open to wide interpretation. Nonetheless, the UTSA is not a source of primary law but state legislatures may use it to inform legal protection for TSs.

The third but the only significant primary source of federal protection for TSs is the Economic Espionage Act of 1996 (UEEA). It represents the first piece of legislation aimed at harmonising the patchwork of state regulation in a "comprehensive and systematic scheme".[108] The rationale offered for the Act by Congress were substantial gaps in existing federal criminal law and increasing theft of American TSs by foreign economic espionage, which jeopardised the country's intellectual capital and economic prosperity.[109] In light of these national concerns, the UEEA was enacted as a federal criminal deterrent. This criminalisation solution is

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[106] *Syntex Ophthalmics, Inc. v. Tsuetaki*, 701 F.2d 677(7th Cir. 1983).
[107] Denicola, 27.
[108] James Pooley, Mark Lemley and Peter Toren, 'Understanding the Economic Espionage Act of 1996' (1996) 5 Tex Intell Prop LJ 177, 180.
[109] Statement by President William J. Clinton upon Signing the UEEA, reprinted in 11 October 1996 http://www.presidency.ucsb.edu/ws/?pid=52087.

explored in some detail in Chapter 5; it is sufficient here to note that section 1839(3) of the UEEA broadened the definition of a TS by stipulating that

> ""trade secret" means all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if
> (A) the owner thereof has taken reasonable measures to keep such information secret; and
> (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, the public".

It may be observed that this definition generally follows the definition in the UTSA, however, it took a broader approach to what type of information could qualify as a TS. The current UEEA definition exceeds the civil meaning set out by the UTSA and even some states' criminal statutes that limited TSs to "scientific or technical information".[110] This extension is unusual because the US criminal laws are frequently narrower than their civil counterparts.[111] In effect, rather than restrict itself to physical goods, which is often the case with criminal laws, as will be seen, the Act encompasses information in any form "whether tangible or intangible".

As widely noted, the UEEA expands upon the representative list in the UTSA to include a wide range of mundane business information that is not directly related to manufacturing or trading operations, such as insider information and personnel information.[112] Thus, the UEEA's longer list of potential types of TSs confirms its more extensive provisions go beyond civil standards.

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[110] Eg, the California Penal Code (West 1996), S 499 C (9) and New York Penal Code (Supp 1982), s 165.07.

[111] Pooley, Lemley and Toren, 180.

[112] Kent Alexander and Kristen Wood, 'The Economic Espionage Act: Setting the Stage for a New Commercial Code of Conduct' (1999) 15 GaStULRev 907; Arthur Schwab and David J. Porter, 'Federal Protection of Trade Secrets: Understanding the Economic Espionage Act of 1996' (1998) 2 J Proprietary Rts 8; Eleanor Phillips and others, 'Intellectual Property Crimes' (2015) 52 Am Crim L Rev 1289, 1293.

Under the UTSA, information is *secret* if it is not generally known to competitors. By contrast, the UEEA changed the relevant question from what competitors know about the information to the knowledge held by "the public". While this has been viewed as a dramatic alteration, particularly in high-technology and competitive markets where competitors are likely to know more about particular commercial secrets than is the public,[113] the implications of this change is not entirely clear.

It is unlikely the US Congress intended to lower the threshold of secrecy so significantly since even those familiar scientific principles are hardly "generally known" to the public at large.[114] For example, the principles of thermodynamics are probably well-known in scientific circles, but it is unlikely that they are "generally known" to the public as a whole, although not secret. Thus, the benchmark of secrecy might be tightened further to only include those who have an economic interest in discovering the secret. This argument seems consistent with the ultimate purpose of the UEEA, which is to combat industrial espionage and to safeguard American economic strength.

To that end, and to resolve this anomaly in the UEEA, the Defend Trade Secrets Act 2016 (UDTSA) was enacted.[115] For the present purpose, the UDTSA consolidates the definition of the UEEA by removing "the public" and inserting "another person who can obtain economic value from the disclosure or use of the information".[116] Such an amendment validates the earlier argument of secrecy based on competitors' knowledge. Further, it gives the UEEA's definition more clarity and authority.

The attractiveness of the US definition of TS stems from its inclusivity and flexibility and so the increased ease with which courts are able to establish that a TS exists. Nevertheless, it can be inferred from the statutory regime that the overall federal

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[113] Adam Cohent, 'Securing Trade Secrets in the Information Age: Upgrading the Economic Espionage Act After *United States v. Aleynikov*' (2013) 30 Yale J 189, 204.
[114] Pooley, Lemley and Toren, 192.
[115] Pub. L. No. 114-153, 130 Stat. 376 (2016).
[116] Ibid, s 1839(3)(B).

formulation appears to cover any type of "proprietary" information that is able to provide some competitive advantages to its "owner". In effect, the US's all-encompassing definition of TS grew out of a need to hold perpetrators of various espionage activities liable for misappropriation of TSs. Unsurprisingly, therefore, the US definition of what is protectable as a TS is expansive.

It is useful to emphasise here that the scope of protectable subject-matter should encompass industrial and commercial secrets but not general or trivial business information. Oman seeks a balanced approach that protects information that is not common knowledge and so acknowledges the growing role of TSs in the economy. Of course, there are lessons to be learned from the US definition of TS to formulate appropriate definition in Oman.

Since the origins of the US TS law lie in the common law,[117] England, the home of the common law, may serve as a better model for Omani legal reform on this issue. Like Oman, England has traditionally been reluctant to criminalise TS misappropriation. Although the English protection of TSs has been deemed "relatively weak",[118] English law has a reputation as one of the most practical legal systems.[119] Thus, the definition and scope of TSs under English law is worthy of analysis.

2.3.4 Definition of TS in English Law

Compared to the US legislative definitions and statutes governing TSs as a distinct legal category, English law (as mentioned earlier)[120] still has a large amount of case law covering "confidential information" instead.[121] Unlike the US law, in English law

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[117] Risch, 13.

[118] Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper* ,192.

[119] Penny Darbyshire, *English Legal System* (9 edn, Thomson Reuters 2013) 2.

[120] See section 2.2.2 above.

[121] English courts first dealt with the subject matter more than a century ago and the oldest English cases of TSs include, *Yovatt v Winyard* [1820]; *Abernethy v Hutchinson* [1825] and *Prince Albert v Strange* [1849].

TSs are not regarded as property.[122] In England, the protection of TSs tends to be placed in a broader conceptual frame which also encompasses a very wide range of confidential information. The breach of confidence action can be used to protect personal, governmental, commercial, industrial and other information without distinction by subject.[123] This approach avoids the need to define limited categories.

Due to the increasing economic significance of TSs, there is now an important debate concerning their precise definition. Cornish et al. argue that English law needs to formally distinguish between various types of information that protectable against breach of confidence. In their view, TSs involve different policy arguments that mainly based on economic advantages that might not be applicable to personal or official secrets. [124] Of course, different categories of confidential information warrant somewhat different policies. The Law Commission asserted that for the purpose of criminalising TS misuses, it would be necessary to provide a definition of a TS.[125]

One may possibly argue that the term "trade secrets"[126] is not a term of art in English law. English courts have tended to use different terminology and focus more on "information" or "confidential commercial information". In the case of *Saltman Engineering Co. Ltd. v. Campbell Engineering Co. Ltd*, which involved misuse of manufacturing or industrial secrets, Lord Greene stated that

> "The information, to be confidential, must, I apprehend, apart from contract, have the necessary quality of confidence about it, namely, it must not be something which is public property and public knowledge. On the other hand, it is perfectly possible to have a confidential document, be it a formula, a plan, a sketch, or something of that

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[122] *Boardman v. Phipps* [1967] 2 AC 46. For an extensive discussion on the property analysis, see chapter 4.

[123] Paul Torremans, *Holyoak and Torremans intellectual property law* (8th edn, OUP 2016) 590.

[124] Cornish, Llewelyn and Aplin (8th edn, Sweet & Maxwell 2013) 320.

[125] Law Com No 150, 1997, 32. For more recent developments see, Law Commission, *Annual Report 2004/05: The Thirty-ninth Annual Report of the Law Commission* (Law Com No 294, 2005) 24.

[126] Defined by the Oxford English Dictionary as a "device or technique used in a particular trade or occupation and giving an advantage because not generally known". Weiner and Simpson, Volume XVIII Thro- Unelucidated, 349. Similarly, the Jowitt's Dictionary of English Law refers to the term as something which "comprises information which is not generally known, or reasonably ascertainable, to others who may be able to gain an economic advantage by its knowledge". Daniel Greenberg and William Allen Jowitt, *Jowitt's Dictionary of English Law* (3rd edn, Sweet & Maxwell 2010) 2278.

> kind, which is the result of work done by the maker on materials which may be available for the use of anybody; but what makes it confidential is the fact that the maker of the document has used his brain and thus produced a result which can only be reached by somebody who goes through the same process."[127]

The same language and description were used in the case of *Coco v AN Clark (Engineers) Ltd* (also a TS case),[128] where Megarry J added that "Secondly, the information must have been imparted in circumstances importing an obligation of confidence. Thirdly, there must be an unauthorised use of that information to the detriment of the party communicating it."[129] Later, in *Thomas Marshall (Exports) Ltd. v Guinle*,[130] where the defendant was prevented by interlocutory injunction from disclosing TSs belonging to his former employer, Megarry J developed more detailed description and for the first time used the term "trade secret" explicitly by stating that

> "Four elements may be discerned which may be of some assistance in identifying confidential information or trade secrets which the Court will protect. I speak of such information or secrets only in an industrial or trade setting. First, I think that the information must be information the release of which the owner believes would be injurious to him or of advantage to his rivals or others. Secondly, I think the owner must believe that the information is confidential or secret, i.e. that it is not already in the public domain. It may be that some or all of his rivals already have the information, but as long as the owner believes it to be confidential, I think he is entitled to try and protect it. Third, I think that the owner's belief under the two previous heads must be reasonable. Fourth, I think that the information must be judged in the light of the usage and practices of the particular industry or trade concerned. It may be entitled to protection as confidential information or trade secret; but I think that any information which does satisfy them must be of a type which is entitled to protection."[131]

Clearly, Megarry J's description is limited to commercial secrecy rather than the legal phenomena of confidential information in general.[132] This was more recently

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[127] [1963] 3 All ER 413.
[128] [1968] F.S.R. 415, 419.
[129] It should be noted that, in addition to this case, in *Saltman* the court required three elements if a case of breach of confidence is to succeed. For more discussion, see section 3.7.4 below.
[130] [1978] 3 All E.R. 193.
[131] Ibid, 209-210.
[132] See also *Seager v Copy de x Ltd*, where Lord Denning stated the condition that the information needs to be saleable or marketable and can be used in manufacturing. [1967] 2 All E.R.415, 417.

emphasised by Staughton L.J. in *Lansing Linde Ltd v Kerr,*[133] where he asked rhetorically:

> "What are trade secrets, and how do they differ (if at all) from confidential information? Mr Poulton suggested that a trade secret is information which, if disclosed to a competitor, would be liable to cause real (or significant) harm to the owner of the secret. I would add first, that it must be information used in a trade or business, and secondly that the owner must limit the dissemination of it or at least not encourage or permit widespread publication."

There is no shortage of definitions in English common-law, but it is still unclear what precisely a TS is in English law. As Megarry J acknowledged, "It is far from easy to state in general terms what is confidential information or a trade secret".[134] It is perhaps easier to give uncontroversial examples. The Law Commission, in their consultation paper on the issue, suggested four broad categories of information that may constitute a TS.[135] In their view, the definition of TSs should cover "secrets relating to highly specific products", "technological secrets", "strategic business information" and private collations of individual items of publicly-available information. As the above categories imply, examples of protectable TSs in English law include both secrets of a technical nature (e.g., devices, formulae and industrial processes) and secrets of a commercial nature (e.g., customer lists, sales and prices lists, business plans and marketing strategies).

As noted earlier, the US law has many statutory definitions of TS. In England, there is few statutes give a definition. The Industrial Information Bill 1968 defined TSs as comprising "Unregistered or incomplete patent, trade mark, or design information, know-how, research and technical data, formulae, calculations, drawings, results, conclusions, costings, price structures, contracts, lists of suppliers or customers, and private business discussions, or memoranda of the same."[136] Also,

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[133] [1991] 1 W.L.R. 251.
[134] *Thomas Marshall v Guinle* [1978] 3 All ER 193.
[135] Law Commission, *Legislating the Criminal Code: Misuse of Trade Secrets* (Law Com No 150 (1997)) 32.
[136] The Bill was introduced to parliament to criminalise industrial espionage but was not supported by the Government.

section 712(3) of the Corporation Tax Act 2009 defines IP, including TSs, as comprising "any information or technique … having industrial, commercial or other economic value".

Most recently, the implementation of EU TSs Directive 2016/943 has caused the UK to adopt regulations necessary to comply with the Directive. The Trade Secrets (Enforcement, etc.) Regulations 2018 No. 597,[137] which entered into force on 9th June 2018,[138] provide for a statutory definition of the term "trade secret". According to section 2 of these Regulations

> ""trade secret" means information which—
> (a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
> (b) has commercial value because it is secret; and
> (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret."

This new statute means that TSs are no longer totally governed by common law. Moreover, "confidential commercial information" as the English courts described, is now a specific legal category which officially termed "trade secret". While the breach of confidence action encompasses any type of confidential information, TSs as the term implies must be used in business or industry and of "commercial value".[139] As we have seen, these key elements were also contained in the TRIPS and UEEA and it is not proper to duplicate them here. The purpose of this study is to address the problem of TS definition and ask deeper questions about what exactly constitute TSs.

The English law has a deep case law discussion of some key aspects of the definition. The *secrecy* required under English law is not "absolute" or publicly-

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[137] Available at: http://www.legislation.gov.uk/uksi/2018/597/contents/made, accessed on 23 September 2018.
[138] Regulation (1)2 provides that "these Regulations extend to England, Wales, Scotland and Northern Ireland".
[139] This condition was also confirmed by the case law as not "trivial tittle-tattle". See *Lansing Linde Ltd v Kerr* [1991] 1 All ER 418, 425 (Staughton LJ).

related, as "the public" threshold under the UEEA, but "relative" and related to the particular business.[140] Correctly, it is not necessary for a TS to be secret from the entire public, but its concealment from the "relevant public" may still form the character of secrecy.[141] In English law, the "holder" of a TS[142] is placed in a particular business in order to judge whether the information is not publicly available to rivals or others who have an economic interest in acquiring it.

Another issue is that the nature of the secret information might not be always purely industrial or commercial. Sometimes TSs can be mixed with "personal" or "governmental" secrets. In the case of *Gray & Coogan v News Group Newspapers Ltd*, where both business secrets and private information were misused, the court held that the confidential information was mainly "commercial" because "approximately 70% of the messages left on the mobile phone were business or commercial calls".[143] Therefore, the interception of the voicemail messages was regarded as a breach of commercial confidentiality. The same approach of predominance was applied to TSs submitted to governmental agencies.[144] It was a question of which category the information in question mainly fell into.

A more difficult question may be raised is whether the definition should extend to information used in a "profession", or in "pure research". There are no such questions under the US law because both can obtain "economic value, actual or potential" and both are therefore equally protected.[145] By contrast, under the English law, it has been argued that professional data and non-commercial research that is not capable of being used industrially or commercially, at least in the near future, may not be properly considered a TS.[146]

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[140] *Franchi v Franchi* [1967] R.P.C. 149.
[141] *Attorney General v Guardian Newspapers Ltd* [1988] 3 All E. R. 574.
[142] Defined by section 2 of the Regulations as "any natural or legal person lawfully controlling a trade secret".
[143] [2011] 2 WLR 1401, 14 (Mr Justice Vos).
[144] *Varec SA v Belgium* [2008] 2 CMLR 24.
[145] Cohent, 191.
[146] Coleman, 24.

This is a useful distinction for the Omani law to consider. If the justifications for protection are based on economic potential and prevention of economically harmful activities, then the legislator should avoid conferring any greater coverage than is necessary to preserve the legitimate interests of businesses. Professional practitioners have some secrets that do not necessarily have apparent commercial applications. For example, a firm of lawyers should not be entitled to TS protection for the personal secrets of its clients that might not have any link to trade or industry. Similarly, pure university research, which is kept secret out of scientific caution or scientific pride but lacks a potential commercial application, should not be protected as a TS.

In brief, English law now has a statutory definition of TSs. It protects TSs independently from the general phenomena of confidential information but acknowledges the stipulations by case law as the conditions for being legally protected as a confidential commercial information. Thus, in my view, it does not contradict English court decisions in the area. However, it contradicts the US definition which is based on property, as discussed fully in chapter 4. The English definition of TSs seems to be rooted in a duty not to take unfair advantage and a duty of good faith against a breach of confidence action based on equity.[147] This equitable obligation is different from the American property jurisdiction.

Obviously, there is a lot more English law in this area. However, the terminological and conceptual differences between the American and English definitions, as detailed above, now enable a clearer analysis of Omani law and identification of any legal shortcomings.

2.3.5 Definition of TS in Omani Law

As with the UK, TSs are valuable traded commodities in Omani social, economic and legal environments. The protection of a TS is inextricably linked to the way in which it is defined. Therefore, the absence of a commonly accepted definition of a TS is

[147] *Seager v Copy de x Ltd* [1967] 2 All E.R.415; *Coco v AN Clark (Engineers) Ltd* [1968] FSR 415.

effectively an absence of a benchmark against which protection can be considered. The US and the UK have historically been Oman's largest trading partners[148] and all are members of the WTO bound by the TRIPS Agreement. Hence, I shall examine whether a comparison of Omani with the American and English laws on TS highlights more similarities than differences. More importantly, I will consider whether Oman can develop its own definition that accommodates its national strategies and international commitments.

Before addressing the definition of TS in Oman, it is worth pointing out that the general concept of TS was not alien to the Omani legal system prior to committing to its TRIPS obligations. The concept was mentioned indirectly in several Acts pertaining to business and commercial activities.[149] Yet, neither statute nor case law specified its meaning. This absence of legal definition can be attributable to a desire for flexibility, a lack of threats during that period, or the role that tort played in TS disputes. Consequently, TS cases were not independently recognised and accurately classified. This prevented courts from contributing effectively in the field, as no sufficient legal precedents were identified.

The Trade Marks, Indications and Trade Secrets and Protection from Unfair Competition Act of 2000, was the first Act that explicitly introduced TSs into Omani law. As its title suggests, the Act was not entirely devoted to protecting trade secrecy, but rather regulated TSs through just two articles 33 and 34. Article 34 provided the following definition

> "A commercial or industrial activity shall be considered secret if:
> a) due to its nature, it is not known;
> b) it draws its commercial value from its secrecy;

[148] Oxford Business Group, *The Report: Oman* (2017) 10.

[149] Examples of these legislations include: Organising the Accountancy and Auditing Profession Act (1986) where art 17 prohibits auditor and accountant from revealing "the secrets of the work or allow[ing] any person to go through them…". The Commercial Act (1990) in which art 50 states that "A merchant may not induce the workers or employees of another merchant to … disclose to him the secrets of his competitor". The Banking Act (2000) where art 24 provides that "members of the Board of Governors and all officials, employees, advisers, special experts or consultants appointed hereunder shall not disclose any information acquired in the performance of their functions…".

c) reasonable measures have been taken to maintain its secrecy or it is not easily accessible to an ordinary person having skill in the art."

This article stipulated four conditions for legally recognising a subject matter as a TS. Firstly, the information must be used in commerce or industry. Secondly, the information must be confidential. Thirdly, the information must have commercial value. Fourthly, the information should be kept secret. These conditions closely mirror the English law, the US and TRIPS .

Subsequently, the Omani legislator replaced the above Act with the current Industrial Property Rights Act of 2008 (hereafter OIPRA). In fact, the OIPRA replaced five previous Acts relating to industrial property rights (IPRs).[150] By doing so, it lumped together the whole area of IPRs. Although such an unusual legislative move imitates, to some extent, both the TRIPS generic approach and the English broad conceptual frame of confidential information, however, there are clear conceptual issues that arise from combining five different areas into a single rubric.

Originally, the OIPRA was intended to mirror US law. [151] The promulgation of the OIPRA was required by the US-Oman FTA to "provide more extensive protection" for IPRs.[152] However, the current Omani approach toward legal protection of TSs is uncommon. Qatar and Bahrain, for example, have opted for specific regulation of TSs.[153] Perhaps the unwillingness of the other Gulf States to adopt the OIPRA as a model, (which is usually the trend when it comes to good laws), hints towards its inadequacy as a legal instrument. This can be drawn from the fact that each category of IP may demand very different responses; as WIPO notes, different types of IP are best protected by "specific, detailed and comprehensive statutes".[154]

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[150] Which were, in addition to the TSs Act, the Industrial Designs Act (39/2000), the Geographical Indications Protection Act (40/2000), the Designs (Topography) Integrated Circuits Protection Act (41/2000), and the Patent Act (82/2000).

[151] The Minister of Commerce and Industry described the FTA and the OIPRA as "balanced and mutually advantageous to the national economy". http://2009.omandaily.om/?p=1892.

[152] The FTA, Chapter 15.

[153] Qatari Protection of Secrets of Trade Act (2005) and Bahraini Trade Secrets Act (2003).

[154] WIPO, *Intellectual Property Handbook* (2 edn, WIPO 2008) 133.

It is important to underline here that the present Omani regime protects TSs against unfair competitive practices but not as a type of IP that is different from the English and American approaches. Article 65(2) of the OIPRA, under the heading "Protection from Unfair Competition", defines a TS as follows

> "Information shall be considered "Undeclared Information" if:
> a) it is secret and it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;
> b) or it has commercial value;
> c) or it has been subject to reasonable steps under the circumstances by the person lawfully in control of the information to keep it secret."

Although both the old and the new Acts justify protection of TSs on the prevention of unfair competition, their boundaries of protectable information highlight several differences. The first of these differences is the use of the term "trade secret" by the old Act, whereas the new Act embraces the term "undeclared information".[155] Such an unfamiliar term was used only once before in the Capital Market Act of 1998.[156] There is little doubt that TSs are not limited to stock market secrets or dealings in shares, therefore, the selection of the term "undeclared information" over the term "trade secret" does not appear to be a useful substitution.

This view is supported by the use of the word "trade" in the term "trade secret". It is a secret of the trade, trade meaning commercial or industrial activities that are "undertaken by any person with intent to speculate even if such person is not a merchant".[157] This meaning seems clearer than the English one which defines "trade" to include "any business or profession",[158] and certainly less ambiguous than the term

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[155] None of the Arab jurisdiction used this term; most use either "trade secret" or "undisclosed information".
[156] Article 64 of the Act criminalises "insider dealing" by stating that "Any person who is proved to have had dealings in the Market on the basis of undeclared information… shall be punished by imprisonment…".
[157] The Commercial Code 1990, article 8.
[158] The English Trade Marks Act 1994, s. 103(1).

"undeclared information". The term TS is more common and comprehensive and, therefore, should be adopted.

Another terminological issue occurs in the use of the conjunction *or* instead of *and* at the beginning of clauses (b) and (c) of article 65(2). This might be a simple wording error but if interpreted strictly it could bring about a significant change in the scope of TSs since, as it stands, it means that any single element of the three such as secrecy, or commercial value, or even the precautionary steps, is sufficient to deem the information legally protectable as a TS. That would create a very heavy legal burden to protect a tremendous amount of information much of which may be of trivial value. As it is unlikely that the legislator intended such a dramatic change, it seems likely that it is still necessary to satisfy all the three conditions.

Returning to the conditions of protection, one of the four conditions formulated by the old Act was omitted from the new definition. Unlike the old Act's requirement of a subject matter to be used in "commercial or industrial activity", which is also required by the English law but does not appear in the US definition, the new Act relates to any "information" that meets the three conditions stated above. One may wonder about the practical difference between these two expressions, as secret information is still required to be of "commercial value" and, as a result, related to commerce or industry.

Essentially, the term "information" has a greater breadth than the term "activity" as the former is less tangible and more focused on the nature of the information itself rather than the field in which it is used. One may, therefore, assume that more information can now be included without being necessarily purely commercial or industrial. For example, information used or acquired in the course of a profession and pure academic research conducted outside the commercial context might now be included. There are no such issues under the US provisions, for both are equally protected.[159]

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[159] Lederman, 233.

However, in the Omani context, pure research and professional secrets should be excluded from the ambit of trade secrecy. These sorts of secrets lack direct business or commercial use and are protected by other laws. Indeed, if any non-commercial secret information was to be protected as a TS, it should have been that arising in the developing sector of "traditional medicine".[160] This field of traditional knowledge has been described as a potential source of wealth for the Omani economy.[161] Yet, it seems to be a neglected field in Oman, as there is no trace of a legal framework for the protection of traditional medicinal knowledge.[162] Some scholars argue for the eligibility of this form of knowledge for proprietary legal protection.[163] Although it is a very interesting area to study, such traditional secrets do not appear to meet the challenging demands for TS protection by being of a commercial nature in their exploitation. Thus, they fall outside the concept of TS and the scope of this study.

Trade secrecy is obviously not an open regime of confidential information. By contrast to the US's wider term "economic value", the Omani term "commercial value" is commerce and trade-oriented. It is plausible that *some* reference to the use of the information in a trade or business should be reconsidered to eliminate information that has no commercial application however secret.

The condition of *secrecy* is also now defined more broadly. Whereas the old Act demanded activities be "not known" which meant an *absolute secrecy*, the new Act requires information be not "generally known" or "readily accessible" to competitors

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[160] Defined by the World Health Organisation (WHO) as the knowledge and skills based on the experiences indigenous to different culture, used in the maintenance of health or treatment of physical and mental illnesses. http://www.who.int/medicines/areas/traditional/definitions/en/ accessed 4 January 2018.

[161] Roya Ghafele, 'Unlocking the Hidden Potential of Traditional Knowledge: Building Up a Phytopharmaka Market' (WIPO National Seminar on Omani Traditional Values in a Globalized World: The Intellectual Property Challenge, Muscat, Oman 13 and 14, February 2005, WIPO Document WIPO/IP/MCT/05/4, February2005).

[162] Whilst the Copyrights and Neighbouring Rights Act (2008) provides adequate protection for intangible traditional national heritage such as folklore, poems and musical expressions.

[163] Deepa Varadarajan, 'A trade secret approach to protecting traditional knowledge' (2011) 36 Yale JInt'l L ; Surinder Verma, 'Protecting Traditional Knowledge:Is a Sui Generis System an Answer?' (2004) 7 JWIP 765.

which implies only *relative secrecy.* Now, a TS is not required to be proven unknown by "the public", but unknown "to persons within the circles that normally deal with the kind of information in question".

This restriction to the domain of protectable information is related to the omission of the clause "in their possession" specified in the definition of the old Act, which limited the protection to TSs to those held by governmental agencies for tests of new pharmaceuticals and agricultural products before marketing approval. By virtue of this amendment, the current Act confers protection on business secrets whether in the government's possession or disclosed, used, or obtained unlawfully by any person. These two amendments are in line with the US and English meanings of secrecy.

The second condition recognises the critical importance of the TS having a "commercial value". It is an appropriate benchmark that the commercial secret must not lack commercial value. Accordingly, both the old and new Acts emphasise that the TS should be commercially valuable. However, this condition was couched differently in the two Acts: while the old Act stated that the TS "draws its commercial value from its confidentiality ", which is very similar to the English stipulation, the new Act requires the information to have "commercial value".

It can be inferred from the two expressions that the commercial value now, in contrast to the old Act, stands independently from the secrecy requirement. This may explain the legislator's inadequate use of the proposition "or" instead of "and" noted earlier. In practice, the TS derives its economic value from the fact that it is not generally known as the commercial value of a TS necessarily reduces once it is revealed. That said, a clear issue is that neither Act specifies whether the commercial value is *actual* or *potential*, whereas the US and English laws recognise potential value.

In the Omani case of *Jalfar Engineering Ltd. v Al-Masri*,[164] the defendant, who was a technical expert contracted by the plaintiff, disclosed to another company experimental information that was still not available to the market. The court ruled that, if the information was worthless, it would not have been disclosed, so the value of the TS should be assessed on the basis of the competitive advantage it provides in the marketplace or any possible profit it may bring in the future. Therefore, any economic value should suffice for qualifying as a TS.

It should be borne in mind, however, that the actual or potential commercial value of the information must be legal. In other words, illegal economic commodities cannot be regarded as protectable in Omani law. The "undeclared information" law remains silent on this issue.[165] This is not surprising, given that TSs are not considered as IP under the OIPRA. Therefore, there is a question concerning the legal status of TSs that contradict *ordre public* and morality. For example, would tax evasion, fraud schemes, adulteration of milk or those contrary to religious rules, such as, formulae of wines or processes for other alcoholic beverages, pornographic materials or gambling techniques fall outside the protectable categories of TSs? Nuno Silva argues that unlike cases where the TS is itself illegal, as in the first set of examples stated above which should not be protected, secrets that have been obtained despite the religious and social norms of the country should be protected regardless of their illegal content.[166] It is doubtful that such an argument would succeed in the Omani courts where *Sharia* rules are dominant. The Patent law provides that inventions that are contrary to *ordre public* and morality are not allowed to be patented within the territory of Oman.[167] Considering this principle, illegal and immoral TSs should be excluded from legal protection.[168]

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[164] Appeal Court, Commercial Department, (576/2014).

[165] Article 4 (B) of Jordanian Trade Secrets and Unfair Competition Act (2000) stipulates that "the provisions of such law shall not be applied on trade secrets contradictory to general system or public morals".

[166] Silva, 928.

[167] See the same principle in article 38.4.C(3) of the trademark law and article 51(B) of the geographical indications law.

[168] Similarly, in English law, civil claims can be dismissed if founded on an illegal cause, sometime known as *ex turpi causa non oritur action* (No action can arise from a base cause). *Smith v. Jenkins*

Interestingly, the same principle does not apply to the criminal law. Stealing illegitimate things, like alcoholic drinks, drugs or other illegal products is punishable, despite the fact that these goods are not valued in the civil law. This criminal inclusion mitigates the civil exclusion and could positively affect cross-border information and international trade. More critically, it means that criminal law sometimes has a wider meaning than civil law.[169] Items protectable under criminal law only need to have *some* value to somebody. In a similar vein, the criminal law does not require a person to protect his or her belongings in order to report theft or other offences. This will be examined fully later in Chapter 5 in the context of what counts as property for criminal purposes.

Nonetheless, the third and last condition for verifying that commercial information is a TS is the "reasonable steps" taken to "keep it secret". Notably, the protective steps adopted by both Acts are very similar to those provided by the TRIPS and the US law. However, it could be argued that the new Act's phrase "under the circumstances", which is missing from the UEEA definition, indicates the legislator's intention to ensure that any effort by the owner of the TS to protect its secrecy should be sufficient. This interpretation is in accordance with the current national strategy to advance economic growth and promote Small and Medium-Sized Enterprises (SMEs).[170]

Before concluding, it is worth pointing out that the above-highlighted grey area of "undeclared information" has forced Omani courts to resort to an alternative legal concept. Apparently, the similarity, simplicity and clarity of labour law has attracted the courts to apply its rules to solve the increasing number of TS disclosure committed by employees. During the last few years, courts have tended to address TS cases under

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(1969) 119 CLR 397. For an academic discussion see Graham Virgo, 'Illegality's Role in the Law of Torts' in Matthew Dayson (ed), *Unravelling Tort and Crime* (CUP 2014) 174 - 207.

[169] See section 5.4.

[170] For further discussion of Oman's 2020 economic vision & the role of SMEs, see below section 3.2.

article 40(5) of the Labour Act 2003, which gives an employer the right to dismiss the "worker" if they disclose any "work secret".

However, this judicial practice of treating TS as "work secrets" and defining them within the general context of employment is inappropriate. Work secrets may simply be any information that relates to the operations of the enterprise in general, without necessarily satisfying the above-discussed conditions of a TS. In the case of *National Aluminum Products Ltd. v Sultan*, the court defined "work secret" as any secret than an enterprise depends on in the course of their businesses, including but not limited to tenders' secrets, industrial secrets, customers' secrets, or any other information that affects the enterprises' ability to compete.[171] Clearly, there is an overlap between TSs and work secrets, however, TSs do not extend to the employers' personal secrets, nor are they exclusively related to the protection of the employee/employer relationship, but work secrets may be.[172] Not surprisingly, the courts in other TS cases held that price lists and contractual terms with employees are not secrets.[173] Conversely, a recent study found that "contractual terms" and "cost and price information" are highly-valued types of TSs.[174]

In my view, the law of TS should be the reference for Labour Law on this point, not the other way around, because TS law is the law that regulates and protects TSs even if not of use to an employer or enterprise. In this regard, the aim of the labour law is irrelevant to the aim of TS law, which is the protection of proprietary information that is beneficial to the economy, trade and innovative businesses. This means that the definition of TS as currently expressed in the OIPRA needs to be reformed to convey this position properly.

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[171] Appeal Court, Labour Department, (212/2014).
[172] Suliman Alnaserri, *The Omani Labour Law: A Comparative Study* (Modern university office 2010) 105; Labib Shanab, *The Provisions of the Labor Law* (Alwafa legal Library 2010) 110.
[173] *Fatima v The Oasis for Trading & Equipment Ltd*, Appeal Court, Labour Department, (275/2013); *Ramasuami v Towell (Engineering) Ltd*, Appeal Court, Labour Department, (851/2015).
[174] Baker & Mackenzie, *Study on Trade Secrets and Confidential Business Information in the Internal Market, MARKT/2011/128/D* (B&M Report, 2013) 12.

2.3.6 The Debate over the Scope of Information to be Legally Protected as TSs: Industrial-Technical Secrets or Commercial-Financial Secrets?

As noted above, whilst the Omani and English definitions are hardly rigid, the US "trade secrecy" law is more broadly worded and the potential types of information that qualify for protection is likely limitless. This is particularly the concern in relation to the criminal protection of TSs. Simply because criminal enforcement is often associated with specific type of information that affects the public as a whole, but not general commercial information that only affects private interests and remediable by a civil law action.

To constrain the variety of protectable information, particularly for criminal law purposes, some European jurisdictions [175] have restricted the definition of TSs to only scientific-technical information which is easier to find in technical secrets (such as formulae, recipes and manufacturing processes, etc.) but harder to discern in general commercial information (such as customer lists, pricing structures and marketing plans).

There are also several English cases where customer lists were not recognised as TSs because they only contained well-known or household names which could be obtained from public sources and did not have the "necessary quality of confidence".[176] Lord Greene held that TSs involve "the necessity of going through a process […], and thereby a great deal of labour and calculation and careful draftsmanship".[177] His specification as requiring a degree of technicality is useful and, likewise, the Omani courts, as seen, did not allow price lists and contractual terms to qualify as protectable secrets.

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[175] Examples include France, Italy and Belgium. For more details see Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper*, 240.
[176] *Auto Securities Ltd. v Standard Telephones and Cables.* [1965] RP.C. 92, 94; *Coral Index Ltd v Regent Index Ltd* [1970] R.P.C. 147 and *Wright v Gasweld Ltd.* [1991] 20 I.P.R. 481.
[177] *Saltman Engineering Co. Ltd. v Campbell Engineering Co. Ltd*. [1963] 3 All E.R. 415.

It is apparent that it is neither useful nor practical for massive volumes of mundane business information (like advertising plans and personnel information) to qualify as protectable TSs as they are under US law. Similarly, it would be inappropriate for Oman to adopt the industrial/commercial distinction within its definition of TS as it is likely to cause difficulties and would require the formation of different definitions for the civil and criminal law, where the former would protect commercial-financial secrets and the latter would protect only industrial-technical secrets. This approach would suggest a discrepancy in the value of commercial secrets be treated as opposed to industrial secrets. Kingsbury suggests that the taking of general business information is probably less heinous than the taking of technical information, as the latter affects the public as a whole and therefore is worthy of stronger protection. [178]

However, the public have an interest in preventing and punishing the taking of both kinds of secret information. Indeed, both types are valuable if they satisfy the element of economic value. Thus, this element can function as a monetary threshold, where legal protection applies only to cases in which violated information has a clear economic value. Arguably, both types of information are valuable to those who cannot obtain them lawfully. As a result, their taking inflicts economic loss that could be equivalent to a statutory minimum loss threshold required by some criminal law.[179] For these reasons, commercial-financial secrets should not be excluded from the definition of TSs for both civil and criminal purposes.

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[178] Anna Kingsbury, 'Trade Secret Crime in New Zealand law: What was the Problem and is Criminalisation the Solution?' (2015) 37 EIPR 147, 154.

[179] Article 343 of the OPC requires Petty Larceny to be on goods have a value of $150 or more. See also S. 2314 of the US National Stolen Property Act 1934 which requires the stolen goods to have a minimum value of $5,000.

2.3.7 Summary of the Comparative Analysis of Omani, English and the US Definitions of TS

We are now in a position to observe the similarities and differences between the Omani, English and the US law. As members of the WTO, the three countries stipulate three conditions for legally recognising a piece of information as a TS. Firstly, the information should not be in the public domain. Secondly, the information should be of commercial value and used for trade. Thirdly, the information should be kept secret. These conditions are exactly the same as the conditions for being protected as a TS by the TRIPS Agreement. Nonetheless, as mentioned earlier, this does not mean that the three jurisdictions protect exactly the same secret information as TSs.

Given the differences in their socio-economic contexts, each jurisdiction has different definitions of TSs. Clearly, the scope of information to be legally protected as TSs is much wider in the US than England and Oman. Compared with the US statutory definitions stipulated by the UTSA and the UEEA, which encompass various sorts of commercial and industrial information, English law has no full statutory definition of a TS prior to the 2018 Regulations of Trade Secrets.[180] Though, England now provides a definition of a TS as do the US and Oman, English law has accumulated a substantial number of cases in which confidential information was generally specified and protected under the equitable obligation of confidence.

On the other hand, little is known about the Omani law in the area of TSs. The Omani formulation of "undeclared information" is not significantly unique or different from the English and the US definitions of TS. Despite Oman included a definition of TSs in its statute in the early 2000s, its definition is still unclear, underdeveloped and lack compatibility with the socio-economic and technological development the country has witnessed.

[180] See section 2.3.4 above.

Because TSs are as valuable as other intellectual properties, the US law protects TSs as property, whereas England and Oman do not. Their similar approaches of protecting against taking unfair advantage of another encompass both commercial-financial and industrial-technical information without discrimination. As such, the three jurisdictions protect industrial and commercial information as valuable TSs, despite the very different in the types of legal methods used.

For these reasons, the US and English law were used as reference point for Omani law, with respect to improving legal protection of TSs, because the former two legal systems supply developed definitions of TSs while the latter does not.

2.4 Conclusion (and a Definition)

This chapter has analysed the debatable concept of "trade secret" from theoretical and legal perspectives. Although TS is notoriously difficult to define, it is very crucial to provide a working definition of the term. It was clear from the theoretical perspective that "secrecy" is a vital social notion that itself confers protection to various types of information. The focused legal examination of the approaches to the definition of trade secrecy in the US, England and Oman has sought to identify guidance on best practice in order to develop a definition for an Omani statute.

To that end, and to offer a proposal for "undeclared information" reform, this study proposes that "trade secret" means any information that is, or maybe, used industrially or commercially and has actual or potential economic value from not being generally available in that industry or trade and is the subject of all reasonable efforts to preserve its secrecy. For the purposes of the Act "trade secret" includes information in tangible or intangible forms, including but not limited to formulas, patterns, compilations, techniques, manufacturing processes, business planning, customer and supplier lists and all other commercial know-how. This new definition is reproduced in the Appendix.

Possible criticisms of this definition might be its length and cautious wording. Nonetheless, it is no longer than the TRIPS and the UEEA definitions, with more details that respond to the nature of modern business. The first part of the definition includes a recommended restriction, that the information must be capable of industrial or commercial use, as this would not only exclude untrue and trivial information but also other overlapping categories of confidential information. Together with the three requisite conditions of secrecy, economic value and precautionary steps, courts are more likely to be able to clearly discern non-secret information. Additionally, the illustrative examples function as a backup and identify practical types of common TSs in the Omani context. The clarity of this definition would, it is hoped, help the Omani courts considerably, as well as other Arab jurisdictions, in assessing whether information is a TS or not. Usefully, the same definition can be adopted for both civil and criminal protection.

Having developed a clear and reasoned definition for TSs, the next question is what are the means by which an effective protection system for TSs in Oman can be provided? Though the above definition may contribute to defining the precise legal meaning of TSs, it is necessary to examine what form of protection or liability should arise when a TS is misappropriated. Hence, it is now necessary to examine whether civil liability alone is sufficient for discouraging TS misappropriation.

CHAPTER 3
EVALUATION OF THE STATUS OF TSs IN OMAN: ECONOMIC IMPORTANCE, PERCEIVED THREATS AND CIVIL PROTECTION

3.1 Introduction

Chapter 2 explained the criteria under which information can be classified as a TS. This chapter seeks to set out why TSs are important, what threats exist and why they merit effective legal protection. As defined earlier, the term TS refers not to any confidential information but certain types of marketable industrial or business information that is kept secret for the purposes of competitive edge and commercial gain. Because of these economic factors, there are those who would take unfair advantage by obtaining this information improperly.

It has been suggested that the level of economic importance and perceived threat to any given artefact, correlates with the level of legal protection it receives.[1] However, in this case, there are questions concerning the what extent to which TSs should be legally protected in Oman, whether the current civil framework offers sufficient protection, and whether or not it is necessary for Oman to provide criminal sanctions against the misappropriation of TSs.

Oman has traditionally built its economy on trade, fishery, mining, oil and gas industries. Nevertheless, during the last three decades due to the vicissitudes of hydrocarbons' prices, it shifted to developing its business services and manufacturing industries.[2] According to a survey conducted by the EU Commission in 2013, these modern sectors are highly dependent on TSs. [3] As Oman is beginning its

[1] Ahmed Suroor, *Criminal Policy* (Al-Nahda 1972) 18 (Arabic).
[2] The WTO Secretariat, *Trade Policy Review: Oman* (WT/TPR/S/201, 2008) 5.
[3] Commission Staff Working Document Impact Assessment SWD (2013) 471 Final, issued on 28.11.13 (Impact Assessment) 153.

industrialisation strategy, technology transfer from Western countries is important for the development of Omani industry. Therefore, weak legal protection of TSs can be considered detrimental to the success of Omani economic development.

Though Oman is economically strong,[4] it is also sparsely populated. Omani labour is costly compared to expatriate labour, who are heavily imported from neighbouring countries. Moreover, the domestic market has become fiercely competitive with a high rate of employee turnover.[5] These conditions tend to be exploited by rival businesses, which compete to attract workers, their skills and knowledge. Recent research has revealed that Asian markets are experiencing greater declines in employee loyalty.[6] As a consequence, there is a greater emphasis on safeguarding TSs in an increasingly fluid environment. Thus, a legal response to the protection of TSs is urgent.

The object of this chapter is to critically examine the appropriateness of civil liability to deal with the problem of TS misappropriation. It considers the question of how effective civil remedies are in compensating victims and discouraging potential defendants from misappropriating TSs. Given that in English law damages can also function as deterrents,[7] comparisons will be made with different English damages regimes as to improving the current civil regime in Oman, as far as protection of TSs is concerned. Before the examination of the effectiveness of the civil law, I consider why TSs are so important and how are they threatened or misappropriated. That, in turn, highlights the basis for legal protection and the efficacy of the current civil law alone to regulate TS misappropriation. I then propose an alternative legal mechanism for deterrence within the Omani legal frameworks.

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[4] *The Economist*, www. economist. com, accessed 7 April 2018. See also *Gulf Business*, www. gulfbusiness. com, accessed 31 March 2018.

[5] Mansoor Malik and William Barrie, 'Oman: Opportunities and Challenges' (2013) 3 Middle East Focus 1, 5.

[6] EU-China IPR2 Implementation Team, *Roadmap for Intellectual Property and Trade secrets Protection in Europe*, 2011) 13.

[7] *Rookes v Barnard* [1964] AC 1129; see also Alastair Mullis and Ken Oliphant, *Torts* (4 edn, Palgrave 2011) 2.

3.2 The Economic Importance of TSs

Whether TSs are eligible for legal protection or not is best understood by reference to their impact on society and the economy. The role that TSs play in commerce was internationally acknowledged by the TRIPS Agreement. Recently, the EU TSs Directive confirmed that business information "is the currency of the knowledge economy and provides a competitive advantage".[8] Nowadays, the fate of a modern company depends significantly on know-how and business information, which comprise an average of 80% of the value of businesses' information portfolios,[9] and which provide commercial and competitive advantages. As a result, for many businesses, their TSs may well be the most valuable asset.

TSs have gained increased importance in the current global economy because, simply, it is the economy of knowledge; the "information economy" or the "information era" in which innovation and creation are key drivers of economic growth and wealth.[10] It is true that "to live effectively is to live with adequate information".[11] One could properly add that, as a general rule, the most successful nation in the world is the nation that has the best information.

Historically, during its "golden age" (1828 to 1856), Oman was a powerful trading nation like the British and American empires. Omani commercial voyages established the longest goods-distribution routes and strongest commercial relationships of the period.[12] That success was attributed to Omani merchants who were pioneers in the shipbuilding industry, spice-manufacturing techniques and trading strategies.[13] A brief tracing of Oman's commercial record indicates that

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[8] The EU TSs Directive, recital 1.
[9] Covington & Burling, 'Economic Espionage and Trade Secret Theft: An Overview of the Legal Landscape and Police Responses' (2013) 2 Cyber Security Initative 3, 3.
[10] Jacob Mackler, 'Intellectual Property Favoritism: Who wins in the Globalized Economy, the Patent or the Trade Secret' (2011) 12 Wake Forest J Bus & Intell Prop L 263.
[11] Lederman, 14.
[12] Peterson, 9; Wilkinson, 277.
[13] El-Ashban, 355.

Oman's history and economy are deeply rooted in trade and, therefore, that Omani society should be fully aware of the importance of business information.[14]

Currently, the Omani government is seeking to modernise the national economy, strengthen its competitiveness and promote downstream industries such as chemicals and machinery. One of its ongoing targets is to reduce dependence on hydrocarbons, which, according to the 2015 IMF report, account for almost 45% of GDP and 58% of merchandise exports.[15] With the present collapse in oil prices, which has deepened the budget deficit to US$65 billion,[16] the issue of economic diversification has become increasingly urgent.

To that end, Oman launched a long-term development plan "Vision 1995-2020".[17] It is aimed that Oman's Economic Vision 2020 will stabilise economic development, diversify the national economy, endorse various Omani products, create a proper climate to induce foreign direct investment and transfer of technology.[18]This economic roadmap is based on three strategies: Advanced Human Resources Development, Diversified, Dynamic and Globalised Economy, and an Efficient and Competitive Private Sector. These three areas represent the central areas that the Omani government has identified to aid the economic transformation process.

In terms of the first strategy, the development of Oman's skilled workforce, with a high level of technical education can assist in the development of a stronger, more innovative economy. Success in the current highly competitive world depends on the ability to innovate and develop new commercial ideas. To boost innovation, investment in research and knowledge is required. As the UK's Industrial Strategy

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[14] For more historical review see Esmond Martin, 'The Decline of Omani Dhows' (1980) 2 AustAMart Hist 74.

[15] International Monetary Fund, *IMF Executive Board Concludes 2015 Article IV Consultation with Oman* (IMF Press Release No. 15/189 May 5, 2015) 3.

[16] Oman Economic Review, *Oman's Budget 2018* (UMS February 2018) 3.

[17] Supreme Council for Planning, *The Vision for Oman's Economy: Oman 2020* (1995). This document is available at www.scp.gov.om accessed 15 February 2018.

[18] National Economy, *Long-Term Development Strategy (1996-2020): Vision for Oman's Economy 2020*, (2nd edition, 2007) 15-35.

2017 promotes, the government needs to invest more in science and innovation and do more to increase their application in industrial and commercial practices.[19] Along the same lines, the secretary-general of the Omani Research Council (TRC) remarked that "ensuring a sustainable environment for research and promoting a culture of innovation among Oman's young talent are unequivocal focuses on transforming innovations into genuinely valuable and needed commercial products and services".[20] Two such initiatives are the Knowledge Oasis Muscat (KOM)[21] and the Innovation Park Muscat (IPM),[22] both were established by the TRC in 2003 and 2017, and reflect its vision to "place Oman in the global map of scientific advancement", to inspire leading creative minds and to nurture knowledge-based businesses.[23]

It is arguable that trade secrecy inhibits the free flow of information which in turn constrains the accumulation of knowledge and economic development. However, it could be said that trade secrecy, in fact, does not prevent acquisition of knowledge (e.g. by reverse engineering or by parallel discovery), but it prevents only improper means of obtaining information.[24] This protection would encourage individuals to innovate by ensuring returns for their innovative output. As businesses seek to generate and apply intellectual capital to increase competitiveness and economic performance, these investments and innovation-related resources are vital generators for research and development.[25] Thus, rewarding innovations by protecting TSs does not inhibit productivity or conflict with free-market economy.

To implement the globalised economy goal, Oman has officially moved towards a free-market economy. The adoption of this policy was included in the Omani Constitution; article (11)(b) explicitly provides that "freedom of economic activity is guaranteed within the limits of the Law and the public interest in a manner that will

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[19] https://www.gov.uk/government/topical-events/the-uks-industrial-strategy, accessed 5 January 2018.
[20] https://www.trc.gov.om, accessed 13 March 2018.
[21] https://www.kom.om, accessed 7 April 2018.
[22] https://www.ipm.om, accessed 2 January 2018.
[23] Ibid.
[24] See the EU TSs Directive, art 3 and the GCC TSs Proposed Regime, article 15.
[25] Ibid.

ensure the well-being of the national economy". This liberalisation of the economy is in conformity with WTO provisions of removing barriers to legitimate trade and promoting competition.[26]

The adoption of a free economic policy, or free-market competition, might conflict with developing the competitiveness of Omani businesses, particularly SMEs, because they lack significant competitive strengths. Nonetheless, the ability of businesses to compete is directly related to their success in benefitting from innovation and exploiting their technological know-how.[27] Thus, trade secrecy can offer a mechanism for ensuring advantages for inventors while supporting competition.

In effect, the role of TSs is becoming more important for supporting economic diversification based on industrialisation. As mentioned above, there has been a shift towards manufacturing industries and processing trades. That has led to the development of 1,468 factories in nine developing industrial zones across the country with an invested of over US$315 billion.[28] Examples of new industries manufactured served by these factories include ammunition, petrochemicals, potash salts, silica, urea and optical fibre. The reliance of these highly knowledge-intensive industries on TSs is clear. Trade secrecy functions as a vital component of Omani industry's "innovation strategies" and "business asset portfolio".[29]

With respect to the third national strategy of increasing the contribution of the private sector, a massive programme of "privatisation" of state-owned enterprises has been implemented. This is aimed at achieving a complete free market economy and to ease the government's financial burden (budgeted at US$390 billion in 2015).[30] Sectors such as telecommunication, transportation, electricity, water supply, sewerage and waste management are now privatised. This means there are now more doors

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[26] Preamble of the TRIPS.
[27] EU Impact Assessment 2013, 109.
[28] The World Bank, *Doing Business in Oman 2017* (14th Ed, 2017) 6.
[29] Pamela Passman, Sanjay Subramanian and George Prokop, 'Economic Impact of Trade Secret Theft' 2014 CREATeorg accessed 20 October 2017.
[30] The World Bank, *Doing Business in Oman 2016* (13th Ed, 2016) 5.

opened to the private sector to participate in commercial activities that were closed before; increasing the amount of information that can be recognised as TSs.

The increasing importance of TSs in the Omani business environment is further emphasised by the strategic role given to SMEs.[31] The Omani approach of economic privatisation and liberalisation places great emphasis on SMEs to enrich the economy.[32] This is similar to the European approach,[33] however, in Oman SMEs constitute over 60% of all registered enterprises.[34] This number has been described by some international and local authorities as "the future engines for the growth of Oman's economy".[35] It has been widely agreed and empirically supported that TSs are significant to companies of all sizes, but they appear to be of special importance to SMEs and start-up enterprises because "innovation in this segment tends to be more incremental in nature and of core significance to firm value and performance".[36] While Table 1 explains the criteria used to determine the type of SMEs, Table 2 below illustrates their commercial sectors and significant proportion in the Omani economy.

Table 1. Definition of SMEs in Oman [37]

Type	**No. of Employees**	**Annual Sales Turnover (US$)**
Micro	1- 5	Less than 250.000
Small	6 - 25	250.000 to less than 1.250.000
Medium	26 - 99	1.250.000 to less than 7.500.000

[31] Defined in Table 1 below.
[32] Bridget McKinney, 'Privatization: Oman and Egypt' (1996) 3 Yearbook of Islamic and Middle Eastern Law 40, 42.
[33] EU Impact Assessment 2013, 75.
[34] The Public Authority for Small and Medium Enterprises (SMEs). Was established in 2013 through Royal Decree (36/2013). http://omansme.gov.om/?lang=en-US, accessed 26 August 2017.
[35] Jaber Al-Wahaibi, *The Uruguay Round Agreements and the Accession of Sultanate of Oman to the World Trade Organization* (Oman Chamber of Commerce and Industry 2001) 11; IMF report 2015, 4.
[36] Mackenzie, 2; the EU TSs Directive, para 2.
[37] Ministerial Decision No. (10/2013) issued by the Minister of the Ministry of Trade and Industry.

Table 2. Commercial Sectors and number of SMEs in Oman in 2016 [38]

Commercial Sectors	**Number**
Agriculture/Fishing/Surgery	175
Construction	3892
Educational Services	639
Financial Services	981
Health Services	669
Hotels and Restaurants	6988
Gas/Electricity/Water Supply	147
Manufacturing and Production	18520
Mining and Quarrying	297
Wholesale and Retail Trade	39835
Tourism	1256
Transport/Storage/Telecommunication	1503
Total	**74902**

As shown in Table 2, SMEs are the main engines of economic activities. Larger and wealthier enterprises have also their direct economic output. Oman has some strong large enterprises, such as Bahwan Group (Automotive), Zawawi Group (Machinery), OHI Group (Optic Fiber), MHD Group (Computer), Zubair Group (Pharmaceutical), Towell Group (Chemicals) and Poly Products LLC. Many of the other productive ones are being taken over by global giants or have entered into international groups or alliances.[39]

[38] Public Authority for Small and Medium Enterprises Development, https://riyada.om, accessed 18 April 2018.

[39] Oman Chamber of Commerce and industry, *The Top 100 Companies in Oman in 2017*, https://chamberoman.om, accessed 22 April 2018.

The key role of TSs in the performance and prosperity of the Omani economy can be further appreciated when linked to Oman's strategic location. Multiple studies[40] confirm that Oman's geographic position, at the entrance to the Arabian Gulf, makes it the ideal gateway for international trade to East and South Asia, the "world's fastest growing free-market economies" and the world's highest labour-exporting countries.[41] Ultimately, Oman is planning to utilise its location to develop into a global commercial and logistical hub.[42] As internationally recognised, "Oman is now positioning itself as a regional logistics centre".[43]

To globalize its economy and to be a global business hub, Oman needs to provide a safe business environment. The robust protection of TSs can be considered a core mechanism for both attracting foreign investments and promoting technological innovation. This is because effective protection of TSs provides a degree of confidence that is necessary for innovators to obtain the initial returns on their investment. In this way, TS protection enhances investment and innovation, as Omani and foreign innovators will be supported to engage in innovative activities and produce new industrial or technological information.[44] This, in turn, has a direct effect on industrial and economic growth. Richard Milchior confirms that stronger IPRs protection promotes innovation and encourages all forms of technology transfer to well-regulated countries.[45]

It can be concluded that TSs are central to Oman's economic growth strategy. Their key role in the development of the modern Omani economy is incontestable. In the words of Al-Wahaibi, a local expert in international investment, well-established

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[40] eg, WTO, *Trade Policy Review: Oman* (Document WT/TPR/G/295, 2014); Price; Kamel Mellahi, Jedrzej Frynas and H Al-Bortmani, 'Motives for Foreign Direct Investment in Oman' (2003) 45 ThunInt'IBusRev 431.

[41] Jeffrey Lefebvre, 'Oman's Foreign Policy in the Twenty-First Century' (2010) 17 Middle East Policy 99, 106.

[42] Vision 2020, 139.

[43] Oxford Business Group, *The Report: Oman 2019*, 2.

[44] Hussain Al-Harthy, 'The Position of Craft Industries in the Sultanate of Oman' (WIPO National Seminar on Omani Traditional Values in a Globalized World: The Intellectual Property Challenge, Muscat, Oman 13 and 14, February 2005, WIPO Document WIPO/IP/MCT/05/4, February2005).

[45] Richard Milchior, 'How does IP Impact Economic Development?' (2015) JIPLP , 2.

protection for IPRs, including TSs, encourages the flow of external finance (international capital) and industrial technology, which benefits long-term economic growth.[46] Similarly, Al-Azri emphasises that "improved legal protection plays an important role in attracting foreign investment" to the Omani market.[47]

Obviously, the above-highlighted ambitious economic transformation, also requires legal reform. Recently, Oman told by IMF it needs to make substantial reforms to its business regulations.[48] Certainly, a free market economy does not mean weak competition laws, as the misappropriation of valuable intellectual assets can be a serious threat to the performance of Omani businesses and the economy. It is clearly acknowledged that in order to encourage foreign investment and technology transfer, it is important for Oman to achieve the level of protection applied in international standards against IP infringements.[49]

3.3 Infringement of TSs: The Threat of Misappropriation

Having established the nature of TSs and their significance in the broader development of the economy, it is now necessary to define the nature of misappropriation activities in Oman.[50] This section, therefore, elaborates on the discussion in the preceding sections regarding the importance of TSs and what it is that is being misappropriated. Before proceeding to consider legal protection, it is necessary to examine the wrongful practices of misappropriation as a problem that may deserve a special legal response.

As a result of TSs gaining significance in the current Omani economy, in the same way as any other valuable item, they have become increasingly vulnerable to

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[46] Al-Wahaibi, 41.

[47] Moosa Al-Azri, *Foreign Investment in the Sultanate of Oman: Legal Guarantees and Weaknesses in Providing Investment Protection* (Klaus Schwarz Verlag 2017) 6.

[48] International Monetary Fund, *IMF Staff Concludes 2018 Article IV Visit to Oman* (IMF Press Release No. 18/138 April 19, 2018) 2.

[49] Al-Azri, 175.

[50] This discussion of forms of misappropriation is not to identify the potential harm of TS misappropriation upon victims, as harm will be discussed under the harm principle in Chapter 4.

misappropriation. Some commentators consider TSs "the most attractive, effective and readily available IPRs",[51] and therefore, "more valuable than the traditional registered forms of IPR".[52] The Head of the US National Security Agency and Cyber Command, Keith Alexander, described intellectual property and TS misappropriations through cyber espionage as the "greatest transfer of wealth in history". [53]

A number of studies have reported that due to the increasing global competitiveness, increasing reliance on information, greater workforce mobility and the proliferation of digital devices, businesses are increasingly vulnerable and exposed to misappropriation practices. [54] WIPO notes that dishonest business practices, particularly those related to TS violations, are a phenomenon that "has been discernible in all countries and at all times, regardless of prevailing political or social systems". This is because "where there is competition, acts of unfair competition are liable to occur".[55] According to the European Commission's survey, in 2013 25% of European companies have suffered attempts at, or acts of, misappropriation compared to 18% in 2012.[56]

Different terms have been used to describe the problem including "trade secret theft", "industrial espionage", "trade secret misuse" or "trade secret infringement".[57] However, none of these terms properly encompasses the various threats against TSs. Given the intangible nature of information, theft cannot be used because an intangible property cannot technically be stolen, nor is espionage the only behaviour which puts TSs at risk.

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[51] Roadmap for IP and TSs Protection in EU (2011) 2.
[52] Gill Grassie, 'Trade Secrets: The New EU Enforcement Regime' (2014) 9 JIPLP 677, 677.
[53] Burling, 4.
[54] U.S. Chamber of Commerce, *The Case for Enhanced Protection of Trade Secrets in the Trans- Pacific Partnership Agreement*, 2014) 3; EU-China IPR2 Implementation Team, 13; EU Impact Assessment 2013, 158.
[55] The WIPO handbook, 132.
[56] EU Impact Assessment 2013, 17.
[57] eg, Pamela Stuart, 'The criminalization of trade secret theft: the Economic Espionage Act of 1996' (1998) 4 ILSA J Int'l L 373; John Hull, 'Analysis: Stealing Secrets: A Review of the Law Commission's Consultation Paper on the Misuse of Trade Secrets' (1998) 4 IPQ 422.

Thus, the term "misappropriation"[58] more properly covers the variety of dishonest practices associated with the unlawful acquisition of TSs. Unlike "misuse" and "infringement", the "misappropriation" concept more rightly emphasises the property interests connected with TSs and so it conforms with the principles of appropriation or embezzlement of business assets. Stuart Green states that the concept of misappropriation can encompass "various kinds of intangible 'quasi-property', such as ideas, information, formulas, designs, and artistic creations".[59] More specifically, Dessemontet demonstrates that

> "The misappropriation theory gives more stable a ground for fighting against the misuse of trade secrets…[the] theory has further the advantage to be universally acceptable, since misappropriation is prohibited as unjust enrichment in the US and as an act contrary to "honest commercial practices" in the wording of Continental European unfair competition laws".[60]

It is unlikely that Oman differs greatly from the global trend where, as suggested above, the misappropriation of TSs is considered to be accelerating. In the Omani context, despite the absence of governmental statistics on the issue, TS misappropriation has become more frequent due to the recent industrialisation and commercialisation development.[61] Undesirable practices, such as unlawful acquisition of TSs, spying, hacking, leaking (disclosure), bribery of employees, breach of contract and unauthorised use, have begun to increase in line with the increase in economic activities in Oman.[62] Whilst the Omani market is witnessing fierce competition and greater commercial operations, there seems no sufficient legal improvement to keep pace with these developments.

The threat of TS misappropriation is real, while there is no definition of misappropriation in Omani law. Oman is bound by the WTO TRIPS Agreement, and

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[58] Defined in English as "The action of dishonestly or unfairly taking something belonging to another for one's own use". (Oxford English Dictionary, OUP 2009) 1332.
[59] Stuart P. Green, 'Plagiarism, Norms, and the Limits of Theft Law: Some Observations on the Use of Criminal Sanctions in Enforcing Intellectual Property Rights' (2002) 54 Hastings LJ 167, 204.
[60] Dessemontet, 344.
[61] Al-saqri and Al-kindi, 10.
[62] Oman Economic Review, *Investment Options in a Challenging Market* (UMC July 2017) 8; Al-saqri and Al-kindi, 12.

so the definition in the TRIPS may be used as a reference, but this does not mean that the domestic law is effectively filled. A proper approach is the development of direct and detailed legislation.[63] Article 39(2) of the TRIPS addresses the problem of misappropriation as follows

> "Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices…".
> For the purpose of this provision, "a manner contrary to honest commercial practices" shall mean at least practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition."

More criminal characterisation is found in the US-UTSA definition of "misappropriation", which "includes theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy or espionage through electronic or other means".[64] The dynamic nature of business and recent developments in communication technology necessitate a wider purview. Most recently, article 4 of the EU TSs Directive, under the heading "Unlawful acquisition, use and disclosure of trade secrets", considers the acquisition of a TS unlawful, whenever carried out by:

> "(a) unauthorised access to, appropriation of, or copying of any documents, objects, materials, substances or electronic files, lawfully under the control of the trade secret holder, containing the trade secret or from which the trade secret can be deduced;
> (b) any other conduct which, under the circumstances, is considered contrary to honest commercial practices."

The EU TSs Directive could be said to apply a mixed test for misappropriation that is partly "objective" and partly "subjective", whereas the TRIPS and the UTSA apply a more "subjective" standard of commercial morality or bad faith. In terms of global practice, the main forms of TS misappropriation are grouped by reference to the source of the threat, whether it is "internal" or "external".[65] Internal misappropriators

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[63] Article 76 of the Omani Basic Statute.
[64] The UTSA, s. 1(1).
[65] Marco Saias, 'Unlawful Acquisition of Trade Secrets by Cyber Theft: between the Proposed Directive on Trade Secrets and the Directive on Cyber Attacks' (2014) 9 JIPLP 721, 722.

include former employees or disgruntled workers, or even business partners (such as licensees, suppliers, consultants) who intentionally misappropriate the information for monetary gain or out of malice. On the other hand, external misappropriators include professional criminals, spies or dishonest competitors who appropriate the information physically or electronically.[66]

However, it could be argued that misappropriators are not necessarily either insiders or outsiders. Some misappropriations may be committed at a corporate level and include both internal and external actors. One form of corporate misappropriation occurs via the planting of an individual within a rival company as an employee, with the purpose of obtaining information. A more common scenario takes the form of bribing employees to disclose secret information. Perhaps a more complicated threat is state-sponsored misappropriation or "economic espionage".

In Oman, there are no official statistics on actual misappropriation cases and data is unavailable within the Omani courts, so gaining reliable figures on the scale of the problem in Oman is a difficult task. Sometimes, TS cases are not classified as such but as tort or employment disputes, and sometimes enterprises do not realise that their secrets have been misappropriated, particularly when they have been subject to electronic attacks. Even if they do realised that the attack has happened, small businesses may not have the resources for costly and lengthy civil litigations.

The complexity of the Omani problem stems largely from its overdependence on an expatriate workforce and the current lack of legal protection of TSs. While the industrialisation strategy demanded the importation of skilled and semi-skilled workers to fill the shortage of the national workforce, this was poorly-regulated. According to a survey by the National Centre of Statistics and Information (NCSI) in 2016, the number of expatriate workers employed in industrial and commercial

[66] Baker & Mackenzie Study, 126-128.

activities was 200,000;[67] approximately 37,000 of whom were managers.[68] This reveals that a considerable amount of Omani businesses' knowledge-based assets is placed in the hands of foreign employees or "less controllable loyal hands".[69] Almeling notes that the current generation of workers generally view their jobs as less secure, thus they are less loyal to their employers.[70]

The large scale of foreign-related TS misappropriations did raise public concern. The Chamber of Commerce and Industry (OCCI) was reported in the local press as saying that

> "The wrongful practices of greedy employees who come to know their companies' trade secrets and know-how are unacceptable. There is a growing problem of businesses suffering from cunning practices of foreign workers that have serious effects on the Omani economy".[71]

It is realistic to suggest that dishonest competitors find it easier to bribe or induce those workers who are not only in need but also do not value loyalty to their employers.[72]

Nevertheless, it is not appropriate to place the responsibility for a high proportion of TS misappropriation on the expatriate workforce. Declining employee loyalty is not exclusive to expatriate workforces; the trend can also be noticed among younger national workforces as part of a broader sociological and economic shift. Despite the limited presence of nationals in the industry sector (when compared, in total, with

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[67] This is representing about 11% of 1,857,730, the total number of the expatriate workforce in Oman in 2016. The largest number of these workforces was recorded in the construction industry (616,432 workers).

[68] https://www.ncsi.gov.om/Pages/NCSI.aspx, accessed 2 January 2018.

[69] EU Impact Assessment 2013, 158.

[70] David Almeling, 'Seven Reasons why Trade Secrets are Increasingly Important' (2012) 27 Berkeley Tech LJ 1091, 1102.

[71] http://timesofoman.com/article/68861/Oman/Expatriates-in-Oman-hope-for-reversal-of-two-year-visa-ban/ accessed 5 January 2017.

[72] Isaam Al-zamil, 'The Impact of Expatriate Workforces on the Saudi Economy' (2018) 1 Gulf Centre for Development Policies 20, 33 (Arabic).

foreign workers), numbering 22,000,[73] their occupation of senior positions can make their misappropriations more significant and more costly. The high turnover rate among national labour can lead to serious risk.[74] Furthermore, as will be discussed, there have been a number of cases involving unauthorised uses of TSs either for the purpose of setting up rival firms or for selling the information to competitors operating in the same line of business. The local press tends to place the blame on foreign workers.

In the case of *Riyam Investment & Trading Est. LLC*, which is reported in the press but has no accessible judicial records,[75] confidential digital files of formulas for highly marketable perfumes were copied by an expatriate senior engineer in exchange for US$65,000. This caused substantial losses to *Riyam*. This misappropriation and other cases discussed later could dissuade investors from entering the market.

If TSs are important assets in the national economy, their misappropriation could cause tremendous damage. The risk is greatest for small businesses, where the threat entails increased expenditure in protective measures that reduce their performance and competitiveness.[76] Given that the Omani economy is driven largely by innovative SMEs, which in turn rely on TSs but have fewer financial resources to recover losses from misappropriations, the impacts on revenue are significant. Thus, the need for an adequate deterrent is evident.

While Oman's commercial history, financial resources and strategic position have caused it to be known as the "Singapore of the Middle East",[77] its lax and lenient protection of intellectual capital has simultaneously led to it being accused of being a safe harbour for IP piracy and counterfeiting.[78] According to the 2018 World Bank

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[73] https://www.ncsi.gov.om, accessed 25 November 2017.
[74] Yasir Ali and others, 'Employment in the Private Sector in Oman: Sector-Based Approach for Localization' (2017) 5 Humanities & Social Sciences Reviews , 14.
[75] http://avb.s-oman.net/showthread.php?t=2206877, accessed 25 February 2017.
[76] Trade Secrets Protection in the Trans- Pacific, 9; EU Impact Assessment 2013, 32.
[77] Oxford Business Group, The Report: Oman (2012) 34.
[78] IIPA, 2005 Special 301 Report on Global Copyright Protection and Enforcement, 36.

report, the Omani economy is vulnerable to several risks and challenges that could hamper trade and investment.[79]

Hence, developing an efficient trade secrecy regime, would help to move the country into the mainstream of international trade as an attractive business destination for foreign investments and technology transfer. Bergevin suggests that the failure to provide adequate protection for TSs can discourage businesses' engagement in innovation-related activities and cross-border cooperation.[80] Coleman also warns that fragile legal protection of TSs can adversely affect the development of an industrial base.[81]

As this section has argued, the extent and impact of the problem of TS misappropriation are significant, suggesting that an effective TS protection is necessary and timely. It could be emphasised that the threat and damage of TS misappropriation should be taken into account when forming an appropriate legal response to misappropriation. Nonetheless, there are policy issues in Oman that may prevent TSs from qualifying for legal protection; these are discussed in the following section.

3.4 Should TSs be Legally Protectable?

The above analysis underlines the need for the development of effective legal protection of TSs. However, it could be argued that economic interests alone do not necessitate the development of new law. In other words, there may be risks with taking legal intervention for granted. Arguably, a plausible protection is introduced after it has been tested and potential counter-arguments acknowledged and accommodated.

Professor Bone has suggested that "[n]either the fact that a trade secret is information nor the fact that it is secret provides a convincing reason to impose liability

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[79] The World Bank, *Oman's Economic Outlook*, 2018) 2.
[80] European Commission (DG Internal and Market and Services), *European Commission Conference of " Trade Secret: Supporting Innovation, Protecting Know-How* (Brussels, 29 June 2012) 3.
[81] Coleman, 1.

for a nonconsensual taking".[82] Michael Risch, likewise, argues: "in a world without protection of trade secrets innovation would not be impacted as much as one might expect".[83]

It is true that the question why the law should protect TSs merits no straightforward answer, in theory at least. Bone himself admits that the development of TS protection rests upon various policy justifications and collections of legal norms. Aplin et al., in their landmark book, identify seven potential justifications for legal protection of TSs.[84] These are (1) to promote the national interest; (2) to incentivise the production of useful information; (3) to prevent socially undesirable expenditure of resources preserving secrecy; (4) to prevent the unjust enrichment of one person at the expense of another; (5) to preserve and promote ethical standards of conduct; (6) to give effect to an implicit social agreement; and (7) to promote individual autonomy.

These explanations reflect both economic and moral arguments. The first three justifications concerning national economic interest, rewarding innovative behaviour and reducing expenditure, have deep economic roots and thus serve overall economic well-being. Certainly, the economic arguments for protecting TSs are very persuasive because protection of creativity and technological improvements have great beneficial effects on the society as a whole. The EU TSs Directive states that TSs are an "important lever for the creation of new knowledge, and underpins the emergence of new and innovative businesses".[85] As such, they are "particularly important in increasing the levels of business research […]", "meet[ing] the needs of consumers and tackl[ing] societal challenges".[86]

The four further justifications enumerated by Aplin et al., can be regarded as moral arguments. Clearly, it is morally wrong to enrich oneself from information

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[82] Bone, 245.
[83] Michael Risch, 'Trade Secret Law and Information Development Incentives' in katherine J. Strandburg Rochelle C. Dreyfuss (ed), *The Law and Theory of Trade Secrecy* (Edward Elgar 2011) 154.
[84] Aplin and others, 75-94.
[85] EU TSs Directive, recital 3.
[86] Ibid.

acquired through another's investment, to offend commercial ethics or to breach personal autonomy that could undermine the enforcement of social arrangements, contracts or bargaining processes. While Aplin et al., view the ethical arguments as promising,[87] Bone emphasises the dangers of turning ethical norms into legal rules.[88] However, the ethical arguments do justify protection against different misappropriation behaviours. This is not to suggest that morality should be the basis for legal intervention, but it can be regarded as a normative support for it. The English courts' translation of the moral precept of keeping secrets into the law of confidence[89] support this position.

The arguments for legal protection of TSs can also rest on pragmatic reality. If TSs do not deserve intervention from the law, why do many jurisdictions around the world provide such protection? If businesses can protect their secret information through self-governance, why then were TS regulations promulgated? The issue here is that small businesses often lack experience, expertise and resources to secure their TSs and have to commercialise this information to maximise their value. Therefore, TS protection is, in particular, essential for SMEs.[90]

Similarly, large businesses are not secure against misappropriation. The recent incident of the Sony Pictures Entertainment hack[91] can be seen as a clear example that business, irrespective of size, place increasing reliance on legal protection. The legal protection of their IPRs means that they will have some form of recourse against the hackers. If TS protection was abolished within their jurisdiction, such businesses might face a severe disadvantage.

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[87] Aplin and others, 83.
[88] Bone, 296.
[89] For a discussion on the moral basis of the breach of confidence action, see *House of Spring Gardens v Point Blank* [1983] F.S.R. 213, 253.
[90] EU TSs Directive, recital 2 and 3.
[91] In 2014, secret data was stolen from the Sony Corporation through the internet that brought their systems down and resulted in them losing valuable secret information. http://www.independent.co.uk/news/world/americas/sony-pictures-hack-us-had-hacked-north-korea-first-leaked-documents-show-9988969.html, accessed 18 May 2017.

There still can be an argument that if TSs are comprising technical or industrial information, why are they not protected under patent law, which provides exclusive property rights. In effect, there has been an argument that the distinct protection of TSs may reduce reliance on the patent system.[92] However, this objection, that a system of TS protection is likely to undermine the parameters of the patent statute, is not very sound. Of course, the disclosure required by the patent system would bring new technology into the public domain and would enable other innovators to use the disclosed information to create more innovative material. Nonetheless, trade secrecy is unlikely to replace patent. Unlike a patent holder, the holder of a TS is exposed to risks of leakage by licencees, employees or even business partners. Moreover, there is no protection against discoveries made by fair and honest means, through reverse engineering or independent invention. Practically, these limitations mean that trade secrecy is an expensive alternative to patenting.[93]

On the other hand, many small businesses simply cannot accommodate the expenses that come with patent registration. Unlike patents, TSs are potentially unlimited. Therefore, TS protection is useful substitute for information that falls out with the parameters of the patent system, or confidential information that exists at the pre-patent stage. Since patents protect only those creative and novel inventions with industrial applications, TS protection can motivate invention in areas patent law does not reach; however, it still plays a crucial role in fostering competition and promoting economic development by encouraging innovation and advancing technology.[94] According to the UK Intellectual Property Office,

> "Trade secrets are valuable business assets. They have an important role to play in protecting the exchange of information and knowledge between businesses and research institutions, particularly in the context of product development and innovation."[95]

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[92] Geraldine Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act' (2002) 80 NCL Rev 853, 913.

[93] Robert Bejesky, 'Investing in the dragon: managing the patent versus trade secret protection decision for the multinational corporation in China' (2004) 11 Tulsa Journal of Comparative & International Law 437.

[94] Lemley, 110.

[95] Intellectual Property Office, *Consultation on Draft Regulations Concerning Trade Secrets* (2018) 7.

Because of the importance of TSs and threats of misappropriation, many countries particularly in the last decade, have tried and are trying to improve their legal protection of TSs. There are now more jurisdictions that consider safeguarding TSs to be paramount. According to the EU Commission, 23 Member States out of 28 have criminal measures against the misappropriation of TSs but all states have civil provisions for the protection of TSs.[96] A similar trend can be found in the Arab world, where specific TS legislations is beginning to take place. The GCC Proposed Regime of TSs protection is the most comprehensive one and it largely mirrors the EU TSs Directive.

Despite the broad adoption of TS protection globally, it is plausible that the introduction of protection should depend largely on the county's own policy objectives and economic interests. That is to say, the manner and extent to which a TS can be protected should reflect the level of threat that TS misappropriations poses to the national economy and business environment.

Liz Campbell et al. suggest, "the criminal law is one of the most important tools used in business regulation".[97] Nonetheless, whether or not TS misappropriation is worthy of criminal intervention depends largely on whether or not the civil law provides an efficient regime for business regulation and can function as an adequate deterrent.

3.5 The Aims and Functions of Civil Protection

As stated earlier in chapter 1, Oman is lacking criminal provisions against the misappropriation of TSs, that could be the cause of various problems in connection with the legal protection of TSs. The purpose of this study is to evaluate the

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[96] Hogan Lovells International, *Study on Trade Secrets and Parasitic Copying (Look-alikes)MARKT/2010/20/D:Report on Trade Secrets for the European Commission*, 2012) 10-34.

[97] Liz Campbell, Greg Gordon and Michael Plaxton, 'Business Regulation' in Gillian Black (ed), *Business Law in Scotland* (3 edn, W. Green 2015) 72.

effectiveness of different civil remedies and to consider whether it is necessary for Oman to provide criminal sanctions against the misappropriation of TSs.

Deterrence is the primary purpose of imposing criminal sanctions on misusers of TSs. If current Omani legal frameworks adequately deter misappropriations of TSs without recourse to the criminal law, it is unnecessary for Oman to consider the provision of criminal sanctions for misappropriations of TSs. Of course, other purposes like prevention of the harm and compensation of the victim are also important objectives to be considered in the proposed framework of protection.

Obviously, criminal law has different objectives than civil law. It is worth making few provisional remarks about the fundamental nature and aims of the civil law prior to undertaking an analysis of its protection of TSs. In an approach not dissimilar to the common law, the Omani legal system applies the civil/criminal distinction as an organising principle. However, as Robinson asks: "why has every society felt it necessary to create a system to impose criminal liability distinct from civil liability?".[98] Further, Ashworth and Horder pose the question: "Is the criminal law necessary at all?"[99]

An answer from Posner is that a separate criminal system exists to provide sanctions (imprisonment) when civil remedies are an inadequate deterrent.[100] The adoption of adequate sanctions depends on the socio-cultural setting and domestic circumstances of each country. In Oman and other Arab countries, characteristically, civil law prices, whereas criminal law prohibits.

The present civil law often mirrors this kind of distinction. In a broad sense, the Omani Civil Transactions Code of 2013 (hereafter OCTC), the foundation of all general civil principles,[101] is aimed at restoring the victim to the pre-tort position. As

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[98] Paul Robinson, 'The Criminal-Civil Distinction and the Utility of Desert' (1996) 76 Boston L Rev 201, 202.
[99] Ashworth and Horder, 16.
[100] Richard Posner, 'An Economic Theory of Criminal Law' (1985) 85 Colombia L Rev 1193, 1195.
[101] The Code has recently codified a considerable body of pre-existing contractual and tortious rules.

a generic function, article 176 of the Code provides that "any harm done to another shall render compensation". In other words, the aim of the civil law is generally to price conducts or to compensate plaintiffs, at least as far as money can achieve that aim, but not to punish or deter offenders.

This is also the common-law interpretation, where the main purpose of a civil action is to compensate the claimant. Robinson distinguishes that "civil liability may serve a variety of functions: compensation of injured persons, regulation of conduct for the greater good of society, or the efficient distribution of loss" but criminal liability seeks to condemn, punish and deter.[102]

This is why civil damages can be granted even in the absence of any intention. The wrong interference with another's property does not require intention or dishonesty as it can be based on mere negligence.[103] Putting it another way, while civil liability for damages can be grounded in any wrong action that is not necessarily wrongful, criminal liability is both a wrong and wrongful (culpable).[104] Being concerned with culpable wrongdoing, punishment and deterrence; criminal law can be described as moral liability, whereas civil liability is legal liability that aims to remedy any damage that has occurred without allocating blame.

Furthermore, civil liability is not restricted to, or included in, specific legislation as it can arise from any act that is carried out negligently. The OCTC which, in quite general terms, seeks to bolster the remedies available for contractual and tortious liabilities, therefore, serves any claims of compensation. Article 1 states that the Code shall apply to all matters covered by its provisions, but where its provisions are silent on any matter, the court shall make its decision by reference to, first, Islamic jurisprudence, secondly, the established principles of Islamic sharia and, thirdly,

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[102] Robinson, 206.
[103] The OCTC, article 197. It should be noted that in English law, there is no need for negligence to incur civil liability in relation to property interference.
[104] For full discussion of these terms see sections 4.3 and 4.4.

custom. It is clear that unlike criminal liability, civil liability is available inclusively and inadvertently.

The distinction between the nature and function of criminal and civil law highlights that the difference is both purposeful and procedural. Both types of law generally aim for different substantive objectives and employ different means for so doing. For example, the civil law is protecting people who have gone to the trouble of identifying a piece of valuable information and keeping it secret. The criminal law is punishing those who seek to obtain economic gain, benefit or advantages through illegality. In the end, if the civil law is insufficiently punitive for prohibition, a modern society requires punishment.

Despite the civil/criminal distinction, there is a strong correlation between the two. Given that criminal law exists mainly to reinforce and backup civil law,[105] the misappropriation of TSs might be made criminal only if is remediable under the civil law. Professor Sarah Green suggests that "whether someone should be punished for something for which he is not required to compensate his victim, is too general a question and, as such, is very difficult to answer".[106] It is proposed here that TS misappropriation should not be punishable in any circumstance unless it is already actionable. Only conducts that are damaging, wrongful and inadequately deterred by civil sanctions would come under the criminalisation envisaged by this study.

In the Omani law, crimes against property are already civil offenses. Pursuant to article 56 of the OPC "the criminal judge may pronounce the following civil obligations: restitution; compensation; seizure to the injured party's benefit; and allowances". This is because "any crime causes material or moral damage to a third party, shall be sentenced to compensation where the victims request".[107] Similarly, in English law, under section 130 of the Powers of Criminal Courts (Sentencing) Act

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[105] Qurani, 12.
[106] Sarah Green, 'Theft and conversion - tangibly different?' (2012) 132 The Law Quarterly Review 564, 565.
[107] The OPC, article 58.

2000, criminal courts may order the guilty party to pay compensation to the victim. These provisions at the heart of the Penal Code imply that crimes such as larceny, fraud, embezzlement and criminal damage are civil offenses beforehand. In which, at least under the Omani property crimes, a defendant should not be penalised for actions that are not recognised as interferences with property under the civil law.

It is important to establish the role of civil law by drawing a comparison between its function and the function of the criminal law because the remit of this chapter is to consider the adequacy of the civil law to protect TSs. However, the necessary next step is to assess how adequate the civil law is in regulating TS misappropriation. There are several Omani and English civil concepts that can be applied to regulate TS misappropriation, as described below.

3.6 Protection of TSs under Omani Civil Law

As noted earlier, Omani law recognises "undeclared information" as eligible for legal protection. However, the current legal framework of protection is indirect, as it is not meant to protect the secret information itself but rather the right-holders against practices of unfair competition, which is rooted in tort law.[108]Accordingly, the main goal of this section is to test and examine the appropriateness of the current civil law relating to the protection of TSs. It considers whether civil law is in any respects inadequate as a means of regulating the misappropriation of TSs, and, if so, whether new legal methods are needed to improve the protection of TSs in Oman.

3.6.1 The OIPRA (Protection against Unfair Competition)

The OIPRA is the principal statutory source of protection for IPRs. Although the Act represents a specific legal regime on intangible intellectual assets, it includes little in

[108] It should be noted that general principles of tort and contracts are contained in the Civil Transactions Code 2013 and before the enactment of this Code, reliance was on the Commercial Code was enacted in 1990. See below section 3.6.3.

terms of substantive or procedural protection of TSs. The phenomenon of TS misappropriation is not distinctively defined or directly addressed under the current Omani civil framework of protection. Further the OIPRA, as a civil legislation applicable to TSs, provides little recognition of "undeclared information". The Act does not regard undisclosed information as a form of IP and, therefore, does not grant specific *proprietary* protection but protects TSs against some practices of unfair competition.

By contrast, the Act explicitly recognises patents, industrial designs, trademarks, trade names and geographical indications as separate IPRs and areas of strong legal protection. [109] Despite the Act being relatively new, it contains a number of uncertainties and limitations as far as the protection of TSs is concerned.

The first fundamental limitation, which might be the underlying cause of other defects, is that the Act does not consider TSs as IP. Consequently, TSs are not enforced as IP with specific protection measures. Rather, article 65(1) of the OIPRA provides that "any act in the course of industrial or commercial activities, that results in the disclosure, acquisition or use of undeclared information without the consent of the rightful holder […] shall be entitled to compensation".

This article, under Chapter Three: "Protection from Unfair Competition", is supplementary to other primary provisions on IPRs, but can be regarded as the sole provision relating to the protection of TSs in the Act. However, it does not offer any direct protection for "undeclared information" because IPR holders affected by acts of unfair competition are also secondarily entitled to compensation under this supplementary article. On the other hand, the Bahraini Trade Secrets Act (7/2003) and the Qatari Trade Secrets Act (5/2005) protect TSs as a form of IP, if not as a special "property". [110]

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[109] These categories are directly regulated by Chapter One "Technical Creations", Chapter Two "Distinctive Signs" and Chapter Four provides "Legal Enforcement" for them.

[110] It is worth mentioning that Egypt, France, Italy, Latvia, Romania and Slovak Republic view TS as IP.

As we have seen in chapter 2, there remains debate whether TSs should be treated as IP. Correa argues that the avoidance of the term "owner" and the use of the term "control" in article 39(2) does not denote a property right.[111] Nevertheless, Pursuant to Part II of the TRIPS Agreement, IPRs include… "7. Undisclosed Information". Article 1(2) goes on to clarify: "For the purposes of this Agreement, the term "intellectual property" refers to all categories of IP that are the subject of Sections 1 through 7 of Part II." To deny that TSs constitute IP is to conflict with the TRIPS's provision and the principle of effective treaty interpretation.[112]

Further, it might be inconsistent for the OIPRA to include, for example, "computer-implemented invention" as patentable[113] (which is not required by TRIPS, nor have other GCC countries patented it) and to exclude TSs from IP protection as TRIPS does require. Currently, software patents or computer programmes are patentable and also protected as literary works, which is the US approach, but TSs lack similar recognition. Thus, the OIPRA approach of denying TSs IP protection may contradict the TRIPS Agreement.

If the OIPRA is to be analysed against TRIPS, there is a failure to meet the provisions required. There is clear emphasis in the negotiations that led to TRIPS that the Agreement's core objective is "the promotion of technological innovation".[114] Moreover, under Part III (Enforcement of Intellectual Property Rights), there are general obligations to "permit effective action against any act of infringement of intellectual property rights covered by this Agreement". It is clear that article 41 applies to TSs as there is no indication anywhere in the Agreement that these enforcement provisions do not apply to the protection of undisclosed information as defined in section 7 of Part II.[115]

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[111] Correa, 368.
[112] Articles 39 and 41 of the TRIPS.
[113] The OIPRA, article 2(2).
[114] The TRIPS, article 7.
[115] Bronckers and McNelis, 677.

By contrast, the OIPRA provides very thin protection against TS misappropriation. While article 41 of the TRIPS Agreement requires WTO members to provide "expeditious remedies to prevent infringements and remedies which constitute a deterrent to further infringements", the OIPRA fights misappropriation activities by compensation alone. It is doubtful that mere compensation is an effective deterrent to further misappropriations.

The confidential nature of TSs raises special problems that demand adequate remedies and effective enforcement. However, currently, there seems to be no recognition of this in Omani legislation. This deficiency becomes clearer when compared with the wide remedies conferred on other forms of IPRs where damages, injunctions, seizure, destruction of infringing goods and reservation of the related evidence are all available to the owners of the IP.[116]

A closer look at other Arab IP laws reveals that OIPRA is among the most limited Acts in the region.[117] The Egyptian Intellectual Property Rights Act (82/2002), the Jordanian Unfair Competition and Trade Secrets Act (2000), the Bahraini Act and the Qatari Act, all provide a wide range of remedies that are specifically devoted to TSs. These remedies, in addition to those provided by the OIPRA, include precautionary measures to ensure payment of fines or damages,[118] halting the infringement of the TS, precautionary impounding of articles used or products resulting from infringement,[119] and conservation of evidence.[120] Further, criminal sanctions are imposed against illicit infringements. Equally importantly, these Acts contain detailed and clear provisions (discussed further below), but the OIPRA is deficient and lacking clarity. As several studies have confirmed, weak and unclear laws make TS enforcement "opaque and costly to handle".[121]

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[116] The OIPRA, articles 72, 74, 75 and 76.
[117] Some of these Acts include, for example, the Saudi Regulations for the Protection of Confidential Commercial Information (2005) and the Kuwaiti Industrial Law (56/1996).
[118] The Egyptian Act, article 35.
[119] The Jordanian Act, article 7.
[120] The Qatari Act, article 8.
[121] Mackenzie, 4; IMF report, 5.

In the case of *Abdulaziz v Nawras Ltd* noted earlier,[122] an Omani inventor (Abdulaziz) participated in the national "Big Business Idea Competition 2012" with three telecommunication-related innovations. Unfortunately, one of the judging panel supplied this secret information to his employer, the Nawras communications Company. Despite Abdulaziz's intellectual assets having been dishonestly disclosed, the court failed to properly navigate within the uncertain provisions of unfair competition under the OIPRA.

Rather, the court looked at the case under article 52 of the Copyrights and Neighbouring Rights Act 2008, which provides for a maximum of two years' imprisonment and a fine not exceeding US$30,000 against anyone who "sells, leases, or transacts a copy of work protected […] without the consent of the right holder". However, the case was dismissed because article 4 of the same Act states that "protection shall not cover mere ideas […], discoveries and data". In other words, unwritten information and abstract ideas are not protectable under Omani copyright.

There are clear parallels between TS misappropriation and copyright infringement. Indeed, the former may inflict as serious a loss, if not greater, than the latter. Michael Risch argues that TS law is precisely designed to protect "sweat of the brow" information, whereas copyright law protects creative information that is written down, no matter how much "sweat of the brow" was expended gathering the information.[123] He further acknowledges the overlap between the two regimes where, for example, computer software source code may be simultaneously protected as copyrighted work as well as a TS, because copyright registration does not require disclosure of TS.[124] However, in practice, neither of these laws were applied in the Abdulaziz case.

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[122] Appeal Court, Commercial Department, 208/2011.
[123] Risch, 175.
[124] Ibid, 153.

Eventually, the court failed to recognise the information as a TS, or perhaps overlooked article 65(1) of the OIPRA, which grants compensation for TSs that are disclosed, acquired or used improperly. One may argue that Abdulaziz was not an actual competitor to the Nawras. In fact, he was an expert in the same line of business and very likely a potential competitor. Perhaps a separate law with distinct provisions against misappropriation of, or unjust enrichment from, TSs would have aided the court.

The case of *Diet and Nutrition Centre v Smart Diet* [125] raises another problem. In this case, the defendant was a dietitian working for the Diet and Nutrition Centre under a non-competition agreement, with respect to all technology and programmes used in the centre. Although the defendant was under such an obligation, while still employed by the centre he disclosed information to a rival company (Smart Diet) and became a manager in that company. An injunction was sought to prevent the use of information unlawfully leaked. The court held that there was not sufficient evidence that the defendant was operating the same technology and, in any event, that "employees after the termination of employment are free from any obligation or duty".

It is interesting to compare this judgement with the English case of *Faccenda Chicken Limited v Fowler*,[126] where Goulding J drew an important distinction between TSs and employees' skills, knowledge or experience. He established that where the information is confidential because of its character or because the employee is told that it is, it cannot be used during the employment but is free to be used afterwards because the employee will inevitably remember it. Nevertheless, confidential information that is a TS cannot be used even following the termination of the employment and even if it is absorbed by heart.

In short, the OIPRA position is currently inconsistent. In practice, it is difficult to use the idea of compensation as a deterrent for ensuring that TS misappropriation does not occur. Further, civil reparation is very sensitive to the ability of the defendant

[125] Appeal Court, Commercial Department, (191/2014).
[126] [1986] F.S.R. 291.

to pay. Also, a key question which the Omani courts might consider is whether an employee should escape liability for the use of TSs collected shortly before ending their employment. Though the above notes issues with the protection of TSs under the OIPRA, the misappropriation of TSs can obviously be associated with an act of unfair competition, which may ensure effective protection and constitute a deterrent to further misappropriation.

3.6.2 The General Unfair Competition Law

The WTO has previously regarded Oman as a country that "does not have any competition legislation".[127] It is more accurate to say that Omani law does not include a general clause on unfair competition.[128] As we have seen above, the OIPRA includes some provisions concerning unfair competition that are supposed to settle TSs cases,[129] though these suffer uncertainty and lack appropriateness in the context of TS protection.

The misappropriation of TSs is not necessarily always for competition or between competitors. It can be for pure economic purposes or personal reasons and against non-commercial research institutions. Accordingly, defendants could escape liability at least on the basis of unlawful competition. Moreover, although the OCTC allows "non-compete" clauses,[130] these are restricted in a way that does not meet the particular problems relating to TSs. Article 661 of the Code provides that

> "If the work of the employee is such as to permit him to have access to work secrets or to make acquaintance with the customers of the business, it shall be permissible for both parties to agree that it shall not be permissible for the employee to compete with the employer or to engage in an employment which competes with him after the termination of the contract.

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[127] WTO, *Trade Policy Review: Oman* (Document WT/TPR/S/295, 2013) 7.
[128] Article 64 of the UAE Commercial Code 1995 provides that "Any person who, in the course of business activity for the purposes of competition commits acts contrary to honest practices, may be enjoined from these acts and held liable for damages".
[129] See also articles 47-51 of the Omani Commercial Code (1990) regarding "Unlawful Competition".
[130] Articles 661 and 662.

> Provided that such agreement shall not be valid unless it is limited in time, place and type of work to such extent as may be necessary to protect the lawful interests of the employer."

It might be said that this text provides some protection for individual types of TS, such as customer lists, supplier lists and sales-related information. However, there are other kinds of TSs with a wider commercial use that cannot be restricted to certain places and trades. For instance, new business solutions, manufacturing planning or marketing strategies are highly valued by most businesses and can be used in different context. In other words, TSs can have a wide scope of application that goes beyond a limited place or type of competition.

In the case of *Smart Drilling Ltd v Smart Vision Ltd,*[131] the defendant (an engineer) was recruited by a rival company to obtain some information related to new drilling technology and oil operations from his employer the Smart Drilling in exchange for a fee and a position. The court regarded the conduct of the defendant as unlawful but refused to grant an injunction because the two companies were operating in different regions and not running identical business. The court also could not identify any actual economic damages or clear impact on the claimant's competitiveness resulting from Smart Vision's recruitment of the defendant.

It would have been more plausible for the court to consider article 50 of the Commercial Code, which prohibits a merchant from inducing the employees of another to leave their employment and disclose commercial secrets. However, again "such activities shall be deemed unlawful competition which requires compensation". Obviously, the Smart Drilling Company was more interested in stopping the unlawful use of its TS and so the Commercial Code does not apply. Thus, the current civil protection for TSs under unfair competition law is very limited in terms of both conducts covered and remedies provided. It is perhaps easier to prove the loss and damage in cases of tort.

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[131] Appeal Court, Labour Department, (522/2013).

3.6.3 The Tort Law

Tort is considered the conceptual premise for unfair competition because "any harm done shall be made good".[132] Therefore, a range of general civil damages might be used for the legal protection of TSs in Oman. The tort law can be of greater importance to TS protection since in tortious liability there is no relationship required between the creditor and the debtor prior to the occurrence of the unlawful act, and there is also no need for the matter to be of any particular nature, as is the case under competition law. In this legal sphere, the Omani Supreme Court identified three elements for tortious liability: a fault, damage and a causal relationship between the fault and the injury.[133]

In spite of these broad provisions, their applicability to TS misappropriation is uncertain. One practical problem in applying tortious liability to TS cases is the court's strict practices in valuing the damage caused. In the case of *Jalfar Engineering Ltd. v Al-Masri,*[134] the plaintiff engaged the defendant in marketing their new products (drugs) but the latter misappropriated the information by disclosing it to rival companies, which caused the former economic losses. The court dismissed the case mainly because of their inability to value the financial impact accurately.

Such practice can be critical in cases involving an illegal use or disclosure of TSs for two reasons. Firstly, the value of a TS varies depending on the individuals concerned. Secondly, the damages in TS cases are purely financial and independent of physical inputs. As Nicola Searle noted, "a controversial topic in tort law is that of pure economic loss and its relation to economic efficiency".[135] This is more applicable to TS damages because as Halligan and Weyland have observed, a TS is difficult to value as "it often lacks the pre-determined life span and comparable market transactions that are used to value patents".[136]

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[132] 'A Set of the Supreme Court Judgments in Oman: 2005', Commercial Department, (82/2005) 390.
[133] Ibid.
[134] Appeal Court, Commercial Department, (576/2014).
[135] Nicola Searle, 'The Economics of Trade Secrets: Evidence from the Economic Espionage Act' (PhD, University of St Andrews 2010) 150.
[136] Mark Halligan and Weyand Richard, 'The Economic Valuation of Trade Secrets Assets' (2006) 9 Journal of Internet Law 19, 21.

Given that civil litigations seek financial compensation, the involved parties are likely to differ in their estimation of the value of TSs. Plaintiffs will seek a higher valuation to maximise their damages, while defendants will seek lower valuation to minimise sanctions.[137] For these reasons, it is extremely difficult to estimate accurately the loss caused by the misappropriation of TSs.

Pursuant to article 181 of the OCTC: "in all cases, the compensation shall be assessed on the basis of the amount of harm suffered by the victim, together with loss of profit". This means that there are two types of damages: actual damages and expected damages. Nonetheless, even if the courts are able to determine the amount of damages, the damages awarded are unlikely to reflect the damage in practice.

To illustrate this: suppose X discloses a TS of Y to Z for US$1,000,000. The court determines the amount of damages on the basis of the loss to Y and orders X to pay US$500,000. Two problems arise: (1) X still gains US$500,000 by his unlawful conduct. (2) It is questionable whether the amount of damages is adequate even if the court determines it on the basis of the loss to Y.

If this assumption reflects the actual precedents, the legal system can hardly be considered to effectively deter the misappropriation of TSs. On the other hand, if X could expect the court to order him to pay Y US$1,500,000 in damages, X would not disclose the TS to Z. In this case, the legal system would prevent the misappropriation of TSs.

The following conclusion can be drawn from the above assumption. The value of the TS proprietors' loss is irrelevant to deterring the misappropriation of TSs. Thus, in order to prevent the misappropriation of TSs, it is essential to provide an adequate level of damages regardless of the actual or expected loss to TS proprietors.

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[137] Searle, 146.

Returning to the first problem of accurately assessing damages caused by the misappropriation of TSs, which while not the main reason for damages not being an effective remedy, presents a practical obstacle. To solve this problem, the new US valuation methods used in TS cases might be helpful. The UDTSA employs a mixture of actual damages (actual expenditures), unjust enrichment (financial gains) and reasonable royalty (market values) that can make the perpetrator liable for up to three times the damages caused.[138] This approach of estimating TS damages could ease the Omani courts' reliance on external experts in valuing immaterial damages in TS disputes. Currently, the Omani courts rely heavily on independent experts to provide technical assistance and to calculate financial losses caused by misappropriations. Nonetheless, experts can be a source of expense, delay and risk of disclosure of the TS as these experts have commercial agendas and are not immune from corruption. Hence, it would be prudent for Oman to train its judges in the specificities of TS misappropriation.

It is submitted here that in the absence of clear statutory provisions regulating illegal acquisition, use or disclosure of TSs and in the absence of experience in applying the broad tort law provisions of the OCTC to TSs, it is not possible to claim the precise applicability and clear efficiency of tortious provisions in this area. Tortious liability is originally related to the public obligation as imposed by law not to cause damage to anyone in any form. This legal duty may be limitless in terms of the types of damage caused but tends to be so restricted in terms of pure economic loss.

Omani law, as well as English law, has another special liability called "contractual liability". Liability in contract can protect TSs from disclosure and can provide less problematic protection as it focuses on breach of contractual obligations with expected direct remedies instead of the general wrongdoing. I consider next how effective as a deterrent is the threat of contractual liability.

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[138] 130 STAT 380, s B. For a related discussion see R. Hall and V. Lazear, *Reference Guide on Estimation of Economic Loss in damages Awards* (2 edn, Federal Judicial Center 1994).

3.6.4 The Labour Law

Unlike tort law, which is regarded as a general liability of a person for a general breach, contract law is regarded as a liability of a person who has a contractual relationship and breaks it. For the purposes of TSs protection, the law of contract is defined as the law that regulates employer/employee relationship to protect TSs. Omani employment law, or the Labour Act of 2003, is a well-settled area of law. It recognises in a general way that an employer has a legitimate interest in protecting secret information pertaining to the function of the business.

Article 27(4) of the Act obliges employees to "keep the secrets of the work". However, as stated in Chapter 2, the Act does not define "work secret". The Omani courts have subsequently defined employment secrets as confidential commercial and industrial information that employees are under a legal obligation to conceal.[139] Hence, it may be useful to apply the Labour Act to protect TSs if the protection provided is more adequate than that conferred by the OIPRA. However, there are several inadequacies in the labour law that problematise its implementation to TS misappropriations.

Firstly, contractual protection requires an employment relationship or a "valid contract" between the employer and employee.[140] Further, the work contract must be officially registered at the Ministry of Manpower. As a consequence of these strict requirements, many employers, especially SMEs, often hire workers without official contracts in order to evade financial and legal commitments, particularly those related to minimum wages. These practices have narrowed the application of contractual protection, which is already limited as it does not extend to misappropriations committed by, or where the TS was then transmitted to, a third party.

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[139] *National Aluminum Products Ltd. v Sultan*, appeal court, labour department, (212/2014).

[140] Articles 21 to 26 of the Act enumerate a long list of details that a "contract of work" must contain, otherwise it will be invalid.

In the case of *Al-alwi v Omani National Bank Ltd*,[141] an intern photographed several confidential files on her personal iPhone. The court found no contractual obligation of confidentiality because no employment relationship was established as the intern was on probation or an unregistered "work offer" rather than a "work contract". This probationary period is in some ways akin to the termination period, where no work secret is respected.

The second issue is the limitation of the contractual law to the period of employment only. Following the termination of the contract, employees are not obliged by the Labour Act to keep their employer's secrets. Unlike the Jordanian Labour Act (8/1996), which obliges employees to "keep the employers' industrial and commercial secrets and not disclose them in any manner even after the expiry of the work contract",[142] employees in Oman are free to use their former employers' TSs. This is a significant problem because the likelihood of misappropriating work secrets increases after the termination of the employment.[143] In other words, competitors are perhaps ready to make a deal with well-informed former employees and purchase the information or even induce them to leave and end the contractual relationship.

Limiting the obligation of confidentiality to the employment period only is analogous to not imposing it at all because employees may choose to terminate the employment relationship in order to escape any contractual liability when using the TSs to secure future employment. Moreover, an industrial spy may obtain employment with intention to access the secret information and then move on. To prevent these fraudulent practices, it might be appropriate for the Omani legislator to include an explicit obligation to respect the industrial and commercial secrets of the former employer, at least during a specific period.

Another inadequacy of contractual protection of TSs stems from the penalty imposed on the divulgence of work secrets. The dismissal of the employee, as a sole

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[141] Appeal Court, Labour Department, (413/2013).
[142] Article 19 (b). The same provision is also adopted by art 42 (8) of the Qatari Labour Act (14/2004).
[143] Shanab, 12.

penalty, appears to not be a practical mechanism for discouraging TS disclosure. Such a penalty is not only confined to the point at which the secret information is divulged, and not its unlawful acquisition or use, but it also provides a means to provoke termination of the contract by deliberately divulging the confidential information to a third party. Then, the employee could freely benefit from the information for personal gain.

Similar to unfair competition law and tort law, contract law does not provide adequate protection for employers who fall victim to TS misappropriation. One reason that Oman is lenient in protecting work secrets is that Omani courts, as a general policy, consider the employee as the "weaker party".[144] The Omani legislator should move to balance the employers' economic interests on one hand, and the employees' interests in fair work and free mobility on the other.

In my view, because of these inadequacies, a TS should not be equated with a work secret due to the distinctive character of the former and the weak protection provided to the latter. Overall, the threat of contractual penalty is probably not sufficient. Civil liability based on the employment contract does not function as a deterrent to misappropriating TSs in Oman, for the above reasons. In the end, however, the Omani government chose a rather extreme alternative solution, which is critiqued in the following section.

3.6.5 The Two-Year Visa Ban Law

The very real problem of TS misappropriation is urgent but unalleviated by the current civil solutions. This situation is a problem for Omani businesses and the public as well. Under increasing public pressure to offer an alternative solution, in 2014, the government amended article 11 of the Expatriate Residency Act (1996) to provide that

[144] *Ramasuami v Towell (Engineering) Ltd*. Appeal Court, Labour Department, (851/2015).

> "An expatriate employee shall not be granted an employment visa if he or she has previously worked in Oman until two years have lapsed since the date of his or her last departure.
> The two-year period shall not apply to an expatriate employee who is called to rejoin the same employer or has completed the initial contract with a Non Objection Certificate (NOC) from the former employer".

The uniqueness of this law is undeniable.[145] Under Omani visa restriction, the only way for an expatriate to change employment in Oman is through the NOC or to stay out of the Omani market for two years. Justifying the new policy, the director of the OCCI stated, "the two-year visa ban was a necessary decision to stop the wrong practices of greedy employees who misuse their employers' trade secrets".[146] He also admitted, "there are many cases of business threatened by some illegal and unhealthy practices of foreign workers trading on others' commercial assets".[147]

The imposition of the visa ban provides indisputable empirical evidence of the large scale and complexity of the problem of TS misappropriation in Oman. However, it is not the most appropriate answer to the issue. The underlying goals behind this law are to eliminate misappropriation scandals involving foreign workforces and protect Omani businesses. Arguably, the law can be effective in preventing expatriate workers from joining another employer in Oman, however, it does not address the issue of TS protection effectively, nor does it create conditions for economic growth. That is to say, its legitimacy and workability are questionable for several reasons.

Firstly, the two-year visa ban law constitutes a primary existing protection against TSs misappropriation, but it may lack legitimacy. It is a bureaucratic tool developed by the Ministry of Manpower and the Royal Oman Police to limit the free movement of foreign workers with no judicial authority involved. In this sense, it is like a deportation order without a court decision. The law is questionable under Human

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[145] It is interesting to note that this decision might be (to some extent if from a different direction) similar to the British policy in the eighteenth century where British skilled workers were forbidden from transmitting their valuable commercial knowledge outside Britain. See section 5.5.1.

[146] http://timesofoman.com/article/68861/Oman/Expatriates-in-Oman-hope-for-reversal-of-two-year-visa-ban/ accessed 5 January 2018.

[147] Ibid.

Rights law, where article 23 of the Universal Declaration of Human Rights (1948) guarantees everyone "the right to work, to free choice of employment", and under religious doctrine, as the Holy *Quran* permits people to "disperse within the land and seek God's bounty".[148]

Secondly, the so-called NOC or "release letter" from former employers is open to exploitation. Employees may be forced to stay with the same employer and work more for less pay, or be forced to leave the country. Another common scenario is that when an employee has completed the initial employment contract and found another company with a higher salary or better work conditions, the employer may not provide the NOC, claiming that the new job is with a rival company. Unfortunately, the ban does not define a TS, therefore, any information even the employer's personal secrets can be claimed TSs. Further, the employee might be asked to pay for the NOC letter. Such exploitation could negatively affect not only the local market but the county's international reputation. According to the 2017 Economic Freedom of the World index, Oman's score fell substantially to 4.3, down from 7.9 in the area of "labour market regulations".[149]

Thirdly, in the modern technological context, it is doubtful that the ban is, practicable because employees can comfortably communicate with competitors and sell information, no matter where they are, in Oman or abroad. Hence, there can be no great advantage in banning the physical movement of employees while they can communicate with rivals freely. David Freedman asserts that if one tries to protect TSs traditionally or physically, "the exercise seems doomed to failure".[150]

Fourthly, the two-year-restriction might conflict with the policies of a free economy and free labour mobility. The local press reported that the ban would reduce

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[148] CH62:10.

[149] Salem Al-Ismaily and others, *Economic Freedom of the Arab World: 2017 Annual Report* (Fraser Institute 2017) 38.

[150] C David Freedman, 'The Extension of the Criminal Law to Protecting Confidential Commercial Information: Comments on the Issues and the Cyber-Context' in D.S Wall (ed), *Cyberspace Crime* (Routledge 2017) 152.

the turnover of foreign employees, mitigate the risks of disclosing secrets of the former employers and deter illicit trading in TSs.[151] However, in modern economies, it is rare for employees to retain a career with a single employer. Equally, Oman is in need of an expatriate workforce to supply its economy, and this ban could deter the needed flow of workers from Oman.

Finally, the ban does not solve misappropriations committed by national workers. If the Labour Act does not prohibit the use of "work secrets" following the termination of employment, the ban assumes that all TS misappropriation is carried out by foreign workers. Clearly, the ban represents the wish of the legislator to strengthen the protection of TSs, however, it is not well-balanced. The ban would have been more effective if it had been introduced as a legislative prohibition of all employees from using TSs within two years following the termination of the employment agreement.

In fact, the situation is exacerbated by the two-year visa ban in that it constrains free employee movements and inhibits free market dynamics. Perhaps proper empirical research should be conducted to examine the impact of the ban on the economy and accordingly amend or abolish it. There is some evidence that expatriate employees have started to migrate to other GCC countries,[152] where criminal law is trusted to deal with dishonest employees.

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[151] http://timesofoman.com/article/69312; http://gulfbusiness.com/oman-polls-suggests-support-two-year-work-ban/, accessed 4 January 2018.

[152] http://timesofoman.com/article/69463/Opinion/Columnist/Two-year-visa-ban-leading-to-expat-brain-drain-in-Oman, accessed 1 September 2017.

3.6.6 The Overall Effect of the Present Civil Law: Do Civil Remedies Deter TS Misappropriation?

From the above analysis of the civil mechanisms of unfair competition, tort, labour and visa ban, it is thus clear that civil remedies do not function as deterrents. In the Omani context, TS Misappropriation cannot effectively be regulated by civil sanctions, which may only satisfy the objective of compensation, but not the important objectives of prevention and deterrence.

Needless to say, a TS loses its value once it is placed in the public domain. However, civil remedies do not seem to account for this fact, nor compensate effectively for the situation that information is no longer secret and therefore as valuable as it was before the misappropriation. The main cause of this deficiency arises from the fact that civil liabilities inherently aim at repairing the damage done rather than preventing it. That is not appropriate to the context of TSs. Given the sensitivity of business information, the focus is more on the prevention of the loss than fixing the damage.

In Oman, it might be hardly surprising that the substantial financial benefits derived from misappropriations are unlikely to be discouraged by very thin civil sanctions. Clearly, mere compensation will often be inadequate for ensuring that misappropriations do not occur. In effect, while compensation is impossible unless the harmful event has already occurred, the damage is complete and the loss suffered is well quantified, misappropriations may cause irreparable damages for businesses which rely extensively on TSs as sources of competitive advantage. Hence, the present civil measures of prevention are not capable of discouraging misappropriation.

The ineffectiveness of civil remedies in combating TS misappropriation is not only related to the efficiency of the civil law itself but also its enforcement in Oman. In addition to the difficulty of determining the amount of damages in TS cases, a further difficulty in obtaining compensation lies in the cost of civil action. The costs involved in bringing an action against misappropriation, including court and experts' fees, can be unbearable particularly for SMEs. Another disadvantage in civil litigation

is the delay. The average duration of proceedings from initiating the claim to final judgment can be up to five years. As a practical example, the case of Abdulaziz is still ongoing,[153] taking up much time and resource. This could be a reason why Oman received the lowest score, 5.14 out of 10, in the area of "legal enforcement of contracts", according to the 2016 Economic Freedom of the World index.[154]

Many countries provide criminal sanctions against the misappropriation of TSs for the above reasons. Oman has so far not provided such sanctions. As a result of these pitfalls surrounding the current regime, there is a failure to tackle the proliferation of misappropriations. Businesses tend not to resort to civil courts, nor is civil protection of TSs is widely favoured in Oman. At present, those involved in industrial espionage may calculate that they will achieve economic advantages with minimal risk of civil sanctions. There seems clear evidence that relying exclusively on very limited civil remedies is a gap in the Omani legal framework of TS protection. This may well be a contributory factor in other cases not reaching the courts. As the Omani British Friendship Association has highlighted, one of the weaknesses in Omani legal system is the uncertainty regarding protection of IPRs.[155] Unsurprisingly, Oman received a lower ranking in the strength of legal protection and market regulations.

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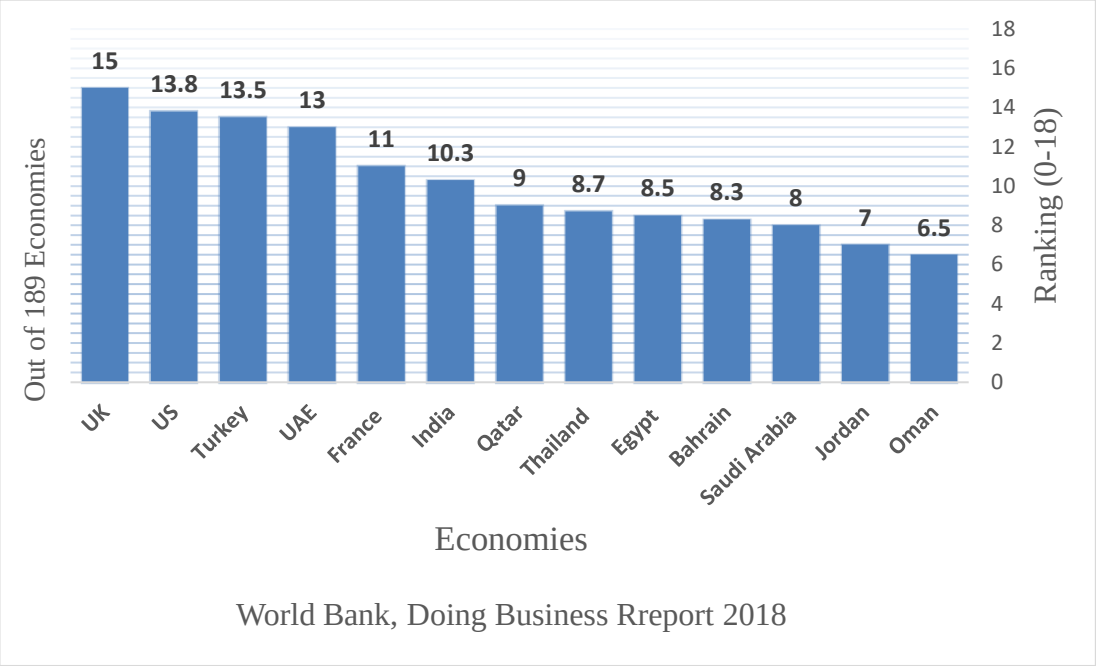
[153] The case first raised in the first instance court (1502/2009) on 26 February 2011 and has been recently seen by the Supreme Court (240/2016) on 11 May 2016 which decided to return the case to the Appeal Court to hear it again with different circuit judges.

[154] James Gwartney, Robert Lawson and Joshua Hall, *Economic Freedom of the World: 2016 Annual Report* (Fraser Institute 2016) 140.

[155] Omani British Friendship Association (OBFA), Barriers to Trade and Foreign Investment in Oman, Joint Working Group, 10 February 2013, 7.

Figure 2: How Oman and comparator economies rank on the quality of business regulations



World Bank, Doing Business Rreport 2018

That said, Oman is obliged by the TRIPS Agreement to ensure a fair, equitable and effective protection, but not a complicated, costly or lengthy one. It could be suggested that "fair, speedy, low-cost and effective judicial procedures abroad" are influential factors for businesses to decide on which country to invest in and which trading partner to choose.[156] As it currently stands, the Omani civil framework is weak and ineffective in deterring the misappropriation of TSs.

These various existing limitations in the Omani civil law necessitate a comparison with other wider English civil remedies that are currently available in TS misappropriation cases. Given that deterrence is one of the most important elements to consider when establishing an effective legal protection of TSs in Oman, the English law provides wider range of damages some of which can also take a deterrent form.

[156] Dessemontet, 340.

3.7 Protection of TSs under English Civil Law

As found above, preventing potential defendants from misappropriating TSs is not relevant to the types of damages provided by Omani law. While there are two types of damages, actual damages and expected, in Omani law, there are many types of damages, such as actual damages, expected damages and punitive damages in English law. It is worth investigating how effective as a deterrent is the use of English damages in TS cases, and whether or not English damages can be an effective alternative to criminal sanctions in deterring the misappropriation of TSs in the Omani cultural and legal environments.

3.7.1 Disgorgement Damages

Types of damages that are currently available in TS misappropriation cases include injunctive relief, impoundment, destruction, and court costs.[157] However, a more recent development in the field is the English courts willingness to provide gain-based damages or so-called "disgorgement damages".[158] In the case of *Peter Pan Manufacturing Corporation v Corsets Silhouette Ltd*,[159] where manufacturing secrets was wrongfully used, the court ordered a disgorgement of the defendant's wrongful profits.

Unlike actual damages or normal assessment of the victim's loss, disgorgement damages are based on a calculation of the defendant's profits by giving such unjustified gain back to the victim.[160] This profit-stripping awards/disgorgement, as an

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[157] Charlotte Waelde and others, *Contemporary Intellectual Property: Law and Policy* (4th edn, OUP 2016) 931-1026.

[158] Also referred to as "restitutionary damages", "account of profits" and "remedy of account". In the landmark case of *Attorney General v Blake* [2001] 1 A.C. 268 (involved misuse of official secrets), Lord Nicholls emphasised that disgorgement damages should only be awarded in "exceptional circumstances, where normal remedies were inadequate to compensate for breach of contract". It is beyond the scope of this thesis to go into great theoretical detail to clarify the rationales behind the award of disgorgement damages and the criteria for their award. For detailed discussion see Ewoud Hondius and André Janssen, *Disgorgement of Profits: Gain-Based Remedies throughout the World* (Springer 2015); Ernest Weinrib, *Corrective Justice* (OUP 2012) Ch4.

[159] [1964] 1WLR 96.

[160] James Edelman, 'Gain-Based Damages and Compensation' in Andrew Burrows and Alan Rodger (eds), *Mapping the Law: Essays in Memory of Peter Birks* (OUP 2006) 141.

exception to the general rule (compensating actual losses suffered only), is justified primarily upon its deterrent effect on "cynical" breaches of contract.[161] As Katy Barnett has noted, "deterrence is at the heart of disgorgement damages".[162]

Indeed, deterrence, as well as effective compensation, are what Oman lacking. In the current Omani situation, given the inadequacy of compensatory remedies to regulate the misappropriation of TSs, the availability of disgorgement damages might be the most appropriate response. By stripping the enrichment from a defendant, the court could effectively provide a significant disincentive for potential misappropriators. In other words, there would be no economic incentives to misappropriate TSs as any unjust profits gained at the victim's expense will be recovered.

Whilst in English law the courts will control the award of disgorgement damages and would only grant it where it was appropriate to do so,[163] in Omani law the courts have no discretionary control. An explicit provision providing for disgorgement can be found under article 75(b) of the OIPRA which stipulates that "In the case of trademark infringement, the Court shall order the accounting of the profits of the infringer that are attributable to the infringement". Nevertheless, as discussed earlier in chapter 2,[164] TSs are not identical to classic IPRs. Therefore, the availability of disgorgement damages in TS misappropriation case is uncertain.

In effect, there are a host of difficulties with the concept of disgorgement damages. First, since only *profitable* breaches can be disgorged, there may be no profit which the defendant might be forced to disgorge. In many cases the defendant will not be able to pay compensation or to account for a profit, because the stolen TSs may be

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[161] Craig Rotherham, 'Deterrence as a Justification for Awarding Accounts of Profits' (2012) 32 OJLS 537Edelman; Ernest Weinrib, 'Punishment and Disgorgement as Contract Remedies' (2003) Chi-Kent L Rev 55.

[162] Katy Barnett, 'Deterrence and Disgorging Profits for Breach Of Contract' (2009) 17 RLR 79, 96.

[163] In *Vercoe v Rutland Fund* [2010] EWHC 424 (Ch), Sales J made it clear that "even in relation to confidential information closely akin to a patent (such as a secret manufacturing design or process), the law will not necessarily afford protection to the claimant extending to an account of profits."

[164] Section 2.3.1.

sold far less than their market value,[165] or disclosed to the public for spite rather than greed.

Furthermore, in misappropriations committed by foreign workers, the profits, if any at all, may have disappeared before damages can be obtained. Thirdly, rather than misappropriating the information for personal use to produce products and make profits, the TSs may be merely sold to an innocent third party who breached no contract and therefore should not be disgorged of the profit legally made. Finally, there are practical obstacles for practicing disgorgement damages regime in Oman. Compared to the loss of fungible goods or traditional IPRs, it is harder to calculate with precision the profits the defendant has earned during the period of misappropriation. This is not only due to the intangible nature of TSs and irreparable economic harm,[166] which the Omani civil courts tend to underestimate, but also the account books that are necessary for the proof of the gains are often not used nor provided by defendants. Unsurprisingly, "[t]he remedy of account has proven to be a most unsatisfactory and cumbersome one in practice".[167]As Lindley L.J. in *Siddell v Vickers* (a patent case) said:

> "The difficulty of finding out how much profit is attributable to any one source is extremely great— so great that accounts in that form seldom result in anything satisfactory to anybody. The litigation is enormous, the expenses great, and the time consumed is out of all proportion to the advantage ultimately attained…"[168]

Similarly, Xiang and Chengwei have concluded that "the difficulty of proving gains is an important reason why disgorgement damages system is rarely employed and is difficult to operate effectively." [169]It is clear that profit stripping remedies are

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[165] In the English case of *R v Absolom*, as will be discussed in section 5.5.2.2, a TS that costed £13 million was intended to be sold for £50,000.

[166] Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper*, 286.

[167] Aplin and others, 783.

[168] [1892] R.P.C. 152, 163.

[169] Xiang Gao and Chengwei Liu, 'The Disgorgement Damage System in Chinese Law' in Ewoud; Hondius and André Janssen (eds), *Disgorgement of Profits: Gain-Based Remedies throughout the World* (Springer 2015) 425.

limited only to cases in which there have been cynical breaches of contract, substantial profits gained from such breaches, and precis calculation of the entire profits. These conditions are not always easy to satisfy in TS misappropriation cases that could undermine the possibility of disgorgement damages being awarded.

3.7.2 Exemplary Damages

Contrary to the remedy of account, the concept of "exemplary damages"[170] is concerned with punishment and not simply with stripping away the fruits of the defendant's wrongdoing.[171] In this respect, exemplary or punitive damages are highly exceptional damages ordered by a court only in special circumstances where a defendant commits a tort for gain, but compensatory damages are unlikely to be adequate to reflect the extent of his wrongdoing.[172] While the principal purpose of remedies in tort law is to compensate those harmed by others' unintentional, careless or accidental wrongdoing, the function of exemplary damages is to punish wrongdoers for their heinous, malicious or high-handed conducts.[173] Thus, exemplary damages function as deterrents, which is unusual in civil liability.

We have seen above that Omani law has only two types of damages (actual and expected) the aim of which is purely compensatory as to put the claimant back in the position they would have been in had the tortious act not occurred, English law, on the other hand, has developed this rare type of damages (exemplary) which is not truly

[170] Also known as "punitive" or "vindictive" or "retributory" damages. First set out in *Rookes v Barnard* [1964] A.C. 1129.

[171] It has to be emphasised that exemplary damages differ from the remedy of account discussed above, since they are only available for particular tortious wrongs. Moreover, "may be awarded even though they exceed the amount of the gain made by the tortfeasor. [Because] The effective pursuit of punishment may require awards of exemplary damages to exceed the restitutionary measure". *Rookes v Barnard*, 1.102.

[172] McBride N.J., 'Punitive Damages' in Peter Birks (ed), *Wrongs and Remedies in the Twenty-First Century* (Clarendon Press 1996).

[173] J Edelman, 'In Defence of Exemplary Damages' in Charles EF Rickett (ed), *Justifying Private Law Remedies* (Hart Publishing 2008).

compensatory but fulfil the purpose of deterring the tortfeasor from committing the tort.[174]

Considering that exemplary damages are designed to punish tortious wrongs to make them unprofitable, it is worth assessing whether they can function as effective deterrents to misappropriation TSs. In other words, if exemplary damages are more adequate to discourage TS misappropriation than using the criminal law, is it possible for Oman to fit such new species of damages within the scope of its current socio-legal framework.

As a remedy of an exceptional nature, exemplary damages are awarded over and above what is necessary to compensate a claimant in order to fulfil the aims of punishment, deterrence and reprobation.[175] In this respect, exemplary damages can be very useful when the loss suffered cannot be accurately quantified. As mentioned earlier, Omani courts are neither well-equipped nor highly competent to accurately valuing intangible economic loss. Therefore, one could easily argue that exemplary damages are necessary to an efficient deterrence when the value of a loss cannot be accurately measured, because courts may impose sanctions that beyond the expected loss, over and above the amount required to compensate the victim. In this sense, the remedy of exemplary damages operates a bit like a fine. In effect, one may argue that exemplary or punitive damages do not fit with any of the civil law aims.

Deterrence and punishment are the proper aims of criminal law,[176] therefore, exemplary damages seem inconsistent with the functions of civil law. Exemplary damages on the basis of torts are not meant only to compensate for any loss caused, but also to penalise wrongdoers for the manner in which they committed the tort and to deter others from acting similarly in the future.[177] Given this penal or exceptional

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[174]Law Commission, *Aggravated, Exemplary and Restitutionary Damages* (Law Com No 247 (1997)).
[175] *Broome v Cassell* [1972] AC 1027, 1130, where Lord Diplock described exemplary damages as a "blunt instrument to prevent unjust enrichment".
[176] See section 3.5 above.
[177]Helmut Koziol and Vanessa Wilcox, *Punitive Damages: Common Law and Civil Law Perspectives*, vol 25 (Springer-Verlag 2009).

nature, the Law Commission maintained that exemplary damages should not "constitute excessive punishment".[178] In their view, the risk of excessive size of the awards, which grossly exceeds the value of the benefits derived from the wrong, should be avoided by imposing "significant limitations".[179]

These limitations or exceptional circumstances are discussed blew, however, as historical underpinning roots, *Rookes v Barnard*[180] impressed on the House of Lords the need to distinguish between criminal and civil remedies. The latter is the province of the law of tort, therefore in order to "serve a useful purpose in vindicating the strength of the law" and afford a practical justification,[181] it was stipulated that exemplary damages would only be awarded, as a matter of exceptional discretion, in three categories, which are: (1) where a government servant acts in an arbitrary, oppressive or unconstitutional manner; (2) where the evidence shows that the defendant actually calculated that the profits to be made out of committing a tort might exceed any damages payable; (3) where a particular statute expressly permits them, for example, some intellectual property legislation.[182]

The question now arises whether exemplary damages would be available in English law for misappropriation of TSs. Indeed, for the purposes of this study, the discussion of the possibility or likelihood that TS misappropriations would be dealt with under the second category is of particular importance. This is not only because business defendants and corporations can only be sued under such category,[183] but also because defendants in misappropriation cases – as the earlier assumptions illustrated

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[178] Law Commission, *Aggravated, Exemplary and Restitutionary Damages*, 1.22.
[179] Ibid, 5.
[180] In this case, Lord Devlin stated that "the idea of exemplary damages is peculiar to English law. There is not any decision of this House approving an award of exemplary damages and your Lordships therefore have to consider whether it is open to the House to remove an anomaly from the law of England. [1964] A.C. 1129,1221.
[181] Ibid, 1226 (Lord Devlin).
[182] The Copyright Act 1956, S. 17(3).
[183] James Goudkamp and Eleni Katsampouka, 'An Empirical Study of Punitive Damages' (2018) 38 OJLS 90, 1564.

–seem to be motivated by the higher profits they can make and the lower risks of compensatory damages.

It is interesting to note that whether there can, or should, be exemplary damages for TS misappropriation seems to be a new question which has not been properly discussed by neither English courts, nor academic literature. There appears to be no clear authority establishing the possibility of obtaining an award of exemplary damages against TS misappropriations.[184] Thus, it remains an open question as to whether exemplary damages may be awarded for TSs misappropriation.

It could be argued that it seems to be possible that exemplary damages can be awarded at common law for TS misappropriation. The ground for such award is possibly the element of "calculation". The defendant's calculation of wrongful gain should bring TS misappropriation under category (2), because as a justification of this category, in *Broome v Cassell*[185] Lord Diplock provided that

> "[T]o restrict the damages recoverable to the actual gain made by the defendant if it exceeded the loss caused to the plaintiff, would leave a defendant contemplating an unlawful act with the certainty that he had nothing to lose to balance against the chance that the plaintiff might never sue him, or if he did, might fail in the hazards of litigation. It is only if there is a prospect that the damages may exceed the defendant's gains that the social purpose of this category is achieved - to teach a wrongdoer that tort does not pay."

Nevertheless, it may be difficult to place TS misappropriation under category (2) because it can be very difficult to prove that a defendant calculated that he or she would yield a profit more than any likely payable compensation.[186] Moreover, although unlike the remedy of account,[187] category (2) "is not confined to money-making in the strict sense…it extends to cases in which the defendant is seeking to gain at the expense

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[184] In *Douglas v Hello! Ltd (No.8)* [2004] E.M.L.R. 2, the court refused the claimants' calls for exemplary damages. See also *Digicel (St Lucia) Ltd v Cable & Wireless Plc* [2010] 4 WLUK 146; *Devenish Nutrition Ltd v Sanofi-Aventis SA* [2009] 3 W.L.R. 198.

[185] [1972] AC 1027. It should be noted that this case interpreted some of the provisions in *Rookes*.

[186] Andrew Tettenborn, 'Punitive Damages: A View from England' (2004) 41 San Diego LRev 1551, 1559.

[187] See section 3.7.1 above.

of the plaintiff some object",[188] it might be very difficult to ascertain the motivation or desire to profit. The wrongdoer's improper motive not necessarily always the gain, but tort can be committed simply out of malice or spite.

Another reason that exemplary damages may be not allowed for misappropriation cases could be the fact that TS misappropriation is often regarded as a breach of confidence in which the availability of exemplary damages is uncertain.[189] In *Rookes*, Lord Devlin and Lord Evershed asserted that exemplary damages can be awarded only for particular tortious acts but not for breaches of contract.[190] The Law Commission also suggested that "it is not presently possible to recover exemplary damages for an equitable wrong" or breach of confidence[191] "because they are wrongs for which there is no pre-*Rookes v Barnard* authority".[192] It would seem that exemplary damages are unusual in misappropriation cases which if committed by breach of confidence, damages will be unavailable, unless the misappropriation of TSs is classified as a "tort".

A final reason that exemplary damages are seldom applied in misappropriation cases is the requirement that any such misappropriation must be outrageous and inexcusable. In *Rookes*, Lord Devlin emphasised that the award of punitive damages will depend on the gravity of the wrong, where only serious wrongdoing attracts punishment.[193] Other judges used adjectives such as "calculated", "scandalous", "treachery", "deceit", "flagrancy", "disingenuous", "deliberate", "grave" and "hurtful" to contextualise the nature of the defendant's disapproval conduct.[194] This requirement of culpability can be problematic in misappropriation cases, which are often committed

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[188] *Rookes v Barnard* [1964] A.C. 1129, 1227 (Lord Devlin).
[189] *British Midland Tool Ltd v Midland International Tooling Ltd* [2003] EWHC 466 (Ch); *Digital Equipment Corporation v Darkcrest* [1984] Ch. 512; *Addis v Gramophone Co Ltd* [1909] AC 488 (In this leading authority, the House of Lords refused to award any *damages* for breach of contract).
[190] [1964] A.C. 1129, 1158.
[191] Law Commission, *Aggravated, Exemplary and Restitutionary Damages*, 1.110.
[192] Ibid, 1.109.
[193] [1964] A.C. 1129, 1127–8. See also *Loudon v Ryder (No1)* [1953] 2 QB 202 (CA) 207; *Ramzan v Brookwide Ltd* [2011] 8 WLUK 227.
[194] *Nichols Advanced Vehicle Systems Inc v Rees (No.3)* [1987] 5 WLUK 89; *Redrow Homes Ltd v Bett Brothers Plc* [1999] 1 A.C. 197.

for financial gain, but not necessarily always outrageous and oppressive. Thus, it could be said that the exceptional nature of exemplary damages, highlighting gravity and significance, can be the main reason against their expansion.

Though the Law Commission recommended that one of the practical examples in which "exemplary damages could not be claimed under the present law", but should be available is where:

> "An ex-employee of a company designing computer software sets up a rival business. Using information which he obtained in confidence during his employment with the company, the ex-employee's business thrives. Whilst the ex-employee knows that his use of the information is wrongful, he considers that it is worth committing the wrong because, even if found out and sued, he will, at worst, be made to give up his net profits. His former company sues him, the ex-employee, for breach of confidence."[195]

Logically, this example may apply to many misappropriation cases and ought to fall within the definition of category 2, however, it constitutes a *breach of confidence* but not *tort* committed intentionally and maliciously with the desire to profit. For all these reasons, category 2 has been criticised for being too narrow.[196] In *Broome v Cassell* Lord Reid regretted that whether logical or illogical, "[t]he reason for excluding such a case [tort not motivated by profit] from [category 2] is simply that firmly established authority required us to accept this category however little we might like it, but did not require us to go farther".[197]

It is submitted that exemplary damages are very restricted; awarded only for particular torts, therefore, right not to be entirely permissive and never mandatory.[198] As one writer has concluded, exemplary damages must not "enjoy free rein to compete with the provision for criminal liability".[199] Many other writers have argued against

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[195] Law Commission, *Aggravated, Exemplary and Restitutionary Damages*, 1.24-8.
[196] *Broome v Cassell*, 1088E-F (Lord Reid); Nicholas J. McBride, Roderick Bagshaw and Roderick Bagshaw, *Tort Law* (4 edn, Pearson 2012) 803.
[197] [1972] AC 1027, 1088 E.
[198] *Rookes v Barnard*, 1159.
[199] Deming Liu, 'Reforming Additional Damages in Copyright Law' (2017) JBusL , 597.

the expansion of exemplary damages, particularly in the area of IP infringement, which is analogous to TS misappropriation.[200]

For example, Christina Michalos argued that while it is generally accepted at common law that exemplary damages cannot be awarded for copyright infringement, their lacking is "no great loss" because judges are "unlikely to award any very large sum by way of pure penalty in a civil action anyway".[201] Joshua Marshall criticised that exemplary damages focus on the defendant's gain rather than the claimant's loss that is more difficult to detect and irrelevant the primary legal obligation to compensate the claimant for the losses he has suffered.[202] Similarly, Professor Paul Torremans suggested that rather than the controversial concept of exemplary damages, which remains a "hot potato" and neither imposed nor prohibited in English IP law, the concept of disgorgement damages discussed above is an alternative remedy, which better serves the core idea of compensating the economic loss suffered by the claimant.[203] Clearly, his suggestion does not support the expansion of exemplary damages at least in the field of IP infringement. In my opinion, the harm, loss or damage suffered by the victim should not be overlooked in favour of deterring potential defendants; both compensation of the victim and discouraging prospective wrongdoers are equally important when regulating the misappropriation of TSs. Unsurprisingly, the EU TSs Directive [204] does not include a provision that allows for the grant of exemplary damages.[205]

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[200] See sections 2.3.1 & 3.6.1.

[201] Christina Michalos, 'Copyright and Punishment: The Nature of Additional Damages' (2000) 22 EIPR 470, 481.

[202] Joshua Marshall, 'Aggravated or Exemplary damages for Copyright Infringement?' (2017) 39 EIPR 565.

[203] Paul Torremans, 'Compensation for Intellectual Property Infringement: Admissibility of Punitive Damages and Compensation for Moral Prejudice' (2018) 40 EIPR 797.

[204] For more details, see Sharon K. Sandeen, 'Implementing the EU Trade Secret Directive: A View from the United States' (2016) 39 EIPR 4.

[205] It has to be noted that unlike the UK and the EU TSs Directive, the UTSA and the UDTSA statutory permit the application of exemplary damages. In the case of *Texas Advanced Optoelectronic Solutions Inc. v Intersil Corp*., No. 4:08-CV-451, the verdict included $48.7 million in damages for TS misappropriation and $10 million in exemplary damages for both TS misappropriation and for tortious interference.

In effect, the admissibility of exemplary damages has been questioned by many scholars.[206] In Dorsey Ellis's words, "vicarious liability and insurability of punitive damages cause detriments to be imposed on unarguably innocent people [stockholders, creditors, employees, and taxpayers], in amounts that far exceed… the amount that the guilty actors could have been assessed", therefore, cannot be said to accord with notions of fairness and efficiency.[207] More explicitly, James Henderson suggests that punitive damages are "manifestly unworkable and grossly unfair".[208] Lord Wilberforce held that "it is an 'anomaly', that it brings a criminal element into the civil law without adequate safeguards, that it leads to excessive awards, an [unjustified and] unmerited windfall for the plaintiff".[209] Liu[210] and Marshall[211] concerned the risk of "double jeopardy" or "double punishment" of a defendant who has already been convicted and sentence but punished again by exemplary damages for the same offence. Some continental scholars have also concerned that exemplary damages would clash with the legality principle [212] and are extremely weak in terms of their legal bases.[213] It could be said that if the admissibility of exemplary damages, at least conceptually, remains highly questionable at common law, their validity in Oman can be more challenging, especially on the basis of optimal deterrence.

The ultimate inquiry here is not whether exemplary damages should be made statutorily available, but whether if they were able to be routinely applied to TS

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[206] eg, David Owen, 'Civil Punishment and The Public Good' (1982) 56 SCalLRev 103; Fred Morgan and Jeffrey Stoltman, 'The Effects of Punitive Damages Litigation on Marketing and Public Policy' (1992) 12 Journal of Macromarketing 30; Corinne Cather, Edith Greene and Robert Durham, 'Plaintiff Injury and Defendant Reprehensibility: Implications for Compensatory and Punitive Damage Awards' (1996) 20 Law & HumBehav 189.

[207] Dorsey Ellis, 'Fairness and Efficiency in the Law of Punitive Damages' (1982) 56 SCalLRev 1, 77.

[208] James Henderson, 'The Impropriety of Punitive Damages in Mass Torts' (2018) 52 GaLRev 719, 765.

[209] *Broome v Cassell & Co Ltd* [1972] A.C. 1027, 1114. Similarly, Lord Reid regarded an award of exemplary damages as "a pure and undeserved windfall at the expense of the defendant". *Broome v Cassell*, 1086.

[210] Liu, 579.

[211] Marshall, 479.

[212] Francesco Quarta, 'Recognition and Enforcement of US Punitive Damages Awards in Continental Europe: The Italian Supreme Court's Veto' (2008) 31 Comp L Rev 753.

[213] J. Mallor and B. Roberts, 'Punitive damages: toward a principle approach' (1999) 50 Hastings LJ 969.

misappropriation, would they function effectively as deterrents so far as TS cases are concerned. In English law, although exemplary damages can emerge as compelling tools to discourage TS misappropriation, in my opinion, their availability would have no profound effect on the argument that the civil law is insufficient.

Although deterrence is the main instrumental objective of exemplary damages, the threat of civil punishment is rarely a significant deterrent. Fundamentally, the shame and social stigma are attached only to criminal punishment and do not result from civil punishment. Professor Mary Cheh examined the degree of stigma that attaches to violation of civil proceedings, including exemplary damages, and found that no matter how severe or infamous the civil punishment is, unlikely to carry with it any degree of stigma, as it associated only with criminal proceedings.[214] Since stigma depends upon social reaction, it can hardly be doubted that criminal procedure constitutes society's formal means of culpability and stigmatization. Even a small criminal sanction carries with it more stigma than significant punitive damages. In line with this argument, the Law Commission have also found that the threat of civil liability in damages is by no means adequate deterrent.[215] In their view, even if exemplary damages were made more widely available, alone would continue to be insufficient to deter TS misuse.[216]

Further disadvantages of civil sanctions are the cost and length of civil procedures, which unbearable by small companies. Even if damages are finally obtained, in many cases, the defendants are unlikely able to pay large awards of damages. As another relevant criticism of exemplary damages, there are no safeguards exist with respect to their awarding.[217] Simply, the defendant is facing punishment without the protection afforded to a defendant by the criminal law. Hence, Lord

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[214] Mary M. Cheh, 'Constitutional Limits on Using Civil Remedies to Achieve Criminal Law Objectives: understanding and transcending the criminal-civil law distinction' (1991) 42 Hastings LJ 1325, 1352–1354. (She ultimately considered stigma as being the criterion for differentiation between civil and criminal offenses).

[215] Commission, *Legislating the Criminal Code: Misuse of Trade Secrets*, 25.

[216] Ibid, 30.

[217] Liu, 587.

Wilberforce held that "civil courts have no business to impose fines".[218] Likewise, Foster J firmly believes that exemplary damages are “out of place, irregular, anomalous, exceptional, unjust, unscientific, not to say absurd and ridiculous when classed among civil remedies.” [219]

In accordance with this judiciary rejection of exemplary damages, quite a number of scholars raise objections to this species of damages because of their illegitimate function and serious tension with the nature of civil liability.[220] Mary Cheh submitted that the use of civil proceedings to enforce criminal law objectives raises unique constitutional problems.[221] Rachel Mulheron suggested several policy reasons against the employment of exemplary damages.[222] McBride et al. concluded that "nobody seems that happy with *Rookes*", therefore, "exemplary damages should be abolished".[223] From continental's perspective, Manuel Gómez Tomillo also found that "punitive damages are incompatible with the Constitutions of *civil law* countries".[224]

Certainly, exemplary damages occupy a controversial place within civil liability. It would appear that these exceptional damages require further judicial scrutiny, otherwise "may well turn into a monster unregulated and unbound by any of the established rules".[225] If exemplary damages remain debatable concept within English civil law, it is not realistic for Oman to adopt such rare damages in its current legal framework and its social norms.

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[218] *Broome v Cassell*, 1115.
[219] *Fay v Parker*, 53 New Hampshire Reports (NH) 342 (1873) 382 per Foster J.
[220] eg, see Bruce Feldthusen, 'Punitive Damages: Hard Choices and High Stakes' (1998) NZL Rev 741; Burrows A., 'Reforming Exemplary Damages: Expansion or Abolition?' in Peter Birks (ed), *Wrongs and Remedies in the Twenty-First Century* (Clarendon Press 1996); Allan Beever, 'The Structure of Aggravated and Exemplary Damages' (2003) 23 OJLS 87; Rachael Mulheron, *Principles of Tort Law* (CUP 2016) 580.
[221] Cheh, 1389.
[222] Mulheron, 578-580.
[223] McBride, Bagshaw and Bagshaw, 796.
[224] Manuel Gomez Tomillo, 'Punitive Damages: A European Criminal Law Approach. State Sanctions and the System of Guarantees' (2013) 19 Eur J Crim Policy Res 215, 215.
[225] Liu, 597.

In the Omani socio-legal framework, it is unlikely that exemplary damages would be an admissible tool and an adequate deterrent to TS misappropriations for the following reasons.

1. Exemplary damages are not acknowledged or defined by the OCTC, in which Omani damages on the basis of torts are never meant to punish defendants or to deter general tortious conduct but are meant only to effect restitution by compensating the losses which the plaintiff suffered.[226] The addition of exemplary damages to the OCTC will definitely clash with some legal and cultural principles discussed below.
2. Exemplary damages remain equitable remedies,[227] which means that the judge retains a discretion to authorise it or to refuse it if the court deems it an inappropriate remedy in the case at issue. By contrast, Omani courts are limited only to legal remedies and neither empowered nor well-equipped to permit civil punishment against tortious or equitable wrong.
3. As discussed elsewhere, in many cases TS appropriators will not have sufficient resources to reimburse the inventor and satisfy the sum awarded. This inability to pay damages may undermine any possible deterrent effect of exemplary damages.
4. Exemplary damages in essence amount to a fine which is insufficient protection against wealthy corporations and which – at least in a practical sense – has to be imposed through procedural safeguards before a criminal court.[228]
5. It is well-established in Omani law that punishment and deterrence are the prerogative of criminal law.[229] Thus, damages cannot be used as a deterrent in place of criminal sanctions, otherwise, this is likely to cause confusion within the Omani criminal law system.
6. The application of exemplary damages without knowing a priori the maximum amount for which one may be sanctioned is incompatible with the principle of legality.

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[226] Articles 176 - 199 of the OCTC.
[227] *Crawfordsburn Inn Ltd v Graham* [2013] 6 WLUK 216.
[228] Article 22 of the Omani Constitution provides that no penalty shall be imposed except via a legal trial in which the essential guarantees to exercise the right of defence are ensured.
[229] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (44/2009) 92.

7. More critically, the Holy *Quran* commands that "if you punish, punish with an equivalent of that with which you were harmed".[230] This simply means that damages must not exceed the same harm caused, otherwise they are unjust.[231]

For these legal and practical reasons, it would seem that exemplary damages are incompatible with fundamental Omani legal and cultural principles. Even if exemplary damages are to be introduced to the Omani legal system as new civil machinery, their nature needs to be significantly altered to be regarded as a side effect of the restitution which is the fundamental aim of damages. In Oman, fundamentally, punishment and deterrence fall within the domain of criminal law and it is not the business of civil law.

In the end, the real truth is that exemplary damages incorporate too many practical disadvantages. These disadvantages themselves indicate that criminal law is more legitimate and appropriate machinery to punish and deter TSs misappropriation. Perhaps England may opt for another less problematic type of damages designed to regulate wrongful conducts causing pure economic loss.

3.7.3 Economic Torts

Another relevant aspect of English private law that could provide adequate protection to TSs is the law of Economic Torts.[232] Unlike the two previous damages, economic torts refer to a species of civil wrong which arises out of commercial transactions such as interference with trade or business relations and is likely to involve "pure economic loss".[233] As a special collection of commercial torts that offer protection against injury to economic interests, [234] economic torts can be particularly relevant to TS

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[230] CH16:126.
[231] Tay .M, *Islam and Law*. (Center Civilization for the Development of Islamic Thought 2012) 197.
[232] Also known as "business torts". Core cases which shaped the development of economic torts were: *OBG v Allan* [2008] 1 AC 1, [2007] UKHL 21; *Douglas v Hello! Ltd (No 3)* [2005] EWCA Civ 595; *Allen v Flood* [1898] A.C. 1; *Lumley v Gye* [1853] 1 WLUK 79. Other additional related cases are *Hedley Byrne v Heller* [1964] A.C. 465 and *Caparo Industries Plc v Dickman* [1990] 2 A.C. 605.
[233] Janet O'Sullivan, 'Intentional Economic Torts, Commercial Transactions and Professional Liability' (2008) 24 ProfNegl 164.
[234] *Merkur Island Shipping Corpn v Laughton* [1983] 2 AC 570, 608.

misappropriation, which is often committed in the course of commerce or competition and cause intangible or pure economic loss.

As a such, economic torts could provide a useful comparator for the Omani case. Whilst the English civil courts have no special problem with intangible economic loss as such, we have already discussed that Omani civil courts have special problem with pure economic loss.[235] When a TS proprietor has sustained an economic loss to her intangible asset in which she had economic interests, damages and compensation are not routinely awarded. Simply, Omani courts are still reluctant to recognise such losses as recoverable in tort. On the other hand, English law has long protected economic interests in intangibles through economic torts.[236] Moreover, while this thesis is arguing for property protection of TSs, the existence of economic torts has often been cited by the English courts as a reason for not extending proprietary torts to encompass TSs.[237]

The principal concern of this thesis is whether TS misappropriation is regulated effectively under existing rules of civil law and, if it is not, whether it is necessary for Oman to provide criminal sanctions against the misappropriation of TSs, comparing Omani law with English law where no such sanctions are provided, instead various civil remedies are awarded for a widening variety of intangible losses. Hence, the obvious question at this point is whether the economic torts could provide more adequate protection for TSs?

It is not the purpose of this limited thesis to disentangle the muddle of the economic torts or to clarify all the six different categories that are conventionally grouped under this tort; that has been done elsewhere.[238] Rather there are two primary

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[235] See section 3.6.3 above. It is worth remembering that by pure economic loss we mean loss that is not a consequence of the victim's person or property being harmed. In other words, it occurs independent of any physical injury to the person or destruction of property.

[236] *Allen v Flood* [1898] AC 1. This case has been hailed by some scholars as arguably one of the most important case on economic torts. McBride, Bagshaw and Bagshaw, 657.

[237] *OBG v Allan* [2008] 1 AC 1.

[238] As to a detailed analysis of the economic torts see Hazel Carty, *An Analysis of the Economic Torts* (2 edn, OUP 2010); Hazel Carty, 'The Economic Torts in the 21st Century' (2008) 124 LQR 641; Tony

categories of economic torts which can be particularly important to regulate the misappropriation of TSs.[239]

The first category is the tort of Inducing a Breach of Contract.[240] This tort has been recognised since the case of *Lumley v Gye*,[241] but its existence was approved later by the court of appeal in *Bowen v Hall*.[242] In *Millar v Bassey*,[243] Gibson LJ explicitly stated that "the tort of inducing breach of contract was a species of the genus of economic torts whereby the common law protected against the intentional violation of economic interests". Clearly, this tort is concerned with deliberate break of or intentional interference with contract rights.

We have seen that TS misappropriations can take the form of bribing or otherwise inducing competitors' employees to disclose the secret information.[244] In these cases, a proprietor of a TS "will find it easiest to recover compensation for that loss"[245] if she or he can show that they have been the victims of inducement tort. In the famous case of *OBG*, which involved misuse of commercially confidential information, the House of Lords indicated [246] that A will have committed the inducement tort if he intentionally procured or persuaded C to break her contract with B in an unlawful manner.

Nonetheless, it could be suggested that as far as TS cases are concerned, proving cause of action under the inducement tort may not be so straightforward. That is to say,

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Weir, *Economic Torts* (Clarendon Press 1997); Peter Cane, *Tort Law and Economic Interests* (2 edn, Clarendon Press 1996).

[239] For a comprehensively general discussion on the other four types of economic torts, see McBride, Bagshaw and Bagshaw, Ch24.

[240] Also described as the "tort of procuring a breach of contract" and "Lumley tort".

[241] [1853] 1 WLUK 79 (relating to an inducement to breach a contract of services).

[242] (1881) 6 QBD 333.

[243] [1994] E.M.L.R. 44, 45.

[244] See section 3.3 above.

[245] McBride, Bagshaw and Bagshaw, 656.

[246] Their Lordships held that there was an error in *Lumley v Gye* and established that "[t]he tort of intentionally inducing a breach of contract is essentially different from inflicting harm by unlawful means, although in some factual situations they may overlap." [2008] 1 AC, 74 (Lord Walker).

the elements required for the tort to succeed under this category are very strict. As set out by Lord Devlin in *Rookes v Barnard*,[247] the requisites for a cause of action for inducing a breach of contract thus:

> "There must be, besides the act of inducement, knowledge by the defendant of the contract in question and of the fact that the act induced will be a breach of it; there must also be malice in the legal sense, that is, an intention to cause the breach and to injure the plaintiff thereby and an absence of justification; and there must be special damage, i.e., more than nominal damage, caused to the plaintiff by the breach. These three elements or requisites are the grounds on which an action for inducing a breach of contract must be based. If any one of them is missing, there is no cause of action."

Accordingly, three elements are necessary for a TS case to be actionable under the inducement tort. The fulfilment of the third requisite of "special damage"[248] should trigger no problem in TS cases. The misappropriation of TS by inducing employees to disclose TSs usually, if not always, cause damage and commercial loss, such as loss of market value of the secret information disclosed, loss of production and loss of income. However, the first two requisites of sufficient "knowledge" and intentional "malice" can be "very high evidential burden on potential claimants",[249] simply because

> "To be liable for inducing breach of contract, you must know that you are inducing a breach of contract. It is not enough that you know that you are procuring an act which, as a matter of law or construction of the contract, is a breach. You must actually realize that it will have this effect. Nor does it matter that you ought reasonably to have done so." [250]

This strict requirement was, in fact, originated from the case of *British Industrial Plastics Ltd v Ferguson*,[251] where the plaintiff's former employee offered the defendant industrial secrets as his own invention, and in which the House of Lords provided that

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[247] [1964] AC 1129, 1212.
[248] Lord Pearce stated that "the only special damage arising is damage by an induced breach of contract of employment or by interference with trade, business or employment". *Rookes v Barnard* [1964] AC 1129, 1236.
[249] Sarah Green, '*OBG v Allan* [2007]' in Simon Douglas, Robin Hickey and Emma Waring (eds), *Landmark Cases in Property Law* (Hart Publishing 2015) 124.
[250] *OBG v Allan* [2008] 1 AC 1, 29 (Lord Hoffmann citing *British Industrial Plastics Ltd v Ferguson* [1940] 1 All ER 479, HL).
[251] [1940] 1 All ER 479, HL.

the defendant could not be liable for inducing a breach of contract because he genuinely believed that the employee conduct would not amount to a breach of contract, despite the fact that this was an unreasonable belief. Therefore, it was held that "as there was no evidence that the defendant company had actual or constructive knowledge that the process disclosed was the process of the plaintiffs, there was no ground of action". It could be submitted that such requirement of actual, subjective appreciation and intention is a heavy burden of proof. It is even heavier than the criminal law, where persons are presumed to intend the reasonable consequences of their conducts.[252]

Unsurprisingly, much criticisms were raised against the restrictive requirement of intentional wrongdoing. Deakin and Randall argued that inferring this mental element is a critical problem that "puts an undesirable evidential difficulty in the path of claimants".[253]Janet O'Sullivan asserted that the intentional economic torts, with their difficult intention "will rarely be relevant when commercial transactions are structured". [254] Similarly, Mary Arden suggested that what constitutes intentional inducement tort is a problem which needs further judicial development and reconsideration.[255] Some commentators have gone further and criticised this tort on the basis that it "fails to advance economic efficiency because it tends to discourage the *efficient breach* of contracts". [256] Thus, should not exist as it could impede employee mobility.

In the Omani civil liability, as well as English law, a serious question would be that "if A has committed the tort by inducing C to breach her contract with B, B will be able to make a claim for breach of contract against C. Why, they ask, should B be

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[252] Article 81 of the OPC provides that "a crime shall be deemed intentional even if the result of the act goes beyond the offender's intent, or if he expected such result and accepted the risk".
[253] Simon Deakin and John Randall, 'Rethinking the Economic Torts' (2009) 72 MLR 519, 539.
[254] O'Sullivan, 193.
[255] Mary Arden, 'Economic Torts in the Twenty-first Century' in Mary Arden (ed), *Common Law and Modern Society* (OUP 2015) 71.
[256] David Howarth, 'Against Lumley v Gye' (2005) 68 MLR 195; McBride, Bagshaw and Bagshaw, 656.

given a claim against A as well?".[257] In *OBG*, it was held that the liability in this tort is a form of accessory liability for intentionally assisting in a breach of contract.[258] Some scholars argued that the idea of accessorial or secondary liability in economic torts is confusing and unnecessary, therefore, should be rejected on the grounds that there will be different remedies, different defences and vicarious liability against A for inducing C to breach her contract with B. [259]

Under the Omani law, unlike criminal liability which imposes accessory or secondary liability for aiding and abetting an offence, the general rule in civil liability is that "any harm done to another shall render the actor liable".[260] Further, "the act shall be regarded as being that of the actor and not of the person who ordered him to do it".[261] Hence, the Omani courts need to answer: how a person who was never a party to a contract is liable for breaching it? Why should a defendant be liable for simply facilitating a civil wrong committed by another? Perhaps applying the general principle of tortious liability for intentional harm would not answer these questions as the inducement tort is of special nature. In my view, Omani courts could award monetary compensation for the loss suffered on the basis of the existing provisions of unfair competition prevention, particularly, article 50 of the Commercial Code, which prohibits the inducement of another merchant's employees to disclose TSs. Nonetheless, Hazel Carty argued that the inducement tort should be treated as part of the tort of unlawful interference with trade.[262]

The second tort that might be less troublesome is the tort of Causing Loss by Unlawful Means.[263] Unlike the inducement tort, the unlawful means tort is more

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[257] McBride, Bagshaw and Bagshaw, 670.
[258] [2008] 1 AC, 40 (Lord Hoffmann).
[259] Deakin and Randall, 544. For more discussion on these three reasons, see also McBride et al., 669-670.
[260] Article176 of the OCTC.
[261] Article 179(1) of the OCTC. See also article 179(2) which provides that "If the harm is both direct and consequential, the rules relating to direct harm shall apply".
[262] Carty, *An Analysis of the Economic Torts*, 103.
[263] Also referred to as “unlawful interference with trade”. Lord Diplock in *Merkur* described it as the "genus" economic tort.

general as it includes but is not limited to breach of contracts. As seen earlier, TS misappropriations are sometimes committed by a breach of confidence, which is a clear case of unlawful means[264] and therefore should fall within the ambit of this tort. However, there is not always a duty of confidence owed to the proprietors of TSs, nor are they always wrongfully and intentionally "targeted" or "directed" or "aimed" at by the defendants to harm economic interests. [265] Therefore, while "the gist of the tort of unlawful interference is the intentional infliction of economic harm",[266] it is not easy to satisfy this specific requirement and prove that economic harm was sought as a necessary step in achieving the object of the conduct.[267]

Furthermore, although the tort of intentionally causing loss by unlawful means is centred on the use of unlawful means,[268] "the precise scope of the concept of "unlawful means" remains to be settled".[269] Lord Nicholls suggested that the scope of unlawful means should encompass "all acts a defendant is not permitted to do whether by the civil or criminal law".[270] This wide view of unlawful means may not, however, be sufficient in relation to misappropriation cases. Given the confidential nature of TSs, even some acts which a person is normally permitted to do, such as watching a competitor's operation from across the street, can have the necessary effect, if intended to cause economic harm.[271] That is to say, even if the commission of a *criminal offence* will amount to unlawful means, they are not wide enough to capture all behaviours which could impact adversely on TSs. Perhaps if the behaviour is already criminal, there might be no need to resort to weaker civil protection. Perhaps a key question here

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[264] *Douglas and Others v Hello! Ltd and Others (No 3)* [2006] Q.B. 125, 158; *Mainstream Properties Ltd v Young* [2005] EWCA Civ 861.
[265] *Douglas and v Hello!*, 166.
[266] Arden, 75.
[267] Carty, *An Analysis of the Economic Torts*, 102; Weir, 45.
[268] In *OBG v Allan*, Lord Hoffmann considered the definition of unlawful means as "the most important question concerning this tort". [2008] 1 A.C. 1, 45.
[269] *Douglas and v Hello!*, 35 (Mr Tugendhat). Similarly, in *OBG v Allan*, the court did not reach a unified answer to the question of what should count as unlawful means.
[270] [2008] 1AC, 126.
[271] It should be noted that Lord Hoffmann described the unlawful means tort as "designed only to enforce basic standards of civilised behaviour in economic competition, between traders or between employers and labour". *OBG v Allan* [2008] 1 AC, 34.

is that "should crimes constitute unlawful means even though they do not give rise to any civil liability actionable by the claimant?".[272] It would seem odd if the use of unlawful means constitutes a crime but gives no rise to any civil remedies. Carty[273] and Arden[274] argued that the question of what conduct constitutes unlawful means is a key issue but remain unresolved or uncertain.

As the last limitation, this tort is a three-party tort, while a TS misappropriation is often a two-party case. As defined in *OBG*, the tort of unlawful interference covers only situations involving three parties; the *defendant* must cause loss to the *claimant* by interfering with the *third party*'s liberty to deal with the claimant.[275] This tripartite requisite is likely to be problematic in TS cases. Because misappropriations can be aimed at the victim directly without the instrumentality of a third party or without interference with a rival business by bribing its employees; like theft of TSs by an outsider or use of technical devices to directly intercept the TS. Consequently, the victims of a TS misappropriation may not be able to sue the defendants for the use of unlawful means based on economic torts but only as a general civil wrong.[276] McBride et al regretted that whether the two-party cases would fall within this tort "remain uncertain"[277] Perhaps economic competition often involves multi-parties. Or perhaps these strict requirements were "necessary to prevent the economic torts breaching the boundaries of liability set by other areas of private law".[278] Obviously, the tort of unlawful means is an important concept but seems difficult to satisfy in cases of TS misappropriation.

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[272] Arden, 81.
[273] Hazel Carty, 'The Need for Clarity in the Economic Torts' (2005) 16 KLJ 165.
[274] Arden, 67.
[275] [2007] UKHL 21, 32.
[276] It is worth mentioning that in the cases of *RCA v Pollard* [1983] Ch 135 and *Oren v Red Box Toy Factory Ltd* [1999] FSR 785, the courts held that the defendant's infringements of the third party's intellectual property rights did "nothing which affected the relations between the owner and the licensee". Thus, do not satisfy Lord Hoffmann's three-party form.
[277] McBride, Bagshaw and Bagshaw, 683. Lord Brown also believed that economic torts will still be "plagued by uncertainty". *OBG* [2008] 1 A.C. 1, 320.
[278] Deakin and Randall, 523.

Overall, the economic torts exist to regulate business relations, competitive process and to ensure proper standards of commercial conduct. In this respect, they are more relevant to commercial secrets or proprietary information than the two earlier concepts of exemplary damages and disgorgement damages. However, although the law of economic torts is largely consistent with the interests which TS laws protect (confidentiality and an exclusive use) and the nature of the interferences which are proscribed (unlawful acquisition, use or disclosure), the various limitations placed on its scope coupled with several unresolved issues cause no adequate protection to TSs. It may be necessary to create specific tort of misappropriation of a TS covering the unauthorised use, disclosure and improper acquisition of a TS.

Furthermore, damages do not mean much after the disclosure of TSs as a TS loses its value once it is placed in the public domain. Moreover, as mentioned, damages are unlikely to be satisfied in Oman. Though the Omani law did not recognise the English provisions of economic torts against unlawful interference with trade or business, these provisions arising out of commercial rivalry are closely analogous to those dealt with by competition law. It could be submitted here that the above-discussed English civil principles cannot be appropriate solutions to be adopted in Oman for the reasons noted above and because they are still tested by case-law and tried by scholarly criticism. Thus, not suitable tools of protection to be transplanted to the Omani soil. Perhaps particular TSs cases are worthy of greater protection than other economic interests. As professor Green concluded, economic torts are insufficient protection for interests in intangible property.[279]

Considering the aim of this study, which is about effective protection of TSs that is workable for the Omani environment, it must be said that the current Omani courts are not equipped to deal with economic torts relating to violation of economic interests. Obviously, English courts have been dealing with the issue of intangible economic loss for nearly one hundred and seventy years, on the other hand, Omani courts lack such experience and development. Unlike the common law system where judges have

[279] Green, '*OBG v Allan* [2007]', 121-125 (arguing for conversion as a suitable substitute).

a very wide discretion, judges in Oman have relatively limited discretion as Oman and other civil law countries rely on legal rules more than principles. Thus, Omani courts lack the capacity to enforce economic torts and other exceptional damages. Instead, since the economic torts often involve contracts, Omani courts are more capable of dealing with contractual liability as it based largely on a set of defined legal standards rather than open-ended legal standards.

3.7.4 Contractual Liability

As noted above, a third party who has encouraged disclosure may be liable in tort for inducing breach of contract, providing of course that the obligation of confidence is contractual. This complexity should not overlap tortious liability with contractual liability. The basic distinction between contractual liability and tortious liability is that the first liability depends on the contractual relationship between its parties, whereas the second liability does not. In other words, contractual liability depends *only* on a fault issued from the contractual relationship, whereas tortious liability is based on *any* wrongful act or harm, for which the court will grant a remedy other than breach of contract.[280]

It is interesting to note that English courts have frequently relied on contract law to protect TSs and confidential information.[281] In comparison with the weaker and limited Omani contract law, the English contract law in the context of TSs is stronger and wider. The English contractual provisions have been extended even to cases where tortious liability would be applied in other jurisdictions, as we shall see below. This development raises the question whether contractual liability could be sufficient to prevent misappropriation of TSs and provide adequate protection for the proprietors of TSs.

The legal protection of TSs via an express or implied contractual obligation of confidence is common in England. So far, the concept of breach of confidence has

[280] Edwin Peel, G. H. Treitel and Dawsonera, *The Law of Contract* (14 edn, Sweet & Maxwell 2015); Paul Richards, *Law of Contract* (13 edn, Pearson 2017).
[281] Aplin and others, 100.

featured very prominently in the English cases on misappropriation of TSs. Many businesses impose contractual obligations of confidentiality on persons to whom the secret information will be disclosed, e.g. employees, licensees, consultants, potential business partners. Therefore, many of the TSs cases that come before the courts do involve contracts and, particularly, contracts of employment.[282] This close relevancy of the law of breach of confidence to the current protection of TSs does not necessarily mean great flexibility or efficiency.

Generally speaking, when the courts find contractual or employment relationship between the two parties in dispute, they apply contractual protection to the case. As Megarry J held in *Coco v AN Clark (Engineers) Ltd*,[283] "In cases of [breach of] contract, the primary question is no doubt that of construing the contract and any terms implied in it." One could not deny the role of contractual liability to deal with the mischief caused by the breach of the contract through TS misappropriation by the other party to the contract. In the main, the law achieved this by ordering injunction or compensation to be made to injured parties.[284] Therefore, this liability could offer protection for the proprietors of TSs. For example, if a contract stipulated that the employee in a company is not to disclose TSs and not to compete the employer,[285] the employee would breach this contract if he/she disclosed or competed his/her employer. The aim of contractual liability is to preserve and protect the TSs from the danger of disclosure, or the danger of unauthorised use. Usually, express terms will determine the content of the obligations.

An obligation of confidence is not only exclusively enforceable through express (written or oral) terms, but English courts have gone further and held that "in order to give the transaction that effect which the parties must have intended it to have and

[282] Jon Lang, 'The Protection of Commercial Trade Secrets' (2003) 25 EIPR 462, 470.
[283] [1968] F.S.R. 415, 420. (involved misusing TSs or manufacturing secrets).
[284] Article 16 (1) of the Trade Secrets (Enforcement, etc.) Regulations 2018.
[285] Known as contractual "non-disclosure" and "non-compete" clauses.

without which it would be futile",[286] it will be implied into the contract.[287] In *Robb v Green*, it was submitted that "it is an implied term of every contract of employment that the employee should serve the employer faithfully"[288] and with good faith or fidelity.[289] As also held in *Wessex Dairies Ltd v Smith*, even if the obligation to faithfully serve the employer "is not severable and the whole obligation is bad from beginning to end, the defendant would nevertheless be under the ordinary implied obligation existing between master and servant".[290] Accordingly, the duty of good faith and fidelity will automatically be broken if an employee makes unauthorised disclosure or use of TSs. As Coleman claimed, "an implied term can provide the entire obligation of confidence".[291] It could be argued that the willingness of English courts to act on the basis of implied terms in existing contracts of employment offers additional and wider protections to TSs.

In Oman, however, while implied contractual terms can be a very important source of the obligation of confidence in contracts of employment, in which an employee's duty to preserve the confidentiality of an employer's TSs can be grounded, the existence of an express term is a precondition to the exercise of the contractual jurisdiction.[292] Therefore, the argument that an obligation of confidence may also be implied into a contract will probably not succeed before the Omani courts. In my view, the reliance on implied contractual obligation to protect TSs will face a number of problems.

First, it would be inappropriate in the Omani law to rely exclusively on implied terms simply because of the dominating principle of *pacta sunt servanda*, which means that the contract must be performed in accordance with its *express* contents.[293] This

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[286] *Lamb v Evans* [1893] 1 Ch 218, 299 (Bowen LJ).
[287] See further *Mense v Milenkovic* [1973] VR 784, (Mclnerney J); *Deta Nominess Pty Ltd v Viscount Plastic Products Pty Ltd* [1979] VR 167, 190 (Fullagar).
[288] *Robb v Green* [1895] 2 QB 315 (CA).
[289] *Thomas Marshall (Exports) Ltd. v. Guinle* [1978] 3 All E.R. 193.
[290] [1935] 2 KB 80, 84 (Greer LJ).
[291] Allison Coleman, *The legal protection of trade secrets* (Sweet & Maxwell 1992) 44.
[292] See section 3.6.4 above.
[293] Article 156 of the OCTC.

principle is supported by the Prophetic Ḥadith which states that "Muslims will be held to their conditions [whether written or oral]".[294] Hence, the Omani courts have frequently assumed that all the terms are in the written official document and there is no room for any implication as to further terms.[295] Second, for practical reasons, express terms can serve as warnings to employees to be careful and appraise their obligations, thus ensuring the employer that he has done everything legally possible to bring those obligations to the employee's attention.[296] In effect, this function of warning is very important in practice, for it can act as a preventive measure used to protect TSs from any misappropriation. Third, for public policy reasons, the Omani courts seem to adopt the attitude that employees should not be unduly restricted from earning a living by competing their former employers.[297] Thus, implied terms that prohibit an employee from using his employer's TSs will be held unenforceable as unreasonable restraints of trade.

For these reasons, the absence of an express term can be troublesome especially in holding an ex-employee liable. Clearly, the obligations of the employee in respect of the unauthorised use of TSs cannot be wholly the subject of implied terms. This means, unlike the English courts that are free to imply an obligation of confidence,[298] the Omani courts are unlikely to grant the victim an injunction to restrain and prevent further disclosure or use of the TSs in the future. That is undesired consistency with the "orthodox contractual principles suggest that an express term is exhaustive of the parties' rights and obligations".[299]

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[294] Sunan Abi Dawud, Book 25, Hadith 24.

[295] eg, *Fatima v The Oasis for Trading & Equipment Ltd* [275/2013]; *Smart Drilling Ltd v Smart Vision Ltd* [522/2013]; *Diet and Nutrition Centre v Smart Diet* [191/2014].

[296] Aplin and others, 101.

[297] See section 3.6.4 above.

[298] It should be mentioned that in *Spycatcher*, a request for an injunction to restrain the disclosure of secret information was refused, on the ground that "an injunction would not be futile [but just plain silly] if its purpose is to prevent the mass dissemination of *Spycatcher* for commercial purposes". *Attorney General v Guardian Newspapers Ltd (No 2)* [1990] 1 AC 109, 205. See also *Kerry Ingredients (UK) Ltd v Bakkavor Group Ltd* [2016] EWHC 2448 (Ch).

[299] Aplin and others, 102.

It is worth emphasising here that the application of contractual liability should not be understood as limited only to the *disclosure* or divulgence of TSs by employees, but any unlawful *use* should also fall within its ambit. In *Herbert Morris Ltd v Saxelby*, [300] it was argued that an employee is prohibited from divulging or communicating TSs to others and that is distinct from using and employing such secrets. Similarly, Megarry V-C held that if an express term imposed a prohibition on disclosure of confidential information, that would be only on disclosure, and there is no basis for extending its construction to a prohibition on use.[301] The true view of modern authorities is now perfectly clear: that employees are banned not only from disclosing TSs but also from using them.[302] That is to say, employers are eligible for protection against unlawful disclosure, as well as unauthorised use of TSs.[303] In the case of *Saltman Engineering Co, Ltd. v Campbell Engineering Co, Ltd*,[304] Lord Greene stated that "If a defendant is proved to have used confidential information, directly or indirectly obtained from a plaintiff, without the consent, express or implied of the plaintiff, he will be guilty of an infringement of the plaintiff's rights". A further important case in this regard is *Thomas Marshall (Exports) Ltd. v Guinle*,[305] where an employee was subject to an express clause prohibiting the *disclosure* of TSs, but he had been *using* the TSs for his own personal benefits and not disclosing them to others. The court held that the express term against disclosing TSs could be supplemented by an implied term prohibiting its use. Thus, an injunction was granted to prevent the employee from using the TSs belonging to his ex-employer. It is arguable that this prohibition of unauthorised use is necessary; on the basis that it would be a breach of the duty of good faith and fidelity, if an ex-employee used confidential information without the employer's consent.

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[300] [1916] 1 A.C. 688, 695 (Lord Macnaghten).

[301] *Thomas Marshall (Exports) Ltd. v Guinle* [1978] 3 All E.R. 193, 236.

[302] eg, *Force India Formula One Team Ltd v 1 Malaysia Racing Team Sdn Bhd* [2012] EWHC 616 (Ch); *Softlanding Systems Inc v KDP Software Ltd* [2010] EWHC 326 (TCC); *Campbell v Frisbee* [2003] I.C.R. 141; *Faccenda Chicken Limited v Fowler* [1985] 1 All ER 724.

[303] *Istil Group Inc v Zahoor* [2003] C.P. Rep. 39.

[304] [1948] 65 RPC 203, 213. (involved misappropriation of confidential designs for leather punching tools, which were given to the defendants to be manufactured exclusively for the plaintiff, but they used the designs to produce the tools on their own account).

[305] [1978] 3 All E.R. 193.

Another development in the field of employment contract achieved by the English courts but unreached by the Omani courts is the prohibition of misappropriations committed by ex-employees after the termination of the employment contract. While under Omani law the confidential obligation imposed on employees is not valid after the termination of the employment relationship,[306] under English law an employee can be charged for a breach of confidence or contract, if s/he improperly used or disclosed TSs even after the termination of employment.[307] In *Faccenda Chicken Limited v Fowler*,[308] Goulding J provided that "specific trade secrets [are] so confidential that, even though they may necessarily have been learned by heart and even though the servant may have left the service, they cannot lawfully be used for anyone's benefit but the master's".[309] The *Spycatcher* case is important in this respect because it balanced between competing interests of the employer and ex-employee but favoured the preservation of confidence and loyalty.[310] This duty to preserve the secrecy of specific confidential commercial information is essential in commercial contexts, which comprise honesty and loyalty.[311] Hence, "he who has received information in confidence shall not take unfair advantage of it [and] must not make use of it to the prejudice of him who gave it without obtaining his consent".[312]

Post-employment protection of TSs is surely more problematic than during employment. While a well-informed ex-employee is likely to be head-hunted by his ex-employer's rivals, that require maintenance of confidence, this policy may conflict with other public policies, namely the free competition, mobility of labour and free flow of information. This conflict between a number of public policies perhaps restricted the protection for the ex-employer, as opposed to the fairly extensive

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[306] See sections 3.6.4 & 3.6.5 above.
[307] Paul Goulding, *Employee Competition: Covenants, Confidentiality, and Garden Leave* (3 edn, OUP 2016) Ch3; David Bainbridge, *Intellectual Property* (9th edn, Harlow: Pearson 2012) 365.
[308] [1985] 1 All ER 724; on appeal [1986] 1 All ER 617.
[309] See also *Herbert Morris Ltd v Saxelby* [1916] 1 A.C. 688; *Wessex Dairies Ltd v Smith* [1935] 2 KB 80*; Argus Media Ltd v Halim* [2019] EWHC 42 (QB); *Monster Vision UK Ltd v McKie* [2011] EWHC 3772 (QB).
[310] *Attorney General v Guardian Newspapers Ltd (No 2)* [1990] 1 AC 109.
[311] *Gamatronic (UK) Ltd v Hamilton* [2017] B.C.C. 670.
[312] *Seager v. Copydex Ltd* [1967] 1 W.L.R. 923, 931 (Lord Denning).

protection during the employment period. In addition to this English general duty of good faith,[313] there is an international provision on the issue. It is rarely safe here to ignore Article 40 of the TRIPs Agreement, which contains a special provision on the "control of anti-competitive practices in contractual licences". Thus, employees and licensees who know or have access to TSs are obliged to maintain the confidentiality of TSs during their contracts and afterwards.[314] That the Omani legislator needs to consider.

More interesting phenomenon of English legal development in this field is that English courts extended a duty of confidence to a party having no contractual link with a proprietor of a TS. For instance, where TSs fall into the hands of a third party who is not bound by an obligation of confidence. In this situation, there is usually no relationship between the person to whom the obligation of confidence is owed and the third party who has ultimately received that information (usually from the person owing the obligation of confidence). Nevertheless, here as a general rule, a third party who receives information, knowing or having reason to know that it has been disclosed to him in breach of an obligation of confidence, will be bound to respect the confidentiality of the information in the same way as the informant.[315] Similarly, an employer who is informed by a new employee of the TSs of his former employer can be liable under this principle. It could be said that this broad duty of confidence has made it possible for the English courts not to rely on the fact if the parties in dispute had a contractual relationship.

Omani courts, on the contrary, still heavily rely on the existence of a contractual relationship between the parties in dispute. In TS-related cases, if courts find no official contractual or employment relationship between the two parties in dispute, they do not apply contractual protection to the case. That meant no contractual

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[313] *Vestergaard Frandsen S/A v Bestnet Europe Ltd* [2011] 4 WLUK 614.

[314] See section 5.2 below.

[315] *Duchess of Argyll v Duke of Argyll* [1967] Ch 302 (where a newspaper was restrained from using confidential information that was known to be subjected to an obligation of confidence between two other parties). See also *Prince Albert v Strange* [1849]; *Francome v Mirror Group* [1984] 1 WLR 892; *Schering Chemicals Ltd v Falkman Ltd* [1982] Q.B. 1.

obligation could be imposed against the unlawful use of a TS by a third party who has no express contractual link with the proprietor of the TS. Though some limited provisions of unfair competition, which were developed from tort law, may be applied.[316]It is very natural to construe the term of the contract and take into account whether a contractual relationship exists between the parties in dispute, however, it seems very unnatural to stick to the existence of such relationship and ignore the economic harm inflicted and the reality of modern commercial practice, all of which require courts to strengthen the legal protection of TSs.

The English courts by extending the obligation of confidence to cases where there was no contractual relationship between the parties, have taken the initiative in providing businesses with an equitable cause of action. As Megarry J made clear in *Coco v AN Clark (Engineers) Ltd*,[317] apart from contract, if confidential information has been imparted in circumstances importing an obligation of confidence but then disclosed to the detriment of the party communicating it, it would be a case of breach of confidence, where the courts of equity will restrain the recipient from communicating it to another.[318] Earlier on the basis of *Morison*,[319] which has been regarded as "the foundation stone of a distinct action for breach of confidence", [320] *Saltman* formulated the following rule: "a right may be infringed without the necessity of there being any contractual relationship… the obligation to respect confidence is not limited to cases where the parties are in contractual relationship".[321] Given this broad equitable jurisdiction, Coleman argued that "more confidential information can

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[316] See sections 3.6.2 & 3.6.3 above.
[317] [1968] F.S.R. 415, 419.
[318] For discussion on the elements of the action of breach of confidence, see section 2.3.4 above.
[319] *Morison v. Moat* [1851] 9 Hare 241. In this case Morison Senior divulged a confidential formula to Moat Senior and imposed a condition on him that he should not disclose the formula to anybody at any time but Moat Senior disclosed the formula to his son who started a rival business manufacturing the medicine on the basis of the disclosed formula. The court granted the Morison family an injunctive remedy on the grounds of breach of contract, breach of trust and breach of confidential obligation.
[320] John Hull, *Commercial Secrecy: Law and Practice* (Sweet & Maxwell 1998) 26.
[321] *Saltman Engineering v Campbell Engineering* [1948] 65 RP.C.203, 211. See also *Seager v. Copydex Ltd* [1967] 1 W.L.R. 923, where it was held that "a duty of confidence could arise in contract or in equity and a confidant who acquired information under such a duty should be precluded from disclosing it to others".

be protected when the worker is an independent contractor than when he is an employee".[322]

A contractual obligation based on equitable principles has also been implied where the parties to disclosure of confidential information have not stood in a subsisting contractual relationship. In *Seager v Copydex*,[323] the plaintiff invented a carpet grip and negotiated with unsuccessfully the defendant to market it. During their negotiation the plaintiff disclosed particulars to the defendant about the grip. Following the breakdown of negotiations, the defendant started manufacturing and selling the grip invented by the plaintiff. The Court of Appeal held that even if the defendant had innocently and apparently unconsciously used the plaintiffs ideas, he would be guilty of a breach of the duty of confidence he owed to the plaintiff. The duty of confidence was a duty imposed by equity, there being no contractual link between the parties. In this case, Lord Denning, basing his decision on that of Lord Green in *Saltman*, said: "The law on this subject does not depend upon any implied contract. It depends upon the broad principle of equity that he who has received information in confidence, shall not take unfair advantage of it."[324]

Contrary to the position of a third party, the situation of an industrial spy is more problematic. If an industrial spy sneaks into an office and photocopies or memorises TSs, how can it be said that that TSs were imparted in circumstances importing an obligation of confidence? There is absolutely no relationship between the spy and the victim of the industrial espionage.[325] The Law Commission specifically anticipated this situation by querying: "Can information initially become impressed with an obligation of confidence by reason only of the reprehensible means by which it has been acquired?"[326] They conclude that, as the law then stood, it was very doubtful to what extent, if at all, information could become impressed with an obligation of confidence solely by reason of the reprehensible means by which it had been acquired

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[322] Coleman, 52.
[323] [1967] 1 W.L.R. 923.
[324] Ibid, 924.
[325] Lang, 468.
[326] The Law Commission, *Breach of Confidence* (LAW COM No 110, 1981) 22.

and irrespective of some relationship between the person alleged to owe the obligation of confidence and the person to whom it is allegedly owed.[327] Concerning this limiation and other issues, the Law Commission recommended that the present action for breach of confidence should be abolished and that it should be replaced by a new statutory cause of action for breach of confidence covering the disclosure of unauthorised use of confidential information, including TSs.

In 2003, Jon Lang found it regrettable that "such a cause of action has not been introduced and we are still left with the courts working out the law in this area on a case-by-case basis".[328] Now, section 14 of the Trade Secrets (Enforcement, etc.) Regulations 2018 provides that where it has been found that there has been a breach of confidence in relation to a TS, the TS holder may apply to the court for civil remedies.[329] It is doubtful this new statutory provision will satisfy Lang because he also regreted that England was "lagging behind many other jurisdictions in not having a criminal law in this area",[330] which is still the case.

This section has addressed the action of breach of confidence or the contractual obligation of confidence in respect of TSs. The contractual obligation discussed above is specific to employment contracts and may be seen as a function of employment law more than the law of contract specifically. Despite the well-developed judge-made civil law in the field of contractual protection of confidential information, the protection offered by contractual liability is still limited and does not provide sufficient protection for the TSs proprietors. Contractual liability is not always available when the TS is further transmitted to or was originally misappropriated by a third party. Moreover, an industrial spy could easily escape civil liability based on contract law or duty of confidence. In effect, an injunction brings little benefit to the victim if the defendant has disclosed the secret to others. As submitted by some English scholars,

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[327] Ibid, 24.
[328] Lang, 24.
[329] For more provisions of this statute, see section 2.3.4 above.
[330] Ibid, 471.

contract law in this context cannot provide effective protection against all sorts of misappropriations.[331]

Thus, it could be concluded that the above English contractual and equitable provisions in relation to TSs could not be effectively employed to regulate TS misappropriation in Oman. Unlike the English courts of equity, which are authorised to apply a fluid notion of fairness with a very wide discretion, the Omani courts do not "sit under a palm tree" but under statutory law and specific legal rules. Therefore, are not authorised to imply the equitable obligations of good faith and fidelity. With the absence of statutory contractual provisions in this context, the Omani courts are unable to provide injunctive remedies preventing the defendant from continuing to use the TSs belonging to his ex-employer. The Omani courts are particularly powerless in granting injunctive remedies when an unlawful user of a TS was a third party who had no contractual link to the proprietor of a TS, although some ineffective damages could be granted on the basis of the general tort or unfair competition.

Furthermore, from the practical point of view, in Oman, an injunction would be particularly an inappropriate remedy against foreign employees because if they departed from the country, they cannot be prevented from future use of the TSs transported abroad. Moreover, damages are unlikely to be satisfied. In practice, defendants are often not afraid of civil remedies but are likely to be deterred by criminal sanctions. Given that criminal liability traditionally cannot exist in the absence of specific legislative texts, Omani courts are more capable of applying new statutory offence, if it is necessary for Oman to provide criminal sanctions against the misappropriation of TSs.

[331] Aplin and others, 105.

3.8 Summary of the Comparative Analysis of Omani and English Law

The comparative analysis with English law was very productive. Compared with the English civil protection of confidential information based on tort, contract and equity, there are many problems regarding the protection of TSs in Oman. With the lack of specific legal provisions concerning TS misappropriation, protection must be sought under the general rules of tort, unfair competition or labour law, all of which provide insufficient and ineffective protection.

The English concepts of disgorgement damages, exemplary damages and economic torts do not explicitly exist in Omani civil law, but their availability would not address the issue of defendants being unable to pay damages. Even if these modern remedies are eventually awarded, victims of TS misappropriation are rarely adequately compensated. This is particularly a problem in cases involving expatriate workers who have insufficient assets to satisfy judgments. The TS may be sold for far less than its actual value and therefore the profits derived from the misappropriation are unlikely to satisfy the compensation requirement. Additionally, the profits may have been transferred outside the country or may have disappeared before judgement can be obtained.

In England, both damages and injunctive remedies may be provided against the unlawful use of TSs. In Oman, however, additional monetary sanctions will fail to be an adequate means of regulating the misappropriation of TSs. This is not to say that the availability of such new damages has no implications for the effectiveness of the civil law in protecting TSs, but in the current Omani environment, civil remedies alone are insufficient to discourage TS misappropriation. Arguably, the civil law may not be a completely effective remedy for TS misappropriation because it is not a workable deterrent for less affluent defendants and wealthy corporations.

Both Oman and England have provided remedies to tackle the problem of TS misappropriations. While Oman is heavily reliant on the principle of unfair competition developed from tort law, England has developed various remedies based

on the broad concepts of breach of confidence in contract or equity or good faith and fidelity. Because of differences in their historical background compared to the American model, which protects TSs as valuable assets, neither the Omani nor the English law is willing to grant TSs the same proprietary rights as patents, holding that TSs are not IP-type and it is not profitable for society to keep information secret, whereas American law grants proprietary rights to TSs that are as similar as possible to patent rights. Thus, American law provides criminal sanctions for the misappropriation of TSs, as if they were property.

English law has been rather reluctant to regard TSs as property, establishing the doctrine of breach of confidence instead. From the above large amount of case law, it can be seen that the roots of the law on confidence in English law are deep. English law is known as one of the most practical legal systems. It is not practical for the English courts in TS cases to turn into the complicated concept of property, when they could regulate TS misappropriations as a breach of confidence or breach of confidential obligation, which is deeply rooted and settled in English law. It may be unnecessary for English law to consider the imposition of criminal sanctions on misappropriations of TSs, if civil liability is an adequate remedy. However, the above analysis showed that civil remedies are inadequate to deal alone with the phenomenon of TS misappropriation. While the breach of confidence is morally reprehensible, no-one in Oman would advocate that breach of confidence should be criminal in itself, nor that such action should extend to industrial espionage by outsiders. It is my view that, for Oman, the key is to be found, not in the English civil action of breach of confidence, but in the English Theft Act, which extends to the improper acquisition or use of valuable intangible assets.

At the moment, like Oman, English law lacks special criminal sanctions against the misappropriation of TSs. Unlike the Omani civil law system, the English legal system is based on common law where courts are empowered to create new laws.[332] English courts have appeared to be able to deal with TS misappropriations. This is not

[332] Jack Beatson, 'Has the Common Law a Future?' (1997) 56 CLJ 291.

because of the interpretation of statutory or legislative provisions, but rather because of the interpretation of common law or equity. Although English law provides civil remedies against the misappropriation of TSs as do Oman, England does this not via legal rules or statutes but via the common law on a case-by-case basis and has developed in a different manner that might function more practically.

As a result, England has a well-established law for regulating the abuse of confidential information. It has been dealing with the issue of the abuse of TSs for more than hundred and fifty years. Given its long experience and historical development, the current comprehensive civil remedies might function adequately to discourage the misappropriation of TSs within the English social and economic environments. Therefore, it may be not necessary for England to provide specific criminal provisions against the misappropriation of TSs.

Oman, on the other hand, lacks such experience and development. The Omani law relating to the protection of TSs can be characterised as an underdeveloped as it has not developed robust legal means for protecting TSs, despite its weak concept of unfair competition. Prevention of acquisition of TSs by unfair practices cannot be achieved by mere compensation. The evaluation of the present civil law relating to protection of TSs revealed the inadequacy of the current protection, thus, it is inevitable for Oman to find alternative legal means of regulating the misappropriation of TSs.

3.9 A Possible Alternative Solution for Solving TS Misappropriation Problem in the Absence of Effective Civil Protection: Should the Criminal Law Intervene?

The above analysis has so far considered the ability of the civil law to provide effective protection to TSs. If the present civil law is able alone to regulate the misappropriation of TSs, it would be unnecessary for Oman to provide criminal sanctions against such misappropriation. Nevertheless, having examined the current civil means adopted by

Omani law for dealing with the misappropriation problem, and recognised their inability to offer effective and practical solutions, it seems necessary for Oman to regulate TS misappropriations via the *criminal* law as well as the civil.

The previous discussion clearly suggests that the misappropriation of TSs by individuals or enterprises is a serious problem in Oman to necessitate the supplementing of the civil law with criminal sanctions. While compensation is necessary, civil damages are clearly inappropriate for the important objectives of prevention and deterrence of such misappropriations. In the Omani commercial and cultural environment, civil remedies alone would not function effectively as deterrents so far as TS misappropriations are concerned. As proposed by this study, a stronger alternative legal method, which will function as an adequate deterrent, would the criminal law. If misappropriators of TSs feel more sense of shame at being imprisoned, which remedy works better in the real world? Criminal sanctions rather than civil remedies appear to function more effectively as deterrence in such case.

There are strong economic and social reasons for establishing a solid regime of TS protection in Oman. In addition to the economic justifications detailed above, justice and fairness necessitate adequate protection for TSs for two reasons. First, owners of all categories of IP should be protected equally to ensure that enforcement of IPRs are "fair and equitable".[333] Of course, TSs like other IPRs are of vital importance to social and economic welfare.[334] This does not mean that there should be a single treatment or punishment for all IPRs violations. Rather, it means the establishment of a proportionate criminal enforcement that mirrors the seriousness and impact of infringement. Since most businesses have TSs, these are arguably the most important and most used form of intellectual creation. Consequently, TSs should receive equal if not stronger protection to other forms of IP. As will be shown in the next chapter, this argument is compatible with Islamic law.

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[333] TRIPS, article 41(2).
[334] TRIPS, article 7.

Further, TSs are more vulnerable to the threat of "free-riders" (who achieve economic gain by misappropriating others' knowledge-based innovation with no added effort) and so more dependent on legal protection. This is especially the case for SMEs, where TS-based competitive advantage have a core significance to their value and performance,[335] yet they cannot bear the higher costs of patent ownership. Almeling asserts that SMEs face more employee turnover and have fewer assets to recover from the loss of their main capital (TSs).[336] Thus, one of the main goals of TS protection should be to effectively deter free riding activities. That would not only ease the financial burden of costly IP protection from SMEs, but would also develop an environment conducive to the development of TSs and improve the overall Omani business climate. It has been suggested that in addition to the "shock value" accompanying criminal proceedings, they are faster with the ability to recover costs regardless of whether the prosecution is successful.[337] These rationales suggest that providing an effective deterrent is not the only benefit to using criminal law.

An effective legal protection against TS misappropriation requires prevention as well as compensation. Neither the civil law nor the two-year visa ban law was able to satisfy these needs. This inability and the need for deterrence offer an argument for criminal intervention. The deterrent effect of criminal sanctions is generally recognised as greater than that of civil law remedies, as people involved in misappropriation risk penal sanctions.

Nevertheless, the sanction of imprisonment is probably incapable of being applied to corporations. That is to say, in cases of misappropriation committed by large corporations, it may be more effective to impose a large award of damages than to proceed against a human being in the criminal court which would not benefit the person harmed. Against this argument, Harbottle asserts that "the shock value [of criminal law] will be substantially increased when it becomes apparent to a company

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[335] Mackenzie, 2.

[336] David Almeling, 'Four Reasons to Enact a Federal Trade Secrets Act' (2009) 19 Fordham IntellPropMedia & EntLJ 769, 788.

[337] Gwilym Harbottle, 'Private Prosecutions in Copyright Cases: should they be stopped?' (1998) 20 EIPR 317, 318.

director or other officer that he or she may be prosecuted personally even though the offence was committed through the medium of a company".[338]

More importantly, in the Omani social-cultural environment, the shaming, deterrence, labelling aspect of the criminal law is undisputable.[339] People are afraid of losing their reputation as a result of criminal sanctions. In particular, such sanctions might work much more effectively as deterrence in Oman, where one's personal reputation plays a much more important role than in Western countries.[340] Similarly, corporations more value their reputation than paying compensations. For a corporation, the stigma attached to a criminal conviction can damage its commercial reputation and social credibility, which may result in a loss of business. Thus, the criminal stigma provides a disincentive for corporations to misappropriate others' TSs, and may also drive good business practice to regain the company's reputation.[341]

There is a wealth of legal literature on the deterrence role of criminal sanctions.[342] Paul Robinson argues that when tort law is unable to deter market bypassing, public enforcement and nonmonetary sanctions become required.[343] Similarly, Garry Becker holds that since civil sanctions in the form of monetary compensation are not always enough to discourage wrongful conducts, criminal penalties should be opted.[344] As such, it is contended that commercial wrongs should be punished only when civil sanctions do not deter it.

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[338] Gwilym Harbottle, 'Criminal Remedies for Copyright and Performers' Rights Infringement under the Copyright, Designs and Patents Act 1988' (1994) 5 Entertainment Law Review 12, 14.
[339] Suroor, 174.
[340] John Carroll, 'Intellectual Property Rights in the Middle East: A Cultural Perspective' (2001) 11 Fordham IntellPropMedia & EntLJl 555, 599.
[341] Allens Robinson, *'Corporate Culture' as a Basis for the Criminal Liability of Corporations* (Business & Human Rights Resource Centre, 2008); Mark Pieth and Radha Ivory, *Corporate Criminal Liability: emergence, convergence, and risk* (Springer 2011).
[342] eg. Andrew Von Hirsch, *Criminal Deterrence and Sentence Severity : an analysis of recent research* (Oxford : Hart 2000); Paul Robinson and John Darley, 'Does Criminal Law Deter? A Behavioural Science Investigation' (2004) 24 Oxford JLegSt 173; Henrique Carvalho, *The Preventive Turn in Criminal Law* (OUP 2017); Antony Duff, *Punishment* (Aldershot 1993).
[343] Robinson, 202.
[344] Gary S Becker, 'Crime and Punishment: an Economic Approach' in Nigel Fielding, Alan Clarke and Robert Witt (eds), *The Economic Dimensions of Crime* (Basingstoke 2000) 23.

The failure of the current civil approach to dealing with the problem of TS misappropriation might justify criminalisation as a "last resort". In the Omani situation, in particular, the criminal law is the last means of protection but might still be the most appropriate means of addressing TS misappropriation. Ashworth agrees that "criminal law [should be used] as a technique of last resort […] blunted by the absence of any established alternative form of regulating unwanted conduct".[345]

In effect, a practical justification for the visa ban law was the incapability of many foreign workers to pay the required compensation. Less affluent national defendants can also be one of the limitations to the utility of civil sanctions and tort. It was emphasised by some scholars that the optimal damages that would be required for deterrence would frequently exceed the defendant's ability to pay.[346] By contrast, for misappropriations by large wealthy corporations, the civil remedies are largely ineffective. Likewise, the visa ban is affecting socio-economic interests. As a result, the criminal law might function as a necessary deterrent for discouraging the misappropriation of TSs and dealing with this kind of economic mischief.

According to Richard Posner, "the criminal law is designed primarily for the nonaffluent".[347] In his view, the objective of the criminal law is to "promote economic efficiency" by discouraging "market bypassing".[348] Considering the fact that TSs misappropriations are often "calculated, deliberative and directed to economic gain",[349] harsh punishment "would increase the salience of any perceived costs and benefits".[350] In the current Omani legislative gaps and the lack of deterrence, rational persons may choose to misappropriate others' industrial secrets and acquire financial

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[345] Ashworth and Horder, 42.
[346] Posner, 1195; Robinson, 202.
[347] Posner, 1204.
[348] Ibid, 1195.
[349] Sanford Kadish, 'Some Observations on the Use of Criminal Sanctions in the Enforcement of Economic Regulations' in G. Geis and R. F. Meier (eds), *White-Collar Crime: Offenses in Business, Politics And The Professions* (Collier macmillan 1977) 462.
[350] Raymond Paternoster and Sally Simpson, 'Sanction Threats and Appeals to Morality: Testing a rational choice model of corporate crime' (1996) 30 L& Soc'y Rev 549, 550-551.

gain without much fear of costs or sanctions as the gain from misappropriations would probably exceed possible civil remedies. To counterbalance this gamble on earnings, criminal sanctions should increase the cost of misappropriation and function as an effective deterrent.

This study does not take it for granted that criminal intervention against the misappropriation of TSs is entirely justified, despite the threats. Nevertheless, it would seem that criminal liability is *necessary* to compensate for the inadequacy of civil remedies. For Oman, criminalisation also seems *practical*. It has more practical advantages than civil liability and the visa ban law. As civil liability is largely reliant on the ability of the defendant to pay, this is ineffective against misappropriators with no sufficient means. Furthermore, the cost and delay of the civil proceedings would presumably be overcome by the well-resourced and faster criminal prosecutions because of the constitutional requirement of a speedy trial.[351] Indeed, if Omani criminal courts are able to deal with highly complex patent infringement prosecutions, as they currently do, then they are likely also to be well placed to hear TS cases, which are not all as scientific or as technical as patents. Once a matter forms the basis of a criminal investigation, it will be fully and properly investigated.

Presently, criminal sanctions are limited only to traditional IP rights (patent, copyright, trade mark and trade name) and insider trading. The serious question arises here is that if these intellectual assets can be stolen, why TSs should be any difference? TSs are equally valuable intellectual assets. In fact, in some circumstances, TS misappropriation may inflict greater loss than breach of copyright. Recent studies have concluded that TSs are "the most important and most litigated form of intellectual property".[352] This leads to the question concerning the consistency of Omani law to impose criminal sanctions on the infringement of IPRs but not the closely analogous misappropriation of TSs.

[351] The Omani Constitution, articles 24 and 25.
[352] Risch, 3; EU Impact Assessment 2013, 153.

Of course, there might be potential consequences of using criminal law in this area and opponents of criminalisation might have counter arguments, as we shall discuss in chapter 5. At this stage, it is clear that the existing law is inadequate for dealing with TS misappropriation. Even though criminal intervention is practical and would cope effectively with the economic and technological developments, criminal penalties are more onerous than civil remedies. Hence, criminal liability is not available unless a person commits intentional wrong *and* causes harm, which is stipulated by criminal laws. As a basic rule, criminal liability cannot exist in the absence of specific legislative texts. The criminal law represents the state's authority to punish a person who has failed to refrain from a legislatively prohibited behaviour. As Peršak observes, the "principle of legality is admittedly the most basic, the most classical, the most elementary criminal legal principle on the Continent".[353]

However, the suggested alternative raises fundamental questions about the role of criminal law as an instrument to protect TSs. One of these questions which has to be addressed is: could criminalisation of TS misappropriation enjoy political, social and cultural acceptance? The Law Commission suggests that if criminalisation is the most practically appropriate mechanism, there should be no reason not to use it.[354] Nevertheless, in Oman, the use of criminal law must be supported by social norms and legal rules. As Smith advises, whether the criminal law should extend to the theft of TSs is a difficult question which must answer political and legal premises.[355]

In comparison with England and the US, Oman is a country in which socio-cultural rules play an important role. One is expected to follow the social rules in Oman. If one's behaviour conforms to the social rules, it should not be prevented, nor should there be any sanctions against it. Only violations of social norms convey disapproval and may be exposed to the stigma of a criminal conviction.[356]

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[353] Peršak, 119.
[354] Law Com No 150, 1997, 28-29.
[355] A. T. H. Smith, 55.
[356] Suroor, 15.

3.10 Conclusion

Returning more directly to the problem in focus, there is no question that the Omani legislator and courts have acknowledged the eligibility of TSs for legal protection. However, it is becoming increasingly important to confer effective protection on this knowledge-based asset and new coin of the national economy. TSs have become increasingly vulnerable to illicit acquisition and other misappropriation practices. The seriousness and frequency of the phenomenon necessitates an effective deterrent, while the seriousness of the threat imposed by civil sanctions is ineffective.

Regulating TS misappropriation through civil liability alone is not the most appropriate way of discouraging economic espionage. Given the highly desirable commercial information and the shortcomings of civil protection, it is unlikely the current civil regime is capable of discouraging misappropriation. Additionally, it would remain inappropriate even if damages were increased as many workers or wrongdoers are unable to pay. More fundamentally, civil remedies by their nature cannot provide the necessary deterrent to wealthy corporations. The two-year visa ban law is not an appropriate solution and it may, in fact, worsen the situation and lead to more problems than it resolves.

Against this backdrop, criminal intervention appears to be a workable alternative. Criminal sanctions present a much stronger penalty than civil sanctions given the potential for jail sentences in addition to the stigma of a criminal conviction. For these the reasons and the above threats, many countries adopted criminal sanctions against the misappropriation of TSs. As it has been acknowledged, "Oman still appears to be lagging behind its regional neighbours, despite its economic advance".[357] In the absence of criminal sanctions, the Omani legal system cannot be considered to function effectively as it does not effectively deter misappropriation. It is clear that there are inadequacies in the civil protection; therefore, it is necessary to explore criminal protection to see if it could fill these gaps.

[357] Al-Azri, 14.

Nonetheless, using the nuclear weapon of criminal law requires a coherent justification. To be more precise, it must be examined whether the nature of TS misappropriation falls firmly within the remit of the criminal law. Peršak emphasises that the principle of last resort is not enough, but there should be moral or ethical legitimacy to criminal laws.[358] In the Omani social environment, the state should punish only those who committed something wrongful and harmful.[359]

The criminalisation solution is not a regulatory tool that should be used lightly by the state. The deployment of criminal law should inevitably rest upon historical, political and sociological evidence. In other words, it is a social choice used to address specific violations of societal values and interests. Consequently, the extension of the criminal law must be justified by cogent reasons supported by societal rules.

In short, this chapter considered whether it is necessary for Oman to provide criminal sanctions against the misappropriation of TSs. Given that it is necessary, the next chapter will examine whether or not it is possible for Oman to fit criminalisation within the scope of its current socio-legal framework. It will seek to provide plausible justifications for using criminal law to deter TS misappropriation. That will address the central question of considering whether or not criminalising TS misappropriations has a *prima facie* justification.

[358] Peršak, 4.
[359] Adil Alani, *Principles of Omani Criminal Law - The General Part* (Alajial 2008) 38.

CHAPTER 4
PHILOSOPHICAL JUSTIFICATIONS FOR CRIMINALISING THE MISAPPROPRIATION OF TSs

4.1 Introduction

The preceding chapter critically examined the issue of TS misappropriations. It found that as the civil law is not sufficient for tackling the issue, criminalisation was proposed as an alternative. The chapter also threw some light on the principle of last resort and the economic analysis of criminal law as two initial justifications. That examination suggested that it would be worthwhile to explore the use of the criminal law as a workable solution to mitigate the deficiencies in the present law.

While that process of criminalisation as a possible answer to the problem of TS misappropriation is practicable, the jurisprudential dimension must also be examined. The absence of philosophical examination of TS misappropriations as undesirable and untoward conducts likely impacts on the plausibility of criminalisation. Whether or not a criminal offence against misappropriation of TSs is justified is essentially a question of criminalisation, which lends itself readily to the application of established standards in criminal law philosophy.[1]

Accordingly, this chapter explores the case for legitimate criminalisation of TS misappropriation against the background of normative theories of criminalisation. Doing so serves three purposes: first, the theoretical analysis contributes to the ongoing conceptual battle around finding a coherent justification for criminalising this specialised kind of mischief. Secondly, it establishes an adequate appreciation of the nature of wrong involved in misappropriating TSs, since this is still morally unclear

[1] Douglas Husak, 'Introduction: Reflection On Criminal Theory' in Douglas Husak (ed), *The Philosophy of Criminal Law* (OUP 2010) 12.

and academically debatable. Thirdly, it is necessary to clearly articulate the illegitimacy of misappropriation in order to enable legal and social acceptance.

The criminalisation of TS misappropriation is a very delicate matter in contemporary law making. Certainly, the intangible nature of TSs and the type of interests involved resist straightforward criminalisation.[2] The economic and social threats of TSs misappropriation also pose a serious challenge to national policy-makers. This difficulty could be one reason why the subject has not gained much scholarly attention to date. While it has been suggested that the question of whether the theft of TSs can properly be regarded as criminal requires close examination,[3] no such examination has been embarked on so far.

We have seen in chapter 2, there is no uniform conclusion on the legal nature of TSs as property. Unlike the US law, both in England and Oman TSs are not considered property. The property labelling of TSs is disputable. There are scholars who believe that TSs can be regarded as a form of property for the purposes of the criminal law and there are others who believe that it would be a mistake for the criminal law to protect TSs as property in a manner analogous with tangible objects. As well as the arguments based on the concept of property, there are wider debates as to whether criminal law should intervene in this area at all. It could be argued that the reliance on the concept of tangible property is perhaps the cause of the broader debate.

In considering the criminalisation of TSs misappropriation, discussion must not be limited to property law. Criminal theorists tend to be not very familiar with property law and vice versa. Moreover, Professor Duff suggests that any legitimate route towards criminalisation must begin with a perceived problem that something should be done about, and there must be good reasons for considering its *wrongfulness* and

[2] Irina D Manta, 'The Puzzle of Criminal Sanctions for Intellectual Property Infringement' (2011) 24 HarvJL& Tech 469, 480.
[3] Law Com No 150, 1997, 18.

harmfulness criminal.[4] Importantly, "criminal law is closely linked to moral and cultural conceptions within a society".[5]

Against this legal controversy, a tripartite theoretical framework for criminalisation, which combines "property theory" with the "harm principle" and "legal moralism", seems necessary. In other words, it theorises TS misappropriation as an interference with property *rights* that inflicts *harm* and *immorality*. The application of these three concepts is particularly relevant to the wrong and harm involved in the misappropriation of proprietary information. Further, they take into account wider social-cultural norms and the Omani community's economic realities. Interestingly, these three Western concepts have also been considered in Islamic *Sharia*, upon which Omani law is largely framed.

This chapter, therefore, is an investigation into the question of whether *prima facie* justifications for criminalising TS misappropriation can be established. It first examines the theory of property, whether or not TSs can be regarded as a form of intangible property and fitted properly into the criminal property paradigm. Arguably, it is not optimal to encapsulate the variety of misappropriation practices under the single concept of stealing and neglect the other conducts of TS misappropriation, such as commercial dishonesty, as possible grounds for criminalisation.

[4] R A Duff, 'Towards a Modest Legal Moralism' in Maagnus Ulvang and Iain Cameron (eds), *Essays on Criminalisation & Sanctions* (iUSTUS 2014) 49-55.
[5] Christophe Geiger, 'Introduction' in Christophe Geiger (ed), *Criminal Enforcement of Intellectual Property* (Edward Elgar Publishing 2012) 1.

4.2 The Property Theory and TSs

4.2.1 Introductory Remarks:

Given the problematic position of TSs under the legal classification of property, why then the resort to the complications of property law theory. In other words, while the creation of a criminal offence could be justified more easily upon the harm principle or prevention of unfair competition, why then resorting to the complicated concept of property.

The importance of the property analysis as a justification for criminal protection of intangible assets can be established upon theoretical and practical reasons. First, as a theoretical reason, it is correct that the *civil* protection of TSs can be sufficiently grounded on confidentiality (not to interfere with confidential information);[6] but when concentrating on the *criminal* protection of TSs, property is traditionally important. As Alani demonstrates, property invasion is a central justification for criminal intervention.[7] Simester and Sullivan also argue that the violation of the property right is a prima facie case for criminalisation.[8] That is to say, while there is no need of property to warrant civil remedies, property is particularly important for criminal enforcement of intellectual assets.[9] Thus, it is necessary to establish that interference with purely intangible asset constitutes misappropriation as with tangible property.

Second, I would argue that it is more practical for Oman to recognise intangible commercial assets as property and then provide criminal sanctions on the basis of theft in the case of stolen TSs rather than adopting a whole new doctrine. This argument is realistic because intangibles can be property in the Omani Civil Code. Moreover, in my view, if intellectual assets and other valuable intangibles are accepted categories

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[6] For a detailed discussion of non-property civil legal means of protecting TSs, see above sections 2.2.2 & 3.5.

[7] Alani, *Crimes Against Property in the Omani Penal Law*, 4.

[8] A P Simester and G R Sullivan, 'On the Nature and Rationale of Property Offences' in R.A. Duff and Stuart Green (ed), *Defining Crimes: Essays on The Special Part of the Criminal Law* (OUP 2005) 171.

[9] For in-depth discussion of criminal property in the Omani law, see below sections 5.7.2 & 5.7.3.2.

of property for both commercial and policy reasons, why should TSs be any different? I see no reason why TSs that have been gathered through the expenditure of money, skill and effort should not be regarded as property and hence entitled to the protection of criminal law. More importantly, this thesis will challenge the idea that TSs cannot be property for criminal purposes as there is no real conceptual hurdle in recognising property rights in TSs.

Currently, a fundamental problem arises because the Omani Penal Code does not recognise intangibles as property. TSs are valuable intangible assets, yet under the traditional criminal rules, intangibles are not property. Larceny and other Omani property-related crimes are currently concerned only with the taking of "tangible movable property".[10] However, clearly, TSs do not fit with this view of property.

One Omani scholar has claimed that intangible resources of the information age are well beyond the current concept of property embraced by the criminal law.[11] I would argue that this conventional view is inconsistent with a modern civil conception of property. Indeed, the present position adopted by the Omani criminal law in relation to what can form the subject matter of larceny is unsatisfactory as it is inadequate to meet the needs of modern Omani society.

English law, on the other hand, does not confine the scope of the term "property" to tangibles and thus some offences can be found which recognise the theft of intangibles. Given this established distinction between tangible and intangible property, it is logical to assume that TSs – being "intangible" – must be intangible property, if they are property at all. At present, the phrase "other intangible property" under the Theft Act is very broad and, on the face of it, there is no reason why it could not cover TSs.

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[10] For analysis of the limitations of the old crime of larceny, which still exists in the Omani law but no longer an offence in English law, see below section 5.7.2.

[11] Alani, *Crimes Against Property in the Omani Penal Law*, 39.

However, in *Oxford v. Moss*,[12] the court refused to regard TSs as property. At the moment, it appears to be widely believed that TSs cannot be stolen because they do not constitute property for the purposes of the Theft Act. As Mooher observed:

> "How does one take a thing whose value and essence is independent of a physical form? Conversely, how does one maintain ownership of a res that can be simultaneously possessed by others?"[13]

This distinction between tangible and intangible property, which mainly render TSs ineligible for the status of property, will be measured later in this chapter against the conceptual and normative underpinnings of property.[14] Understandably, the question of whether TSs can be regarded as property worthy of criminal protection is commonly problematic. As Christophe Geiger states, this issue "has all the ingredients for being a very hot topic".[15] The complexity of the property approach for the criminal protection of TSs is generally ascribed to the intangible nature of information. To put it more simply, TSs are "*incorporeal* and therefore not capable of being stolen".[16] Although intangibles are stipulated to be property, unlike the common intangibles mentioned above, pure financial intangibles like TSs are illogically excluded. In reasoning their exclusion, the court in *Oxford* held that information is neither tangible nor intangible property. This legal basis may imply that the orthodox thoughts of property are still influential.

One could argue that intellectual property rights are relatively newcomers to the list of intangible property, so TSs could also be recognised as a new form of property. Given these obviously accepted types of intangible property and existing criminal offences relating to the misuse of intangibles, there can be no problem or need for reinventing the wheel. Simply, we can treat TSs like other obvious categories of intangible property. Nevertheless, the fact that the criminal law does not already

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[12] (1979) 68 Cr. App. R. 183. This leading case is more fully discussed in section 5.5.2.2.
[13] Geraldine Moohr, 'Federal Criminal Fraud and the Development of Intangible Property Rights in Information' (2000) 20 UIllLRev , 685.
[14] See section 4.2.7 below.
[15] Geiger, 1.
[16] Ferguson and McDiarmid, 354.

recognise the theft of secret information raises rather fundamental theoretical questions.

It has to be pointed out here that there are some characteristics that make TSs so difficult to categorise.[17] As such, TSs are not entirely analogous to these existing phenomena with which the law has had to grapple. It is necessary, at the outset, to note the conceptual differences between corporeal and incorporeal property. Corporeal property can only be used, at any one time, by one person or one coordinated group of people. On the other hand, incorporeal property like TSs can be used by a number of users simultaneously.[18] Furthermore, the public cannot be prevented from using information in the way that they can be prevented from using corporeal objects. The difficulty in enforcing an exclusive right over land and chattels is much lower than compared to the protection of information.

It is clear that the criminal law traditionally tends not to include intangible property within the crime of larceny;[19] it is less clear why this is the case. Despite the controversy and uncertainty over true nature and content of property, there has been a tendency to focus on the role that property plays, rather than on what property is. The few writers who have dealt with the question of the nature of property for the purposes of theft, have not treated it in great detail.[20] Apart from Penner in legal theory,[21] and Munzer in philosophical literature,[22] there appear to be few scholars who have moved beyond the doctrinal texts and delineated a systematic theoretical approach to investigating the nature of intangibles as stealable property. This theoretical property analysis of TSs for criminal purposes is, therefore, an original contribution.

Many criminal law scholars criticise the present narrow conception of property. Ashworth and Horder assert that criminal law must not stand idle on violations against

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[17] For more detailed discussion, see sections 2.3.1 above and section 5.5.4 below.
[18] Justin Hughes, 'The philosophy of intellectual property' (1988) 77 GeoLJ 287, 315.
[19] See section 5.7.3 below.
[20] Simester and Sullivan; John Smith, *The Law of Theft* (8 edn, Butterworths 1997).
[21] J. E. Penner, *The Idea of Property in Law* (OUP 1997).
[22] Stephen R. Munzer, *A Theory of Property* (CUP 1990).

business information, "which might be much more serious financially than many of the takings which fulfil the basic definition of theft".[23] In the words of Baker, the current non-criminalised misappropriation of valuable TSs is "absurd and disgraceful" because TSs "are often immensely valuable, are legitimately bought and sold" therefore "there is no rational basis for excluding theft of sensitive information from the law of theft".[24]

Several Arab scholars have also criticised the limitation of penal law's concept of property. According to Al-Shawwa, although typical, it is inaccurate and insufficient to exclude confidential information from the scope of theft due to its intangibility because information can be appropriated and is, in fact stealable.[25] Wazir has also argued that the term "thing" in penal law is sufficiently wide to cover variety of economic deprivations but the courts tend to interpret it narrowly.[26]

These academic criticisms draw attention to the fact that the exclusion of intangible assets from the subject-matter of theft is not necessarily a consistent distinction. Since one of the primary roles of criminal law is to deter dishonest violations of others' property rights and valuable assets,[27] the exclusion of TSs seems inconsistent. Accordingly, the inadequacies of existing criminal property may require reconsideration in order to accommodate commercial intangibles.

This section will argue for the inclusion of TSs within the existing phenomena of intangible property by exploring the conceptual boundaries of property. The analysis of general theoretical literature on the nature of property reveals some historical explanations for the current legal rules. This is then extended to formulate a coherent application of these historical underpinnings to the case of modern business

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[23] Horder, 381.
[24] Dennis J. Baker, *Textbook of Criminal Law* (4 edn, Sweet & Maxwell 2015) 1243- 1245.
[25] Mohammad Al-Shawwa, *The Information Revolution and its Implications on Penal Law* (AlNahda Arabeya 1994) 56 (Arabic).
[26] Morsi Wazir, *The Special Part of Penal Law: Crimes Against Property* (AlNahda 1993) 43 (Arabic).
[27] Simester and Sullivan, 169.

information. This may, to some extent, fulfil Samuelson's desire to capture a "coherent theory" as to when information should be treated as property.[28]

4.2.2 The Meaning of Property

Any inquiry into whether or not TSs should be property must begin with some discussion of what we mean when we call something "property". Linguistically, the Oxford English Dictionary defines the word "property" as a "thing or things belonging to or owned by some person or persons" that is "usually of a tangible material thing". Other meanings include "the fact of owning a thing", "the holding of something as one's own", "ownership", "a possession (usually material)", "one's wealth or goods".[29] In the US dictionaries, property is a common term for all things that "a person has dominion over".[30]

Similarly, the term *mal* (property) in the Arabic language is used to refer to everything capable of being owned, particularly, valuables such as gold and silver.[31] "*Mal* is known" is a common phrase in most Arabic dictionaries that means *mal* can be anything that is understood as being capable of being owned, whether or not an individual person has actually taken it into his ownership, like wild animals.[32]

The popular meaning of property is clearer than the legal meaning. Whilst the popular term "property" seemingly hardly requires any definition when used in ordinary daily life, as it naturally conveys the idea of something belonging to us, legal "property" is arguably one of the most controversial areas of law. Perhaps the widely different contexts the concept is used in, and the emerging group of resources that could fall under the content of property are the underlying causes.[33]

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[28] Pamela Samuelson, 'Legally speaking: is information property?' (1991) 34 Communications of the ACM 15, 18.
[29] Weiner and Simpson, 639- 641.
[30] Daniel Greenberg, *Stroud's Judicial Dictionary of Words and Phrases*, vol 3 P-Z (8th edn, Sweet & Maxwell 2013) 2332.
[31] Ibn Manzur, *Lisan Al-Arab* (Sader 2010) 632.
[32] Joseph Brees, 'Trade Secrets Go Federal - Parade to Follow' (2017) 12 J Bus & Tech L 277 55.
[33] A. T. H. Smith, 4.

The complexity of the property concept is widely acknowledged;[34] Jeremy Waldron writes: "the proliferation of different kinds of property (material and incorporeal objects) is one of the main reasons why jurists have despaired of giving a precise definition of ownership".[35] Similarly, Davies describes property as "a very dense idea, full of resonance in many fields, as well as one which is extraordinarily slippery".[36] Hence, J. W. Harries suggests: "any general notion of property is notoriously elusive".[37] More preferably, Laura Underkuffler suggests: "property reflects the ways in which we resolve conflicting claims, visions, values, and histories. Yet, despite this important role, there is remarkably little exploration of what property – as a socially and legally constructed idea – really is".[38]

It seems clear that property is a "key institution of human society" and perhaps "the most important legal conception".[39] However, there remains a question over what property is and what criteria should be used for differentiating property from non-property. Certain characteristics are of fundamental importance to the nature of property that should be noted. Property has been often equated with "things" and the starting-point must be the understanding of that old conception to show that it provides no real justification for the exclusion of intangibles that is a historical problem.

4.2.3 Historical Aspects of the Nature of Property

As pointed out above, property is traditionally envisioned as a thing or thing-ownership. A writer of Blackstone's time strongly believed that "nothing can be the object of property which has not a corporeal substance".[40] This is not necessarily the

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[34] See, for example, Peter Robson and Andrew McCowan, *Property Law* (2ed edn, W.Green/Sweet & Maxwell 1998) 1; F.H. Lawson and Bernard Rudden, *The Law of Property* (3ed edn, OUP 2002) 21.
[35] Jeremy Waldron, *The Right to Private Property* (Oxford: Clarendon 1988) 33.
[36] Margaret Davies, *Property: Meanings, Histories, Theories* (Routledge-Cavendish 2007) 9.
[37] J. W. Harris, *Property and Justice* (OUP 2002) 6.
[38] Laura S. Underkuffler, *The Idea of Property: Its Meaning and Power* (OUP 2005) 11.
[39] Tony Honoré, *Making Law Bind: Essays Legal and Philosophical* (OUP 1987) 161.
[40] *Millar v. Taylor* (1769) 98 E.R 201, Yates J., 232.

contemporary conception of property, but it may indicate that a historical treatment of the objects of property is useful. In particular: why did this materialist conceptualisation occur in the first place? What are its philosophical underpinnings behind it? Why were intangibles excluded?

The thinghood of property or the notion that property is literally the things or goods themselves can be ascribed to classical Roman law, in which Roman jurists distinguished ownership from other rights *in rem* and *in personam*. As such, ownership was regarded as the most powerful right over a thing, which *per se* was immersed or subsumed within that thing so that nothing could be done to it unless the owner approved it. Thus, it was easy for them to overlap between the right and the object, or the thing and the relationship in respect of it.[41]

The influence of Roman law in this context can still be noticed in the work of some contemporary writers. For instance, Macpherson states that "the thing itself becomes, in common parlance, the property".[42] Similarly, Clarke and Kohler claim that thinking of property through things themselves is not inconceivable.[43]

In Arab societies, Professor Al-Sanhouri, who was one of the Arab world's eminent jurists, has notably dismissed the "thingness" of property.[44] He instead emphasised the concepts of *in rem* and *in personam* as essential rights in relation to the thing. This is also the view of Martin Pedersen who defines property as "normative protocols structuring social relations with regard to things".[45] likewise, J. C. Smith

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[41] J. Martin Pedersen, 'Properties of Property: A Jurisprudential Analysis' in Massimo De Angelis and J. Martin Pedersen (ed), *Property, Commoning and the Politics of Free Sowftware* (The Commoner 2010) 130.

[42] C.B. Macpherson, *Property: Mainstream and Critical Positions* (University of Toronto Press 1978) 2.

[43] Alison Clarke and Paul Kohler, *Property Law : Commentary and Materials* (CUP 2005) 17.

[44] Abdel Razzaq Al-Sanhouri, *Al-Waseet: A Commentary on Civil Code*, vol 8 Ownership (1975) 274 (Arabic). Al-Sanhouri (1895-1971) was the draftsman of the Egyptian Civil Code 1948 which then was doubted by most of the Arab countries.

[45] Pedersen, 138.

sees property as "legal relations through which human behaviour is controlled in regard to things".[46]

The non-thinghood of property can be observed even in the criminal law. When property offences are committed it is not generally the physical substance that is harmed but property rights of the owner because things in themselves have no rights. To give a crude example, a trove or a find is factually things in themselves since possessed by no one, yet their taking or concealment cannot be prosecuted as a larceny in Omani law[47] unless a complaint is made by the injured party. This argument, along with scholarly views, suggest that property is not a thing at all, but might be a direct and singular relationship between a person and a thing.

The person-thing conception of property is usually traced to Sir William Blackstone's *Commentaries on the Laws of England*, published in 1765, in which he famously theorised property as "the sole and despotic dominion which one man claims and exercises over the external things of the world".[48] Blackstone's theory of property clearly suggested that property could exist only in relation to something, where the thing as an object of ownership is held by a person in a special and absolute relation. That is to say, the owner must have "sole and despotic dominion" over an "external thing".

This eighteenth-century theory of property seems paradigmatic as it represents the great cultural and rhetorical power of that time. However, many commentators reject the theory of property as a binary or *dominium* relation.[49] Underkuffler highlights the above conception's failure "to reflect the rich meaning of property in social discourse and law".[50] Perhaps the person-thing binary should be accepted only on the unpopulated island where a person enjoys his or her property alone without

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[46] J. C. Smith, 'The Concept of Native Title' (1974) 24 UTLJ 1, 6.
[47] OPC, article 297.
[48] William Blackstone, *Commentaries on the Laws of England*, vol II, of the Rights of Things (Oxford: Clarendon Press 1766), 2.
[49] eg, see Waldron, 28; Davies, 20; McCowan, 3.
[50] Underkuffler, 12.

interactions with human beings.[51] But, where conflicting claims of proprietary rights are always active, such a narrow conception of property is incomplete. A key conceptual problem that Blackstone's definition of property will certainly face is the recognition of modern intangibles, including TSs. The owners of such intangible assets hold no objects, but only rights.

In fact, there are reasons underpinning Blackstone's physicalist concept which formed a core part of traditional property law. The scarcity of physical resources meant that the law was required to protect them. Professor Jerome Hall has reasoned this materialist presumption nicely by illustrating that "food, transportation and communication, war, tillage, all depended" upon cattle, horses and oxen, therefore, these were the commodities of greatest value during the eighteenth century's primarily agricultural economy.[52] As a consequence, mundane objects and other material resources were highly influential in formulating the law of property.

Furthermore, Blackstone's tendency to create absolute and unlimited power over things appears to reflect the concerns of his era, where a balance between state power and individual freedom was sought. His notion of liberal property and the notion of having *dominium* over things seems to reflect a need to demarcate "boundaries of individual freedom and the limits of state power".[53]

It would seem that the conceptualisation of property has never been absolute but has extended considerably across different stages of social and economic development. As Munzer observes, "the idea of property will remain open-ended until one lists the kinds of "things" open to ownership".[54] In the 21st century, the conventional and corporeal understanding of property is less useful.

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[51] Ibid, 11.
[52] Jerome Hall, *Theft, Law and Society* (2nd edn, Bobbs-Merrill 1952) 82.
[53] Kenneth J. Vandevelde, 'The New Property of the Nineteenth Century: The Development of the Modern Concept of Property' (1980) 29 BuffLRev 325, 328.
[54] Munzer, 23.

4.2.4 The Modern Conception of Property

The above section has presented some historical limitations of the property theory. An overriding question was grappled with is whether property is a thing or person-thing relation or a person-person relation? If property is a "thing" or completely tangible, then TSs as modern intangible products should not be regarded as property and hence unqualified for property protection of the criminal law. Nevertheless, it seems that "the modern conception of property is completely de-physicalized".[55]

It could be argued that the strict physicalist conception no longer pertains in this modern age of the information economy. Historically, mundane goods such as food, clothing and vehicles were regarded as property, not because of any holy traits or unique features, but rather because of the paramount importance and value of these goods for human life at that time. In the current age, it is true that almost all human conduct involves in one way or another the utilisation of information, which is of particularly great social utility and economic value. Thus, embracing these centuries-old materialist accounts of property, which exclude intangible business assets, in the modern commercial world is flawed. As Carter has noted with regret:

> "In the years to come, as demand grows for the development of new inventions and marketing tools to meet the challenges of a changing world, we may yet have cause to regret our rigorous insistence that deciding whether or not to think of something as "property" turns in an important way on whether or not we can touch it".[56]

It was not surprising, therefore, that the Blackstonian physicalist conception of property has come under assault from the emergence of a new theory known as the "bundle of rights". The bundle of rights analysis of property is generally attributed to the American jurist Wesley Newcomb Hohfeld.[57] According to Hohfeld, the owner of a property has some rights (claim-rights), privileges (liberties), powers, and

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[55] Arnold S. Weinrib, 'Information and Property' (1988) 38 UTLJ 117A, 120.

[56] Stephen L. Carter, 'Does It Matter Whether Intellectual Property Is Property?' (1993) 68 Chi-Kent LRev 715, 723.

[57] Wesley Newcomb Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1917) 26 Yale LJ 710.

immunities. This set of proprietary rights and entitlements is what distinguishes one person's relationship with a particular thing from all others, who have a duty to not interfere with the owner's rights. Thus, property is no longer necessarily associated with things but with a bundle of legal relations among persons.

As Hohfeld theorised and as it is generally accepted in the property literature,[58] the overall realisation of property is not the popular conception of things owned or the simple person-thing relation, but the more sophisticated conception of person-person relations. Hence, it could be argued here that the *relation dimension* is the core feature of the modern conception of property, which consists exclusively of this bundle of separable legal relationships. It follows, therefore, that it is not necessary for any corporeal things to serve as the object of those rights.[59] Indeed, this non-physical conception of property clears the way for property to include intangibles without any logical or theoretical difficulty.

If property is not essentially the physical substance but rather a bundle of rights and duties that occur between persons,[60] then intangibles are necessarily included in the law of property[61] and the criminal law should recognise this principle. After the societies' transformation to commercial and industrial economies, it might be counterproductive to retain the old physicalist notion. The current modern era of the information economy perhaps demands a wider scope of property that is able to cover different proprietary interests and economic relationships. Kenneth Vandevelde wrote that criminal property should be "no longer solely rights over things, but rights to any valuable interest".[62]

As the above philosophical discussion revealed, there appear to be no convincing objections that a valuable incorporeal TS can be property. Instead, there were moral

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[58] eg, see Penner, 2; Pedersen, 160; Davies, 19.
[59] Weinrib, 120; Davies, 13.
[60] OCTC, articles 50 and 798.
[61] See section 4.2.7 below.
[62] Vandevelde, 335 (He deemed goodwill, accession, trademark and trade secrets as the new prime forms of nonphysical wealth).

objections against the ownership of parts or products of human body.[63] Although human organs have commercial value, it is against public morality to treat them as products that could be legally bought and sold.[64] Transferability of persons or their organs in this way would amount to slavery and would harm the interests of public health. As a result, it was strongly believed that living human bodies, or even parts of organs should never be treated as property which is always an absence of personalty (personal rights).[65] Property must be separable and distinct from a person because the free-standing nature of property would enable its transferability and legitimate commercialisation.[66]

In spite of these objections, parts or products of a living human body are currently recognised as property in English law.[67] Conversely, TSs are impersonal, transferable and tradeable but not recognised as property at all. It is interesting to note that section 32(1) of the Human Tissue Act 2004 prohibits commercial dealings in human material intended for transplantation, but its subsection (9)(c) allows the commercialisation of "material which is the subject of property because of an application of human skill". This imply that *anything* which has been subject to the exercise of work or skill can be recognised as a form of property. In other words, the utilisation of human skills can change non-property to property.

Obviously, TSs are products of labour and skill, therefore, should be capable of being owned. TSs are perfectly capable of being bought and sold. Moreover, raise no ethical issues[68] but promote public interests. In my view, “property”, however broadly conceived, should only cover things that are commodifiable and have a monetary

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[63] As was suggested by Coke and Blackstone "the body was the temple of the Holy Ghost and it would be sacrilegious to do other than to bury it". See *In re Johnson's Estate* (1938)7NYS $_2$d 81.
[64] J. W. Harris, 'Who Owns My Body' (1996) 16 OxJLS .
[65] S Mahomed, M Nöthling and M Pepper, 'The Legal Position on the Classification of Human Tissue in South Africa: Can Tissues be Owned?' (2013) 6 SAJBL 16.
[66] Penner, 105- 127.
[67] *Yearworth and others v North Bristol NHS Trust*, [2009] EWCA Civ 37.
[68] It should be noted that there are things of great social value, such as truth, loyalty, love, beauty, and friendship, but are correctly excluded from the property label because they are incapable of being bought or sold. Moreover, trading these personal values may raise ethical issues.

value. Common incorporeal property includes stock market shares and bonds. Similarly, TSs involve expenditure of time, skill, effort and money. Thus, why should be treated differently and excluded unjustifiably from the modern conception of property that encompasses anything of economic value.

4.2.5 The Position of TSs under the Modern Conception of Property

Clearly, property is a notion of contemporary significance and contested boundaries. However, although property is never static, in Oman and England, valuable TSs are still not recognised as property. In my view, this position is inadequate to meet the needs of a modern economy. Granting TSs property protection is consistent not only with the purposes of the criminal law, but also with the contemporary civil conception of property that is able to protect wider interests and assets. Hence, it would not be unreasonable for English courts to consider TSs as property, at least in some cases. in connection with

A landmark case which considered, among other things, the question of whether TSs could or should be treated as property is *Boardman v Phipps*.[69] Of course, there is much in this case beyond the question whether information can be property, as it also deals with the equitable concept of constructive trust and proprietary rights.[70] However, our focus will be only on the concept of confidential information as property.

In this House of Lords case, Mr Boardman, who was a solicitor for the Phipps family, was given access to confidential commercial information relating to a private company's business. But without authorisation from all of the trustees he obtained further details of the company's affairs to gain control of the company with a plan to sell its Australian operations and so to make a large personal profit. Later, Boardman used the information to procure a very large profit for himself in a breach of trust.

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[69] [1967] 2 A.C. 46.

[70] For some relevant references on these areas, see Alastair Hudson, *Equity and Trusts* (9 edn, Routledge 2017); ; Chris Turner, *Equity and trusts* (3 edn, Hodder Education 2011).

Ultimately, the House of Lords held by a majority that Boardman should be required to account to the beneficiaries of the Phipps family trust for any personal profits that he had made out of his position as an agent for the trustees.

Although this leading case was decided on the bases of the equitable doctrines of constructive trust and account concerning misuse of confidential information by a fiduciary under a conflict of interest,[71] it could have been determined more straightforwardly if the case was decided on the basis that the confidential information was trust property. In effect, both Lord Cohen and Lord Hodson wondered whether the constructive trust could be grounded upon the basis that Boardman had been effectively using trust property.[72] Their Lordships' argument is understandable because – apart from the fact that Boardman was given access to the company's management accounts only due to his position or work on trust business – if that confidential accounting information was a form of trust property, then Boardman would have been definitely accountable for the profits he made in misuse of it, without the need for the traditional equitable principle preventing conflicts of interest. Yet, in this case, Boardman was required to hold his profits on constructive trust without any defence of pre-existing property right. In fact, the House of Lords made a thorough discussion on the idea that confidential information could be property.

For the purposes of this thesis, which is about whether or not there should be criminal property protection for TSs, the rationales of their Lordships on the issue are important. Namely, it is worthy to discuss the debate in the House of Lords over the status of confidential information as property. While some judges believed that what is called "know-how" does qualify as property,[73] others asserted that "information is not property in the strict sense".[74] Interestingly, the five judges divided into five different approaches to the question of whether confidential information can be

[71] Referred to *Bray v. Ford* [1896] AC 44.
[72] [1967] 2 A.C. 46, 127.
[73] Ibid, 107 (Lords Hodson & Guest).
[74] Ibid, 127 (Lords Upjohn & Cohen).

property. To begin with, Lord Hodson clearly regarded TSs as property by stating the following:

> "I dissent from the view that information is of its nature something which is not properly to be described as property. We are aware that what is called "know-how" in the commercial sense is property which may be very valuable as an asset."[75]

Similarly, Lord Guest had no hesitation in coming to the conclusion that the defendant "obtained from the company extensive and valuable information as to the value of the company's assets".[76] Since "the weapon which he [the defendant] used to obtain this information was the trust holding", his lordship found "no reason why information and knowledge cannot be trust property".[77] It could be said that their Lordships' remarks were consistent with Wilberforce J.'s conclusion that the "knowledge" of which profitable use was made "was essentially the property of the trust".[78]

Likewise, Lord Viscount Dilhorne while accepting that "some information and knowledge can properly be regarded as property" [79] indicated (without much explanation) that his lordship did not accept that the information obtained by the defendant could be so considered. This approach echoes Lord Hodson where "each case must depend on its own facts".[80] Obviously, the three judges admitted that certain types of valuable information, particularly TSs, are capable of coming within the legal concept of property. To summarise their views, it is not practical to dispute over whether information is useful as a valuable asset of a business company. It is always valuable to those beneficiaries or otherwise who want to obtain it.

By contrast, the other two Lords, Upjohn and Cohen expressly rejected the idea that confidential information could be property. Like Lord Cohen, who considered that

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[75] Ibid, 107.
[76] Ibid, 114.
[77] Ibid, 115.
[78] *Boardman v Phipps* (Chancery Division) [1964] 1 W.L.R. 993, 1012.
[79] Ibid, 89.
[80] Ibid, 107.

information is "not property in the strict sense of that word",[81] Lord Upjohn concluded that

> "In general, information is not property at all. It is normally open to all who have eyes to read and ears to hear. The true test is to determine in what circumstances the information has been acquired. ... But in the end the real truth is that it is not property in any normal sense but equity will restrain its transmission to another if in breach of some confidential relationship.[82]

With all respect to their Lordships, their reasoning on the question was not completely clear. Their views on the status of information as property seemed to be influenced by the equitable principles of constructive trust in which their application is more straightforward than property. Arguably, with the absence of legal precedent and the difficulties inherent in conceiving of "information" as an object of property, a proprietary constructive trust was a safe and simpler response. As the concept of TSs is of relatively recent vintage, "nothing that references to 'property' in the nineteenth-century case law were in the context of common law property rights".[83] Paul Finn described the debate over whether confidential information is or is not property as probably "the most sterile" one in the field.[84] However, as mentioned earlier,[85] TSs are at the heart of our commercial property law today.

I agree with their Lordships that the confidential information misused in this case was not prepared "to be regarded as property to the trust in the same way as shares held by the trust were its property".[86] Such company-related information was not "of any value to the trust" because the trust could not buy the shares in the company.[87] I also agree with Professor Alastair Hudson that "their Lordships seemed to conflict the question of whether or not confidential information could be property in general terms

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[81] Ibid, 102.
[82] Ibid, 127.
[83] Lionel Bently, 'Trade Secrets 'Intellectuall' but not 'Propert'?' in Helena Howe and Jonathan Griffiths (eds), *Concepts of Property in Intellectual Property Law* (CUP 2013) 69.
[84] Paul Finn, *Fiduciary Obligations* (Law Book Company 1977) 131.
[85] See section 3.2 above.
[86] *Boardman v Phipps* [1967] 2 A.C. 46, 90.
[87] Ibid, 91 (Viscount Dilhorne).

with the narrower question as to whether or not this particular information could have been the property of the Phipps family trust".[88]

In my opinion, the information disputed in *Boardman v Phipps* was not exactly a TS as defined recently in the Trade Secrets Regulations 2018.[89] Although the information obtained was confidential in the sense that it had not been released to the public (this meets the secrecy condition), it was not of an independent "commercial value" in the sense that it is profitable in itself. Obviously, there is a clear difference between information relating to "the company's affairs" or "knowledge of the company" and TSs (such as a secret formula or a process of manufacturing), which may be very valuable assets as their exploitation would lead to profit directly.

This is maybe why their Lordships believed that the information obtained by the defendant about the company only "threw light on the potential value of the shares of the company".[90] But the defendant himself "formulated his investment strategy based on his own analysis of the information because it was not present on the face of the information itself".[91] Of course, distinct from such raw financial data, TSs enable direct economic gains and industrial advantages over others. If the information misused in the case had been from the latter category, it would have been perhaps more easier for their Lordships to identify it as being property.

This opinion of recognising TSs as property was advocated by only three of their Lordships. Perhaps the peculiar circumstances of the case and the reputations of the other two judges[92] pushed the case to the equitable concepts. As rightly suggested

> "Equity is not concerned with commercial exploitation directly per se; it would only become concerned with it once there were some conflict of interest or breach of an

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[88] Alastair Hudson, 'Equity, Confidentiality and the Nature of Property' in Helena Howe and Jonathan Griffiths (eds), *Concepts of Property in Intellectual Property Law* (CUP 2013) 113.
[89] See section 2.3.4 above.
[90] *Boardman v Phipps* [1967] 2 A.C. 46, 97.
[91] Hudson, 114.
[92] Lord Upjohn was a trust lawyer (see his role in Re Gulbenkian's Settlements Trusts 1968) and Lord Cohen was a corporate lawyer (see "Cohen Report" on Company Law Amendment 1945).

> equitable duty. Rather, in *Boardman v Phipps*, equity was using the idea of confidential information as a salve for applying its own, necessarily strict principles about fiduciary duties".[93]

In spite of the fact that property was not clearly identified in this trust case, it could be inferred that TSs can be a form of property. In other words, information is not infrequently regarded as property in English law. The information obtained by Mr Boardman was clearly of great value to him but was not recognised as trust property. Instead, the possibility of conflict between his interest and duty rendered him more easily accountable to the trust as constructive trustees for the profits he made as a result of exploiting that information. The possibility of treating TSs as property was also clearly recognised by three of their Lordships.

There is no shortage of modern authority accepting that TSs constitute property. In *R (on the application of ABNA Limited) and others v The Secretary of State for Health and another*,[94] Mr Justice Davis quite plainly stated that "the claimants' rights of property comprise their trade secrets" because they "are potentially important issues, involving as they do valuable property rights", therefore, "in most contexts [TSs] are regarded as property rights". In *Kynixa Ltd v Hynes and others*,[95] Wyn Williams J held that TSs "may not be given away by a servant; they are his master's property". In *Rank Xerox Ltd v Lane*,[96] Lord Salmon accepted that the company's property rights include "without limitation, its goodwill, technical information, know-how, trade secrets…". These comparable decisions and others[97] may lead us to conclude the possibility of regarding TSs as property in modern English law.

The status of TSs as property is now arguably settled, at least in some case law. However, another relevant question is what is their position under the legal classification of property? How can English and Omani law classify TSs into the

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[93] Hudson, 114.
[94] [2003] EWHC 2420.
[95] [2008] EWHC 1495 (QB).
[96] [1981] A.C. 629, 642.
[97] See, for example, *Attorney-General v Guardian Newspapers Lte* [1987] I WLR; *Herbert Morris Ltd v. Saxelby* [1916] 1 A.C; *Exchange Telegraph v. Howard* [1906] 22 T.L.R.

"property" term? In the tax case of *Federal Commissioner of Taxation v. United Aircraft Corporation*,[98] for instance, Latham CJ stated: "I am unable to regard the communication of information as constituting a transfer of property. … Knowledge is valuable, but knowledge is neither real nor personal property."[99]

4.2.6 Classification of Property under Common and Civil Law

Even if it could be accepted that certain incorporeals can be property, it remains necessary to investigate how and where to fit TSs within the classification of property. The legal classification of property is a very important issue not only for the full determination of the position of TSs into the "property" concept, but also because different protection can result from different classification. To date, these issues have not been properly considered in either Omani or English law, as no definitive determination of the classification of a TS exists in either of the two systems. Thus, this section seeks to explain the classification of property and determine how TSs can be classified under it.

Generally speaking, property under the common-law system is categorised around the main technical differences between real property (land and everything attached to land) and personal property (chattels).[100] In contrast, the civil law tradition distinguishes between immovable property (things of a permanently fixed nature that cannot be removed without damaging or altering its surroundings) and movable property (everything else).[101]

As might be observed, the essence of property under the civil law tradition is tangibility. The language of "moving" is certainly a problematic concept to be used in terms of something that lacks physical substance. Nonetheless, the terminology in the

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[98] (1943) 68 C.L.R. 525.
[99] It has to be mentioned that in the other tax case of *Rolls-Royce Ltd v. Jeffrey* [1962] 1 All E.R, Lord Radcliffe treated TSs as form of property, intangible in the way that goodwill is.
[100] M. G. Bridge, *Personal property law* (OUP 2002).
[101] The OCTC, article 54.

common law has been theoretically neutral in terms of both real property and personal property. For instance, land is obviously tangible but estates in land, the fee simple, etc[102] are intangible. In personal property, debts and company shares, among other things, have been accepted as falling within the concept of property despite their intangibility.[103] Overall, both the civil law and the common law have recognised some intangibles within their conception of property.

However, the respective movable/immovable property in the civil law is completely different from the personal/real property in the common law. In the civil law, real property and its rights protect a thing which an owner can enforce against the public, whereas personal property and its rights only protect a person who utilises his right against a specific individual. On the other hand, the common law classification of property into real property and personal property is different from rights in *rem* and rights in *personam*. In other words, it is possible to have a personal right in relation to real property but it is unusual to have a real right in relation to personal property.[104] Thus, a central characteristic of a personal right is that it can only be exercised against a particular person or in *personam*, but a proprietary right relates to the thing itself and is enforceable against the world, or in *rem*.

Hence, an important question here is which of the personal/real property and movable/immovable property classifications applies to TSs. TSs cannot be land as immovable property is defined in the existing law, but TSs, if they are to be recognised as property, could be classified as personal property (moveable property) or *sui generis*. As will be shown below,[105] TSs have many of the attributes of existing intangible property, therefore, should fall within the general conception of property. If TSs could be deemed as personal property or *sui generis*, one would then conclude that there are three categories of property: real, personal and *sui generis*.

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[102] For a detailed explanation of these terms see, M. P. Thompson and Martin George, *Thompson's Modern Land Law* (6 edn, OUP 2017) 33-37.
[103] Daniel J. Carr, *Property* (2nd edn, W. Green 2014) 5; McCowan, 10.
[104] Ugo Mattei, *Basic principles of property law : a comparative legal and economic introduction* (Westport, Conn. : Greenwood Press 2000) 4-8.
[105] See section 4.2.7.

This dichotomy made between tangible and intangible property is incomplete without looking at the related distinction between choses in possession and choses in action.[106] In effect, the earlier class of personal or movable property is classified into two mutually exclusive sub-classifications: "choses in possession" and "choses in action". Choses in possession, otherwise described as tangible personal property, means corporeal things that can be touched, weighed, measured, like a book, a jacket, or a bicycle or any other goods which possession can be taken. They are perceptible to the senses and capable of transfer by delivery.[107] On the other hand, choses in action refers to different types of intangible (or incorporeal) property such as debts, shares, goodwill, leases, rights under a contract, equitable rights and various forms of IP (patent, copyright, trade mark, etc..).[108] They are only recoverable by action, and not by taking physical possession.

It could be said that the common law and civil law's classifications indicate that property is not static but a dynamic concept. Property in a contemporary context can take many forms.[109] Even choses in possession has developed a wider meaning over time. The importance of choses in action can barely be overestimated in modern commercial conditions. Indeed, as it has been acknowledged

> "[it is] impossible to give an accurate and complete definition of what it [choses in action] means and may include at the present day. The various kinds of property included under the term have little in common beyond the characteristic fact of their not being subjects of actual physical possession."[110]

In view of the choses in action or modern "intangible personalty",[111] it is convenient to ask whether a TS can be classified as choses in action. A short-handed answer from Gareth Jones was that "Information is not like other choses in action, such

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[106] It should be noted that the word "choses" was used to revert to the traditional word "things", see *Colonial Bank v Whinney* (1885) 30 Ch D 261.
[107] M. Bridge, *Personal Property Law* (OUP 2015) 1.
[108] *Armstrong DLWGmbH vWinnington Networks Ltd* [2012] EWHC 10 (Ch), 847.
[109] Green, 'Theft and conversion - tangibly different?', 575.
[110] *Halsbury's Laws of England* (5 edn, 2009), vol 13, para I.
[111] Bridge, 14.

as debt or copyright, which lend themselves more easily to a classical analysis in terms of property".[112]

It could be argued that a TS is dissimilar to mere information or general knowledge or ideas, which are not accommodated in either of the above categories and not protected by law. As was held in the US case of *Desny v. Wilder*,[113] "ideas are as free as the air and as speech", accordingly, cannot be the subject of property rights and cannot be owned.[114] In contrast, a TS is not any information but special information, which involves a great deal of effort and expense, that is too far from undeveloped imaginary things or easy-spread information. Unlike normal information,[115] TSs can be sold or licensed and transmissible between individuals by writing or in electronic form.

Thus, a TS could be a tangible thing if the commercial or industrial information is embodied in any model or physical medium. This material form leads one to consider that TS as being a corporeal thing– a chose in possession. It is not, however, the value of the physical embodiment which is important, but the value of the information it embodies. In different circumstances, if the TS was not in material form that TS could be merely intangible personal property– choses in action.

One may argue that a TS embodied in a document can be a documentary intangible, which is a subcategory of choses in action.[116] Documentary intangibles mainly represent contractual rights (bills and cheques, etc), but TSs if embodied in documents will normally be for the owner own recording purposes, not to record rights or obligations. It could be more accurate to regard TSs as pure intangibles, which are another sub-classification of choses in action (intangible moveable, e.g. debts and

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[112] Gareth Jones, 'Restitution of Benefits Obtained in Breach of Confidence' (1970) 86 Law Quarterly Review , 463.
[113] *Desny v. Wilder* 299 P2d 257, 265 (Cal 1956).
[114] Grant Hammond, 'The Legal Protection of Ideas' (1991) 29 OHLJ 93.
[115] Article 1(d) of the Omani Cyber Crime Act 2011 defines "information" as "whatsoever can be saved, processed, generated and communicated by means of information technology, whether it is in writing, photos, sounds, symbols or signals".
[116] Bridge, 19.

copyright).[117] Like these pure intangibles, TSs are intangible business assets of great monetary value that may exceed copyright.[118]

In practice, pure intangibles are useful analogies to the classification of TSs as purely intangible. TSs are valuable, transferable and lack tangibility, which might contradict the traditional concept of tangible (or corporeal) movable things that involve possession of goods.[119] Nevertheless, TSs are not goods but comprise abstract personality capable of transmissibility. For these reasons, like other intangible property, TSs should be granted limited property rights against unpermitted actions.

Interestingly, in the recent case of *Armstrong DLW GmbH v Winnington Networks Ltd*.,[120] the Deputy Judge asserted that a European Union Allowance ("EUA")[121] is "property" at common law; striking distinction between "choses in action" and "some other form of intangible property" and classifying EUAs under the latter classification. The Deputy Judge found that an EUA is definable, identifiable, capable of assumption by third parties and it has permanence and stability.[122] Therefore, concluding that "an EUA is certainly 'property' and intangible property", yet strictly "not a chose in action in the narrow sense, as it cannot be claimed or enforced by action", but actually "some other form of intangible property".[123]

It could be said that this decision departs from the application of traditional types of asset in personal property to modern forms of property in the contemporary commercial environment. It suggests a threefold classification of personal property into tangible property, choses in action and "other forms of intangible". While there is

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[117] Ibid, 16.
[118] For an explicit comparison with copyright, see section 2.3.1.
[119] Wayne Rumbles, 'Theft In The Digital: Can You Steal Virtual Property' (2011) 17 Canterbury L Rev 354.
[120] [2012] EWHC 10 (Ch), 847.
[121] Means a tradable electronic unit under the European Union Emissions Trading Scheme (EU ETS), giving the holder the right to carbon credits or pollution permits. As such, it is a waste management licence can be traded by companies or individuals. Over 1 million EUAs have been traded from 2009 to 2012. *Armstrong v Winnington Networks Ltd* [2012] EWHC 10 (Ch), 847, 840.
[122] Ibid, 848.
[123] Ibid, 852.

no precise division between different types of property in the civil law system, the common law approach of property provides an answer for how to treat new forms of intangible property. This conceptual approach supports the writer's opinion that the most appropriate category for a TS is as a form of intangible asset *sui generis*.

Of course, this classification has led to the development of different rules and remedies to protect different varieties of property. For instance, if TSs are characterised as intangible assets, there can be no claim in conversion, which does not extend to choses in action or other intangibles.[124] There can also be unavailability of restitution order if TSs are characterised as pure intangibles because once a TS is lost it cannot be restored. On the other hand, equity is a common ground which governs the award of injunctions to prevent an abuse of confidential information. This could an important reason why the common law is reluctant to recognise property rights in TSs, as it is left instead to equity to give recognition to intangibles of proprietary nature. As detailed in chapter 4, tort and other civil remedies would be ill-equipped to offer protection for misappropriation of TSs. The property characterisation of TSs would offer effective criminal protection. As will be discussed in chapter 5, choses in action and other forms of intangible property can be the subject matter of theft. Thus, it does not really matter whether TSs are choses in action or merely forms of intangible asset *sui generis*, both are property protected by the criminal law.

In sum, a TS can be classified as a sub-category of personal property or *sui generis* under Omani and English law even though a TS is an intangible thing because it is possible, as property is presently characterised under English and Omani law,[125] to have intangible property in some cases, particularly financial intangibles. The Omani law, in particular, should learn from the English classification of property how to treat intangibles in the future. This classification is consistent with the modern conceptualisation of property, which rejects the characteristic of tangibility and emphasises proprietary rights.

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[124] *OBG Ltd v Allan* [2008] AC 1.
[125] The OCTC, article 50.

Addressing the traditional barrier of intangibility as a main conceptual objection to the proprietary realisation of TSs is not in itself sufficient; investigating the non-exclusivity question is equally important. As Thomas Merrill states, "[g]ive someone the right to exclude others from a valued resource […] and you give them property. Deny someone the exclusion right and they do not have property".[126] If property is no more than a bundle of rights, it is crucial to investigate the extent to which these rights could be applied to business information. In general, how far various rules of property law can apply to TSs.

4.2.7 The Essential Incidents of Property and TSs

As noted earlier, Hohfeld offered a conceptual scheme for analysing any legal "rights", including property rights. Under his scheme, property involves a set of proprietary rights that conceptualise individual ownership in terms of a relationship with others.[127] In spite of the inclusiveness of this approach, it has been criticised as an overly broad approach that lacks useful distinctive features.[128] As both Becker[129] and Munzer[130] have suggested, a combination between a Hohfeldian rights analysis and Honoré's conception of ownership explains the actual meaning of property in a more useful way.

Honoré, in his landmark paper *Ownership*, has built upon Hohfeldian theory in identifying specific incidents of the "full liberal concept of ownership", known as the "bundle of rights" or "sticks". [131] What he calls "the standard incidents" that enumerates the advantages and disadvantages that an owner will have.[132] These eleven incidents of property are (1) the right to possess; (2) the right to use; (3) the right to

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[126] Thomas W. Merrill, 'Property and the Right to Exclude' (1998) 77 NebLRev 730, 730.
[127] Hohfeld, 23.
[128] Underkuffler, 12.
[129] Lawrence C. Becker, *Property Rights : Philosophic Foundations* (Routledge and kegan paul 1977) 7.
[130] Munzer, 23.
[131] Ibid, 22.
[132] Honoré, 165.

manage; (4) the right to receive income; (5) the right to capital; (6) the right to security; (7) the power of transmissibility; (8) the absence of term; (9) the prohibition on harmful use; (10) liability to execution; and (11) the incident of residuarity.[133]

The "bundle theory" is currently widely represented in property law.[134] It is seen as a flexible concept that both descriptively and normatively allows the production of a more precise specification of legal relations that makes it "all the more fruitful".[135] However, there exists a rarely mentioned link between these various bundle-of-rights and the philosophical theories of property. As operational incidents of the concept of property, they are rooted heavily in the primary political and moral philosophies of property law, namely, Locke's labour theory, Hegel's personhood rationale and general utilitarian theories. The labour-desert theory is the most widely accepted theory of property that confers proprietary rewards over any human endeavour.[136] Likewise, the personhood theory is a leading justification of property title, which provides an important elucidation of the relationship between individuals and the functional purposes of property rights.[137] The utilitarian analysis is an equally powerful rationale of the original functions of property rights.[138] Hence, for the present purpose, this linkage offers a useful criterion as to whether and why the "extended bundle-of-rights conceptualisation of property" can be applied to TSs.

It has to be emphasised beforehand that these standard elements of ownership are not individually necessary for the property title to be granted but may depend upon the nature of each different interest. Waldron argues that it is unhelpful and misleading

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[133] It should be noted here that Christman argues for only the first five incidents as fundamental to ownership. John Christman, *The Myth of Property: Toward an Egalitarian Theory of Ownership* (OUP 1994) 19.

[134] Article 798 of the OCTC provides the owner of a property with the right to use it, benefit from it and dispose it by all the awfully permissible disposals.

[135] Jane B. Baron, 'Rescuing the Bundle-of-Rights Metaphor in Property Law' (2013) 82 UCinLRev 57, 60.

[136] John Locke, *Two Treatises of Government* (Rod Hay 1823) 116.

[137] G. W. F. Hegel, *Hegel's Philosophy of Right* (Clarendon Press 1952) 54.

[138] Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (London, Athlone P. 1970), 14.

to apply one single concept of ownership to all diverse proprietary interests.[139] Various features of property rights are to be found in the literature, however, there seem to be three core rights in the bundle that are examined below.

4.2.7.1 The Right to Exclude

The "right of exclusion" or the power to exclude others from the use or benefits of the asset owned is said to be the only right that is essential to ownership.[140] However, excludability does not easily map on to TSs. Although excludability is arguably easier in the case of personal property (chattels) than real property (land),[141]it is difficult to be applied in the other division of intangible personal property.[142] Unlike tangible goods, which can be kept under "lock and key", intangible information by its nature resists physical excludability.

This quality of non-excludability leads some scholars to reject the argument that TSs could be property.[143] Bridge considers the issue as a "real problem" treating information as property.[144] Bone claims TSs are not a property matter but a problem of contract law.[145] Certainly, excludability is a serious conceptual difficulty resulting from extending all of the rules governing tangible personal property to the realm of TSs.

There are several reasons that the fulfilment of excludability may be the most challenging property characteristic that information faces. As discussed earlier,[146] TSs

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[139] Waldron, 30.
[140] Thomas W. Merrill and Henry E. Smith, 'What Happened to Property in Law and Economics?' (2001) 111 Yale LJ 357; Morris R. Cohen, 'Property and Sovereignty' (1927) 13 Cornell Law Quarterly 8.
[141] Penner, 71.
[142] For a greater distinction between these types of property, see section 4.2.6 above.
[143] Tanya Aplin, 'Confidential information as property?' (2013) 24 King's Law Journal 172, 193; Grant Hammond, 'Quantum Physics, Econometric Models and Property Rights to Information' (1981) 27 Mcgill LJ 47, 54.
[144] Bridge, 26.
[145] Bone, 297.
[146] See sections 2.3.1 and 4.2.1 above.

can be shared with partners, employees, licensees and others without diminishing its usefulness. Unlike tangible personal property, someone can "take" a TS from the owner without ever realising that a "taking" has occurred. By its very nature TSs are incapable of exclusive possession. Furthermore, trade secrecy law does not confer a complete right to exclude competitors from making the same discovery independently or by reverse engineering; it rather confers protection against non-owners' improper means of acquiring the information. Therefore, for policy reasons, TSs are not strictly good against the world.

It could be argued, however, that Merrill and Smith's account of exclusion seems to recover the Blackstonian conception of property rights as a "total exclusion of the right of any other individual in the universe".[147] By doing so, they move away from the bundle of rights conception of property, which has become a legal principle. As Mossoff suggests, the "generalization of the exclusion conception of property into a determinate model for all property rights cannot succeed".[148]

Perhaps the exclusion conception should not be applied firmly and equally to all forms of property. That is to say, the owners' right to exclude is seldom free from limitations and obligations. Limits on the right of owners to exclude include non-owners' rights to entry or access, others' priority to buy or rent (pre-emption), and neighbours' rights to sunlight and air space.[149] More precisely, the right to flowing water over land is a kind of property rights,[150] yet it confers on the riparian proprietors only the right to use the water; there is no right to exclude others. These limitations to the exclusion theory undermine its immutability, which, in turn, should ease the creation of other exceptions in the case of intangibles, like the copyright doctrine of fair use. As such, there should be particular exceptions granted for particular aspects of intangibles.

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[147] Blackstone, 304.
[148] Adam Mossoff, 'The False Promise of the Right to Exclude' (2011) 8 Eco J Watch 255, 262.
[149] The OCTC, articles 801-807.
[150] The OCTC, article 1382.

Likewise, in the sphere of commercial assets, the exclusion strategy is effective only against those who acquire the information inappropriately. This means looking at the exclusionary aspect not as the owner's effective duty to act as a gatekeeper, but as a negative duty *in rem* that requires individuals to not interfere with others' proprietary information. To support this, courts with property crimes before them do not often ask the question whether the victim has locked the property; they ask why the thief did not exclude himself from the stolen property.[151]

TS law grants the owner of the TS a legal right to exclude or prevent improper uses, which could be regarded as a form of excludability. Therefore, TSs should not be treated as less capable of ownership than other forms of IP that grant similar property rights. Interestingly, excludability in IPRs in only for period of time. Thus, an exercise of *dominion* over all property in the strict sense is neither consistent with the dephysicalisation of property, nor it practically useful in the contemporary commercial practice based on financial intangibles. Bronckers McNelis and argue that the fact that TSs do not confer an absolute exclusive right is not so unusual and does not undermine its characterisation as property.[152]

Because most of the traditional rules of property focus on possession, they are not necessarily suitable for intangible assets in this economic age. The current laws prohibit the misappropriation of TSs that were previously under the exclusive control of another. This imply that exercising control over valuable intangibles is itself a type of excludability. Professor Sarah Green agree that "[w]here intangibles are concerned, exclusive control obviously cannot amount to the physical holding of an asset, but equates instead to controlling access to the benefit of an asset in the way that the owner of any valuable thing would wish to do."[153]

It could be said that treating TSs as property is consistent with the Lockean labour-desert theory where "free riders" must not reap the fruit of others' work, but

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[151] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (226/2008) 323.
[152] Bronckers and McNelis, 678.
[153] Green, '*OBG v Allan* [2007]' 48.

those who create value through their labour ought to "own" the end product of their labour.[154] In effect, the bundle of rights conception of property as "social relationships" itself imposes a moral duty upon the society to assign the value of the labour to the labourer.

This theoretical discrepancy challenges the supremacy of excludability, which "has become attenuated".[155] As Lemley put it, property "is not merely a right to exclude others […], but a right to restrict the access, use, and disclosure of information".[156] Similarly, Eric Claeys argues that the right to property is most accurately conceived not as a right of exclusion but as a "right securing normative interests in exclusively using or determining the use of the external asset".[157] Such scholarly arguments refer to property as mainly rights of enjoyment, control and disposition.

4.2.7.2 The Right to Control

TSs meet excludability in the general sense. But TSs' lack of strict excludability might be justified, in a practical way, because encouraging the creation of knowledge and innovation can be hampered by excludability. Nonetheless, to incentivise investment in research and production of useful information, TSs are guaranteed legal protection based on maintaining the secrecy of the information. Hence, maintaining control over the secret information is not only a legal duty but also a legal right or proprietary entitlement. In this way, controlling access to the benefit of the invested information is what the investors would seek to do.

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[154] Locke, 116.
[155] Bronckers and McNelis, 678.
[156] Lemley, 119.
[157] Eric R. Claeys, 'Intellectual Usufructs Trade Secrets, Hot News, and the Usufructuary Paradigm' in Shyamkrishna Balganesh (ed), *Intellectual Property and the Common Law* (OUP 2013) 404.

A significant body of scholars argues that the right to govern is a key characteristic of ownership.[158] The owner of the TS can manage, use, license and control the access to the information. That makes any unauthorised use, access or disclosure of the secret information by employees, rivals or third parties an interference with legal rights. Perhaps only property gives these powers. In Becker's view, the right to manage the use is "itself a bundle of rights which mature legal systems separate".[159]

This view accords with the personhood theory of property where giving individuals some control over external objects is at the core of ownership, which is fundamental for proper self-actualisation and self-development.[160] In effect, Hegel provided a philosophical rationale for property rights in intellectual assets in stating: "an idea belongs to its creator because the idea is a manifestation of the creator's personality or self".[161] Michael Risch has built upon Hegelian theory and deemed TSs the most important class of intangible property.[162]

These practical observations imply two important points. Firstly, they convey a strong conception that intangible information, as products of the mind, qualify as a form of property. Secondly, they suggest that property is nothing more than a legal conclusion. The argument in viewing TSs as property is valid due to the fact that TSs can be owned or controlled. Some similarities between TSs and tangible property may also lead to the conclusion, justifying TSs as a transferable form of modern property.

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[158] Hanoch Dagan, 'Judges and Property', *Intellectual Property and Common Law* (Shyamkrishna Balganesh 2013) 25; Jacqueline Lipton, 'Protecting Valuable Commercial Information in the Digital Age: Law, Policy and Practice' (2001) 6 J Tech L & Pol'y 1, 171; Davies, 2; Waldron, 37.
[159] Becker, 18.
[160] M. J Radin, 'Property and Personhood' (1982) 34 Stan L Rev 957.
[161] Hughes, 330.
[162] Risch, 3.

4.2.7.3 The Right to Transfer

Transferability has been recently viewed as the fundamental characteristic of property.[163] Meaning that anything that is capable of being sold and transferred to another is property within the legal meaning of the term.[164] In other words, if an item is transferable by sale, it can be an object of property.

As far as transferability is considered, it is an undeniable fact that business information is a commercialisable asset.[165] The commercial utilisation of TSs occurs via selling or licensing the information to a purchaser or a licensee who has the desire to know and use the information for economic advantages. Thus, intangible commercial information is equally as transferable as tangible property.

In the US case of *Ruckelshaus v. Monsanto Co.*, the court held that "trade secrets have many of the characteristics of more tangible forms of property. A trade secret is assignable. A trade secret can form the res of a trust, and it passes to a trustee in bankruptcy".[166] Transferability and exchange are also stipulated by article 798 of the OCTC as key features of ownership, where the owner of a property has the right to dispose of it by all the lawful means.

In England, there is a number of early cases in which confidential information has been treated as transferable. In *Bryson v Whitehead*,[167] the court held that "a trader may sell a secret of business and restrain himself generally from using that secret". Likewise, in *Exchange Telegraphy Co v Gregory*,[168] Lord Esher MR remarked that valuable business information "is something which can be sold. It is property, and

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[163] *Dixon v R* [2016] 1 NZLR 678 (held that anything which is "identified, have a value and are capable of being transferred to others" is property).
[164] Ibid, 16 (Stringer J).
[165] Mackenzie, 104.
[166] 467 U.S. 986 (1984), other cases which also justified TSs as property were *Peabody v. Norfolk*, 98 Mass. 452 (1868); *Carpenter v. United States*, 108 S.Ct. 316 (1987) and *Phillip Morris, Inc. v. Reilly*, 312 F.3d 24 (1st Cir. 2002).
[167] (1822) 1 Sim. & St. 74.
[168] [1896] 1 QB 147 (CA), 153.

being sold to the plaintiffs it was their property." TSs are not only transferable by sale, but also via testamentary disposition,[169] as partnership property,[170] and as the subject matter of a trust.[171] These cases clearly reflect the transferability of TSs as property, arguably like a benefit of a contract which can form the subject matter of a trust.[172]

Nevertheless, this analogy with physical property and intangible personal property has been challenged by Professor Aplin. She views the exchange quality of information as problematic because of the lack of a clear basis for the entitlement shared between the transferor of the information and the transferee.[173] It is true that there is a potential risk that the transferor may continue to use the information, despite being paid by the transferee. If I sell you my recipe for a new type soft drink, I am not free to further use or disclose it except that there is a contractual condition. As held in *Bryson v Whitehead*,[174]a person who sold a TS must "restrain himself generally from the use of it". The key point here is that TSs are alienable and assignable because the law places restrictions on the use of the information exchanged unless the new owner authorises such use.[175] Nimmer and Krauthaus argue that

> "In dealing with information, transfers occur by granting access to information or disclosing it, rather than by a formal title transfer… There are no 'natural' limits on one's ability to use information received from another person; we create and define them in law. In this sense, legal rules create property. The property rights are not necessarily vested in only one person at a time".[176]

It could be argued that the traits of transfer and exchange, as with other standards of ownership, are essential attributes of property that are conceptually and practically

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[169] *Green v Folgham* (1823) 1 Sim & St 398.
[170] *Aas v Benham* [1891] 2 Ch 244, 255–6.
[171] *Boardman v Phipps* [1967] 2 A.C. 46.
[172] *Simpson and Another v Light House Living and Another* [2012] 5 LRC 215; *Midland Silicones Ltd v Scruttons Ltd* [1959] 2 All ER 289.
[173] Aplin, 196.
[174] (1822) 1 Sim. & St. 74.
[175] As a general rule, article 392 of the OCTC stipulates that the seller must do what is necessary on his part to transfer ownership to the purchaser and shall ensure no interference with the purchaser rights to derive benefit from the property sold.
[176] Raymond T. Nimmer and Patricia A. Krauthaus, 'Information as Property Databases and Commercial Property' (1993) 1 IJLIT 3, 11.

applicable to intangible business information. Thus, a TS can be deemed as capable of being regarded as property. However, the law seems to struggle with the notions of non-corporeality and non-exclusivity in TSs. In the current modern economy, TSs are often referred to as "proprietary information" or "proprietary technology", but this not clearly realised in the law, particularly, the criminal law. In her analysis of criminal property, Moohr concluded that "modem property law teaches that property rights are not absolute; they are separate and distinct from one another, and a full set of rights does not attach to all forms of property".[177]

One of the chief objectives of the criminal law is the prevention of economic harm,[178] which is also a major utilitarian rationale behind property rights. According to the utilitarian theory of property, an original function of property law is "to prevent the happening of mischief".[179] Recent studies have shown that the misappropriation of TSs causes significant harm to businesses and communities,[180] which perhaps more than "anything that an individual might value", the core of the utilitarian conception of property.[181] Hence, a criticism of the criminal law is that while it has a utilitarian foundation, [182] it does not recognise the mischief of misappropriating valuable commercial assets.

The utilitarian perspective of the instrumental nature of property yields plausible justifications: we protect property because property is valuable, controllable, transferable and tradable; TSs should be protected for the same reasons. This recognition of the instrumental character of property might also credit the idea that the

[177] Moohr, 'Federal Criminal Fraud and the Development of Intangible Property Rights in Information', 739.
[178] A.P. Simester and others, *Simester and Sullivan's Criminal Law: Theory and Doctrine* (6 edn, Hart 2016) 507.
[179] Bentham, 14.
[180] EU Impact Assessment 2013, 174.
[181] Gregory S. Alexander and Eduardo M. Peñalver, *An Introduction to Property Theory* (CUP 2012), 22.
[182] Alani, *Principles of Omani Criminal Law - The General Part*, 14.

boundaries of what can be owned are likely to remain contested as the societies' needs and modern business life require repeated review of the concept of property.[183]

In sum, the above three dominant property incidents are all applicable to TSs. This answers the question of what does it mean that they are property rights, and more importantly, the essential rules of property law can apply to TSs, despite their intangibility. As such, TSs can be stolen, as with other intangible property, and "theft" gives rise to criminal sanctions.

4.2.8 Rethinking the Intangibility Constraint on Propertisation

The intangible nature of TSs presents special problems that do not exist in chattels: but then so is goodwill, debts, shares, copyright, etc. It is inconsistent for both the common law and civil law to embrace intangibility as a conceptual barrier to the propertisation of valuable intangible business assets. Intangible assets are central to the English law and economy, and now the modern English classification of property recognises many forms of intangible property that the civil law should consider. Nevertheless, when it comes to TSs this recognition is denied without real reason.

The constraint may be understandable as a relic of the history. It is historically held in English law that confidential information cannot be an object of property. Many English courts seem simply to have followed the rulings of the precedents. For instance, in *OBG Ltd v Allan,*[184] the court explicitly stated that "[c]onversion applies to choses in possession, not choses in action, to use the historic labels." In *Boardman v Phipps,*[185] it was also stated that for many years English law has marginalised the idea that confidential information could be property.

[183] Davies, 21.
[184] [2008] AC 1, 67.
[185] [1967] 2 A.C. 46, 127 (Lord Upjohn).

These cases have led Professor Lionel Bently to suggest a taxonomic surprise that confidential information is a form of IP but not property.[186] Perhaps the intensity and rationality of the debate over the propertisation of TSs has inspired him to adopt this middle ground between non-property and property. However, how a TS can be IP but itself not property. If he meant a "trade secret" by the term "confidential information", it is not very accurate that all confidential information, including personal information, can be IP. If his informal academic view is consistent with common law concepts of property, it may not be so with the TRIPS Agreement and the EU TSs Directive,[187] both of which refer to TSs as "property rights".[188]These laws conflict with Bently's deep belief that "the view that confidential information is not 'property' remains as strong as ever".[189] Thomas Dreier suggests that the new commercial realities tend to enforce more property rights in IP than ever.[190] Similarly, Carter considers IPRs to be a form of property which is in an increasing analogy with tangible property.[191]

The rule can be taken from recent English cases and laws is that TSs began to be recognised as property. Most of the UK textbooks on IP used to include chapters on confidentiality and breach of confidence,[192] while now "trade secrets" are included as an important aspect of IP.[193] Bently's own most recent IP textbook[194] has shied away from breach of confidence[195] to include confidential information as a form of "intellectual property". There seem international (TRIPS) and regional (EU TSs Directive) influences changed his view. As with money, things in action and other

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[186] Bently, 92.
[187] See also the Trade Secrets (Enforcement, etc.) Regulations 2018 No. 597.
[188] See section 2.3.2. above.
[189] Bently, 62.
[190] Thomas Dreier, 'How much 'property' is there in intellectual property?' in Helena R. Howe & Jonathan Griffiths (ed), *Concepts of Property in Intellectual Property Law* (CUP 2013) 136.
[191] Carter, 715.
[192] eg. Paul Torremans, *Holyoak and Torremans intellectual property law* (7 edn, OUP 2013), chapter 6; Aplin and Davis, chapter 8; Jennifer Davis, *Intellectual property law* (4th edition edn, OUP 2012), chapter 10.
[193] Torremans, *Holyoak and Torremans intellectual property law*, section F.
[194] L. Bently and others, *Intellectual Property Law* (5 edn, OUP 2018) Part V.
[195] Lionel Bently and Brad Sherman, *Intellectual Property Law* (3 edn, OUP 2009) chapters 44-46.

intangible property,[196] the inevitable importance of TSs in modern economic environment would constitute growing pressure for rethinking over the propertisation of TSs.

It is entirely for any given society to decide whether TSs can be regarded as property. In the US context, TSs are frequently and for many years have been regarded as "property" not "Intellectual property" by both cases and statutes. The US law protects TSs as property, therefore, all offences against property are applicable to the misappropriation of TSs.[197]

In England, however, there is unwillingness to follow the proprietary approach. The invocation of property law is seen as a heavy-handed compared with the equitable principles. English law provides remedies against the acquisition of TSs by unlawful means, instead of protection of TSs as property. There also seem to be concerns about undesirable consequences that might flow from the application of property rules to confidential information.[198] Since theft is a criminal act relevant to property, it is understandable that England had not used criminal sanctions to protect TSs.

Oman, on the other hand, has its own historical and social legal backgrounds. While witnessing a rapid socio-economic and technological development, it is lacking the long experience of the common law. Omani law does not protect TSs as valuable assets, either. It simply provides remedies against the acquisition of a TS by unlawful means. Nevertheless, deterrence is important in the Omani environment, in which people are not afraid of losing their money due to civil remedies but more afraid of losing their reputation as a result of criminal sanctions. Unless Omani law regards TSs as property, larceny is not an adequate criminal sanction.

It could be said that in the Omani social and cultural environment, the admissibility and legitimacy of the labelling of business information as property must

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[196] See section 5.5.2 below, for discussion of s.4 of the Theft Act 1968.
[197] See section 5.6 below.
[198] Bently, 69.

be assessed against the Islamic *Sharia* rules. Since questions regarding the definition of property are "quintessentially legal",[199] the Omani constitution explicitly stipulates that "Islamic *Sharia* is the basis for legislation". Therefore, the question of whether or not TSs can be property in Oman must be answer by reference to Islamic law. Vaughan suggests that "[t]he definition of "property" in any society is shaped by its historical, cultural, legal, and religious backgrounds".[200]

4.2.9 The Islamic Perspective of TSs as Property

Unlike secular common law systems, Islamic *Sharia* espouses religiously-based regulations that govern every aspect of human behaviour.[201] The Islamic concept of *mal* is commonly referred to as one of the five essential necessities in addition to religion, life, mind and progeny. *Mal* is also one of the three great pillars of life values along with blood and dignity.[202] Due to the inclusiveness of *mal* and little systematic work on its nature in either Arabic or English literature, some western scholars have interpreted *mal* as equivalent to "property".[203] Vaughan concluded that differences between Islamic and Western concepts of property hardly exist. [204]

While these views emphasise the similarities between *mal* and property, in fact the meaning of *mal* is more adaptable and flexible than that of property. The concept of *mal* has received a great deal of mention in the two primary sources of Islamic law, namely, *Quran* (the holy book of Islam) and *Sunnah* (the sayings and actions of the Prophet Mohammad PBUH).[205] For present purposes, the following analysis focuses

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[199] Simester and Sullivan, 'On the Nature and Rationale of Property Offences', 171.
[200] Richard E. Vaughan, 'Defining Terms in the Intellectual Property Protection Debate: Are the North and South Arguing Past Each other when we say "Property"? A Lockean, Confucian, and Islamic Comparison' (1996) 2 ILSA J Int'l L 307, 322.
[201] Joseph Schacht, *An Introduction to Islamic Law* (OUP 1964) 2.
[202] Jamila Hussain, *Islamic Law and Society* (Federation Press 1999) 20.
[203] Chad M Cullen, 'Can TRIPS Live in Harmony with Islamic Law-An Investigation of the Relationship between Intellectual Property and Islamic Law' (2010) 14 SMU Sci & Tech L Rev 45, 52.
[204] Vaughan, 355.
[205] For specialist texts that explain these sources see Mashood Baderin, 'Understanding Islamic Law in Theory and Practice' (2009) 9 LInf Management 186.

on whether TSs can be regarded as a form of *mal*. The answer could be found in the Islamic classification of *mal*.

4.2.9.1 The Meaning and Classification of *Mal* in the Islamic Law

The term *mal* is discussed by Muslim scholars in the context of legal transactions or "res in Commercio".[206] In Islamic jurisprudence, there are four types of "res" of *mal*: (1) *ayn* (tangible goods); (2) *dayn* (debt); (3) *manfaah* (usufruct) and; (4) certain *haqq* (rights). Al-khafif illustrated the distinction between *shai* (object), *ayn* and *manfaah*.[207] The general term *shai* is used in Islamic scholarship to denote everything that is in existence either in the physical sense (*hissia*) or in the legal sense (*hukmia*). The latter includes intangibles that exist in abstract, like ideas and notions. Everything that exists, in reality, is classified as *shai*. *Ayn* refers to all corporeal things that may be *mal* or non-*mal*.

Manfaah signifies any "benefit" or "utility", and is used in contrast to *dharr*, which means harmful or injurious. *Manfaah* is gained out of tangible things such as the riding of horses or the residing in houses. Therefore, Al-Khafif argued that a right of *manfaah* cannot be considered as a right that can stand on its own but is contingent upon the existence and legal status of the physical element.[208] Wohidul further suggests that there are certain *manfaah*, such as the enjoyment of sunlight, moonlight, air and the right of neighbourhood, which are not capable of being the subject matter of legal transactions and, hence, are not *mal*.[209] It should be noted that these things are excluded not because of their non-tangible nature but because of their non-controllable nature, and the fact that people have the right to partake in them.[210]

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[206] Schacht, 134.
[207] Ali Al-khafif, *Ownership in Islamic Law* (Dar Al-fiker 1996) 8-15 (Arabic).
[208] Ibid.
[209] Muhammad Wohidul, 'Al-Mal: the Concept of Property in Islamic Legal Thought' (1999) 14 ALQ 361, 363 (Arabic).
[210] Articles 801-807 of the OCTC.

Dayn is another type of *mal*. *Dayn* means debt, financial obligation and liability. These are not to be confused with the last form of *mal*, *haqq* (proprietary rights), such as right to *intifa* (right of enjoyment) and the right to *irtifaq* (easement).[211] It could be argued that *dayn* are in many respects similar to the English right of "chose in action", which also relates to intangible property.[212]

From the above discussion, it is clear that the ambit of *mal* is wider than the English concept of property and comprises both tangible and intangible objects. As Al-Usmani maintained, the emphasis of the Islamic concept of *mal* is not on corporeal existence but on a utility and value that is recognised by the community.[213] Wohidul, in his work, agrees on the incorporeality and flexibility of *mal* and points out that

> "Shariah has not imposed unnecessary limitation on the meaning of *mal* by defining it in a narrow perspective; rather the concept of *mal* is left wide on the basis of peoples' customs and usages".[214]

Contrary to the above view of the majority of the Islamic schools,[215] the classical Hanafi school excludes *manfaah* from the definition of *mal*. In their view, *mal* is what human instinct inclines towards that can be possessed, acquired and stored for the time of necessity.[216] By this conception, intangibles, in general, are not *mal*. Thus according to Hanafi jurists, any transgression of usufructory rights will not give rise to any damages. In effect, their requirement of corporeality can be clearly seen in their definition of sale, which is restricted only to exchanging goods with goods. This Hanafi materialist conception is similar to of the common law eighteenth-century understanding of property and the Blackstonian physicalist conception of the "external thing".

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[211] OCTC, articles 954 and 973. It should be noted that there certain *haqq* which are non-proprietary rights, for example, rights of guardianship, right of agency and right accruing from a marriage contract. On the other hand, *manfaah* can be a form of *haqq*.
[212] ETA, 4(1).
[213] Mohammad Taqi Al-Usmani, *Contemporary Islamic Jurisprudence*, vol 1 (Alqalam 2013) 74.
[214] Wohidul, 362.
[215] Mohammad Abu Zahrah, *Philosophies of Ownership and Contract in Islamic Sharia* (AlFikr 1996) 57 (Arabic).
[216] Wahbah Al-Zuhaili, *Islamic Jurisprudence and its Evidence*, vol 4 (Alfikr 1985) 40 (Arabic).

Other Muslim scholars criticise the views of the Hanafis. To them, the Hanafi conception of *mal* is not compatible with the *Quranic* provisions where there is no reason to confine *mal* to mere corporeal substance.[217] Moreover, the Hanafi view is not consistent with accepted legal practice where *manfaah* is naturally desired by people and customarily regarded as having commercial value, and is therefore transmissible. Many contemporary Hanafi jurists accept the proprietary nature of *manfaah* as it has benefit and utility within the community.[218]

In light of the above, the modern definition of *mal* is non-exhaustive. Further, it is clear that physicality is not an essential element of *mal*. Abu Zahrah emphasises that *mal* is anything that is permitted under the *Sharia* that provides benefit, either corporeally or by usufruct.[219] The majority of scholars agree that anything that is forbidden under *Sharia* cannot be accepted as recognised *mal*, but anything else can be if it has benefit and commercial value. Thus, TSs should be recognised as *mal* or property.

4.2.9.2 The Position of TSs under the Islamic Classification of *Mal*

Under the flexibility of the Islamic concept of *mal* there should be no difficulty in regarding intangible information as property. Beneficial intangibles are already capable of being the res of *mal*, therefore, intangible business creations or innovation can be valid *mal* under Islamic law. Though the legality of TSs was not explicitly discussed by classical Muslim scholars, as it is a recent phenomenon, it is arguable that TSs can be a form of *manfaah* within the classification of *mal*.

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[217] Abu Zahrah, 58.
[218] Al-khafif, 9.
[219] Abu Zahrah, 73.

Some of contemporary scholars argue that IP fall within the criteria of *manfaah*. Most of these arguments relating to the acceptance of IP as *mal* rest upon the utility of the latter and lack of either *Quranic* or Prophetic sources denying the protection of intellectual creations.[220] Other writings justify the protection on the basis that intellectual products are the fruits of human endeavour and labour that are encouraged and recognised by *Sharia* as legitimate means of gaining rewards.[221] Cullen concludes that IP "fit[s] well into the Islamic property framework".[222]

Although the Islamic concept of *mal* is equipped to deal with intellectual assets, there are differences between IPRs and TSs. While IPRs are sometimes manifested in physical embodiments, TSs are not necessarily dependent upon physical elements. Moreover, the proprietary status of IPRs is dependent on some sort of public disclosure but TSs are hidden from the public.[223] These differences may involve different arguments, despite the incorporeal analogy.

One line of argument for considering TSs as property is their correspondence with the conventional characteristics of *mal*. Drawing on the above jurisprudential debate, there appear to be four essential attributes required for a subject matter is to be recognised as *mal*: (1) commercial value; (2) capability of control and ownership; (3) admissibility in the eyes of the *Sharia* and; (4) transmissibility and alienability. Like the common law incidents of ownership, the Islamic attributes of *mal* qualify TSs for ownership. In effect, TSs can be transmitted through inheritance and disposed of at will.

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[220] Bashar H. Malkawi, 'Intellectual Property Protection from a Sharia Perspective' (2013) 16 S Cross U L Rev 87, M. A. Naser and W. H. Muhaisen, 'Intellectual Property: An Islamic Perspective' (2009) 56 J Copyright Soc'y USA , 571.

[221] Amir Khory, 'Ancient and Islamic Sources of Intellectual Property Protection in the Middle East: A Focus on Trademarks' (2003) J Law & Tech , 155; Ida Azmi, 'Basis for the Recognition of Intellectual Property in Light of the Sharia' (1996) IntRevIP , 132; Fathi Al-Dirini, *Right to innovation In Islamic jurisprudence* (Al-risala 1977) 17.

[222] Cullen, 53.

[223] Section 2.3.3.

Another argument is that Islamic law has long recognised labour as a valid means of acquiring ownership. The *Quran* praises working to generate wealth generally without restrictions on individuals so long as they seek profit through legitimate means.[224] The Prophet has also said, "no one earns anything better than that which he earns with his own hands, and all accepted dealings".[225] Scholars have interpreted labour and earning here to include both physical and mental work.[226] It could be argued that if Islam rewards physical labour, such woodcutting and shepherding, then mental labour, which produces useful knowledge, is of greater significance. The Prophet himself is reported to have said that "the ink of the scholar is more sacred than the blood of the martyr".[227]

Furthermore, if useful knowledge is not *mal*, the Prophet would have never permitted it as a valid dowry, because only *mal* can be given as dowry.[228] This happened when the Prophet allowed the dowry of a woman to be a piece of knowledge (some teachings of *Quran*) payable by her husband.[229] Accordingly, *manfaah* of mental work is a valid category of *mal*. Under Islamic law, those who have expended some time and intellectual efforts to produce beneficial knowledge ought to be respected and rewarded and this should be extended to include TS developers.

Nevertheless, there have been objections to the concealment of *ilm* (knowledge) in Islamic jurisprudence. Al-Qarafi argues that *ilm* must not be traded or monopolised and hence cannot be *mal*. To him, *ilm* is for the common good and the shared heritage of all humankind.[230] He and other common-law scholars[231] refer to the Prophet's

[224] CH4:29 and CH73:20.
[225] Sahih Al-Bukhari, the Book of Sales and Trade, 34/22.
[226] Hajar Al-asqalani, *Fath Al-Baari* (Dar Ailm 1988), 4/356; Azmi, 664.
[227] Ibn Al-Jozy, *Ell Mutanahi*, 1/80.
[228] CH4:24.
[229] Sahih Al-Bukhari, the Book of Marriage, 67/49.
[230] Shehab Al-Qarafi, *Islamic Jurisprudence*, vol 3 (3rd edn, Dar Al-salam 2010) 256.
[231] Steven D. Jamar, 'The Protection of Intellectual Property under Islamic Law' (1992) 21 CapULRev 1079, 1093; Vaughan, 358.

warning that "whoever is asked about some knowledge that he knows, then conceals it, will be bridled with bridle of fire".[232]

It is not accurate to conclude that the protection of TSs falls within the said prohibition. For one reason, as Al-Shahrani differentiates, the sin is the concealment of religious knowledge because its seeking is a religious duty but other knowledge and sciences can take the form of commercial transactions.[233] Further, though the Prophet encourages the sharing of useful knowledge as the best form of charity making a living out of it is not prohibited because everyone is entitled to benefit financially from his or her endeavour. To this end, the Prophet urges society to "give the worker his wages before his sweat dries".[234]

A closer look into the rules of TSs reveals that the mechanisms of TS do not lead to the concealment of knowledge in the meaning prohibited. The overall structure of TSs stimulates and incentivises the generation of knowledge and does not deny the right of others to learn and reach the same knowledge. Thus, it is the contention of this study that the recognition of TSs does not contradict the broader Islamic conception of *mal*. Rather, a contradiction might result from not providing prohibition against the misappropriation of knowledge-based information.

4.2.9.3 Situating TSs within the Islamic Criminal Law

Before situating TSs in the Islamic criminal law, one could speculate why should property protection only be extended to those things with an economic value? It could be argued that human instinct inclines often if not always to things that economically valuable, which can improve one's living standard and wellbeing, but not trivial or petty things. This is maybe why Blackstone described property as "so generally strikes the imagination and engages the affections of mankind".[235] Valuable things are often

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[232] Sunan Abi Dawud, the Book of Knowledge, 26/18.
[233] Hussein Al-Shahrani, *Copyright in Islamic Jurisprudence* (Tybah 2004) 258-262 (Arabic).
[234] Sunan Ibn Majah, the Book on Pawning, 20/45.
[235] Blackstone, *Commentaries on the Laws of England*, 2.

products of labour, skill and expenditure undertaken with a view to boosting the quality of a person's life and the community as a whole. Given their social and economic value, property or valuable things are central to personal wellbeing; and, accordingly, their theft diminishes one's standard of wellbeing, that should be prevented via property protection. In the words of Lord Camden, "the great end for which men entered into society was to secure their property".[236]

Returning to the issue at hand, if the concept of *mal* in Islamic jurisprudence is inclusive of intangible and tangible assets then the intangible products of one's mental efforts should be protected. Under Islamic law, if anything is deemed to be *mal*, it is granted very strong protection to the extent that in certain circumstances, the taking of something without the consent of its owner could be punishable with amputation of the hand. Since larceny is a criminal conduct relevant to *mal*, questions arise as to whether the Islamic criminal law extends to TSs and whether the intangible nature of TSs hinders the application of larceny.

The Islamic criminal law imposes two main punishments for larceny: (1) *Hadd*, an explicit and fixed penalty of amputation of the thief's hand under certain conditions[237] and; (2) *Tazir*, a discretionary punishment, imprisonment and/or fine. This Islamic criminal hierarchy indicates that *hadd* is a serious crime that must satisfy several strict conditions concerning the stolen *mal*. The stolen object has to reach the *nisab*, a minimum value that is approximately equal to US$40,[238] be in custody and be owned by someone.[239]

Applying these conditions to TSs is problematic. It is not the financial value that hampers the imposition of larceny but the important requirement of custody or for the

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[236] *Entick v Carrington* (1765) EWHC KB J98.
[237] The *Quran* directly states that "[As for] the thief, the male and the female, amputate their hands in recompense for what they committed as a deterrent [punishment] from Allah." CH5:38.
[238] Matthew Lippman, Sean McConville and Mordechai Yerushalmi, *Islamic Criminal Law and Procedure* (Praeger 1988).
[239] Abdulqadir Odeh, *Islamic Criminal Law* (Dar Al-Hadith 2009) 422- 469 (Arabic).

information to be taken from a secure place.[240] The value of business information usually entails some kind of circulation and disclosure to employees, partners, suppliers and licensees to maximise its value and investment. As Professor Jamar suggests, "Islamic law did recognise that physical property on one hand and ideas on the other are conceptually separable".[241]

More critically, in order to apply the punishment of *hadd*, there must be an explicit text in the *Quran* or the *Sunnah*,[242] which is obviously[243] lacking in relation to the misappropriation of TS. Thus, the taking of a TS could not be considered as a larceny. Most Muslim scholars maintain that the *hadd* punishment is confined to conventional larceny of tangible *mal*.[244] Moamen Gouda notes that

> "The current setup of the Islamic criminal law of theft contains major inefficiencies as crimes with severe social harm have relatively lenient punishments whereas less serious crimes and petty theft have an extreme punishment of hand amputation."[245]

To counter such criticism, Ramadan draws a distinction between conventional larceny and other larcenous acts, as the former does not emphasise the value of the stolen item but rather the "secretive nature" of the stealing and its negative effects on social peace and order.[246] In a similar vein, Ibn Jawziyya describes the logic behind the *hadd* of larceny by arguing that

> "One cannot take precautions against the thief who breaks into houses and breaches one's hiding-places and breaks locks; the owner of the goods cannot do any more than hiding them in secure places. Therefore, if it were not prescribed for the hand

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[240] MA Naser and WH Muhaisen, 'Share'a: Intellectual Theft or Intellectual Infringement?' (2009) 4 JICLT 71, 74.
[241] Jamar, 1085.
[242] Odeh, 64.
[243] It has to be mentioned that the sacred texts related to *hadd* as fixed punishments for fixed crimes , namely Adultery, False allegation of unchastity, Apostasy, Highway robbery, Drinking alcohol and Rebellion, cannot be routinely interpreted to cover other situations, but the category of *tazir* can cover situations which they could not have envisaged before.
[244] eg, Mohamad Abu Zahra, *Crime & Punishment* (Dar Alfikr 1998); Mahmood N. Hussni, *The Basic Principles of Islamic Penal Jurisprudence* (Dar Alnhda 2006) (Arabic).
[245] Moamen Gouda, 'Stealing More Is Better? An Economic Analysis of Islamic Law of Theft' (2016) 42 EuJL&Eco 103, 124.
[246] Hisham Ramadan, 'Larceny Offenses in Islamic Law' (2006) Mich St L Rev 1609, 1617.

> of the thief to be cut off, then people would steal from one another and a great deal of harm would be done".[247]

In Islamic jurisprudence, *tazir* applies to all offences against *mal* and other crimes for which there are no specified penalties, rather it is left to the state to regulate in the light of Islamic general rules and in accordance with public interest, changing conditions and times.[248] Hence, Islamic criminal law is complementary with the misappropriation of modern products. As Beltrametti concludes, the Islamic legal system "is flexible and adaptable and that this flexibility is to be used in order to face economic reality."[249]

This appreciation of the economic realities necessitates protection against economic harm. As commercial secrets hold commercial value and utility that fall within the usufructuary paradigm of *mal*, the misappropriation of incorporeal *mal* is, accordingly, punishable. That is to say, the misappropriation of TSs could be plausibly situated under the category of *tazir*. The legitimacy of such classification, in addition to the above arguments, is founded on the *Quranic* prohibition of "do not consume one another's wealth by unjust means".[250] Protecting TSs would certainly result in protecting a legitimate source of wealth (*mal*) and it would also prevent unjust enrichment; both of which are main objectives of Islamic criminal law.

In sum, the discretionary punishment of *tazir* is applicable to all cases that do not meet the conditions of *hadd*. This means that larcenous acts causing economic harm would receive appropriate criminal punishment. TS misappropriation, coming under *tazir*, would mean that imprisonment and/or a fine can be imposed in a manner that is similar to common-law criminal systems and present-day sanctions. In this regard, the *tazir* penalties could sit well with Lord Phillips's previous willingness "to

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[247] Cited in Moamen Gouda, 116.

[248] Ahmed Al-alfi, 'Punishement In Islamic Criminal Law' in M. Cherif Bassiouni (ed), *The Islamic Criminal Justice System* (Oceana 1982) 227; Ghaouti Benmelha, 'Tazir Crimes' in M. Cherif Bassiouni (ed), *The Islamic Criminal Justice System* (Oceana 1982).

[249] Silvia Beltrametti, 'The Legality of Intellectual Property Rights under Islamic Law' in T. et al. Mach (ed), *The Prague Yearbook of Comparative Law* (2009) 92.

[250] CH2:188.

see sharia law operate in the country, so long as it did not conflict with the laws of England and Wales, or lead to the imposition of severe physical punishments."[251] It may also support the Archbishop of Canterbury when he "advocated the adoption of parts of Sharia, or Islamic law, in Britain".[252]

Seemingly, commercial intangibles do fit well under the conception of property in Islamic law. Thus, Islamic property law can be integrated into the existing trade secrecy system. Oman should take a different approach than the current one which does not recognise intangibles as property. There is also a clear possibility of legislative harmonisation of TSs protection between Western and Eastern societies.

4.2.10 Evaluation of "Property" as a Basis for Criminal Protection of TSs

From the normative argument of property within Islamic law and the common law, strong support can be obtained for propertising TSs and to dispel the exclusive tangibility of property. No compelling legal reason was found for the definition of property to be restricted to the tangibility and exclusivity conceptions that were historically the case. In the contemporary age of the information economy, the idea that property embraces tangible things appears flawed and outdated.

A coherent and conceptually systematic paradigm of property encompasses whatever is economically valuable, customarily commerciable and legally permissible. This conception may satisfy Song and Leonetti's search for "a new form of property and a new form of theft".[253] The concept of property used by the criminal law should not be limited to tangibles but should encompass those intangible products that are commercially saleable and capable of being stolen.

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[251] Patrick Wintour and Riazat Butt, 'Sharia Law Could have UK Role, Says Lord Chief Justice' http://wwwtheguardiancom/uk/2008/jul/04/lawislam accessed 15/2/2016.
[252] Ruth Gledhill and Philip Webster, 'Archbishop of Canterbury argues for Islamic law in Britain' http://wwwthetimescouk/tto/faith/article2098951ece accessed 12/2/2016.
[253] Moonho Song and Carrie Leonetti, 'The Protection of Digital Information and Prevention of Its Unauthorized Access and Use in Criminal Law' (2011) 28 JComInfoL 523, 542.

Nevertheless, the sufficiency of the property analysis to confer perfectly acceptable criminal protection to TSs may not be culturally very plausible. Although the property concept is itself a theoretically powerful justification for protection of TSs as property, there may be cultural and practical issues to face. Firstly, there is a potential gap between the legal philosophy of property law and social norms concerning the misappropriation of intangible property. Since property is a "culturally loaded" notion,[254] there is a presumption that it is morally permissible to use unauthorised commercial information, but not to steal a commercial item from a shop. This social attitude can be attributed to the intangibility of such products and the accessibility of information in general. In this sense, property rights in TSs may be socially acceptable but criminalisation of TSs misappropriation might not be regarded as legitimate.

Secondly, as a practical issue, the theft of physical things automatically conveys the image of lost property, but the misappropriation of TSs might not be envisaged as such. Given the fact that the creator of a TS still possesses it and may continue to use it after the misappropriation has occurred, people may doubt that the loss of a TS qualifies as an analogous harm. That is why when a physical item is stolen criminal law does not usually inquire closely into its value. Moohr argues that mere interference with intangible business assets should not warrant criminal sanctions unless proof that the victim sustained economic loss is provided.[255]

It would seem inconsistent to accept that a TS is worthy of property protection but its misappropriation is not worthy of criminalisation. The possible gap between social-cultural norms and proposed legislative protection of TSs entails broader provision that goes beyond respect for proprietary interests to the rule of prohibition of harm to others. Certainly, the property theory is not a justification for criminalisation in the same way as the harm principle. Perhaps any effective

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[254] Davies, 9.

[255] Moohr, 'Federal Criminal Fraud and the Development of Intangible Property Rights in Information', 737.

criminalisation of TS misappropriation would not be successful unless the public is convinced that the misappropriation of TSs is economically harmful and morally wrong. This intricate linkage between property, harm and morality is specific and unconventional.

As such, this thesis takes a different approach than the majority of literature in the field that is exclusively confined to, and contested in relation to, the justification of the criminalisation of TSs misappropriation in terms of property. Arguably, reliance on the property argument for criminal protection of intangible assets may face clashes, certainly in the Omani cultural environment. Thus, these arguments need to be supplemented with the popular theories of criminalisation of harm and morality, if criminalisation is to be fully justified.

This alternative triadic approach to considering criminalisation would help to secure social acceptance, balance the scope of criminalisation and reduce the risks of overcriminalisation, as only those harmful and immoral interferences with proprietary interests would come under the focus of the criminal law. In effect, the term "economic espionage" itself implies harm and immorality, which are examined next.

4.3 The Harm Principle and TS Misappropriation

4.3.1 Introductory Remarks

The previous section has systematically argued that anything that has economic value and is commerciable should be eligible for protection as property. In that aspect, the tradeable nature of TSs played a key role in harnessing the property theories and situating TSs in close analogy to ordinary property. Nevertheless, the theory of property is not a generally recognised theory of criminalisation, while the question of what is criminal needs to make reference to principles of criminalisation to be normatively justified.

In this regard, the "harm principle" and "legal moralism" are not only the most relevant theories for tackling the ultimate criminalisation question but also the most compelling grounds for stimulating Omani attitudes to the problem of the current lack of criminal sanctions. It is conceivable that some component of harmfulness or immorality is paramount for a decision to criminalise conduct that was, hitherto, only civilly protected.[256] To that end, the two remaining sections – harm and morality – explore what constitutes a harm-causing act and what forms of immorality warrant criminal prohibition in a society. I begin by addressing the principle of harm.

The harm principle is a central socio-political theory that any discussion of criminalisation should not overlook. As detailed above, the classification of a TS as a form of property has offered a legitimate grounding for criminalisation, however, the harm involved in misappropriating intangible information is not as noticeable as the harmful effects of stealing tangible property. The TSs can be taken without depriving the owner of his actual possession. Consequently, there is room to deny or dispute the harmfulness of misappropriation of TSs. This is critical for its perceived legitimacy as property because as Simester and Sullivan suggested, property offences are "intimately bound up with harm".[257]

A second problem is that "not every case of harm is appropriate for the criminal law" [258] and, currently, most cases of non-physical or economic harm are said to be solely within the ambit of the civil law.[259] Although there is little academic discussion on the question of civil/criminal harm, some writers doubt that the taking of commercial information is so heinous as to be criminalised, but rather should be remediable as a matter of civil law.[260] In all accounts, criminal liability without harm

[256] Moohr, 752.
[257] Simester and Sullivan, 169.
[258] Robert W. Drane and David J. Neal, 'On Moral Justifications for the Tort/Crime Distinction' (1980) 68 CalLRev 398, 404.
[259] Ibid.
[260] Kingsbury, 154; Neel Chatterjee, 'Should Trade Secret Appropriation Be Criminalized?' (1997) 19 Hastings Comm& EntLJ 853, 898.

would be liability without good reason and therefore unjust. As Hyman Gross articulates the importance of harm is that

> "In general, it is harm that makes conduct criminal, because the conduct produces or threatens the harm, or even in some cases constitutes the harm. Moreover, a particular criminal act is the kind of criminal act it is because of the kind of harm associated with it. An understanding of criminal harm is therefore essential to an understanding of criminal conduct."[261]

Hence, this section will seek to investigate these problems. And to what extent TS misappropriation satisfies the Harm Principle as a key justification for criminalisation. It will also consider to what extent the harm of TS misappropriation, if any, is akin to the harm which underlies existing property crimes, and so consider what the harm is that should be punished by the criminal law.

4.3.2 Establishing Harm: What Constitutes a Criminal Harm?

4.3.2.1 Harm to Others: JS Mill

The notion that state coercive intervention into the individual's liberty is justifiable on the premise of harm prevention is generally attributed to John Stuart Mill. He, in his pioneering work *On Liberty*, famously articulated that "the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others."[262] In this political sense, Mill's thesis of harm is a negative one. It disallows states from legislating in any way to police conducts that are purely or even primarily immoral but not harmful to others. It also seems partly utilitarian, because one's "own good, either physical or moral, is not a sufficient warrant."[263]

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[261] Hyman Gross, *A Theory of Criminal Justice* (OUP 1979) 114.
[262] John Stuart Mill, *On Liberty* (OUP 1859) 13.
[263] Ibid.

It might be mistakenly inferred that Mill's scant explanation of the critical term "harm" leaves a very narrow principle. By contrast, his principle of harm is not confined entirely to the actual damaging consequences of conduct; as its later part equally includes the "risk of damage".[264] Accordingly, any conducts that cause harm to others or risks causing harm can be an appropriate subject for coercive regulation by the state.

Despite Mill's recognition of harm and the probability of harm, the main criticism of his principle is that it "solves very little".[265] Without any sufficient definition, almost anything could, conceivably, be a harm. Such uncertainty is unacceptable in the criminal domain. The scope of criminal harm needs to be taken further towards a substantive account. Mill was not directly considering criminal law in setting out his principle, but a less broad and more detailed conception of harm might be found in Feinberg's work.

4.3.2.2 Feinberg's Refined Harm Theory

If Mill first originated the harm criterion for criminalisation, Feinberg established the most influential refinement of the Harm Principle. In the first quarter of his extensive, four-volume work, *The Moral Limits of the Criminal Law*,[266] he defines harm as the "thwarting, setting back, or defeating of an interest".[267] By describing harm as a setback to one's interests, Feinberg's definition is sufficiently concrete and can justifiably be taken to cover setbacks to what a person regards as being valuable.

Feinberg links the scope of harm to the nature of *interests* that could be set back. Interests of others, according to him, "consist of all those things in which one has a

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[264] Ibid, 75.
[265] Herbert L. Packer, *The Limits of the Criminal Sanction* (OUP 1969) 266.
[266] Joel Feinberg, *The Moral Limits of the Criminal Law: Harm to Others* (OUP 1984); the other three volumes are *Offense to Others* (OUP 1985); *Harm to Self* (OUP 1986) and *Harmless Wrongdoing* (OUP 1990).
[267] Ibid, 33.

stake".[268] He further draws a distinction between "ulterior interests" as "a person's more ultimate goals and aspirations",[269] and "welfare interests", which constitute more paramount interests that all members of the society share as essential for the attainment of life's ultimate goals.[270] The latter category, being core interests that every person seeks such as economic adequacy and financial security "cry out for protection".[271]

Furthermore, Feinberg provides an explanation of this linkage in relation to property crimes. He sees that "larceny, or robbery, or fraud, all attack one's entire personal well-being, by attacking the welfare interests necessary to it." [272] Consequently, for him, setbacks of proprietary interests are criminal harms justified by the Harm Principle *par excellence*. Clearly, Feinberg's harm principle is more functional and technically developed than Mill's. Unlike Mill's open account of harm, Feinberg's principle includes some limiting characteristics, and emphasises economic harm as criminal harm.

Being specifically directed towards the criminal law, Feinberg's formulation requires any harmful conduct to be also *wrongful* before it can legitimately be criminalised. In other words, not all setbacks should be penalised, but only "setbacks of interests that are wrongs, and wrongs that are setbacks to interest".[273] Recognising the harmfulness and wrongfulness elements in Feinberg's definition, Ashworth and Horder proposed that "it is not the causing of harm that alone justifies criminalization, but the wrongful causing of harm".[274] Under this conception, interference that is both damaging *and* wrongful is what differentiates criminal harm from other types of harm.

To give a relevant example: in competition arenas, companies may try some competitive tactics that make their rivals' businesses unprofitable and force them out

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[268] Ibid, 35.
[269] Ibid, 38.
[270] Ibid.
[271] Ibid.
[272] Ibid, 63.
[273] Ibid, 36.
[274] Horder, 29.

of business. These firms may claim that there has been a setback to their interests, however, as long as the competition was operated fairly, no wrong has been committed and therefore there is no valid case for criminal intervention. Businesses, generally, have no legal right not to be competed with or for their ventures to thrive.[275] Consequently, no person's legal interests have been wrongfully harmed, the main legitimate reason for criminal prohibition.

Interestingly, for Feinberg, the competition sphere is of special concern because here the "harm principle must be supplemented by rules for distinguishing legitimate from pernicious forms of competition, and justified from unjustified tactics within legitimate contests".[276] Meanwhile, he suggests a general standardised test that, "whether such an invasion has in fact set back an interest is whether that interest is in a worse condition than it would otherwise have been in had the invasion not occurred at all."[277]

This test operates to trigger the chief concern of civil remedies, which is to restore the situation to what it would have been had the damage not occurred. Nevertheless, Feinberg further imposes an effectiveness requirement. In his words, "[i]t is always a good reason in support of penal legislation that it would probably be effective in preventing (eliminating, reducing) harm […] and there is probably no other means that is equally effective at no greater cost to other values."[278] That, according to him, makes his conception of harm a "somewhat diluted formulation".[279]

Undoubtedly, Feinberg and Mill sowed the seeds for the Harm Principle and delimited its main criterion, however, it would be a mistake to limit the Principle to their conceptions only, despite their apparent support for the criminalisation of wrongful economic harm. Feinberg himself acknowledged that harm is "a very

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[275] Ferguson and McDiarmid, 61.
[276] Feinberg, 114.
[277] Ibid, 34.
[278] Ibid, 26.
[279] Ibid, 187.

complex concept with hidden normative dimensions".[280] Indeed, Modern, liberal criminal-law systems have developed other dimensions of harm and various modern legal interests, and the more sophisticated techniques by which harm can be caused, have pushed the classical boundaries further.

4.3.2.3 Mediating Principles and Modern Accounts of Criminal Harm

Contemporary criminal theorists have elaborated on the standard formulation of harm as a central element of modern criminalisation theory. Peršak, for instance, asserts that the "harm principle [is] the only incontestably legitimate principle of criminalisation".[281] Her emphasis that a conduct should be criminalised only if it intrudes upon the interests of others, also implies emphasis on the harm/interest relation as a guidepost to the assessment of harm. As she points out, attacking economic interests in certain ways is certainly in line with the scope of harm.[282] Peršak's provision indirectly supports Hall's rejection of harm being restricted to mere physical injuries.[283] In Hall's view, the principle of criminal harm signifies intrusion into the interests of others that results in the loss of value. Thus, it is inseparable from material harm.[284]

Clarkson argues that the confinement of harm to direct and physical setbacks only represents the *minimal* triggering conditions, but provides an insufficient account of what can really count as harm.[285] It can be inferred that harm now tends to be more intangible as it encompasses more than physical violations. In addition to physical harm that results from assault, theft and vandalism, it is clear that violations of incorporeal property can be as just as "harmful" and adversely affect financial interests

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[280] Ibid, 214.
[281] Peršak 31.
[282] Ibid, 61.
[283] Jerome Hall, *General Principles of Criminal Law* (2nd edn, Bobbs-Merrill 1960) 213-219.
[284] Ibid, 220.
[285] CMV Clarkson, *Understanding Criminal Law* (4th edn, Sweet and Maxwell 2005) 263.

and values. Dishonesty, for example, as an abstract notion makes little sense to inflict physical injury, but being the core concept of crimes against property it inflicts economic loss and so logically constituting a harm as valid as physical injury.

Joseph Raz takes the view that the interpretation that harm means that a bad outcome has already been suffered is a "misconception" of the principle.[286] Rather than this consequential effect, he regards harm as "acts or omissions the result of which is that a person is worse off after them than he should then be".[287] This approach broadens the meaning of harm as it considers forthcoming effects as well as backward. Raz also provides this further definition: "depriving a person of opportunities or of the ability to use them is a way of causing him harm."[288]

Simester and von Hirsch have endorsed Raz's definition. They further emphasised that any impairment of a person's resources, interests or capabilities that are important to satisfy that individual's life goals should fall within the scope of punishable harm.[289] Raz, by concentrating more on property crimes, stresses that "both the use-value and the exchange-value of property represent opportunities for their owner"[290]. So, any setback to a person by denial of these values constitutes harm precisely because of the diminishment of opportunity.

On the other hand, Husak is concerned that "there is virtually no limit to how far the state might go in protecting persons from novel ways that harm might be risked".[291] Hence, Peršak considers only conducts that "cause serious or *significant* harm" should

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[286] Joseph Raz, 'Autonomy, Toleration, and the Harm Principle' in R. Gavison (ed), *Issues in Contemporary Legal Philosophy* (OUP 1987) 329.
[287] Ibid.
[288] Ibid, 327.
[289] AP Simester and Andreas von Hirsch, *Crimes, Harms, and Wrongs: on the Principles of Criminalisation* (Hart 2011) 37.
[290] Raz, 327.
[291] Douglas Husak, *Overcriminalization: The Limits of the Criminal Law* (OUP 2007) 38.

qualify.[292] In a similar vein, R A Duff suggests the exclusion of any trivial or momentary setbacks from the meaning of harm, even if they are welfare interests.[293]

Though harm needs to be nontrivial, many crimes that come under the criminal law are relatively insubstantial. Shoplifting, pick-pocketing, failing to return windfalls and laws allowing theft even though the taking of property was trivial or temporary are examples of minor or at least not particularly blameworthy harms. Perhaps the gravity of harm depends on the social contexts and time periods. The above examples used to be capital crimes[294] but in the current modern economy and the age of information technology, they are usually less serious financially than TSs violations.

It appears that both the classical and modern conceptions of harm might lend themselves to the misappropriation of TSs. If TS misappropriation inflicts no culpable harm, it must not be criminalised. That said, the Harm Principle would not authorise criminal sanctions for misappropriation unless some wrongful setback of economic interests is identified and proved as a precondition, a point that is discussed in detail later.[295]

In sum, Feinberg warned that "the invasion of any person's financial interests threatens the general security of property […], however small."[296] To legitimatise the criminalisation of harm in a more plausible way in different social contexts, he suggests supplementary factors that comprise "controversial moral decisions and maxims of justice".[297] Other common law scholars also agree that "the justification based on harm lacks a moral theory that will delimit those interferences that are

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[292] Nina Peršak, 'Norms, Harms and Disorder at the Border: The Legitimacy of Criminal Law Intervention through the Lens of Criminalisation Theory' in Nina Peršak (ed), *Legitimacy and Trust in Criminal Law, Policy and Justice* (Ashgate 2014) 23.
[293] R A Duff, *Answering for Crime: Responsibility and Liability in the Criminal Law* (Hart Publishing 2007) 126.
[294] Ferguson and McDiarmid, 351.
[295] See below section 4.3.4.
[296] Feinberg, 64.
[297] Ibid, 187.

unjustified. Absent such a moral theory, the justification remains incomplete".[298] The requisite moral theory might be found in the Islamic law, which is "a composite science of law and morality",[299] which would provide clear moral principles and serve as a basis for particular moral judgments in Oman.

4.3.3 The Islamic Perspective on Harm and Criminalisation

If, under Western theories, a setback to an interest of another can be criminalised, Islamic *Sharia* prohibits anything that causes harm to others. However, the common law is said to lack a moral theory that would specify what constitutes unjustified interference. Under Islamic law, the justificatory force for harm prevention is stipulated by several verses in the *Quran*. In one place it says: "those who harm others for [something] other than what they have earned have certainly brought upon themselves a manifest sin".[300] In other places it warns: "do not commit any harm",[301] and "do not deprive people of their due causing corruption on earth".[302] The Prophet also, in quite general terms, asserts: "no causing harm is allowed and no meeting harm by harm is allowed either".[303]

Before the application of criminal sanctions based on harm can be justified, an adequate identification of interests to be protected is required. That is what the common law really lacks and where the Islamic law may make a key contribution. Understandably, Ferguson and McDiarmid have called for a debate on the determination of "values which are at stake if the behaviour at issue is, or is not, criminalised".[304] Thus, I discuss the Islamic threshold of values or credited interests, followed by arguments for the protection of such interests.

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[298] Drane and Neal, 405.
[299] N. J. Coulson, *A History of Islamic Law* (Edinburgh University Press 2005) 83.
[300] CH33:58.
[301] CH2:190.
[302] CH7:85.
[303] M. Al-Bukhari, *Sahih Al-Bukhari* (Bairut, Dar Al-Jīl 2005) 2341.
[304] Ferguson and McDiarmid, 29.

4.3.3.1 Criminalisation of Harm and the Islamic Hierarchy of Values

The great jurist of Islamic jurisprudence Al-Ghazali identified five generic-value dimensions of Muslim society that crimes may intrude upon

> "The bringing of goodness and ousting of badness are the purposes of people and people's success is in the achievement of their goals. But we mean by goodness, the preservation of sharia's aims of people which are five: to preserve their religion, self, mind, ancestry and property. Hence, every preservation of these five essentials is goodness, whereas each corruption of them is a badness and its prevention shall be an interest".[305]

Abu Zahra has built upon Al-Ghazali's conception by developing a hierarchy of interests that offers judges and state legislators a tool to systematise sanctions. He lists three major degrees of interests: (1) fundamental interests (basic needs for survival and for human organs to function), (2) necessary interests (maintaining minimal levels of comfort and dignity), and (3) supplementary interests (maintaining adequate levels of comfort and dignity).[306]

It is apparent that while Al-Ghazali's categorisation provides an overriding identification of exclusive values that are fit for criminalisation, Abu Zahra's classification completes the process by sketching a hierarchy of interests, breaches of which require corresponding levels of penalty. Putting it another way, the criminality of a conduct could be determined, first, by identifying which of the categories of protected values has been violated, and, second, by assessing the rank or degree of interests that have been affected.

By way of example: theft attacks property interests in such a way as to undermine necessary or supplementary interests according to the type and value of the stolen property. For instance, theft of a motor vehicle is more serious than stealing

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[305] Al-Ghazali, *Al Mustasfa* (Dar Almiman 1990), Vol.1, 288.

[306] Abu Zahra, Vol. 1, 45. A similar but harm-driven classification can be found in Andreas von Hirsch and N. Jareborg, 'Gauging Crime Seriousness: A Living Standard Conception of Criminal Harm' in Andreas von Hirsch and Andrew Ashworth (eds), *Proportionate Sentencing* (OUP 2005) 202.

electricity and much more serious than typical petty theft of crops or shoplifting, but it is more complex to consider where the valuable information that produced the vehicle, or intangibles like the electricity, are accommodated within this matrix. It is certainly reasonable to think that the above primary Islamic values are not fixed, but dynamic so they can be subject to revision if the development and needs of Muslim communities require.

On the common law side, the Wolfenden Report attempted to develop a similar hierarchy by defining the role of criminal law in terms of "preserv[ing] public order and decency, protect[ing] the citizen from what is offensive or injurious, and provid[ing] sufficient safeguards against exploitation and corruption of others".[307] The main problem with this definition is its narrower criterion of interests and scale of violations that tend to imply "injury" and "damage", rather than broad "harm". The Islamic classification and ranking of respective values can be a *prima facie* approximation, which the Omani law should adhere to.

4.3.3.2 Harm in the View of Sharia

The significance of harm as an unlawful act in Islam cannot be put in doubt. In fact, the popular Islamic term *haram* (forbidden) is commonly associated with harm. It is closely related to morals, where *Sharia* jurists are accustomed to using the term *taadi* (trespass) or *ghasb* (misappropriation) to refer to the deliberate harm that triggers punishment.

The core criterion of harm in Islamic jurisprudence is to cause loss or damage to a third party in terms of his or her property, body, honour or feelings.[308] Harm is either material, as in the loss of property or goods, or moral, in terms of harm suffered by a person in relation to his or her property, position, or integrity. Contemporary Muslim

[307] Wolfenden (1957), para 61.
[308] Muhammad Al-Awwa, 'The Basis of Islamic Penal Legislation' in M. Cherif Bassiouni (ed), *The Islamic Criminal Justice System* (Oceana 1982) 133.

scholars agree that all forms of harm can be punished, whether it is gross or minor. The Prophet forbade people from usurping the rights or misappropriating the property of others as said: "do not take the property of your brother in seriousness or in frivolity and if one took a stick from his brother, he should return it".[309]

In the words of Al-Zuhaili, "harming others" in general is a fundamental and straightforward justification for inflicting *tazir*.[310] Similarly, Hussni maintains that harm is the cornerstone of the contemporary Islamic penal system.[311] Indeed, in Islamic jurisprudence, the criminalisation of wrongful harm is not only permissible but also obligatory.

Additionally, certain rationales or principles delimiting the incidents of harm can be found in Islamic jurisprudence. These particular rationales form the basis for the justification of protection or promotion of interests at stake.

4.3.3.3 Blocking the Means of Harm (*Sadd Aldhara*)

Juxtaposed with the Islamic threshold of interests, the scope of application of the harm principle in Islamic law is broad. It connotes any form of harm, whether against body, feelings, property or honour. Here the Islamic law and the common law seem in harmony. However, they differ in respect of the scope of criminal harm. While the common law tends to be restricted to public interest and gross harm, in the Islamic law both private and minor harm can be sanctioned.

The principle of *sadd al-dhara* (blocking the means) is an important criterion for criminalising harmful wrongs. By virtue of blocking the means, that which causes harm must be fully avoided and any avenue to it must also be blocked. So by blocking the means, any particular conduct that may bring harm to others is deemed sinful and

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[309] Jami Al-Tirmidhi, 33.
[310] Wahbah Al-Zuhaili, *The Theory of Tort* (9 edn, Damask, Dar Al-fikr 2012) 255 (Arabic).
[311] Hussni, 383.

illegitimate.[312] As an example: although freedom of trade and promotion of competition are the bases of the Islamic economic system, these bases should not lead to harm to others.[313] Based on that, (1) *talaqqi alrukban* (reception of mounted people or meeting riders)[314] and (2) buying or selling something over others buying or selling[315] were originally permissible conducts, but because they are highly likely to cause harm to business relations and create hatred in markets, they are strictly prohibited.[316]

Another related concept is *mayser* or gaining profits without effort. *Sharia* forbids gaining wealth without labour, which is similar to the prohibition of gambling. The rationale for this prohibition is the idea of social justice, which can be harmed by easy and improper gains. *Sharia* urges that acquiring profits and wealth without expending adequate efforts is a cause of accumulated harm in the long term as it discourages productivity and legitimate labour.[317]

Clearly, *Sharia* prohibits gaining money easily without enough effort; and therefore, acquiring TSs improperly falls within this prohibited harm. In line with the Islamic classification of interests and ranking of harms, TS misappropriation is more economically serious than typical thefts and, thus, it seems appropriate to apply criminal sanction. As a result, in misappropriation cases, the public authority is legitimately obliged to punish culpable conduct that proves harmful.

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[312] Ibid, 105; Abu Zahra, 176.
[313] Ubaidi Isra, *Competition and Unlawful Acts* (Baghdad, Islamic University 2010) 20-23 (Arabic).
[314] i.e. receiving the coming tradesmen and purchasing their commodities before reaching the market to monopolise their goods and then selling them for the price they wish.
[315] i.e. competing by directly intermediating between merchant and customer to cancel their deal by offering lowest price in order to win some profits. In this regard, the Prophet said "do not urge someone to return what he has already bought from your brother so as to sell him your own goods". Al-Bukhari, 344.
[316] Abu Zahra, 151.
[317] Odeh, 66.

4.3.4 Applying the Harm Principle to TS Misappropriation

As defined under the Harm Principle, for a particular conduct to qualify for criminalisation on the basis of harm, the conduct at issue should defeat or set back an interest in such a way that the owner of the interest is left in a worse condition than before the conduct took place. In order to legitimate the criminalisation of TSs misappropriation, it is necessary for the wrongful harm to be demonstrated systematically.

4.3.4.1 Harm Caused to the Interests of TSs Owners

As mentioned earlier, property offences are rationalised mainly upon the harm they cause to owners. In this respect, the Harm Principle provides for protection against those losses and setbacks to property.[318] Some commentators suggest that economic harm or financial loss (such as TSs misappropriation) may not always constitute sufficient criminal harm.[319] John Cross provides the following statement

> "Industrial espionage may in theory affect only monopoly value. In most instances of espionage, the spy does not actually take the information from the original holder, but instead merely copies the information. Copying, of course, leaves the information itself in the hands of the owner. Because the owner still retains possession and use of the information, its use value remains unaffected. The owner will be able to produce the product as cheaply and efficiently as before. Only monopoly value will be affected, and even then only if the information is made available to one or more competitors of the original owner."[320]

It is true that the defendant does not normally deprive the owner of the information. However, it is also true that the owner of a TS usually loses the right to receive income from the information and control of it. This affects the total value of the information and constitutes a thwarting or setting back of a protectable interest. The owner of the TS in most cases will have spent a considerable amount of skills,

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[318] Simester and Sullivan, 170.
[319] Hull, 426; Clarkson, 257.
[320] John T Cross, 'Trade Secrets, Confidential Information, and the Criminal Law' (1990) 36 McGill LJ 524, 560.

time and resources to invent or create the business secret. This expenditure itself may imply the negative effects that TSs misappropriation could cause to the owners of TSs. Thus, the allegation that the appropriator merely duplicates the information and so it not sufficiently harmful ignores the fact that TSs misappropriation deprives the owner of the right to the exclusive use of the information and thereby worsens its condition in a way that is irreparable.

There are criminal theorists who support this view and the sufficiency of financial loss for criminalisation on the basis of criminal harm. Simester and Sullivan indicate that in modern economies, combating "commercial fraud" is an important objective of property offences.[321] Simester and Hirsch also acknowledge that a criminal harm is constituted by the kind of "adverse effect" that targets proprietary resources (intangible property).[322] Even Husak, with his cautious views against overcriminalisation, regards behaviours that are proscribed to combat "substantial economic losses" as legitimate.[323] Clearly, the economic harm that results from TSs misappropriation satisfies the essence of criminal harm, which is not combated only by theft but through a range of property-related crimes, including fraud and embezzlement.

Recent studies show that most victims of TS misappropriation suffer losses that are much more financially serious than ordinary expenses that relate to other, more traditional, property offences. The OECD estimated that TS theft within US firms accounts for US$300 billion in losses a year.[324] Possibly the adverse economic harm caused by TS misappropriations rationalises the very high fine of US$10 million that an industrial thief may receive.[325] According to surveys conducted by the EU Commission, the misappropriation of TSs (particularly industrial espionage) costs the German economy up to €50 billion per year, while the annual losses in the UK have

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[321] Simester and Sullivan, 182.
[322] Simester and von Hirsch, 37.
[323] Husak, *Overcriminalization: The Limits of the Criminal Law*, 39.
[324] Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper*, 12.
[325] § 1831(b) of the EEA.

reached an estimated £28 billion.[326] It was also found that TSs thefts have detrimental impacts on businesses, including losses to sales, clients, reputation, goodwill and in some cases they force smaller firms out of business completely, as they destroy their competitive advantage and ability to obtain the first mover returns from the exploitation of their secret data.[327] Based on this economic evidence, paragraph 26 of the preamble to the EU TSs Directive states that "[t]he unlawful acquisition, use or disclosure of a trade secret by a third party could have devastating effects on the legitimate trade secret holder, […] it would be impossible for that holder to revert to the situation prior to the loss of the trade secret". Arguably, this type of harm is more than mere interference with or worsening of a person's interests, which is central to the definition of the modern criminal harm.[328]

In Oman, a commercial partner of the EU and the US, TS owners suffer similar but slightly more negative impacts. Although finding reliable figures on actual cases and costs of TS misappropriations in Oman is not possible,[329] the passing of the two-year-visa-ban law may serve as empirical evidence of the large scale of economic harm involved. In the words of the OCCI, the ban was necessary to stop harm and losses to the Omani economy.[330] The case of *Noor Majan perfumes* may be one good example of how the misappropriation of TSs can affect businesses, where confidential digital files containing formulas for highly marketable perfumes were copied by an insider in exchange for US$15,000, which caused substantial damage to the *Noor Majan* company.[331] Given that the national economy is driven largely by innovative SMEs and micro-enterprises, which in turn rely on TSs comparatively more than larger companies but have less financial resources to recover losses from thefts,[332] the harmful impacts on revenues could be greater.

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[326] EU Impact Assessment 2013, 17 & 174.
[327] Ibid, 9-17.
[328] John Kleinig, 'Crime and the Concept of Harm' (1978) 15 American Philosophical Quarterly , 28; Simester and others, 646; Ashworth and Horder, 368.
[329] There are no official statistics on this issue and many Omani businesses are reluctant to openly disclose that they have been the victims of misappropriations.
[330] Section 3.3.6.
[331] http://avb.s-oman.net/showthread.php?t=2206877/ accessed 25 February 2017.
[332] EU Impact Assessment 2013, 14.

4.3.4.2 Harm Caused to the Interests of the Society

Although harm caused to TSs owners is grave, some writers reject the use of criminal law for the protection of private property rights. In their views, the criminal law should regulate only harm to public interests, whilst violations of private ones should remain a civil matter.[333] Though lacking further underlying rationale, Moohr asserts that the conception of harm that justifies criminalisation "must redound to the community as a whole".[334] This means that TS misappropriation must involve some harm to the interests of the broader society, otherwise it cannot fall under the criminal law.

Before demonstrating the types of harm that TS misappropriations cause to society, it should be noted that the public/private divide is not necessarily the irrefutable basis of the criminal/civil dichotomy. Rather, as we have seen, Islamic law tends to justify criminalisation on the grounds of societal values. Kleinig criticises that "*All* wrongs are in their *remote* consequences *generally* mischievous".[335] Similarly, Herring holds that public and private harms "are interconnected and feed off each other" and that makes this divide "opaque".[336] It would seem that Austin's observation that "*All* offences affect the community, and all offences affect individuals"[337] reflects some Islamic tenets.

It is accepted that a solid foundation for criminalisation hinges on the harm caused to private and societal interests. In Kleinig's words, "criminalisable harm […] is not to be determined solely by reference to the impairment of the welfare interests of assignable individuals, but also by having regard to the social consequences of acts."[338] Therefore, a legitimate ground on which to base the criminalisation of TS

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[333] Blackstone 123; Kingsbury, 154.
[334] Moohr, 757.
[335] Kleinig, 34.
[336] Jonathan Herring, *Great Debates in Criminal Law* (2ed edn, Palgrave 2012) 18.
[337] Cited in Kleinig, 34.
[338] Kleinig, 36.

misappropriation is through reference to the harm to individuals that then directly threatens social interests.

In this regard, it is posited that TSs misappropriation undermines *trust*, an element that is fundamental to a functioning society. Trust is perhaps the most crucial component in the "social glue".[339] Harm to society can be understood as the erosion of relationships of trust. TS misappropriation constitutes a breach of trust that is damaging to the society's interest and so weakens the social fabric. TS misappropriation undoubtedly, affects trust and is incompatible with the criminal law's purposes of promoting an environment of trust.

Furthermore, committing a breach of trust by disclosing the commercial information in the age of the information economy can be immensely damaging to the society's interest. All societies seek to encourage the creation of new knowledge, however, the production of scientific knowledge is expensive and for people to produce such costly information requires economic incentive and legal protection. In other words, "If society fails to protect [TSs], there is no incentive to do the work necessary to discover or create it."[340]

The fact that it is private entities that benefit from the protection of TSs should not count against criminalisation. For one reason, the misappropriation of industrial or technical information affects not only businesses but also non-commercial research institutions as misappropriations are likely to cause lessening in the production of useful information. Many people would agree that TS misappropriations or free-riding practices are unfair, unjust and harmful to society at large, as they hamper innovation and investment in innovative activities.

Further, the consequences of misappropriating scientific inventions or industrial applications, including chemicals, pharmaceuticals, computers, space-related

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[339] Ibid, 35.
[340] Law Com No 150, 1997, 16.

technology, telecommunications and machinery (which are secured by TSs) are closely linked to the society's safety and security. According to the World Health Organisation (WHO), counterfeit pharmaceutical products and drugs, which are made with insufficient expertise or inaccurate substances, cause death, disability and injury to many people around the globe.[341] In the well-known Omani case of *fake chocolate*, many innocent children were seriously harmed by consuming chocolates that were produced using a misappropriated recipe with the addition of some toxic ingredients that turned out to be stolen from a small company.[342] Here the criminalisation of misappropriation can be supported by an actual direct harm to the interests of society.

TS misappropriations also directly cut across the society's welfare and employment, as unlawful acquisition and disclosure of TSs are likely to cause businesses to shut down. According to the OECD, misappropriation of TSs costs the United States 120,000 jobs per year.[343] In the EU, a recent report demonstrated that TS misappropriations have a direct detrimental impact on employment, where an estimated 70,000 jobs are lost every year in Germany, whereas "innovative companies perform better in creating new jobs across all size classes and are much better in retaining employment during economic downturns".[344] In Oman, while the oil and gas industries are facing employment redundancies due to the current oil crisis, companies that have had TSs misappropriated have already had to reduce their workforces.[345]

From this discussion of harm to society, "[t]here can be no doubt that the misuse of trade secrets causes direct and indirect harms to very valuable interests, both private and public".[346] Widespread misappropriations of businesses' strategic assets could be

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[341] WHO, 'Substandard, spurious, falsely labelled, falsified and counterfeit (SSFFC) medical products' http://wwwwhoint/mediacentre/factsheets/fs275/en/ accessed 5 March 2017.
[342] http://timesofoman.com/article/11349/Oman/ Commercial fraud -candy-case, accessed 10 February 2017.
[343] Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper*, 12.
[344] EU Impact Assessment 2013, 35.
[345] http://timesofoman.com/article/69407, accessed 10 February 2018.
[346] Law Com No 150, 1997, 23.

detrimental to the market and the economy. Thus, it is necessary for the state to intervene in order to prevent harm.

4.3.4.3 Harm Caused to the Interests of the State

Just as they cause harm to societal interests and to TSs owners, misappropriation activities can be detrimental to the state's interests. The misappropriation of business information infringes on economic and financial relations and, as a result, causes or creates a real possibility of significant harm to the economic interests of the state. Nuotio confirms that illicit economic activities can be very harmful, not only to individual investors, but also to the state budget.[347]

It could be said that a state has an inherent duty to protect the market from harm and to create conditions for a stable and healthy economy. In fact, the issue of ensuring economic security is explicitly stipulated in the Omani constitution, where the state is obliged to use all legal means to ensure the well-being of the national economy and the security of the financial system.[348] Yet, TSs misappropriation is "affecting the smooth functioning of the market and undermining its growth-enhancing potential".[349] Geiger acknowledges that criminalisation is always appropriate in order to prevent economic harm and protect states' welfare interests.[350]

In Oman, the criminal law has been historically employed in the service of the economy. However, now, with the national strategy of economic transformation, it becomes increasingly critical for Oman to support its economic reforms with criminal reform in order to eliminate detrimental economic activities that cause significant harm to the national economy and were not anticipated in the Penal Code of 1974.

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[347] Nuotio, 243.
[348] The Basic law, article 11.
[349] The EU Directive, para 4.
[350] Geiger, 1.

In effect, the state's interests are more directly impaired when misappropriations occurs in state-owned companies. In the recent case of *Alhanai v Petroleum Development Oman (PDO),*[351] the government was deprived of secret oil exploration information (worth US$20 million) by an employee, who sold the information to a foreign government for US$100,000. Due to its lenient protection of knowledge-based assets, Oman has been accused of being a haven for IP piracy and counterfeiting.[352] This weak legal environment has the potential to deter foreign investment. According to the National Centre for Statistics and Information, foreign-driven investments in Oman reached US$23 billion in 2016 but the figure dropped to US$18 billion in 2017.[353] Al-azri maintains that "Omani laws related to IPRs must be in accordance with the international standards".[354]One of the effects of TS misappropriations may be the decline in these foreign investments. It has been found that "investors in industry are more willing to invest in countries where they believe that their secrets are adequately protected from misuse or misappropriation."[355]

Finally, safeguarding intellectual capital is an international commitment. The TRIPS Agreement requires its signatories to protect TSs against misappropriation. Thus, harm to TSs is also harm to the states' interests as it is inconsistent with their international obligations. Lawrence Friedman notes, "criminal laws naturally expressed economic policy in societies with a strong sense of authority and few special agencies of economic control".[356] Perhaps for the sake of its own national economy, the Omani government needs to fulfil its legal and moral duty and actively discourage TS misappropriations.

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[351] Appeal court, Criminal Department, (66/2014).
[352] IIPA, 2005 Special 301 Report on Global Copyright Protection and Enforcement, 36.
[353] www.data.gov.om accessed 5 March 2017.
[354] Al-Azri, 175.
[355] EU Impact Assessment 2013, 35.
[356] Lawrence Friedman, *A History of American Law* (3 edn, 2005) 37.

4.3.5 The Harm-Morality Debate in Criminalisation

The relationship, or more correctly, the interrelationship between harm and morality is worth emphasising at this point of the discussion. It is acknowledged that the two principles are "inextricably joined".[357] It is useful to invoke Duff and Green who posit that while the Harm Principle "takes harm and its prevention to be the primary concern of the criminal law", legal moralism "takes wrongdoing or immorality, and its punishment or prevention" to be the chief concern.[358]

Clearly, Feinberg required some element of morality so that wrongful harms met with criminalisation, though he ultimately joins Mill in rejecting immorality as a sufficient grounds for criminalisation. In the same vein, Simester and von Hirsch require that the harm should *also* be wrongful because "an exclusive reliance on harm is apt to mislead".[359] Ferguson and McDiarmid provided a more recent and intimate link by stating that the criminalisation of immorality is based mainly on harm prevention.[360]

A reversed line of thought is embraced by Islamic jurisprudence, where immorality itself can be a valid ground for penalisation. It should be borne in mind that despite interconnectedness, harm is not always the source of immorality. Of course, the stronger the link between immorality and harm, the more plausible the case for criminalisation, but this is not to assume that they must always be together.

If the question "should the law reflect morality?" arises in Omani law, the answer is likely to be positive, because law is often developed out of moral norms. Hence, the absence of wrongfulness can be a strong reason *against* criminalisation in Oman. In effect, Duff maintains that what determines criminalisation is "the wrong rather than

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[357] Duff, *Answering for Crime: Responsibility and Liability in the Criminal Law*, 83.
[358] R A Duff and Stuart Green, 'Introduction: The Special Part and its Problems' in R A Duff and Stuart Green (eds), *Defining Crimes: Essays on The Special Part of the Criminal Law* (OUP 2005) 4.
[359] Simester and von Hirsch, 21.
[360] Ferguson and McDiarmid, 53.

the possible consequential harm".[361] It is true that harm and morality are answers to the question of why there should be criminalisation, but, as explored below, morality is controversial and complex.

4.4 Legal Moralism and TS Misappropriation

4.4.1 Introductory Remarks

Compared with harm as a topical principle for determining the suitability of any undesired conduct for criminalisation, "legal moralism"[362] is a more contentious. The compatibility of imposing moral values on society *via* the criminal law is an age-old problem. On one side, Mill, Feinberg and HLA Hart are somewhat suspicious of the criminalisation of immorality alone. On the other side, James Stephen and Patrick Devlin consider immorality a genuine reason for criminal proscription.

Despite the secular argument, a complete divorce between morality and criminal law would seem unrealistic and undesirable. Few believe that law has no business in addressing culpable wrongdoing, but many question the kinds of moral wrongdoing that may be appropriately stigmatised. Hence, "the primary task when ascertaining the scope of criminalisation is to identify when conduct is morally wrongful".[363]

This final section explores the moral legitimacy and examines whether the misappropriation of TSs could justify criminalisation on moral grounds by asking whether misappropriating others' business secrets can be viewed as an immoral act. This is a fundamental question because only moral wrongdoers deserve to be punished; however, the "moral" process of criminalisation, which requires the identification of "good" moral reasons for criminalising TS misappropriation, is complex.

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[361] Duff, 'Towards a Modest Legal Moralism' , 61.
[362] Defined by Feinberg in the following words: "It can be morally legitimate to prohibit conduct on the ground that it is inherently immoral, even though it caused neither harm nor offence to the actor or to others". Joel Feinberg, *The Moral Limits of the Criminal Law: Harmless Wrongdoing* (1988) pxx.
[363] Simester and von Hirsch, 4.

4.4.2 Establishing Immorality: What Constitutes an Immoral Act?

4.4.2.1 J Stephen's Conception of Legal Moralism

In his intensive and condemnatory reply to Mill's early theory of harm, Stephen established a rival theory of moralism. For Stephen, the rationale behind the legal enforcement of morality is the wisdom and rationality of making "people better than they would be without compulsion."[364] In this regard, the criminal law functions as "the *ratio ultima* of the majority against persons whom its application assumes to have renounced the common bonds which connect men together".[365]

To Stephen's mind, the criminal law must be "applied to the suppression of vice and so to the promotion of virtue to a very considerable extent".[366] Although he regards criminal legislation as the harshest mechanism of prohibition, he sees that "the restraints on immorality are the main safeguards of society against influences which might be fatal to it".[367] Therefore, for deterrence's sake, a society has the right to deploy its most powerful legal apparatus against wrongdoers.

Nevertheless, Stephen limits the state's intervention to acts that are "grossly immoral".[368] Given the harshness of the criminal law, he agrees that mere vice, in general, should not be sanctioned. In other words, the employment of criminality is reserved for "the gravest occasions",[369] citing as examples fraud, theft, burglary and many other crimes of the same sort, as mischievous conducts of such a nature that it is worthwhile to prevent. Here Stephen contends that the criminal law needs to be directed to the protection of public morality, religion, property and "the regulation of trade".[370]

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[364] James Stephen, *Liberty, Equality, Fraternity* (CUP 1967) 145.
[365] Ibid, 151.
[366] Ibid, 152.
[367] Ibid, 60.
[368] Ibid, 154.
[369] Ibid, 147.
[370] Ibid, 157-162.

Two final points should be made about Stephen's conception of moral law. The first represents his broad recognition of the immorality of violating property and infringing trade standards. Therefore, there are areas that the criminal law may target. Secondly, his endorsement of legal moralism is founded upon common moral values that, for the sake of society, require preservation. Hence, for the criminal law to protect public morality from being grossly and openly violated, it needs to be in general concordance with the greatest virtues of society. As such, "the administration of criminal justice is based on morality".[371]

4.4.2.2 Devlin on Criminal Law and Morality

In a refined version of Stephen's thesis, Devlin emphasises the enforcement of social-moral norms as an essential mechanism for the preservation of a society.[372] His morality-based argument endorses society's right to exercise judgment on matters of morality and to utilise the criminal law against immorality. For the proscription of immorality, he asserts that "the suppression of vice is as much the law's business as the suppression of subversive activities".[373]

Originally, Devlin's contribution to this debate was triggered by the Wolfenden Committee Report on the criminalisation of homosexuality and prostitution, in which it was held that the criminal law ought not to enforce any morality over "the private lives of citizens".[374] In a view not dissimilar to the report, Hart argued that matters of immorality are beyond the legitimate scope of the criminal law since this would lead to a contradiction with liberal principles of individual autonomy and private liberty.[375]

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[371] Ibid, 78.
[372] Patrick Devlin, *The Enforcement of Morals* (OUP 1965).
[373] Ibid, 13.
[374] Great Britain Departmental Committee on Homosexual Offences and Prostitution, *Report of the Committee on Homosexual Offences and Prostitution* (Cmnd No 247, 1957) para 13.
[375] Herbert LA Hart, *Law, Liberty, and Morality* (OUP 1963).

In the face of these liberal objections, Devlin held that it "is permissible for any society to take the steps needed to preserve its own existence as an organized society".[376] In this respect, "it is wrong to talk of a public and private morality or of the law not being concerned with immorality as such".[377] In his view, drunkenness, drug-taking and gambling, for example, might appear to be private vices, however, their prevalence can corrupt the society as much as deception and dishonesty do.[378]

Devlin's criterion seems broader than Stephen's one, since any immorality, which may lead to disintegration and threaten the society at large, can be a candidate for criminalisation. He suggests that "it is not possible to set theoretical limits to the power of the State to legislate against immorality".[379] Thus, the misappropriation of TSs by breach of confidentiality or wrongful acquisition could be considered sufficiently immoral to justify the state's intervention. The prevalence of misappropriation, arguably, is serious enough to warrant the condemnation of the criminal law. However, the mere fact that conduct generates a "real feeling of reprobation" is insufficient.[380]

4.4.2.3 Legal Moralism: New Challenges and Practical Concerns

Whether Devlin and Stephen's arguments that *only* immoral conducts ought to be criminalised or Mill and Hart's arguments that *only* harmful conducts ought to be criminalised are more persuasive, it is an important truth that the criminal law is "a morally-loaded sledgehammer".[381] As Simister and von Hirsch suggest,

> "[E]xtending criminal liability to conduct that is not wrongful is likely to be bad for the criminal law. In the long term, it risks the moral authority of the criminal law generally, by weakening the association of criminal laws with culpable wrongdoing. Blurring the moral voice leaves criminal law less distinct from civil law. It diminishes the criminal

[376] Devlin, 18.
[377] Ibid, 14.
[378] Ibid, 13- 17.
[379] Ibid, 12-13.
[380] Stephen, 17.
[381] Simester and von Hirsch, 10.

> law as a distinct, valuable, tool for social control and doing justice. It gunks up the censure machine."[382]

A serious challenge to the moral authority of the criminal law is the legitimisation of the widespread use of contemporary "*mala prohibita*" offences. While the orthodox crimes of "*mala in se*" (e.g. theft and fraud) are inherently evil prior to their criminalisation, *mala prohibita* (e.g. money laundering and offences concerning the manufacture or trade of impure drugs) are not.[383] Thus, it is a challenge to resolve this problem by accommodating the extensive range of *mala prohibita* prohibitions, into the criminal law.

Andrew Cornford submits that the orthodox moral wrongness is a "false" or at least "unsound" basis for criminalisation.[384] On the other hand, Duff provides a substantive answer to this problem. He contends that conducts that breach a *justified* legal regulation, even though not wrongful prior to that regulation, can still be regarded as genuine *mala* breaches of the regulation.[385] Simester and von Hirsch termed this kind of justification the "labelling effects of criminalisation" in which the state may criminalise conducts that are not legally wrong but will come to be seen as wrong after they are declared criminal.[386] Even more broadly, Peršak sees no shortcoming in using criminal law "as a tool for 'correction' of some social anomaly".[387]

As breach of any regulation (which is stamped with the society's imprimatur simply by being enacted) justifies criminal prohibition, the breach of regulations concerning fair trade and investment activities are *fortiori do*. Many breaches of these commercial regulations already involve a level of immorality. Moreover, these regulations serve the common good and therefore to breach them is to breach "our

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[382] Ibid, 20.

[383] For some relevant references see Joshua Dressler, *Understanding Criminal Law* (4th edn, Lexis Publishing 2006); Husak, *Overcriminalization: The Limits of the Criminal Law*, Ch2.

[384] Andrew Cornford, 'Rethinking the Wrongness Constraint on Criminalisation' (2017) 36 Law and Philosophy 615.

[385] Duff, *Answering for Crime: Responsibility and Liability in the Criminal Law*, 90-93.

[386] Simester and von Hirsch, 11-21.

[387] Peršak, 29.

civic responsibilities, which merit (often mild) condemnation as wrongs",[388] which constitutes a rationale for criminalisation.

Debatably, even if some forms of TS misappropriation may not fit in the core category of *mala in se*, they can fit within the *mala prohibita* and still be legitimately criminalisable. For example, with regard to the Omani two-years-visa-ban law against TS misappropriations, even though it is difficult to justify, a wrongful act has occurred by virtue of breaching public legislation.

Nevertheless, there are practical concerns relating to morality. The above articulations of legal moralists tend to nominate the state as a moralising institution, but it is not because moral norms evolve from society. Nor is the criminal law merely a penalising institution, but rather it also condemns wrongful conduct against society's moral code. Morality certainly concerns good and evil, and considers that bad conducts are in some manner reprehensible. However, it remains inherently difficult to determine when particular conducts become immoral as the moral standards by which the conduct to be disapproved, or the methodology used to arrive at such a decision is unclear.

Undoubtedly, for the purposes of criminalisation there should be no place for moral subjectivism; it is rather the community's moral judgment that is applicable.[389] Stephen believes that the identification of moral standards bears some traces of the popular "beliefs, habits, and customs" of society.[390] A similar test that has been advocated by Devlin is the determination of societal standards by reference to a "right-minded person".[391] In Packer's view, the argument for criminalisation should be limited by whether "any significant body dissent[s] from the proposition that the

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[388] Duff, *Answering for Crime: Responsibility and Liability in the Criminal Law*, 173.

[389] There is ample support for this view; Ferguson and McDiarmid 49-52 (link the breach of morality to the breach of society's moral code and its ideas of correct conduct); Wilson 31- 35 (writes that immorality reflects the "majoritarian opinion"); Norman ST (states that moral responsibility "as an essential element of criminal law" is only limited to generally agreed and accepted morality by the society). Norman ST John-Stevas, *Law and Morals* (Hawthorn Books 1964) 24- 31.

[390] Stephen, 144.

[391] Devlin, 15.

conduct in question is immoral".[392] If there is any social group that may be alienated or offended by making an immoral behaviour criminal, then according to him, there is a need for caution.[393]

These issues concerning the source and application of moral norms are fundamental for Omani society as it is more inclined to moral values than western societies. The moral content of TSs misappropriation should be measured against generally accepted social norms and moral standards. Though a moral consensus cannot always be reached on all subjects, there is an intuitive and strong recognition of immorality in relation to misappropriation. In Oman, it is unlikely that there would be any significant dissent from the view that TS misappropriation is bad.

A recent empirical study that sought to measure public perceptions of the theft of different forms of property including intangible information found that there is a strong social consensus that the theft of intangibles carries a level of moral culpability that is analogous with the theft of tangibles. [394] Admittedly, although in most criminal systems the imposition of new offences is rarely guided by academic methodology, carrying out a scientific inquiry that is specifically designed to measure public sentiment on the misappropriation of TSs might prove helpful to the creation of such an offence. In Omani law, however, it is beyond the scope of this theoretical and doctrinal thesis to provide it. What is more useful in producing empirical and normative data is a survey of the Islamic teachings that speak to the Omani society's moral code and constitute the main source of its law, which is described below.

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[392] Packer, 264.
[393] Ibid.
[394] Stuart P. Green and Matthew B. Kugler, 'Community Perceptions of Theft Seriousness: A Challenge to Model Penal Code and English Theft Act Consolidation' (2010) 7 JELS 511, 530-534.

4.4.3 What Does Islamic Law Say about Immorality and TS Misappropriation?

In contrast with Western Christianity, which maintained a great autonomy from legal policy, the Islamic *Sharia* is a religious, moral and legal code.[395] In describing the relation between Islamic religion, morality and law, Abdur Rahman states that "the *Sharia* law cannot be separated from Islamic ethics".[396] Noel Coulson, an English scholar of Islamic jurisprudence, has also described this comprehensive connection by stating: "the ideal code of behaviour which is the Sharia has, in fact, a much wider scope and purpose than a simple legal system in the Western sense of the term".[397] Thus, the place of morality in Islamic law cannot be debated.

It follows that the debate among common-law scholars as to the extent to which the criminal law should intervene in protecting common morality and punishing immoral conduct is unfamiliar to Muslim scholars. Clearly, the major difference between Islamic law and common law is that while the former is based on religion, the latter is secular in origin. However, in Islamic law, legal liability is distinguishable from religious liability despite the greater emphasis laid on moral considerations. Therefore, if in the common law the most serious criminal offences are also moral offences, under the Islamic law *all* crimes are religious and moral offences. Here, it is useful to discuss the Islamic standards or classifications of morality before discussing the criminalisation of immorality.

4.4.3.1 The Islamic Classification of Moral Acts

It is often said that *Sharia* (literally the path of running water) supplies a complete human-life-programme.[398] It is interesting to note that under Islamic law, an act may be classified in one of five different ways depending on the degree of obligation and

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[395] Frederick S. Carney, 'Some Aspects of Islamic Ethics' (1983) 63 The Journal of Religion 159, 163.
[396] Abdur Rahman, *Shariah the Islamic Law* (Ta-ha 1984) 7.
[397] Coulson, 83.
[398] Fazlur Rahman, *Islam* (2d edn, University of Chicago Press 1979) 68.

moral value ascribed to it. These five rulings or values (*al-ahkam al-khamsah*) are: (1) *Wajib* (obligatory) i.e. fulfilling a contract; (2) *Moharm* (forbidden) i.e. committing theft; (3) *Makroh* (reprehensible) i.e. trading during Friday prayer; (4) *Mandob* (praiseworthy) i.e. writing down a debt; and (5) *Mobah* (indifferent) i.e. selling, purchasing and other contracts. Whereas the common law knows only three rulings: mandatory in law, prohibited or indifferent.[399]

Accordingly, the moral incompatibility of any action is measured against these five rulings; "Indeed, Allah orders justice and good conduct and forbids immorality and bad conduct and oppression".[400] This *Quranic* verse can be said to be the essential moral principle that underpins the above classifications and the Islamic scale of morality. According to some scholarly interpretations, good conduct includes what is known as praiseworthy or decent or proper, while bad conduct includes what is blameworthy or hateful or disapproved.[401]

This scale of morality is arguably of greater importance in the suppression of modern crimes, particularly those that have no direct texts nor precedent in the earlier Islamic communities. As the caliph Omar Ibn Abdul-Aziz remarked: "new crimes and cases will arise in accordance with the evil done by people".[402]

4.4.3.2 The Islamic Law and the Criminalisation of Immorality

As seen above, the relationship between law and morality in Islam is intimate. The Prophet confirmed that "I have been sent to perfect moral goodness".[403] Thus, the penalisation of moral wrongdoing has never been a contentious issue among *Sharia* jurists because the preservation of moral values forms an integral part of Islamic law-

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[399] Gamal Badr, 'Islamic Law: Its Relation to Other Legal Systems' (1978) 26 AmJCompL 187, 189.
[400] CH16:90.
[401] Taymour Kamel, 'The Principle of Legality and its Application in Islamic Criminal Justice' in M. Cherif Bassiouni (ed), *The Islamic Criminal Justice System* (Oceana 1982), 159; Odeh, 58.
[402] Odeh, 18.
[403] Malik Al-anas, *Al Muwatta* (Dar Al-Shaab 1985), Vol 5, 505. The *Quran* praised the Prophet that "you (o Muhammed) on an exalted standards of morals". 68:4.

making. It is true that "there is no dichotomy in the Islamic legal system between criminal law and moral principles; the former is always used to confirm, protect and enforce respect for the latter".[404] However, which immoralities are sufficient for penalisation is less clear.

It should be noted that Islamic law does not penalise all undesirable conduct but only those religiously, morally and legally wrong. In other words, only the forbidden acts defined in the five rulings.[405] To illustrate this: Islam prohibits lying,[406] so to not always be truthful is a religious and moral wrong and whoever lies is committing a sin. Individuals who lie are disobeying Allah's orders; so the liar will be judged for that in the hereafter if a sincere repentance is not made.[407] Nonetheless, an individual does not breach Islamic law by lying unless the lie is made when giving testimony under oath, but, in this case, the conduct is a religious and moral matter and also a *legal* issue.[408]

Similarly, stealing property is not purely a legal offence but is also religiously and morally wrong, because it is not only criminal but also sinful. Other conducts might only be morally and religiously wrong, such as not returning a greeting to another person in a similar or better way. Such behaviour is morally and religiously wrong because of the lack of courtesy, but it is not legally wrong as it is not a crime. In this sense, the five rulings offer a crucial line to distinguish if an unwanted conduct is forbidden and therefore legally wrong.

There is no explicit stipulation in the history of Islamic jurisprudence as to whether TS misappropriations meet the Islamic standards of immorality. Accordingly,

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[404] Al-Awwa, 133.
[405] If the offender insists on committing reprehensible acts, then in this circumstance the acts can be punished because of the recidivism. Abu Zahra, 152.
[406] CH22:30 "…shun lying speech (false statements)".
[407] CH7:153 "Those who committed misdeeds and then repented after them and believed - indeed your Lord, thereafter, is Forgiving and Merciful".
[408] The Prophet warned about committing perjury by describing it among "the biggest of *AlKabair* (the great sins) are … (4) and to make a false statement, or said, to give a false witness". Al-Bukhari 52: 151.

the Omani legislator may claim that criminalising the misappropriation of commercial information is incompatible with Islamic law, since there is no Islamic obligation to do so.

However, it is not appropriate to conclude that *Sharia* does not recognise the immorality of the modern activities of TS misappropriations. *Sharia* law includes several elements that could be relevant to misappropriation. The category of *tazir* crimes offers perhaps the strongest and broadest protection against morally contrary behaviours. As discussed elsewhere, the *tazir* category has not been and was never designed to be exhaustive from the outset but rather formulated substantially on legislation, analogy and custom.[409] Relevant examples of *tazir* crimes promulgated on the basis of their moral consequences include gambling, usury, bribery, breach of trust and espionage.[410]

By analogy, the misappropriation of TSs seems akin to these morally inflected crimes. That is to say, TS misappropriations are often committed by breach of trust, bribery of employees, industrial espionage or other wrongful means to obtain secret information without consent, all of which are contrary to the basic moral standards of honesty and decency.

It would appear incompatible for the Omani penal law to penalise gambling, bribery, breach of trust and espionage but not the analogous conducts of TSs misappropriation.[411] Nonetheless, the Omani legislator could point to the generality of the *Tazir* category and the lack of specific principles that regulate commercial practices.

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[409] Bassiouni, 120.

[410] See CH5:90; CH2:279; CH5:42; CH8:27; CH49:12 respectively.

[411] It is worth mentioning that while gambling (art 232), bribery (155), breach of trust (296) and official espionage (147) are crimes under the OPC, usury is not.

4.4.3.3 Immoral Trade Practices

Compared with other legal traditions, Islamic law pays special attention to the spheres of commerce and trade. The *Quran* and *Sunna* regulate every aspect of business relationships and determine how traders and consumers, employers and employees should behave.[412] Although there are a considerable number of commands on maintaining honesty, fairness, and trustworthiness in commercial dealings, there are two compelling elements that stigmatise immoral commercial activities and so can be related to the misappropriation of TSs.

Firstly, *dishonesty* under *Sharia* is generally condemned but particularly forbidden in trade. The *Quran* orders, "do not consume one another's wealth dishonestly but only in lawful business by mutual consent".[413] Also, "do not betray your trusts while you know"[414] but "fulfil all trusts"[415] and "be honest standing firm in justice".[416] The Prophet also said, "he who cheats is not one of us".[417] It is not inconceivable that dishonesty, lying, cheating, and deceitful practices associated with misappropriation, by their nature, fall within the scope of the prohibitions cited above.

Secondly, the broad crime of *mafsda* (corruption) is also applicable to misappropriation. *Sharia* teachings openly forbid any deceitful acts or unjust commercial practices that involve misusing anything that belongs to others. This can be seen as a form of corruption that is prohibited by the *Quran*: "do not defraud people of their things, and do not commit abuse on earth, spreading corruption".[418] It can be deduced from this verse and other verses that the *Quran* equates immorality with

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[412] For some relevant references see Gillian Rice, 'Islamic Ethics and the Implications for Business' (1999) 18 Journal of Business Ethics 345; Y. Sidani and A. Al Ariss, 'New Conceptual Foundations for Islamic Business Ethics: The Contributions of Abu-Hamid Al-Ghazali' (2015) 129 Journal of Business Ethics 847.
[413] CH4:29.
[414] CH8:27.
[415] CH5:1.
[416] CH4:135.
[417] Muslim Al-Hajjaj, *Sahih Muslim* (Dar Atturath, Beirut 1970) 1315.
[418] CH26:183.

corruption.[419] Therefore, it might be sufficient to suggest that misappropriation of TSs is a form of corruption because it corrupts standards in business and harms commercial practices.

One commentator has argued that although there is no explicit mention of intellectual property protection in *Sharia*, there are various verses of the *Quran* that prohibit "unscrupulous acts" and unjust behaviours in trade.[420] Another commentator observes that *Sharia*'s condemnation of all kinds of illicit commercial practices in a traditional market could be read to provide support for the prevention of profiting by wrongful actions.[421] Nonetheless, one of the most respected and influential Muslim scholars, Omar Abdelkafy, declared that the acquisition of secret valuable information that costs businesses time and resources to produce is a type of modern theft that is prohibited under the *Quranic* verse "woe to the defrauders".[422]

Accordingly, any person who dishonestly obtains TSs and sells them, a person who uses TSs without authorisation for economic gain, or an employee who discloses commercial secrets is committing an act that contradicts the general prohibition of dishonest practices in Islam. As a result, criminalisation of malicious misappropriation of industrial and commercial secrets is compatible with the main Islamic provisions. Thus, the Omani legislator should regulate TS misappropriation to be more *Sharia*-compliant. In addition, there are further legal and doctrinal arguments for concluding that TSs misappropriation is immoral and these will now be considered.

4.4.4 Applying Immorality to TS Misappropriation

Under Islamic law, the public authority is legitimately obliged to punish culpable wrong. There are at least three possible jurisprudential bases on which TS

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[419] CH12:73.
[420] Malkawi, 108.
[421] Mohammad Samiei, 'Between Traditional Law and the Exigencies of Modern Life: Sharia Responses to Contemporary Challenges in Islamic Law' (2009) 2 Journal of Sharia Islamic Studies 255.
[422] http://abdelkafy.com/deenan-qyeaman2, accessed 5 January 2018.

misappropriation might be considered legally wrongful. These contribute to the establishment of the immorality of TS misappropriations, but each must be evaluated as part of this measuring process. Thus, it will be argued next that TS misappropriation is, at its core, (1) a form of dishonesty, (2) breach of confidentiality, and (3) an abuse of commercial standards.

4.4.4.1 TS Misappropriation as a Form of Dishonesty

As noted earlier, dishonesty is the core concept of the English law of theft. Hence, English law provides a good example of the way in which dishonesty can form the basis of criminal behaviour. Theft in English law is the dishonest appropriation of tangible or intangible property belonging to another.[423] The Omani crime of larceny is not very different; although it deals exclusivly with tangible property, the defendant must act deliberately and improperly.[424] In this sense of immorality, criminal liability applies only to cases where the defendant behaves wrongfully. An unintended use or disclosure, even if negligent, should not be a culpable wrong.

In Islamic jurisprudence, taking by negligence or error is discussed in the "books of financial transactions and contracts", which means that they often incur only civil liability, whereas deliberate misappropriation is discussed in the "book of crimes". The jurist AlKasani notes, in connection with the interpretation of the verse in the *Quran* which states "there is no blame upon you for that in which you have erred but [only for] what your hearts intended",[425] has illustrated that

> "If the misappropriator is aware of what he does, he will be liable as a sinner but if he is at fault, but not aware, he will be liable but will not be deemed a sinner and accountability [as a sinner] is not available in the Sharia in the event of fault only".[426]

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[423] Sections 1(1) and 4(1) of the ETA. Apart from the three instances stipulated under S. 2(1), the Act provides no definition of dishonesty. Similarly, see S. 223.0. (1) and (6) of the UMPC.
[424] The OPC, article 278.
[425] CH33:5.
[426] A. Al-Kasani, *Badai Al-Sanai* (Bairut, Dar Al-kotob 2003), Vol 7, 186.

This line of thought is advocated by Steel who states that dishonesty is a key morally-based concept that "separates criminal from tortious interferences with property; theft from conversion".[427] On the other hand, Professor Alastair Hudson considers dishonesty as the basis of liability for dishonest assistance relating to strangers in a breach of trust.[428] It is true that dishonesty is a key legal concept that allows for the consideration of "whether the current law on theft is simply punishing behaviour which is immoral".[429]

Notwithstanding the centrality of dishonesty to property-related crimes, its meaning has been subject to judicial and academic debate.[430] Steel posits that the concept is too vague "to be able to satisfactorily define the aspect of moral 'wrongness' that justifies criminalisation".[431] Professor Horder also describes dishonesty as "morally open-textured".[432]

Historically, the term "dishonesty" was favoured over the more technical term "fraudulence". According to the Criminal Law Revision Committee (CLRC), "[d]ishonesty seems to us a better word than fraudulently… Dishonesty is something which laymen can easily recognize when they see it".[433] The CLRC tend to suggest that there are ordinary moral standards of honesty that a jury can use to decide whether a particular conduct is dishonest. As discussed earlier, the heterodox and diverse British society lacks such commonly agreed moral standards.[434] Understandably, the use of a general term like "dishonestly" might mitigate the problem of the lack of an underlying moral consensus.

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[427] Alex Steel, 'The Harms and Wrongs of Stealing: The Harm Principle and Dishonesty in Theft' (2008) 31 *UNSW* LJ 712, 732.
[428] Hudson 771- 781.
[429] Herring, 145.
[430] For a comprehensive discussion see Andrew Halpin, *Definition in the Criminal Law* (Hart 2004) 149- 181.
[431] Steel, 732.
[432] Jeremy Horder, *Excusing Crime* (OUP 2004) 49.
[433] The Criminal Law Revision Committee/8th Report, *Theft and Related Offences* (Cmnd 2977, 1966) para 35.
[434] Herring, 153.

This places dishonesty as a significant judicial or common-law doctrine. In the case of *R v Ghosh*,[435] the Court of Appeal integrated an objective standard (was the defendant's conduct dishonest according to ordinary decent people?) with a subjective standard (was the defendant aware that his conduct would be regarded as dishonest by people?). This combined test and particularly the subjective element has been criticised because it is hard to impose culpability on a defendant who mistakenly believes himself to be honest.[436] As a result, in the recent case of *Ivey v Genting Casinos UK Ltd*,[437] the Supreme Court abolished the subjective element by ruling that

> "The question whether his conduct was honest or dishonest is to be determined by the fact-finder by applying the (objective) standards of ordinary decent people. There is no requirement that the defendant must appreciate that what he has done is, by those standards, dishonest".

The court addressed the objective test as sufficient for the establishment of dishonesty and criminality in the ordinary standards of reasonable and honest people. Misappropriation necessarily involves dishonesty; illicit acquisition, use and disclosure of another's business information with the intention of making gain or causing loss is, *per se*, dishonest behaviour. Thus, according to the standards of honest people, TSs misappropriation is straightforwardly dishonest.

From a scholarly point of view, it is Steel's definition of dishonesty, which discusses stealing intangibles, that is relevant here. Critiquing Simester and Sullivan, he defines dishonesty to "include all dishonest dealings with property as if it were the accused's own".[438] However, even Simester and Sullivan's argument that theft requires proof of wrongful appropriation or unauthorised taking of others' property with intention to deprive,[439] is met in the case of misappropriation. The misuse of TSs is often committed by unauthorised acquisition with the intention to deprive the owner and exploit the information as if it was the misappropriator's own investment.[440] Since

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[435] [1982] QB 1053.
[436] Alec Samuels, 'Dishonesty' (2003) 67 J Crim L 324.
[437] [2017] UKSC 67.
[438] Steel, 732.
[439] Simester and Sullivan, 177.
[440] EU Impact Assessment 2013, 155.

fraud and embezzlement – in general terms – are criminalised largely with reference to dishonesty, TS misappropriation should be treated similarly.

Dishonesty is a fundamentally important concept for criminalisation. There is strong evidence that TS misappropriation is like stealing, deceiving and cheating; it comprises dishonest acquisition, use and disclosure that is intended to result in deception and illicit trading. That the misappropriator will generally be either an industrial thief or a disloyal employee who obtains unauthorised access to confidential information, is a manifestation of dishonesty and disloyalty.

Professor Horder rightly suggested that "[d]ishonest conduct may in itself cause no harm, even if it involves reprehensible wrongdoing. However, in many contexts (if not in all), if left unpunishable such conduct may lead to harm being – perhaps systematically – widely done". [441] In terms of dishonest conducts of TS misappropriations, Horder's principle applies, *a fortiori*. Indeed, paragraph 4 of the preamble to the EU TSs Directive states that "Innovative businesses are increasingly exposed to dishonest practices aimed at misappropriating trade secrets, such as theft, unauthorised copying, economic espionage or the breach of confidentiality".

4.4.4.2 TS Misappropriation as a Breach of Confidentiality

No less immoral than dishonesty is a betrayal of confidentiality, which is specifically prohibited in Islamic law. Likewise, in the common law, a new criminal offence was proposed for the unlawful disclosure of confidential business information.[442] These considerations may well be another compelling justification for criminalising TS misappropriation. The wrongful practices of breaching commercial confidentiality appear to be sufficiently reprehensible to warrant criminal intervention. As with dishonesty, the concept of confidentiality arises from moral values of trust and equity.

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[441] Jeremy Horder, 'Bribery as a form of criminal wrongdoing' (2011) 127 LQR 37, 52.
[442] Law Com No 150, 1997, 8.

Society and law have long recognised the moral value and importance of confidentiality.[443] At the same time, "the notion of trust created reliance on the protection of confidentiality".[444] Therefore, a breach of confidentiality is legally and morally wrong. As Lederman confirms, "[d]isclosure of information transferred in confidence-based relations is considered inherently wrong […] It conflicts two distinct kinds of harm […] the embarrassment of having secrets revealed to the public, and […] the forced breach of an entrusted confidence".[445]

The use of the criminal law against breaches of confidentiality is not uncommon. In addition to the protection of the relationship of confidentiality, breaching secrecy is morally objectionable as it violates other related social norms, rights and interests, such as trust and confidence. These rationales for criminal prohibitions against the misuse of secret information transmitted or created within confidence-based relations can be observed in a number of Arab penal codes, which prohibit breaches of secrecy in relation to *all* professions. For example, article 437of the Iraqi Penal Code (1969) expands the protection of confidentiality to all professionals by imposing liability on a person who "divulge[s] secret information which he was given because of his employment or profession or art or position or occupation".[446]

On the other hand, the OPC enforces secrecy on purely personal matters only, while Omani attitudes tend to respect all kinds of secrets transferred within the framework of confidentiality.[447] Therefore, it is not very consistent for the OPC to protect personal secrets but not commercial secrets, which are protected by Islamic law. The holy *Quran*, generally, commands "do not betray your trusts".[448] The Prophet also states "one who has no trust, has no faith".[449] In effect, the Omani penal law

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[443] For a historical perspective on the law of confidentiality, see Reid; Francis Gurry, *Breach of Confidence* (Clarendon Press Oxford 1984).
[444] Lederman, 111.
[445] Ibid, 118.
[446] See also the Egyptian Penal Code (1937), article 310.
[447] Qurani, 245.
[448] CH8:27.
[449] Ahmed Al-hanbal, *Al Musnad* (Alresalh 1985) 12324.

proscribes insider trading,[450] which is a specific form of breach of confidential business information.

In the world of trade and commerce, the confidentiality of business information is absolutely vital. By the same token, the immorality associated with breaching commercial confidentiality should suffice for criminal culpability. The owner of a TS will in most cases have undergone considerable investment to discover or create the secret, which is, perhaps, sufficient rationale for turning the preservation of its secrecy into a moral obligation enhanced by the relevant professional and confidence-based relations. The Law Commission endorsed this moral duty and also stated

> "The exchange of information between people working in the course of a business, which relies on the withholding of that information from competitors and the public, places all such individuals in a confidential relationship. Failure to protect obligations of confidentiality could inhibit both the quantity of information exchanged and its quality".[451]

Needless to say, the detrimental impact of the misappropriation of TSs on economic prosperity, competition and innovation can hardly be doubted. The owner of aTS may agree to transfer it to an employee or licencee, trusting that it will not be disclosed but then its confidentiality is violated. In another scenario, an employee obtains unauthorised access to sensitive information by virtue of their employment and sells it in breach of their obligation of confidentiality. These corrupted leakages might be regarded as greater than the immorality associated with the faking of personal information, which is penalised by the crime of defamation, in the Omani law. [452]

Some commentators consider the obligation to confidentiality as the primary legal vehicle for the protection of TSs.[453] It is clearly immoral to deliberately divulge TSs and so breach financial-economic trust. In effect, embezzlement is a criminal offence designed explicitly to penalise breaches of trust committed by any person who

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[450] The Capital Market Act (1998), article 64.
[451] Law Com No 150, 1997, 16.
[452] OPC, article 269.
[453] Aplin and others, 5.

"conceals, embezzles, wastes or spoils [property], by any means whatsoever, with a view to draw a benefit for himself or for another person or to cause harm to another person".[454] Despite the fact that embezzlement constitutes an equivalent wrong and harm to TS misappropriation, it is yet to be regarded as a criminal offence.

It is apparent that confidentiality is a central moral and legal concept, the malicious breaching of which should not fall outside the latitudes of the criminal law. Clearly, the concept pertains to the commercial sphere, where there is an obvious interest in combating the illicit disclosure of commercially sensitive information. In general, TS misappropriation forms a moral violation of standards of commercial ethics and, thus, can be regarded as a moral wrong on that basis too.

4.4.4.3 TS Misappropriation as an Abuse of Commercial Standards

As seen earlier, Islamic law puts great emphasis on high standards of commercial morality. Unfair and unjust trading practices can affect the community's prosperity. In the modern economy, there is a shared understanding of the need to prohibit wrongful trade practices and protect commercial standards. The EU TSs Directive focuses almost exclusively on prevention of conducts "contrary to honest commercial practices".[455] Prior the Directive, the TRIPS Agreement specifically prohibited illicit practices that contravened established industrial and commercial standards.[456]

Nevertheless, there is a scholarly argument that the wrongness rationale does not provides a solid foundation for criminalisation but legal regulation can turn permissible conduct, such as insider trading, into a criminal offence.[457] Ellen Bodgor is concerned that there is a crisis of overcriminalisation, particularly in the financial

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[454] OPC, article 296. Whereas embezzlement in misdemeanour under s. 224.13 of the UMPC, there is no such offence under the English law as theft encompasses a wide range of appropriations.
[455] Article 3(1) d, 4(2) b.
[456] Article 39(1).
[457] Cornford, 643.

sphere.[458] Even though legislators have the power to use the criminal law they must have good normative reasons for doing so. As good reasons, Professor Alastair Hudson suggests

> "The criminalisation of some financial activities is clearly of great importance in the creation of a culture of compliance with a basic set of ethical principles among market actors. The effect of criminalisation is therefore intended to be to prevent those activities from taking place and also to ensure the punishment of any contraventions of those basic ethical principles."[459]

Apparently, there is a legal reliance upon the moral policy of maintaining standards of commercial ethics through enforcing certain commercial behaviours that ensure fair dealings and competition. Consequently, conducts that fail to meet these commercial standards merit criminal penalties. The author of the book *Financial Crime in the 21st Century* argues that "dishonesty, misconduct in, or misuse of information relating to, a financial market" are illicit activities that not only have an adverse impact on the economies of countries but also weaken the fabric of economic health and stability.[460]

On the contrary, some writers have shown resistance to bringing the misappropriation of TSs under the ambit of criminalisable commercial immorality. Neel Chatterjee doubts that TS misappropriations are significantly different from normal elements of everyday commerce and competition.[461] Similarly, Steele and Trenton believe that the preservation of business standards is a "grey area" that might not be a solid basis to punish the disclosure of TSs.[462]

However, TS misappropriation practices, such as industrial espionage, hacking, bribery of employees, and conspiracy with a competitor, are unacceptable violations

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[458] Ellen Bodgor, 'Overcriminalization: New Approaches to a Growing Problem' (2012) 102 J Crim L & Criminology 529.
[459] Alastair Hudson, *The Law of Finance* (2 edn, CUP 2013) 363.
[460] Nicholas Ryder, *Financial Crimes in the 21st Century: Law and Policy* (EE 2011) 2-5.
[461] Chatterjee, 888.
[462] Anthony Trenton and Carl Steele, 'Trade secrets: the need for criminal liability' (1998) 20 EIPR 188, 192.

against standards of business ethics. The TRIPS Agreement grants persons the right of "preventing information lawfully within their control from being disclosed to, acquired by, or used by, others without their consent in a manner contrary to honest commercial practices".[463] In a more unequivocal fashion, the US Supreme Court held that "[t]he marketplace must not deviate far from our mores [and] our devotion to free-wheeling industrial competition must not force us into accepting the law of the jungle as the standard of morality expected in our commercial relations".[464]

Furthermore, TS misappropriation activities constitute breach of accepted business morality and lawful trade that require deterrence. This line of reasoning finds support from Moohr who stresses that the maintenance of standards of commercial morality is the true basis of TSs protection, where the criminal law might be used to secure the respect of business standards.[465] As the Law Commission concluded, "criminalisation [of TSs misuse] would help to preserve standards in business life".[466]

The intuitive assumption that TS misappropriation is immoral was not without a theoretical substratum. In a contribution relating to the criminalisation question, the above analysis demonstrates that TS misappropriation is also morally unacceptable. All three areas identified have revealed morality as legitimate grounds for criminalising dishonesty, and the violations of confidentiality and commercial standards associated with TS misappropriations.

4.5 Conclusion

This chapter discussed the philosophical justifications of imposing criminal sanctions on TS misappropriation. The theoretical exploration of the classical and contemporary principles of property, harm and morality revealed a sound legal basis for justifying

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[463] Article 39(2).
[464] *DuPont v. Christopher*, 431 F.2d 1012 (5th Cir. 1970).
[465] Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act', 886- 892.
[466] Law Com No 150, 1997, 93.

the criminalisation of misappropriation. Legal scholars have debated this problem based on property analysis but have yet to reach a resolution.

The three normative grounds offered by this study provide a cogent theoretical basis for criminalising TS misappropriation in Oman. Other Arab and Western countries may also benefit from this three-account process of criminalisation, since they still to adopt a criminal law that adequately recognises the misappropriation of TSs.

As the above theoretical discussion unearthed, the concept of property is more dynamic than it has been historically. Corporeality is not necessarily the core element of property. This study has found no compelling reasons for excluding TSs in today's conception of property. In the contemporary world, property can be anything that is economically valuable and customarily tradeable. Thus, any marketable products with recognisable economic value should be entitled to criminal protection regardless of whether they are tangible or intangible. This is the Islamic conception as well as the requirements of the contemporary market.

The Harm Principle is deemed the predominant theory of criminalisation that includes setting back an interest and hindering opportunities for economic gain. In this regard, the degree of harm inflicted by TSs misappropriation on various interests is no less serious than the theft of tangibles. Therefore, it is consistent with the normative rationales that warrant criminal intervention to criminalise the misappropriation of TSs. The above-identified detrimental effects of the misappropriation of TSs should meet the social norms and provide a solid ground for the criminalisation of harmful misappropriations.

Additionally, the argument is supported by the argument that TS misappropriation is a moral wrong based on its inherently dishonesty nature. It is analogues to the breach of confidentiality and the commercial ethics that are undermined by misappropriation activities. Indeed, it is the concepts of property, harm

and morality that comprise an underlying theoretical justification against TS misappropriations that provides a *prima facie* case for criminalisation.

The criminal law is inseparable from the political, social and economic norms of the society it serves, thus, it would be inappropriate for Omani law to turn a blind eye to the harms and immoralities that are found to stem from TS misappropriation. The above philosophical paradigm of criminalisation offers policy objectives that should guide the Omani legislator. Nevertheless, whether criminalisation is legitimate is not the whole story; how the criminal law should be formed, what it should cover, and how it should be implemented will now be considered.

CHAPTER 5
A CONSIDERATION OF THE PRESENT CRIMINAL LAW AND TSs: WAYS OF IMPROVEMENT AND INTEGRATION

5.1 Introduction

In the preceding chapter, it was demonstrated that there are good reasons for criminalising TS misappropriation. This study offers an original conceptualisation of TS misappropriation based on the tripartite theory of property, harm and morality. TS misappropriation might be considered a dishonest interference with proprietary interests that is morally wrong and sufficiently harmful to justify criminalisation. Prior to that, an argument has been made throughout that the civil law is currently inadequate for providing what is needed.

Nonetheless, the establishment of these justifications does not make the criminalisation of TS misappropriation easily applicable and readily accommodated within the current Omani legal framework. Even if a theoretical framework of criminalisation has been formulated, it remains necessary to address the existing legislative framework before making a final recommendation. If TSs misappropriation amounts to a sufficiently culpable wrong to merit criminal intervention, a further practical consideration concerns assessing the functionality and workability of the criminalisation process.

A challenging task, therefore, is how to employ the theoretical justifications for the purposes of a balanced and workable legislation, and how to provide such criminal protection. Criminal sanctions, after all, are heavier than civil sanctions and should therefore only be used to protect against conduct that is both harmful and wrongful. The property conception would catch dishonest acquisition or use of TSs, but does not serve other broader social goals of maintaining business standards to ensure fair competition and honest commercial practices. Hence, adopting the property-conduct

basis is a more practical way of deterring reprehensible practices associated with TS misappropriation.

This chapter examines whether the misappropriation of TSs is, or can be, punished under existing Omani criminal laws. It not only critically examines standard criminal provisions and offences of general application but also investigates whether particular, extant criminal offences can be interpreted differently or re-drafted to cover TS misappropriation. The analysis is informed by an examination of the English provisions on the crime of theft (which are general) and the American penal provisions against economic espionage (which are specific) to the misappropriation of TSs.

The purpose of this comparative analysis is to better understand the position in Oman and to suggest improvements to the Omani criminal law. The focus throughout this chapter is not on the information that should be protected, as this has been settled in Chapter 2, but on the conducts that need proscription and how to formulate an appropriate legal response to the complex problem of TS misappropriation.

Industrial espionage is a worldwide threat that lends itself to analysis of how other countries have approached the same problem. Given that, like England and the US, Oman is partly a common law[1] and mainly an adversarial criminal justice system,[2] Oman can benefit from the best practices in these countries when developing its laws in relation to TSs protection. Before undertaking the comparative analysis with individual countries, reference will be made to the TRIPS Agreement. Article 80 of the Omani Constitution provides that regulations and procedures shall conform to the provisions of ratified international agreements that are part of the country's law. Therefore, for the purposes of this study, it is important to consider whether the way in which these international obligations are being implemented in Oman provides enough protection for TSs.

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[1] Bassiouni, 123.

[2] Mizher Obeid, *An Explanation of the Omani Criminal Procedure Law* (Police Academy 2012) 225 (Arabic).

5.2 International Criminal Enforcement of IPRs under the TRIPS Agreement and National Criminal Protection of TSs

Oman, as a WTO member state, is formally obliged to maintain the provisions of the TRIPS Agreement. Hence, the logical starting point for considering and assessing domestic protection is international law, which is an important source of national law. The Agreement became the first international IP law to include provisions that deal with national criminal measures. Henning Grosse states that before the advent of the TRIPS Agreement, classic IP treaties did not "contain any explicit obligations [on national laws] to introduce criminal law sanctions against IP infringement".[3]

However, things changed with the entry into force of the TRIPS Agreement. As clearly stated in the Preamble to the Agreement and reinforced by article 41, all Member States shall provide "effective" measures to *deter* further infringements. But the explicit requirement of the provision of *criminal* procedures is found under article 61, which states "Members shall provide for criminal procedures and penalties to be applied at least in cases of wilful trademark counterfeiting or copyright piracy on a commercial scale."

This Article can be seen as international recognition of the importance of criminal sanctions for the protection of IPRs. As Geiger describes, criminal penalties are considered as "the most effective means of enforcing intellectual property rights".[4] One could speculate that increasing trade in counterfeit goods, coupled with a lack of effective enforcement obligations, was the underlying rationale for affecting national sovereignty in the sensitive area of criminal sanctions.[5]

At first glance, the Article above may appear limited only to the infringement of trademark or copyright, however, it can also cover the infringement of other IPRs

[3] Henning Grosse Ruse-khan, 'Criminal Enforcement and international IP Law' in Christophe Geiger (ed), *Criminal Enforcement of Intellectual Property* (Edward Elgar Publishing 2012) 171.
[4] Geiger, 2.
[5] Grosse Ruse-khan, 173.

including TSs. Taubman *et al.* explain that article 61 explicitly recognises that members have the responsibility to provide criminal sanctions against other cases of IP infringement, particularly, where those are committed wilfully and for commercial gain.[6] Henning regards article 61 as a "core minimum standard".[7] Given this broader obligation, it is necessary to examine how far article 61 has been adopted into Omani legislation.

It can be seen that the provisions of article 61 are only selectively implemented by the Omani law. That is to say, the current OIPRA is selective as to which IP is protected in an "effective", "expeditious" and "deterrent" manner.[8] Unlike the other categories of IPRs misappropriation, which are criminally enforceable, TSs or "Undeclared Information", as it is improperly termed by Omani law, is protectable only by civil remedies, though they are a form of IPRs under the TRIPS Agreement.[9]

It might be said that well-regulated and well-enforced civil actions may meet the TRIPS requirements of "effective and adequate protection". Nonetheless, as we have seen in Chapter 3, the current civil law is not appropriate for several reasons, relating to either the efficiency of the law itself or its enforcement in Oman. It would continue to be insufficient even if remedies were made widely available and easily obtainable, because many wrongdoers do not have the sufficient means to satisfy relatively high compensations awarded for TSs misappropriation. Thus, the inefficiency of civil measures contradicts the TRIPS requirements of effective measures "to prevent an infringement of any intellectual property right from occurring".[10]

One of the main provisions of the TRIPS is "to create an effective deterrent to infringement".[11] As civil measures are not sufficient, the deterrent threshold is not met. As the Law Commission concluded, "the risk of being held liable in damages is rarely

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[6] Taubman, Wager and Watal, 151.
[7] Grosse Ruse-khan, 172.
[8] The TRIPS, article 41, concerning general enforcement of IPRs.
[9] Part II, 7 of the TRIPS.
[10] The TRIPS, article 50.
[11] Article 46.

a significant deterrent" but "the most obvious form of deterrent is the threat of imprisonment".[12] To create a proper method for deterrence, article 93 of the OIPRA provides that

> "Anyone who intentionally and on a commercial scale infringes industrial property rights shall be imprisoned for a minimum of 3 months up to a maximum of 2 years, and fined from a minimum of $5.000 up to a maximum of $25.000, or either of the two punishments".

Based on this generic text, Oman is the one exception in the region that it provides a single text for criminalising IP infringements. Other GCC countries have imposed a set of more detailed criminal offences with different penalties for different infringements. For instance, article 7 of the Bahrain Trade Secrets Act (7/2003) explicitly penalises the unlawful disclosure, acquisition and use of TSs by different penalties. This has also been the approach of the Qatari Trade Secrets Act (5/2005), in which article 11 punishes "anyone who obtains, uses or divulges trade secret by illegal means". In fact, these criminal provisions are largely borrowed from the Egyptian Intellectual Property Rights Act (82/2002), which although it encompasses different IPRs, article 61 provides separate criminal sanctions for the misuse of TSs. More generally, article 379 of the United Arab Emirates Penal Code (1987) directly penalises the abuse and disclosure of TSs without the consent of their owners.

Conversely, Oman has applied the same scale of sanctions across all IPRs, which excludes TSs.[13] This single text to criminalise all forms of IP infringements could leave Oman open to criticism. Since it does not cover TS misappropriation, it confirms the argument that Oman deals particularly poorly with TSs. The imposition of a general punishment without precisely determining the elements of each crime can be a cause of unacceptable legal uncertainty.

Certainly, IPRs are not identical but vary in nature, scope, value and risk of infringement. For instance, copyright piracy differs from trademark counterfeiting and

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[12] Law Com No 150, 1997, 24.
[13] Section 3.4.2.

both are different from patent infringement, not only in legal protection but also in social and economic impacts.[14] All these peculiarities cannot be accommodated by a single criminal text. It is clear that the text sets a maximum and minimum level of penalties; however, the provision of judicially flexible sanctions that can be adapted to different types of wrongdoing does not fully answer the argument in favour of establishing specialist and precise crimes in the first place. According to the principle of fair labelling, "an offence ought fairly to represent the offender's wrongdoing".[15]

Apart from the criticism that article 93 should not lump all IP infringements into the one short section, it does not address TS misappropriation at all. Despite the broadness of the Article, it falls short of taking account of individual TSs. At present, "Undeclared Information" is not protected in its own right as a type of IP, instead, the "holder" of a TS is protected against the practices of unfair competition. Given how broad the criminal provision under article 93 already is, it could and should also encapsulate TS misappropriation. Further, the proviso that infringements must be on a "commercial scale" is a too high a barrier to TSs protection.

The threshold of "commercial scale" means that the wilfully obtained illicit financial gains must be substantial. This does not take into account the nature of TSs. It might be realistic to say that Member States need not criminalise every commercial infringement without regard to the amount by which the infringement threatens the interests of society.[16] Nevertheless, in TS misappropriations specifically, any degree of unlawful conduct, even if not on a commercial scale, can have an impact. Economically sensitive information is, logically, sensitive to any scale of misappropriation because as soon as any aspect of the information that has been kept confidential is revealed, all value is presumably lost.

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[14] Reto M. Hilty, 'Economic, Legal and Social Impacts of Counterfeiting' in Christophe Geiger (ed), *Criminal Enforcement of Intellectual Property* (Edward Elgar 2012).
[15] James Chalmers and Fiona Leverick, 'Fair Labelling in Criminal Law' (2008) 71 MLR 217, 219.
[16] Ainee Adam, 'What is "Commercial Scale"? A Critical Analysis of the WTO Panel Decision in WT/DS362/R' (2011) 33 EIPR 342, 344.

By using the general standard threshold of "commercial scale", the OIPRA unduly emphasises the protection of society in general rather than individual owners. It is more conceivable to make the argument that the society as a whole has more interest in prosecuting the misappropriation of industrial and technical know-how than, for example, copyright piracy or making commercial-scale copies of computer games, which is currently punishable. Furthermore, in circumstances where this threshold is not met, because of the small-scale of misappropriation, it can constitute a safe harbour for offenders. Alternatively, states might consider the objective and the degree of misappropriation committed and the sector of commercial activity affected, with respect to a given product in a given context. As the WTO Panel Report 2009 observes, "a 'commercial scale' is the magnitude or extent of typical or usual commercial activity".[17] This approach is consistent with the TRIPS's provision that national laws ought to be mindful of the private rights of the owner. As clearly indicated in the Preamble, IPRs are essentially *private* rights. To that end, article 61 encourages States to make further advances in the use of criminal sanctions against unlawful profits.

Again, the Omani penalties set out above may not deter further infringements. Pursuant to article 61, penalties available shall be "sufficient to provide a deterrent, consistently with the level of penalties applied for crimes of a corresponding gravity". By contrast, larceny, which might be much less serious financially than TS misappropriation, is also punishable under the OPC for up to 3 years. This analysis is not that TSs misappropriation should be regarded as the same as larceny, but rather to highlight the inconsistency in the current provisions.

The OIPRA represents a recent statutory framework that was supposed to adhere to the criminal measures and the deterrence objective of the TRIPS Agreement. However, the above analysis demonstrates that the OIPRA, especially in relation to TSs, is not entirely TRIPS-compatible. For these reasons, it might not be accurate to

[17] The World Trade Organization, *Panel Report, China- Measures Affecting the Protection and Enforcement of Intellectual Property Rights (China-IPRs)* (WT/DS3262/R), 26 January, 2009) 7.577.

describe the OIPRA as offering an all-encompassing protection for all forms of IPRs,[18] nor does the Act include "severe" criminal sanctions for *all* kinds of IP infringements, as others have stated.[19]

As an example of the OIPRA's shortcomings in this area, article 93 itself acknowledges that its measures should be implemented "without prejudice to the stronger penal actions provided for in other laws". This can be taken as a legislative acknowledgement of the authority of the country's primary Penal Code (the OPC), which has been historically used to combat illicit activities that are detrimental to businesses and market performance.[20] In effect, the fact that TSs are not viewed as IP in Oman may ease their protection under the broader array of crimes against the market contained within the Penal Code.

It is timely for Oman to develop greater legal protection for TSs or at least protection equal to other IPRs. For example, Oman could use the OIPRA to deal with civil damages arising from TS cases where there are no criminal elements, and use the OPC to deal with aggravated or criminal acts. This approach seems consistent with the social expectation[21] and the general penal framework.

Indeed, the provisions contained in TRIPS should be seen in the context of its general objects and purposes. In that broad sense, the Agreement sets a flexible international obligation on criminal IP enforcement or minimum standards as explicitly set down in article 61 TRIPS. Taking these rules into consideration, it is incumbent upon the national lawmakers to tailor an effective criminal IP measure that is in line with the domestic social and economic environment. However, this is not the case in Oman.

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[18] Said Al-Mashari, *Industrial Property Rights: Analysis Of Omani Law* (Dar Jadid 2016) 42 (Arabic).
[19] Jaber Al-Wahaibi and Khalfan Al- Rahbi, 'Intellectual Property System in the Sultanate of Oman' (WIPO Introductory Seminar on Intellectual Property, Muscat, Oman, 19 April 2012; WIPO/IP/MCT/APR/12/3) (Arabic).
[20] It should be noted that penalties against IPRs infringements did exist in the OPC before they were replaced by the OIPRA.
[21] Section 4.4.4.

Finally, it is interesting to note that article 42 of the TRIPS Agreement exempts measures that are "contrary to existing constitutional requirements [of the members]". Henning clarifies that the notion of "constitutionalization" of international law depends on its unity with national constitutional rules for consistency and systemic relations.[22] A fundamental question arising here is the compatibility of criminal protection of TSs with the Omani Constitution. There is no question that if TS protection conflicts with constitutional rules, it should not warrant criminalisation.

5.3 The Constitutional Framework on Criminal Enforcement and TSs Protection

As discussed above, the influence of international law in shaping domestic criminal laws can be profound, especially at a time when there is a global consensus on the protection of TSs and their attachment to international trade. Equally, constitutional rules hold great power in guiding and formulating national laws, particularly, criminal legislation. The fact that a constitution sits at the top of any pyramid makes criminal law, in particular, "thoroughly constitutionalized".[23] This section examines whether the criminalisation of TS misappropriation conflicts with existing Omani constitutional standards.

It is worth noting at the outset that Oman's first Constitution, known as the Basic Statute, was introduced in 1996. As with most of the constitutions, the Omani Basic Statute has supremacy over all legislation (article 79). In effect, the Omani constitution can be characterised as largely balanced between a Western style and a religiously conservative style. As noted by the WTO, Oman is a constitutional and "rules-based" country with a "multilateral trading system".[24]

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[22] Henning Grosse Ruse-khan, *The Protection of Intellectual Property in International Law* (OUP 2016) 19.
[23] Markus D. Dubber, 'Toward a Constitutional Law of Crime and Punishment' (2004) 55 Hastings LJ 509, 509.
[24] The WTO Secretariat, 14.

This casts the focus on the relationship between the Basic Statute and the TRIPS Agreement. According to articles 72 and 76, "the Basic Statute shall not prejudice treaties and international agreements *concluded* by Oman", but shall have legal power in national courts. Interestingly, Oman's accession to the WTO and the TRIPS Agreement was in 2000, four years after the enactment of the Basic Statute. Although TRIPS includes provisions that touch domestic criminal legislation, which is considered to be an aspect of state sovereignty, the accession had the effect of reviewing and amending business and trade-related laws, as well as introducing new legislation to ensure compliance with Oman's WTO obligations. As a result, the TRIPS criminal measures in relation to TSs protection seem in harmony with the Basic Statute provisions.

However, the Basic Statute and the OPC are not in harmony. Given that the Basic Statute (1996) came into effect at a time when the OPC (1974) was already in force, their relationship is more likely to contain some contradictions.[25] Uncommonly, in the Omani case, the OPC is 22-years older than the Basic Statute and they have yet to be harmonised. This may indicate that there is a conflict with the Basic Statute's provisions. Constitutionally, the Basic Statute must not be infringed in the first place, and all laws that had been in force prior to it, especially the OPC, must be reviewed to confirm the Basic Statute's newer provisions (article 77).

The reason behind this delay may be the constitutional rule that "Sharia is the basis of legislation" (article 2). The OPC, as it currently stands, does not penalise some conducts that are crimes in the eye of Islamic law, such as usury and drinking alcohol. Also, some crimes that are recognised are not punished according to the *Sharia*. However, as we have seen in Chapter 4, Islamic law permits penalties against the misappropriation of valuable commercial information but not with the penalties provided for larceny.

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[25] The Preamble of the OPC begins with the "Whereas the country needs a penal code which organizes the relations between individuals and determines their duties towards society and the public order, we are hereby issuing this Omani Penal Code".

There is now in Oman an increasing recognition that this work of reconciling the OPC with the Basic Statute needs to be done systematically.[26] According to the authorities, an overhaul of the OPC is currently being discussed and it is expected that a New Penal Code will be developed in the next few years.[27] This is perhaps the best opportunity to ensure that TS protection is included. The Omani Parliament would need to be informed of the constitutional provisions in this regard in order to make the desirable reform.

It is evident that states increasingly use criminal law as a political response to social threats, via the creation of new crimes.[28] Equally, these political ideologies, values and institutions may vary from one state to another. The US Constitution of 1789, for example, had granted Congress the power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries".[29] Similarly, English law, as was detailed earlier in Chapter 4, protects the moral right in innovative creations and secondly protects property rights in these intangible innovations.[30] The Omani Constitution does not include the same stipulations; it does guarantee legal protection for relevant "economic rights", however, which might include IPRs.

That there are several provisions that lie at the heart of the Basic Statute that can be used in promoting the protection of TSs. Under the heading "The Principles Guiding the State's Policy" articles 11 and 12 of the Statute provide that the state shall ensure the well-being of the national economy; protection of "private property"; maintenance

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[26] http://muscatdaily.com/oman/State-Council-deliberates-on-draft-penal-law-4ptn, accessed 6 January 2018.

[27] http://timesofoman.com/article/80944/Oman/Government/Shura-Council-new-Omani-penal-code, accessed 20 September 2017.

[28] RA Duff and others, 'Introduction' in RA Duff and others (eds), *The Structures of the Criminal Law* (OUP 2011) 8.

[29] Article 1, s 8, Para 8.

[30] For a constitutional view see Christophe Geiger, 'Constitutionalising Intellectual Property Law?' (2006) 37 IIC 371; Christophe Geiger, 'The Constitutional Dimension of Intellectual Property' in Paul Torremans (ed), *Intellectual Property and Human Rights* (Kluwer 2008). For actual legal provisions, see the Copyright, Designs and Patents Act 1988 and the Criminal Law Act 1977 (s.5 "conspiracy to defraud").

of “justice, equality, and equality of opportunities” and promotion of “knowledge, sciences, scientific research, arts and literature”. In light of these central provisions, any activity that disrupts national economic interests, discourages innovation and misappropriates knowledge-based assets seem to be constitutionally proscribed.

Bearing this in mind, the OPC’s provision against misappropriation is not in line with the new guidelines of the Basic Statute. It could be argued that the constitutional texts identified above only instruct the legislator to provide protection for TSs, but not necessarily penal protection. It is true that constitutions rarely penalise, but they do guide penal laws to do so and then ensure that those laws are actually working.[31] As a result, if the state is aggressive or negligent in using the authority given to it, that can be a failure to meet the constitutional guidelines.

However, as the Omani constitution promotes innovation and economic growth for national prosperity, it also encourages freedom of expression, freedom to innovate, freedom to work and free flow of information across society.[32] There are valid reasons for prosecuting the misappropriation of knowledge-based assets, but this should not come at a cost to public knowledge or put important societal interests at stake. These are issues to which prosecutions should be carefully calibrated.

In this regard, the Omani trade secrecy regime seems to be failing to adhere closely to the underlying constitutional rules. TSs are obviously valuable national assets, though their violation is inadequately policed by the current civil instruments or the two-year visa ban law. In effect, this law is unconstitutional, for the reasons detailed elsewhere[33] and because of its contradiction of constitutional principles, particularly those relating to a free economy and to equality. It is inconsistent that TSs enjoy constitutional protection, but lack criminal recognition.

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[31] Qurani, 20.
[32] Articles 29, 31 and 35 of the Basic Statute.
[33] Section 3.6.

The above analysis should highlight to the Omani Parliament the inconsistency within the current legal framework. As TSs play an increasingly significant role in the national economy, and they are increasingly vulnerable to misappropriation, they ought to attract the attention of the criminal law. In addition to the broad international standards of TS protection crafted under the TRIPS Agreement, the supremacy and rigidity of the Basic Statute must not be dismissed. While Oman appears to have solid constitutional guidelines for addressing the problem, its Penal Code has remained almost unaltered since it was first introduced, 42 years ago.[34] This failure to keep pace with social, economic and technological changes is against the national interest and might be a breach of the state obligation to preserve economic justice and prosperity, and thus unconstitutional.

The Omani Parliament should not concern itself only with the status of the OPC but also the lack of criminal provisions against misappropriating industrial and commercial information. For political-legal policy reasons the OPC is not continually open to revision and reconsideration, but it now requires comprehensive review and reform.

The reform committee may require advice concerning international best practice in this area. Before moving to the English law of theft, which is quite general in its application, and to the specific American law of TS misappropriation, it is important to understand the overwhelming silence of the OPC on the problem and its defects in proscribing the misappropriation of intangible information.

5.4 Clarifying the Competency of the Existing Omani Penal Law to Deal with TS Misappropriation

The incompatibility of the OPC with the Basic Statute's provisions on TSs protection raises unique issues because "the criminal law is both a social and a political

[34] Some amendments were the computer crimes law (12/1997), the counter-terrorist law (96/2011) and the consumer protection law (7/2018).

institution",[35] or it is the "iron arm" of maintaining the constitutional norms of society.[36] While the criminal law must mirror the prevailing social and economic conditions of the country,[37] the OPC is not equipped to deal with TS misappropriation that made it particularly anomalous.

The OPC is the highest penal authority in the country. In fact, it is one of the oldest penal codes in the Arab world drawing much from the Jordanian Penal Code 1960, which was in turn largely based on the French Penal Code 1810. Also, the OPC is not free from English influence.[38] Therefore, it is a hybrid; influenced by both Western and quasi-*Sharia* styles.

Given its longevity, the existing crimes against property are traditional and unable to encompass the modern phenomenon of valuable intangibles. Larceny is the most relevant vehicle for criminalising the misappropriation or removal of TSs. Although the OPC uses the term "theft", the term "larceny" is a better label for this narrower crime than the broader crime of theft in the modern law, as will be shown below. Perhaps we should not use the term "taking" or "theft", because intangible assets cannot be taken or stolen in the strict sense under Omani law.

The Omani old crime of larceny encompasses only the taking of tangible property from the possession of another person without their consent, whereas the English modern crime of theft encompasses a wider range of property and conducts.[39] As the Omani Supreme Court interpreted, larceny involves the taking of property by force, where the thief creates the possibility of violence if interrupted or accosted by the victim or a third party.[40] It is thus possible to see larceny as having a distinct conceptual basis for criminalisation to that of theft. That is, it is based on issues of

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[35] RA Duff and others, 8.
[36] Mahmood N. Hussni, *Principles of Penal Law- General Part* (Dar Nahda 1982) 7 (Arabic).
[37] Andrew Ashworth, Lucia Zedner and Patrick Tomlin, *Prevention and the Limits of the Criminal Law* (Oxford University Press 2013) 8.
[38] Alani, *Principles of Omani Criminal Law - The General Part*, 26.
[39] For a historical review see Fletcher 30-39.
[40] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (32,33/2007) 322.

violent taking and breach of public peace than issues of infringing property interests.[41] As such, larceny, in the Omani context, is a single crime which is protecting possession of property and enhanceing public peace. The crime is defined in article 278 as follows: "Theft is the illegal taking of one's movable property. Powers such as water, electricity and gas shall be deemed as movable things where the Penal Law is applied".

These dated rules of larceny do not cover information and the taking of secret information does not involve the taking of movable and tangible property. Objects that are capable of being moved would require some form of tangibility. This rule was settled in the Jordanian case of *Alyarmouk University v Tarawneh*,[42] where two defendants had copied the content of university examination papers into private papers that they had intentionally brought with them. The information was then sold to some students prior to the exams but the defendants could not be convicted of larceny. The Jordanian Supreme Court held that mere intangible information cannot form the subject-matter of larceny, which applies only to tangible goods.[43]

There seems no question that courts have traditionally assumed that information cannot be stolen. Nevertheless, this assumption can be seen as being at odds with the second clause of article 278, which asserts that electricity can be the subject of larceny. Though electricity lacks materiality, this suggests that certain intangibles can be appropriate objects of larceny. If economic value was the underlying reason behind its inclusion, in today's information economy business information cannot be envisaged as being less valuable than electricity.

Owners of valuable commercial information may naturally seek the protection of criminal law. The serious economic losses that businesses could face from TS misappropriations indicate the significance of intangible property which is such that it

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[41] It is worth noting that article 222 of the US Model Penal Code 1985 distinguishes larceny from other property-related offences by the element of violence and the presence of the victim.

[42] Appeal Court, Criminal Department, (1503/2004). As mentioned earlier, the Jordanian Code is the origin of the OPC, where the Omani text of larceny is almost identical to the Jordanian text under article 399.

[43] A Set of the Supreme Court Judgments in Jordan: 1974', Criminal Department, (31/1974) 912.

deserves recognition from the criminal law. Ferguson and McDiarmid suggest that "the criminal law should protect against "pure economic loss".[44]

Omani property-related crimes, as will be discussed later in this chapter, were written to deal only with the traditional objects of the law of property, such as movable chattels and physical goods. Nevertheless, the economic transformation and social changes in Oman seem to acknowledge broader modern forms of property, including business information. As has been observed, "the information age turned information into a new asset".[45] It is not unrealistic that the criminal law should reflect this reality.

In practice, the Omani courts may try to reshape the existing offences to fill the gap and face the new threat of misappropriation of industrial information. This judicial reaction to changing social and economic realities is logical but likely to conflict with another constitutional principle, namely the principle of "legality".[46] Before the enactment of the Telecommunications Regulatory Act 2008,[47] criminal courts tried to apply the crime of affront[48] to conducts that harmed the dignity of individuals through the use of smart phones. However, the Supreme Court repelled the extension and interpreted the crime to be limited only to the means stated in article 34 of the OPC (actions, movements, speech, writings, drawings or paintings in a public place) and stated that it must not be extended to electronic devices.[49]

This is critical for the Omani courts to consider when addressing the issue at hand. While the old rules of the OPC say nothing on the TS misappropriation, the principle of legality would constrain courts from extending the somewhat open-

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[44] Ferguson and McDiarmid, 356.
[45] Lederman, 115.
[46] Article 21 of the Basic Statute provides that "no crime or penalty is cognisable as such except by virtue of a Law". Similarly, under section 1.02.(1)(d) of the UMPC, one of the purposes of the Penal Code is "to give fair warning of the nature of the conduct declared to constitute an offense".
[47] Article 61(1) punishes "Any person who uses telecommunications equipment or facilities with the intention to forward a message that he is aware of as untrue, or that could harm the dignity or safety of any person".
[48] The OPC, article 269.
[49] 'A Set of the Supreme Court Judgments in Oman: 2006', Criminal Department, (18/2005) 241.

textured property-related crimes to the taking of TSs. On the other hand, some judges may see the similarity between the misappropriation of business information and the larceny of tangible property as an analogy that enables expanding the charges to meet the needs of society. Following the evolution of property, English law has, in effect, reformed the crime of theft to encompass almost any dishonest interference with property rights, rather than the narrow interference of taking and carrying away physical property.[50]

Before addressing in more detail the main shortcomings of larceny and other property-related crimes under the OPC, it is the aim of this study to draw on appropriate comparators to discern how the English and American laws, which traditionally focus on criminal law, have taken the analysis further, as a way of reaching a conclusion as to how Omani law could develop.

5.5 The English Offences of Dishonesty

5.5.1 A Brief Historical Overview of English Criminal Law Relating to TSs

To properly understand the existence of a criminal offence, it is essential to trace it historically to see how and why it entered the law. As Jerome Hall explains, it is "necessary to start with simple larceny and to trace the emergence of several differentiated crimes from that primitive legal form as social need sought a more refined set of instruments".[51]

Thirteenth century England was no longer an exclusively agricultural nation. The woollen manufacturing industry made it a leading wool exporter. This developing trade of wool-fulling was stimulated by official encouragement from the King and the Church to expand the industry and export trade. Such official support culminated in

[50] Michael E. Tigar, 'The Right of Property and the Law of Theft' (1984) 62 TexLRev 1443, 1446.
[51] Hall, *Theft, Law and Society*, vii.

the issuance of the Carta Mercatoria by Edward I in 1303, which guaranteed the peace and security of continental merchants in England.[52]

To develop its wool technology, England sought skills, techniques and knowledge from continental weavers. Edward III encouraged the immigration of skilled weavers and artisans, by issuing the 1332 Charter of Protection and Privileges to John Kempe (Chancellor and Archbishop of York). While Britain was developing its technologies by encouraging the introduction of new industrial skills from the continental countries, an economic policy called mercantilism[53] was used in building and maintaining its empire. The mercantilism policy could be characterised as the state's strong regulation of all facets of economic life, including the control of industrial technology. So, it might be said that mercantilism showed paternalistic traits.[54] This minute regulation and protection of industry and commerce facilitated a flourishing in Britain's industry.

Britain realised that losing its technology to foreign countries would damage its developed technologies and mercantilism-based empire. Accordingly, criminal laws were passed to prevent British commercial secrets from being disclosed to foreigners, while Britain encouraged the transfer of technology from foreign sources. These laws prohibited the exportation of tools or implements, and the migration of skilled workmen, from Britain.[55]

One such statute, among a series of enactments, was the Statue of Apprentices 1563.[56] Another was the "Act to Prevent the Inconvenience Arising from Seducing Artificers in the Manufactures of Great Britain into Foreign Parts", passed in 1719. This statute provided a fine of £100 and three months, imprisonment for

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[52] Daniel D. Fetterley, 'Historical Perspectives in Criminal Laws Relating to the Theft of Trade Secrets' (1970) 25 The Business Lawyer 1535, 1540.
[53] This term is generally used for an economic and political policy designed, in Adam Smith's words, to "enrich a great nation rather by trade and manufacture than by the improvement and cultivation of the land, rather by the industry of the towns than that of the country".
[54] Fetterley, 1541.
[55] Ibid, 1539.
[56] Harlan M. Blake, 'Employee Agreements Not to Compete' (1960) 73 HarvLRev 625, 634.

> "divers ill-disposed persons [who had] drawn away and transported artificers and manufacturers out of His Majesty's dominions into foreign countries by entering into contracts with them to give them greater wages than they have or can expect to have within this kingdom, and by making them large promises and using other arts to inveigle and draw them away".[57]

An artificer who had emigrated under these circumstances, and who did not return to Britain within six months after being warned by British ambassadors in the country where he resided, was deemed an alien, forfeited all his lands and goods, and was incapable of receiving any legacy or gift.[58]

This Act was followed in 1750 by another[59] which increased the penalties for the exportation of utensils used in silk or woollen manufacture. These laws were followed by others in connection with the prohibition of the exportation of machines and engineering systems. Parliament banned the export of the knitting frame, even though it has been invented a hundred years earlier. As the inventions of the Industrial Revolution multiplied during the second half of the eighteenth century, several laws were passed between 1773 and 1786 to prevent the exportation of machinery, models, drawings and specifications from Britain.

Eventually, as the Industrial Revolution progressed, mercantilism came to be widely criticised and a new policy of laissez-faire or "allow to do" gained broad support instead. This change in British governmental economic policy resulted in fewer criminal sanctions against individuals and greater use of civil remedies against commercial secrets abuses. For instance, in 1824, it became legal for a skilled labourer to emigrate.[60] After 1845 economic deregulation was extended to the exportation of machines, plans and models.

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[57] 5 Geo. I, C. 27.
[58] 4 W. Blackstone, Commentaries, 160.
[59] 23 Geo. I, C. 13.
[60] J. & B. Hammond, *The Rise of Modern Industry* (1926) 123.

This historical material is a case study in the interplay between the current economic situation and the use of the criminal law to protect it. It suggests that criminal instruments can be closely used to protect markets and to facilitate trade. Large-scale production and threat often stimulate large-scale protection. The volume of business done, the nature of commerce and the prevailing types of threats are factors that determine how and why criminal law is used. Jerome Hall has observed that "the [criminal] law, lag[s] behind the needs of the times".[61] The rise of the modern commercial economy produced a modern law of theft.

5.5.2 Theft

5.5.2.1 Theft or Larceny?

The present Theft Act 1968[62] replaced the Larceny Act 1861 and the Larceny Act 1916.[63] In justifying the replacement and the abolition of the old crime of larceny, the Criminal Law Revision Committee (CLRC) reasoned that there had been much criticism of larceny's "failure to deal with certain kinds of dishonesty which ought certainly to be punishable".[64] The chief defect stemmed from larceny being essentially confined to violation of possession or custody rather than various rights of ownership of property.[65]

Larceny restricted the notion of stealing to limited violations, namely ordinary stealing, embezzlement and fraudulent conversion by trustees. The limited scope of larceny can be seen from the definition of stealing in section 1 of the Larceny Act 1916, which was intended to reproduce the common law. It runs as follows

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[61] Hall, *Theft, Law and Society*, 33.

[62] It should be noted that the Theft Act 1978 replaced section 16(2)(a) of the Theft Act 1968 relating to fraud, which then become the Fraud Act 2006.

[63] For a historical review see Tigar; Fletcher.

[64] Criminal Law Revision Committee, *Eighth Report: Theft and Related Offences* (Cmnd 2977, 1966) 10.

[65] Ibid. It should be noted that the OPC also suffers from this defect and, therefore, can be said similarly badly flawed.

> "A person steals who, without the consent of the owner, fraudulently and without a claim of right made in good faith, takes and carries away anything capable of being stolen with intent, at the time of such taking, permanently to deprive the owner thereof".

The phrase "anything capable of being stolen" may seem all-encompassing. However, the restriction of larceny to movable property can be clearly seen in the case of *Croton v The Queen,*[66] which illustrates that in larceny "there must be what is called an asportation. Therefore, […] larceny can only be committed on property which is capable of physical possession and removal". As with the OPC, the Larceny Act provided no definition of stealable property.

By contrast, a broader view of theft is reflected in the definition in Section 1 of the present ETA, which was enacted to cover more kinds of misappropriation. As the definition states: "A person is guilty of theft if he dishonestly appropriates property belonging to another with the intention of permanently depriving the other of it."

Clearly, the ETA broadened the offence from a physical carrying away to mere appropriation and from fraudulent acquisition to dishonest deprivation. The requirement of appropriation is a far-reaching change, as "any assumption by a person of the rights of an owner" would suffice.[67] Similarly, the element of dishonesty,[68] which underlies theft, corresponds to a range of circumstances. By combining all the larceny-type offences under a single statutory offence of theft, the CLRC hoped to provide a simpler and more effective protection to a wider range of property.[69]

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[66] (1967) 117 CLR 326, 330 (Barwick CJ, Australia).

[67] Section 3 (1) of the ETA. For a related discussion see D. Crystal, 'Appropriation under Section 3 of the Theft Act' (1985) 19 The Law Teacher 90; G. Williams, 'Temporary Appropriation Should be Theft' (1981) CrimLR 129.

[68] The ETA does not define "dishonesty", but it defines honesty (albeit negatively).

[69] The CLRC's eighth report, 5.

5.5.2.2 Appropriation of "Property" and TS Misappropriation

Property is a key concept in the law of theft and the earlier theoretical discussion shed some light on the relationship between the two.[70] The meaning of "property" under the ETA is defined in section 4(1) thus: "Property" includes money and all other property, real or personal, including things in action and other intangible property".

Whilst the ETA uniquely and explicitly states that "property" includes "intangible property", the English courts have shown reluctance to regard confidential information as property for the purposes of theft. In the view of the CLRC, apart from the special cases of "land, things growing wild and game", theft should apply to any kind of tangible and intangible property.[71] In connection with TSs, the idea of stealing seems uncertain simply because, traditionally, only tangible property could be stolen.

The English courts appear to have developed their own judicial restrictions against this legislative classification. The reluctance to regard confidential information as property sprang from the leading case of *Oxford v Moss*.[72] The case involved an undergraduate student who dishonestly obtained a proof copy of an examination paper, summarised it and returned it prior to the exam. He was later charged with theft of the proof copy under section 1 of the ETA. The magistrates' court dismissed the charge, on the ground that within the meaning of this Section, there had been no appropriation of "property".

On appeal, the Queen's Bench Divisional Court held that, even if the defendant's conduct amounted to cheating and should be condemned, the confidential information obtained by him did not constitute "intangible property" within the meaning of section 4(1). The prosecution's appeal was therefore dismissed. In spite of the profundity of the issue and the authority of the judgment, both courts provided fairly sparse reasoning for meaningful discussion. Smith J, with whom the other judges agreed,

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[70] Section 4.2.
[71] Ibid, 21.
[72] (1979) 68 Cr. App. R. 183.

believed the case to be "clear" and the rationale for the judgment was that "the answer to that question [whether confidential information falls within the definition of property] must be no".[73]

This judgment has attracted a great deal of criticism. For example, Dennis J. Baker stressed that the finding in *Oxford v Moss* was out of step with the all-embracing concept of property within the ETA.[74] Simester and Sullivan also asserted that the decision is "arguable" as there is no solid reason why valuable business information should not receive protection from the law of theft.[75] Perhaps the most striking criticism is that of Colin Davies, who argued that the divisional court decision conflicts with the common-sense approach and the principle of deterrence of dishonesty, which renders theft to be a criminal offence.[76]

The contested principle established in *Oxford v. Moss*, that confidential information is not property and incapable of being stolen, was endorsed by the case of *R v. Absolom*.[77] The case involved a geologist who obtained secret information of Esso Petroleum's oil exploration off the Irish coast and tried to sell this to a rival company. The information was contained in a graphalog (a geological data record that indicates the prospects of finding oil) and was unique, as Esso was the only oil company exploring that area. Esso had invested £13 million in the drilling operations and according to the evidence presented in court, the information could have been sold for between £50,000 and £100,000.

Despite the judge's description of the defendant as having acted in "utmost bad faith", he directed the jury that the information contained in the graphalog was not

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[73] Ibid.
[74] Baker, 1244.
[75] Simester and others, 507.
[76] Colin R Davies, 'Protection of Intellectual Property—A Myth? A Consideration of Current Criminal Protection and Law Commission Proposals' (2004) 68 JCL 398, 406.
[77] The Times, 14 September 1983.

property as defined in the ETA. The geologist was then acquitted of theft since the information was not capable of forming the subject matter of a charge of theft.[78]

Since *Oxford v. Moss*, the English courts have accumulated cases in which the ruling that confidential information is not property under the meaning of the ETA was advocated.[79] During the same period this ruling has received a good deal of criticism.[80] These criticisms seem to be focused in particular on the issue of whether confidential information can be stolen. However, it is not clear that this sort of criticism is relevant to *Oxford v. Moss*. In other words, a preliminary question should be whether the confidential information in the *Oxford v. Moss* case is a TS. In one way or another, *Oxford v. Moss* concerned the broad nature of "confidential" information more generally, but caused TSs to be excluded.

It seems questionable to regard the educational information on the exam paper as a TS. Though English law does not define a TS, it is not very plausible to regard the subject matter in dispute in *Oxford v. Moss* as a TS. It is more natural to consider it as something that is confidential information but not a TS. Perhaps due to the nature of the information on the exam paper, and perceived doubts about the defintion of intangible property, the court did not regard it as property under the meaning of the ETA, therefore deciding in favour of the accused.[81] Nevertheless, TSs are not simply information but are properly deemed objects that can be transferred and traded in the same way as other items of tangible property.

Concerning the interpretation of the ETA, many authorities on English criminal law are reluctant to recognise confidential commercial information as property within

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[78] See also the case of *Rex v. Lloyd* [1985] 2 All ER 661(where films were stolen from a cinema, copied and sold for financial gain).

[79] eg, *Rank Film Distributors Ltd v Video Information Centre*, [1980] 3 W.L.R. 487; *Grant (Neil Buchan) v Allan*, 1987 J.C. 71; *Dunnachie v Kingston upon Hull City Council*, [2003] I.C.R. 1294.

[80] eg, Lindsay Farmer, *Making the Modern Criminal Law: Criminalization and Civil Order* (OPU 2016) 218; H. M Keating and others, *Clarkson and Keating Criminal Law: Text and Materials* (8th edn, Sweet & Maxwell 2014) 830.

[81] Similarly, the Omani Supreme Court acknowledged the benefit of the doubt in criminal trials. 'A Set of the Supreme Court Judgments in Oman: 2008', Criminal Department, (152/2003) 37.

the meaning of the Act. Aplin states, for example, that it is only property in a "metaphorical sense".[82] Other authorities, however, disagree; for instance, Christie[83] and Jon Lang[84] regard TSs as property, making reference to their economic privilege in modern technology.

For these reasons, the view of not protecting intangibles was recently overturned in one common law jurisdiction. The New Zealand Supreme Court, in the case of *Dixon v R*,[85] held that confidential information does qualify as intangible property for criminal purposes because it does confer "pecuniary advantage, benefit, or valuable consideration" in the same way as other tangible property. The Court then went on to urge the Parliament to update the Crimes Act 1961 to directly reflect the role that proprietary technology plays in modern society.

The English text tends to be more readily accommodative of such an interpretation. The ETA seems to clearly include intangibles, but Leviathan interpretation had excluded them without satisfactorily explaining why. The inclusion of TSs within the ambit of intangible property for the purposes of theft is not a radical change. It is a logical progression, but it does not indicate clearly what information is to be protected. The CLRC suggested that the term "property" was intended to cover all intangible forms of property, such as stocks and shares.[86] During the debate on the ETA in the House of Lords, a view was expressed that the newly modernised concept of property encompassed "trade secrets".[87]

Certainly, TSs are more evident now than when the 1968 Act was formulated. Some American States' theft statutes define property as explicitly including "trade secrets".[88] The English term "appropriation" indicates transition from protection of

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[82] Aplin, 181.
[83] Anna Christie, 'Should the Law of Theft Extend to Information?' (2005) 69 JCL 349.
[84] Lang, 471.
[85] [2016] 1 NZLR 678.
[86] The CLRC, 126.
[87] 259 PAR. DEB. H.L. (5th ser.) 1309 (1968) (per Lord Wilberforce).
[88] Indiana Code Ann, s 35-41-1-2 (Burns Supp 1982); New Jersey Ann, 2C:20-1(i) (West 1982); Delaware Code Ann, tit 11, s 857 (Supp 1984).

possession to *ownership* against a wide range of unauthorised acts. There is, however, at least one other difficult question concerning the requirement that the defendant must intend to permanently deprive the owner of the property alleged to be stolen.

5.5.2.3 Permanent Deprivation and TS Misappropriation

It is not useful for the ETA to broaden the definition of property and appropriation but tighten the scope of deprivation[89] as this narrows the definition of theft. In theft cases, the owner must be permanently deprived of their property.[90] By contrast, in misappropriation cases, the owner retains physical possession and use of the information but is deprived of the value of, and *exclusive* right to, that information.

This, of course, leads to the illogical situation where if a person obtains and uses secret information belonging to another making several million pounds, they are not guilty of an offence; but if they deprives the owner of the physical medium that stores the information, which is worth a few pence, she or he is guilty of theft. Arguing against such situations during the House of Lords debate on the Theft Bill, Lord Wilberforce proposed the deletion of the word "permanently" from the definition of theft as doing so, in his view, would cover the appropriation of TSs.[91]

The omission of the word "permanently" would not resolve the problem because, even in temporary deprivation, it is still difficult to satisfy the deprivation element. But, in TS misappropriation, the issue is usually that the original holder has been completely by-passed and the wrongdoer has used information. In Colin Davies's view, the issue could be dealt with by considering misappropriation as the deprivation of the "exclusivity right" in intangible property.[92] This view is in line with Fitzjames's

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[89] It should be noted that this mental element or the intention permanently to deprive is "the necessary guilty mind", *R. v Lloyd* [1985] Q.B. 829, 836.

[90] It is worth mentioning that Scottish courts have not always insisted in permanent deprivation, where temporary appropriation is sufficient. *Fowler v O'Brien*, 1994 S.C.C.R. 112.

[91] HL Deb 15 February 1968 vol 289 cc212-23.

[92] Davies, 409.

proposition that "to deprive any other person of the advantage of any beneficial interest" is to steal.[93]

The potential difficulty in applying the notion of "permanent deprivation"[94] to the misappropriation of TSs, can be circumvented by accepting that any appropriation of information is automatically permanent because the recipient cannot forget or unknow it. Information only flows from where there is information to where there is no information. Therefore, information cannot be returned once it is appropriated or disclosed, irrespective of the appropriator's intention to return it or not. Even in the case where the medium on which the information is recorded is returned, the information itself cannot be returned. Accordingly, theft liability should not be dismissed because TS misappropriation permanently deprives the owner of the benefits of exclusivity.

Oxford v. Moss was decided in 1978 on the basis that exam paper information is not a form of intangible property. The English courts seem simply to have followed the doctrine of precedent and have established the rule that "TSs cannot be stolen". Exam questions are different from commercially sensitive information, and the latter being easier to classify as property.

What should be drawn from these authorities is simply that intangible TSs cannot be the subject of theft, while one of the considerations that led to the promulgation of the ETA was to criminalise different misuses of wider range of property rights.[95] It could be argued that these same considerations should also lead to the criminalisation of the misappropriation of proprietary information. The intangible nature of TSs should not be an obstacle, as there are criminal offences relating to the misuse of intangible personal property.

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[93] James Fitzjames Stephen, *A General View of the Criminal Law of England* (Macmillan and Co 1863) 129.
[94] *R. v Lloyd* [1985] Q.B. 829, 836.
[95] David Orrmerod, *Smith and Hogan's Criminal Law* (14 edn, OUP 2015) 909.

5.5.3 Criminal Offences over Intangible Property

As discussed in chapter 4,[96] the English classification of property includes intangible items. Here, section 4(1) of the ETA explicitly stipulates that things in action and other intangibles are property for the purposes of the Act. Clearly, intangibles could be property and it is possible to criminalise misuse of this sort of property,[97] an analysis of which would give a lot of guidance as to how such offences can operate in practice.

Regarding the misuse of "things in action", also known as "choses in action", encompasses a debt, shares in a company, copyright or trade mark. Despite their intangibility, all these incorporeals are capable of being stolen. Orrmerod argues that the expansion of the definition of property to provide protection to these particular species of intangible property reflects the development in society and economy.[98] I would argue that TSs could be equal in value and should be treated alike.

A credit balance in a bank account also counted as property with criminal consequences. There is no doubt now that money held in an electronic bank account is treated as choses in action (a species of debt) and "one of the most commonplace forms of intangible property".[99] In the case of *Westdeutsche Landesbank Girozentrale v Islington London Borough Council*,[100] Lord Browne-Wilkinson considers electronic payment transfers under an interest rate swap to be analogous to a "stolen bag of coins".[101]We have seen that TSs cannot be stolen because there are no permanent deprivation and the owner still possess the information, it could be argued that the same objection applies to this type of theft, which is somewhat of an artificial nature. The owner of the money, the victim of the theft, loses nothing; the loss falls on the

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[96] See section 4.2.6 above.
[97] It has been argued that unlike the civil law, the criminal law takes a more robust definitional and practical approach to the interference with intangible items of property. Green, 'Theft and conversion - tangibly different?'
[98] Orrmerod, 908.
[99] Ibid, 909.
[100] [1996] 2 All ER 961.
[101] See also *R v Preddy* [1996] 3 All ER 481.

bank, which is the debtor to the (victim) creditor.[102] Whilst the Omani Penal Code has a tendency to treat money as being tangible property, the ETA has quit this type of classification when it comes to electronic money.

The ETA has gone further to what counts as property by extending it to "other intangible property". In *Attorney General of Hong Kong v Nai-Keung*,[103] the court considered quotas, which could be bought and sold in business, to be not things in action but "other intangible property". ATH Smith suggests that this clause was intended to give the widest ambit to theft.[104] Unfortunately, TSs still not qualified as intangible property. Given that sort of analogy, why TSs not form of intangible property? As this thesis has been questioning, Simester and Sullivan also wondered that

> "Industrial espionage is a serious matter. Information can be worth an enormous amount of money. It may be the subject of contract, and its acquisition often involves the expenditure of considerable human and financial resources… Certainly it receives protection under the civil law, albeit from the law of property. Why not from the law of theft?"[105]

Maybe the time has not yet come for England to provide criminal sanctions against the misappropriation of TSs. Perhaps the law of contract, tort and equitable principles are controlling the matter. Nevertheless, it seems necessary for Oman to regulate the problem via the criminal law. In order to provide a complete discussion of the English criminal law's treatment of different species of intangible property, it must be acknowledged that intangible TSs have their own special features that distinct them from other intangible property.

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[102] *Foley v. Hill* (1848) 2 HLC 28.
[103] [1987] 1 WLR 1339.
[104] Smith, 3-15.
[105] Simester and others, 507.

5.5.4 The Distinction between Intangible TSs and other Intangible Property

It is clear that the English criminal law does recognise the theft of some intangibles in an analogous way as the theft of tangible property. Currently, if a person steals intangible property, such as a debt, an account receivable or company shares, s/he will be charged with theft in the same way as the theft of tangibles.[106] Likewise, if a person manages to steal copyright, patent, trade mark or industrial design, s/he will be caught by theft.[107] On the other hand, if a person acquires TSs improperly, s/he will not be convicted of stealing intangible property. Simply, because intangible information still not capable of being stolen.[108]

Some scholars have described this current position as inconsistent and incompatible with the phenomenon of intangible property that exists in English law.[109] Others have taken the opposite view that it is right to be cautious and reluctant in this analogous but complex area.[110] It could be said that it is an undeniable fact that the law of theft has been extended to different species of intangible property and it is not the purpose of this thesis to discuss how far each species is protected.[111] Instead, the question here is what renders one species susceptible to theft rather than another?

Chapter 4 has concerned the distinction between tangible and intangible property, but the analogous concern here is the distinction between TSs as special intangibles and other stealable intangibles. As we have seen, chapter 4 found no compelling philosophical reasons for confining criminal property to tangibles only and

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[106] *R. v Ngan (Sui Soi)* [1998] 1 Cr. App. R. 331; *R. v Hilton (Peter Arnold)* [1997] Crim. L.R. 761.
[107] *Federation Against Copyright Theft Ltd v Ashton* [2013] 6 WLUK 141; *R. v Evans (Wayne)* [2017] EWCA Crim 139; *R. v Toschi (Manrico)* [2017] EWCA Crim 141.
[108] See section 5.5.2 above.
[109] eg, Ashworth and Horder, 386; Baker, 964; Weinrib, 117; Christie, 360; Deborah Fisch Nigri, 'Theft of Information and the Concept of Property in the Information Age' in J. W. Harris (ed), *Property Problems From Genes to Pension Funds* (Kluwer Law International Ltd 1997) 50.
[110] eg, Smith, 3-15; Trenton and Steele, 192; Kingsbury, 153; Grant Hammond, 'Theft of information' (1988) 104 Law Quarterly Review 527, 529.
[111] For an excellent account of the protection of different kinds of intangible property, see ATH. Smith, 3-02; and JC Smith, 64-69.

excluding intangible assets. This chapter considers political and economic policies that may have been the underlying reason for extending criminal property to one species of intangibles rather than another. As Duff et al. have observed, “governments seem increasingly to resort to criminal law as a political response to social problems, through the creation of new crimes.”[112] Simester et al. have emphasised that what counts as intangible property provokes hard questions of policy.[113]

There is no discussion on the distinction or question of intangibles in the preparatory CLRC report [114] beyond the frequent indications that the extension of theft to intangibles was to encompass a wide variety of dishonest violations that are committed "for purely commercial purposes".[115] However, an interesting example of arguments that appeared relevant to the policy of shaping theft was that "[s]porting rights may be valuable. Some farmers spend money and labour on improving the shooting on their land with a view to the income. It is, therefore, both logical and correct in policy that these rights should be protected from dishonest violation in the same way as rights to other profits of the land."[116] It might be likewise logical and correct to protect TSs because misappropriations are financially serious conducts and because businesses spend much time, money and skills to create and develop TSs.[117] As Simester et al. have asserted

> "Industrial espionage is a serious matter. Information can be worth an enormous amount of money. It may be the subject of contract, and its acquisition often involves the expenditure of considerable human and financial resources…Certainly it receives protection under the civil law, albeit not from the law of property. Why not from the law of theft? In modern times, a nation's economic activity depends upon owners being able to protect the intangible rewards of their labours just as much as the tangible chattels they produce"[118]

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[112] RA Duff and others, 8.
[113] , 507.
[114] Criminal Law Revision Committee, *Eighth Report: Theft and Related Offences* (Cmnd 2977, 1966) (discussed in section 5.5.2. above).
[115] Ibid, 5, 12, 24.
[116] Ibid, 24.
[117] EU Impact Assessment 2013, 8.
[118] Simester and others, 507.

In *Attorney General of Hong Kong v Nai-Keung*,[119] where the question of what constitutes "other intangible property" was briefly considered, the Privy Council explained that "it would be strange indeed if something which is freely bought and sold and which may clearly be the subject of dishonest dealing which deprives the owner of the benefit it confers were not capable of being stolen." This explanation also easily applies to TSs, misappropriation of which is very similar to a "stolen bag of coins", a phrase which was a justification for creating new forms of intangible property or things in action.[120] It can be inferred from these brief judiciary and scholarly statements that the economic importance and perceived threat to any given artefact are crucial factors for intangibles to be susceptible to theft.

Notwithstanding the close economic similarity between TSs and other existing forms of intangible property, there must be acknowledged some essential differences between them. While like other forms of intangible property, TSs are valuable, tradable and stealable, unlike them, the non-corporeality and non-exclusivity nature of TSs[121] seem to resist straightforward inclusion like the above intangible forms of property. As discussed earlier, the principal difference between TSs and other stealable intangibles is that the misappropriation of TSs will not necessarily be an appropriation of them and will often not be coupled with an intention permanently to deprive. Contrary to some of the current forms of intangible property, such as debts, patents and copyright, which may have physical substance or documents evidencing the rights they embody,[122] TSs lack such documents of title or physical evidence of ownership. In effect, ATH. Smith argued that

> The mere fact that a thing can be bought and sold, or even that there is a developed market in the commodity, is only evidence that it is property. Services can be bought and sold, as can electricity, but they are not property for the purposes of the law of theft".[123]

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[119] [1987] 1 W.L.R. 1339, 1342.
[120] *Westdeutsche Landesbank Girozentrale v Islington London Borough Council* [1996] 2 All ER 961 (Lord Browne-Wilkinson).
[121] See section 4.2.7.1 above.
[122] It should be noted that the debt itself is a chose in action, but the document which represents it is a chose in possession or a thing of which physical possession can be taken.
[123] Smith, 3-16.

It might be opposed that criminal property is often interpreted in conjunction with the notion of *thing of value* that includes intangibles such as computer programs, patents, trademarks and copyright.[124] Basically, these intellectual or intangible property rights were accepted as a part of criminal property for straightforward commercial reasons and for policy reasons. Therefore, it could be suggested that TSs are not only worthy of protection but also in need of protection as other intangible assets.

There is clearly an analogy between TSs and other intangibles, however, TSs may not meet the same underlying polices of existing intangible property. Unlike patents which offer benefits to society in return for their exclusive rights, it may not be beneficial to society to keep information secret, whatever one's reasons. Patents, copyrights, and industrial designs all are registered, limited in time and encourage the free flow of ideas and information into the public domain, but TSs are unregistered, unlimited and may inhibit the desirability of an "open" flow of information in society.[125]

While Steele and Trenton accept that like other intangible property, the property protection of this sort of commercial property "might help preserve standards in business life",[126] Hammond concerns that extending criminal property to these commercial assets could unduly restrict commerce and competition.[127] In ATH. Smith's words, if confidential information were to be regarded as a form of intangible property

> "[A]ll sorts of difficult questions would need to be settled. What sort of information ought to be protected?...What should be done about employees who acquire expertise in the course of their employment and who then want to work for another employer?...Should the law catch only those who act for commercial gain, or will other motives suffice? Should there be a defence of bublic interest?"[128]

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[124] eg, *U.S v Girard* 601 F.2d 69 (2nd Cir., 1978).
[125] Hammond, 'Theft of information', 528.
[126] Trenton and Steele,192
[127] Hammond, 'Theft of information', 529.
[128] Smith, 3-18.

It might be true that the categorisation of TSs as intangible property triggers harder policy questions than other existing intangibles. It seems that a political objection to the classification of TSs as other intangible property lies in the challenge of balancing private and public interests. More will be said on this issue later,[129] however, the employment of property protection to TSs may have the disadvantage of creating a monopoly for private benefit. As Deborah Fisch suggested, "defining information as property demands drawing a balance between private interests, third party's interests and social interests in the free flow of information".[130]

In contrast to these strong claims, this thesis does not advocate providing exclusive rights over TSs, but protection against unlawful disclosure, acquisition and use of TSs. Society's interests as a whole might be at risk if innovation is stifled. Nowadays, in Oman, there is an eager demand to provide strong and effective protection to TSs without preventing access to information to lawful beneficiaries. It is not fair on those who invest substantial labour, time and money in information if the law does not protect that information from dishonest misappropriation. England also has the option of using fraud as another criminal mechanism for combatting dishonesty.

5.5.5 Fraud

Theft is not the only way of misappropriating TSs, which, as mentioned above, are assumed cannot be stolen. Fraud is another offence that may accommodate some dishonest acquisitions of TSs. Sometimes, the acquisition of TSs is gained by deception in such a way that the crime of theft is not implicated at all. For instance, in some circumstances where there is consent to the deprivation.[131] Hence, if a TS is not

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[129] See section 5.9 below.

[130] Nigri, 58.

[131] Section 2(1) of the ETA provides that "A person's appropriation of property belonging to another is not to be regarded as dishonest […] (b) if he appropriates the property in the belief that he would have the other's consent if the other knew of the appropriation and the circumstances of it".

property for the purposes of theft, might it be property for the purposes of fraud, and, further would obtaining TSs in particular ways fall under the crime of fraud?

The crime of fraud has been recently refined and is drafted more widely than theft. The Fraud Act 2006 (EFA)[132] proscribes various fraudulent conducts, with dishonesty at the core of each crime. Section 2(1) of the EFA provides that fraud by false representation is committed if a person

> "Dishonestly makes a false representation, and intends, by making the representation to make a gain for himself or another, or to cause loss to another or to expose another to a risk of loss."

The term "dishonestly", originally, replaced the expression "fraudulently and without a claim of right made in good faith".[133] That was intended to achieve expansion, simplification and modernisation.[134] Moreover, fraud is primarily concerned with "gain" or "loss" in the proprietary sense. As defined by section 5 of the EFA, these terms

> "extend only to gain or loss in money or other property; include[ing] any such gain or loss whether temporary or permanent; and "property" means any property whether real or personal (including things in action and other intangible property)".

Although these texts are general and do not target TS misappropriation itself, they could pertain to some ways in which a TS is obtained. For instance, where a TS is obtained on the understanding that it will be paid for or upon false representation, there may be an offence of obtaining services by deception.[135] Another example might be when a business partner or licensee or employee discloses or sells the information against their organisation's financial interests, here there may be fraud by abuse of position, which is contrary to section 4 of the Act.

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[132] The Act repealed and replaced the three offences of "obtaining services by deception", "evading liability by deception" and "making off without payment" contrary to sections 1, 2 and 3 of the Theft Act 1978, which in turn replaced the offences of "obtaining property by deception" and "obtaining pecuniary advantage by deception" contrary to sections 15 and 16 of the Theft Act 1968.
[133] Section 1 of the Theft Act 1916.
[134] The CLRC's eighth report, 18.
[135] EFA, s 11.

This latter element of fraud strengthens section 5 above by encompassing any intention "to make a gain" or "to cause loss to another or to expose another to a risk of loss". Misappropriating TSs by fraudulent means no doubt causes loss to the owner of the TS and may constitute an unlawful economic gain to the misappropriator. In this sense, TS misappropriation seems a clear example of fraud. As has been articulated, the new EFA was designed to cope effectively with "the modern sorts of commercial activity, and the modern methods by which dishonest activity may be effected".[136] Fraud is also said to "encompass dishonesty, disloyalty and a disregard for generally accepted standards of conduct".[137]

Acquiring a TS by deceit clearly amounts to dishonesty and it is likely to cause financial loss, the central elements of fraud. Nevertheless, fraud requires some relationship between the defendant and the victim where the consent to use the TS was fraudulently obtained. To plug this limitation, acquisitions of TSs committed by outsiders or individuals who access business premises and obtain the secret information dishonestly should be caught by the crime of theft. Unlike fraud under the EFA, the intangible nature of TSs seems to cause problems in interpreting the actual terms used in the ETA. In absolute terms, TS misappropriation is still not a distinct offence in English law.

5.5.6 Summary of Criminal Protection of TSs in England

English law, historically, does not limit theft to tangible property as Omani law does. However, serious questions have arisen as to the inapplicability of theft and fraud to TS misappropriation. It is less sensible that confidential commercial information is not regarded as intangible property even in England. Since theft and fraud are crimes against property, it is understandable that these offences of general application are not adequate to address every single instance of TS misappropriation. In this respect, the

[136] Law Commission, *Fraud and Deception* (Consultation Paper No 155, 1999) 2.
[137] Moohr, 'Federal Criminal Fraud and the Development of Intangible Property Rights in Information', 689.

English approach towards criminal protection of TSs is sometimes very similar to the Omani approach.

England has not yet enacted special provisions regulating the misappropriation of TSs directly. Theft and fraud as offences with general application may deal only with some actions of misappropriation. They do not provide a comprehensive prohibition against a broad range of dishonest and harmful conducts. Clearly, the disclosure of a TS does not constitute theft.

English law tends to value balance and reasonableness. Too broad and a tough protection of TSs is not profitable for society. Thus, English law has been reluctant to grant TSs exclusive property protection. The most recent amendments to the ETA and EFA overcome many of the shortcomings (tangibility, possession violation, physical acquisition) of the OPC, and the latter may learn some valuable lessons to facilitate the modernisation of the Omani economy.

This study does not advocate the extension of theft or other property offences to punish flagrant acquisition, disclosure or use of TSs. The amendment of the existing law of theft does not seem to offer adequate protection since these types of misappropriation do not always require the removal of a tangible object. Nor do these general property-related offences serve the specific purposes of TS protection. Equally importantly, the public will not necessarily have a clear understanding of what is criminal and what is not.

To achieve an appropriate legal reform to protect TSs, Oman could adopt some provisions from the English law and introduce a new specific statutory offence. In the Omani context, extending the existing well-settled property offences is likely to have unintended consequences and therefore might not be successful. More problematically, the existing English approach would require the creation of a definition of property that is already provided in the Civil Code, upon which criminal law should depend. To say otherwise is to create two concepts of property. Consequently, the question of what constitutes property rights and ownership, even for

the operations of criminal law, are inherently and entirely civil law matters.[138] Fortunately, the definition of property under the OCTC is broad and encompasses valuable intangibles including TSs.[139]

It is more promising option for Oman to enact special prohibition to deter the growing phenomenon of TS misappropriation. Oman may also develop provisions proscribing the misappropriation of TSs by learning from the experience of the US, where TS misappropriation has been subject to special statutory development for some time.

5.6 The American Specific Offences

5.6.1 A Brief Historical Overview of American Criminal Law Relating to TSs

As mentioned in Chapter 2, the US TS law is the historical source of TRIPS and international TS law.[140] The American criminal protection of TSs evolved out of a long and developed history. In 1776 the British policy of mercantilism was abolished in favour of the new economic policy of laissez-faire that was adopted to aid US technological and commercial development.

Nevertheless, violations against TSs were not characterised solely as private matters litigated privately in the civil courts, but as a national problem that required governmental input. One early common-law case, which recognised the need for action against TS theft, was *Peabody v Norfolk* in 1868.[141] In this seminal case, the Massachusetts Supreme Court regarded TSs as "property", which a court will protect "for the advantage of the public, to encourage and to protect invention".

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[138] eg, Simester and others, 179; Baker, 976; Ashworth and Horder, 371; David Ormerod, *Smith and Hogan's Criminal Law* (13th edn, OUP 2011) 778.
[139] See below section 5.7.2.
[140] Section 2.3.2.
[141] 98 Mass. 452, 458 (1868).

After World War II, as US industrial technology was experiencing rapid advances, there was also an upsurge in TS thefts. Foreign industrial espionage became a greater source of TS losses in US business and industry. Daniel Fetterley articulated that

> "The emergence of the United States as a world leader in industrial technology in the post war period caused an increasing amount of international industrial espionage to be directed against U.S. industry by other nations who could not afford costly research and development".[142]

To face such threats, the US turned to the criminal law. Ultimately, the weak legal protection given to TSs generated domestic pressure for strong legislative intervention to prevent the theft or transfer of technologies abroad.[143] As claimed by one of the pharmaceutical industries:

> "Commercial espionage is a crime. It damages shareholders of the company whose secrets have been stolen by depriving them of their property. It damages the employees by keeping the company from increasing employment and raising wages. And it damages the public for if the fruits of research cannot be protected, the incentive to develop new products and improve old ones is bound to suffer".[144]

While the US was developing its economy very rapidly, no criminal laws were specifically directed to the issue of TSs. Governmental intervention to cope with economic threats was more evident at the state level than at the federal level. In the absence of specific federal criminalisation, both state and federal general laws have been used for criminal TSs prosecutions. The National Stolen Property Act 1934 (UNSPA) is used to punish theft committed against "goods, wares, merchandise, securities, or money, of the value of $5.000 or more".[145] An inherent limitation of the UNSPA is the requirement of the physical taking of goods.[146] Unlike the UNSPA,

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[142] Fetterley, 1536.
[143] Amedee E. Turner, *The Law of Trade Secrets* (Sweet & Maxwell 1962) 4.
[144] Martin A. Levitin, 'Trade Secret Piracy' (1965) 14 Clev Marshall L Rev 157, 162.
[145] 18 U.S.C. § 2314 (2006).
[146] *Dowling v. United States*, 473 U.S 207 (1985).

federal mail and wire fraud statutes[147] may be applied to thefts of intangible forms of property. However, the limitation these statutes have is that the theft must be done in violation of postal mail or wire transmissions.[148]

An important development in the US law of TSs was the enactment of several state criminal TSs laws during the 1960s. New York was the first state to criminalise the misappropriation of TSs in 1964. Its theft statute was amended to include, within the definition of "property", tangible objects embodying TSs.[149] While this approach was unique, it failed to render the copying of documents containing TSs criminal. Moreover, it did not cover the embezzlement of TSs.

In 1965, New Jersey developed a statute covering TSs misappropriation. Rather than merely including TSs under the definition of property for general theft purposes, the New Jersey legislature enacted a separate and distinct section dealing specifically with the problem.[150] The new provision sought to account for the intangible nature of TSs by proscribing the theft or embezzlement of an article containing a TS and the unauthorised copying of such an article, with the intent to misappropriate the TS or deprive the owner of control of their TS. Since the New Jersey statute captured many misappropriations, it became a model for criminal TSs laws in the 1960s.[151]

Like non-specialist federal law, state criminal laws have their limits. The scope of prohibited conducts is generally narrow. Prohibitions often apply only to an actual taking of information and do not extend to unauthorised uses by employees and third parties. The sanctions imposed are relatively light and so fail as deterrent. In many cases, state prosecutors also lack the resources to deal with complex TS theft cases.[152] As a result of all of the above weaknesses and the patchwork of federal and state laws,

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[147] 18 U.S.C. §§ 1341, 1343 (Supp. 1992).
[148] *United States v. Frey*, 42 F.3d 795 (3d Cir. 1994).
[149] New York Penal Code 1964, s. 1296(4), McKinney's Session Laws, 1161. It is noted that the Code uses the term "secret scientific material" rather than "trade secrets", which obviously has broader scope than the former.
[150] N.J. Rev. Stat. 2A: 119-51 (Cum. Supp. 1965).
[151] Coleman, 106.
[152] Almeling, *Four Reasons to Enact a Federal TSs Act*, 776-788.

the federalisation of criminal TS laws was considered by the US Congress in order to develop as a nationwide solution.

5.6.2 The Economic Espionage Act 1996

The Economic Espionage Act (UEEA)[153] represents a significant development in the direct of combatting TSs misappropriation. For the first time, it established an extensive federal consolidation of TSs criminal law. The passage of the Act reflected a recognition of substantial lacunae in the existing American criminal protection of TSs and increasing concern of foreign economic espionage. These Congressional concerns were confirmed by an empirical study that reported an average of 32 TS thefts per month during 1995 were valued at about $2 billion.[154]

Responding to the reality of the threat and the severity of the problem, the UEEA made the misappropriation of TSs a federal crime. Some American writers argued that the introduction of the UEEA should have been done sooner.[155] In their view, the Act had been delayed to the point at which it was necessary for the US to prevent widespread economic espionage. As has been described, the UEEA sets down "a comprehensive and systematic scheme that uses criminal law to protect trade secrets".[156]

Systematically, the UEEA encompasses two federal offences. The first targets "Economic Espionage" for the benefit of foreign governments (section 1831), and the second relates to "Theft of Trade Secrets" in general (section 1832). Although foreign government-sponsored espionage is punished more severely, the two offences are almost identical in terms of the type of conduct prohibited. Section 1832 provides that:

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[153] Pub. L. No. 104-294, 110 Stat. 3488 (1996).
[154] The American Society for Industrial Security, *Trends in Proprietary Information Loss* (Survey Report, 1996).
[155] Pooley, Lemley and Toren, 180.
[156] Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act', 862.

> "Whoever with intent to convert a trade secret, that is related to or included in a product that is produced for or placed in interstate or foreign commerce, to the economic benefit of anyone other than the owner thereof, and intending or knowing that the offense will, injure any owner of that trade secret"

The Act applies to anyone who knowingly commits any of the prohibited acts set out below:

> "(1) steals, or without authorization appropriates, takes, carries away, or conceals, or by fraud, artifice, or deception obtains such information;
> (2) without authorization copies, duplicates, sketches, draws, photographs, downloads, uploads, alters, destroys, photocopies, replicates, transmits, delivers, sends, mails, communicates, or conveys such information;
> (3) receives, buys, or possesses such information, knowing the same to have been stolen or appropriated, obtained, or converted without authorization;
> (4) attempts to commit any offense described in paragraphs (1) through (3); or
> (5) conspires with one or more other persons to commit any offense described …shall be fined not more than $5,000,000… or imprisoned not more than 10 years, or both".

Notably, the UEEA rests the criminalisation of TSs misappropriation on a property basis. In so doing, it exceeds the approach of state criminal statutes that confine intangible property to scientific or technical information embodied in some physical form, and then criminalising the taking or copying of the physical embodiment. By contrast, the UEEA, in addition to broadening the kinds of information covered,[157] also broadens the kinds of prohibited conducts. As Moohr observes, the UEEA "reaches a greater range of conduct by barring, in effect, any act that exceeds uses authorized by the holder".[158]

Having, for the first time, protected TSs explicitly as property,[159] the UEEA criminalises not just the taking of TSs by improper means, "but taking it by means that are generally permitted by civil trade secret laws, such as by looking at a competitor's operation from across the street".[160] The Law Commission disagrees stating that it is

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[157] For the US definition of TS, see section 2.3.2.
[158] Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act', 863.
[159] Section 1839 (4) of the Act defines "owner" as "person or entity in whom or in which rightful legal or equitable title to, or license in, the trade secret is reposed".
[160] Cohent, 205.

not appropriate to criminalise a conduct that is not already a civil offence.[161] It might be countered that it is a civil wrong (tort) to observing a competitor's operations and misappropriating secret and commercially sensitive information. Nonetheless, a critical gap in the UEEA approach is that allowing competitors to view TSs on sites or computer screens is inconsistent with the basic prerequisite of secrecy, or as the Act itself provides "measures to keep such information secret".[162] Hence, information that is ineffectively hidden from others cannot be claimed to be secret, which is a defining element of TSs. Therefore, neither civil nor criminal protection should be provided for such unconcealed information.

Another criticism of UEEA's provision is that it implicitly prohibits reverse engineering. The UEEA has been interpreted as restraining reverse engineering since it fails to expressly include protection for it.[163] However, reverse engineering or working backwards to independently discover the manufacturing process of a product is a legally accepted practice as a means of promoting innovation and it is permissible under TRIPS and states' TS laws.[164] If the UEEA does bar reverse engineering, it could constitute an over-deterrence.

Arguably, the UEEA's provisions stated above manifest an intention to criminalise a broad range of conduct in relation to TSs, which as defined in Chapter 2, includes information "whether tangible or intangible, and whether or however stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing".[165] Not surprisingly, even the memorisation of a TS appears to be a means of misappropriation under the UEEA. Pooley et al. argue that the language of the UEEA strongly suggests that information "stored only in an individual's memory,

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[161] Law Com No 150, 1997, 15.
[162] UEEA, s 1839(3)(A).
[163] Pamela Samuelson and Suzanne Scotchmer, 'The Law and Economics of Reverse Engineering' (2002) 111 Yale J 1575, 1567 (calling the UEEA's position as "troubling").
[164] See also article 3(1) (a) of the EU TSs Directive and article 15 of the GCC TSs Proposed Regime.
[165] UEEA, s 1839(3).

can be the subject of prosecution for trade secrets theft".[166] In contrast, England and Oman's narrower criminal laws do not apply to the taking of TSs by memorizing it.[167]

It is unclear, however, whether this new prohibition is intended to cover employees, who are often not required to "wipe clean the slate of their memories".[168] Taking confidential business information through memorisation can be common in the employment context because TSs are frequently shared with employees but must not be disclosed to future employers. Adam Cohen emphasises that since the enactment of the UEEA, workers who carry TSs of former employers in their heads and share them with competitors are excessively punished.[169] However, employees should not be punished merely for seeking to capitalise on the general knowledge, skills or experience they acquired in previous jobs, but a highly specific TS should not be illegally exploited.[170]

The inclusion of memorisation and other incorporeal transfers of information is a clear sign that the UEEA goes beyond the question of form to address the intangible nature of TSs and the informational aspect of misappropriations. Rather than restrict itself to physical embodiment, as the OPC does, the UEEA covers "unauthorized exposure" of information or incorporeal retention using a network of computers.[171] Pursuant to the texts above, non-consensual transmitting, communicating and conveying are proscribed conducts. In doing so, the Act expressly alleviated the traditional problem of corporeal theft or tangible larceny.

Additionally, the UEEA reaches any third party who "receives, buys or possesses" information knowing that it was appropriated without authorisation. It also considers it a criminal offence to attempt or conspire to commit any of the proscribed conducts. Because of this inchoate mode and the breadth of actions prohibited,

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[166] Pooley, Lemley and Toren, 190.
[167] Section 5.7.2.1.
[168] *Moss, Adams & Co. v. Shilling*, 179 Cal. App. 3d 124, 124 (1986).
[169] Cohent, 227.
[170] See section 3.4.2.
[171] Lederman, 259.

criminal intent is of paramount importance to the offence. The prosecution must prove that the defendant knew the information was a TS and "knowingly" interfered by using it in an unauthorised manner. This crucial element of culpability rightly limits the enforcement of severe criminal punishment, which could easily be imprisonment for ten years or a fine of up to $10 million or both.[172]

In sum, the larger lesson that can be learnt from the UEEA is its comprehensive answer to what conducts are, or should be, proscribed. The broad conduct provision was designed to incorporate cases in which an accused takes no tangible objects so that state criminal laws were not adequate to address such misappropriation. However, the recent years of trial and prosecution have tested the efficiency of the UEEA, exposing its limitations, which have led to new federal amendments.

5.6.3 The Defend Trade Secrets Act 2016

The enactment of the Defend Trade Secrets Act (UDTSA)[173] is the most recent US enhancement to the protection of TSs. As its title suggests, a primary objective of the Act is to "defend" the US TSs. This does not mean that the UEEA was unsuccessful in defending TSs, but rather the new iteration was a response to some weaknesses identified in the UEEA and as a way of dealing with the new challenges more effectively.[174]

In effect, the UDTSA owes its origins in part to the unsuccessful case of *United States v. Aleynikov*,[175] in which the UEEA fell short in its attempt to cover the TS stolen in that case. Sergey Aleynikov, a former computer programmer for Goldman Sachs, uploaded the confidential source code for Goldman's HFT system to a server in Germany and then downloaded the source code from the German server to his home

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[172] UEEA, s 1831 (b).
[173] Pub. L. No. 114-153, 130 Stat. 376 (2016).
[174] David Bohrer, 'Threatened Misappropriation of Trade Secrets: Making a Federal (DTSA) Case Out of It' (2017) 33 Santa Clara High Tech LJ 506; Joseph F. Cleveland, 'Preventing Trade Secrets Theft under the New Trade Secrets Law' (2016) 33 Com & Inter Law 16.
[175] 676 F. 3d 71, 76 (2nd Cir. 2012).

computer. A few weeks later, he flew to Chicago to sell the source code to a rival company for $1 million. Upon his return, Aleynikov was arrested at New York airport and charged with theft of a TS pursuant to the UNSPA and the UEEA.[176]

On the UNSPA charge, the court ruled that the stolen computer code was "intangible property" and therefore not "goods, wares, or merchandise" as required by section 2314 of the Act. The Court emphasised that if Goldman's valuable information, which was transported across state lines, was on the smallest physical object, such as a piece of paper or compact disc or flash drive, the UNSPA's requirement would have been met. However, Aleynikov, at the time of his theft, had taken no "tangible property" but used his own flash drive and laptop computer.[177]

On the UEEA charge, by virtue of section 1832, theft of TSs must be "related to or included in a product that is produced for or placed in interstate or foreign commerce". The Aleynikov court interpreted that products "placed in" interstate commerce are ones that have already been put in the stream of commerce and have reached the marketplace, while those "produced for" are still being developed or readied for it. On the contrary, the court noted that Goldman's code was not intended for either; it had "no intention of selling its HFT system or licensing it to anyone" but went to great lengths to keep the system secret so as to be ahead of competitors who had no access to it. Accordingly, Aleynikov's actions came very close to committing a TS theft, yet they did not constitute an offence under the UEEA.[178]

Apparently, the Aleynikov court interpreted the words of section 1832 in a strict way because they "were deliberately chosen" and must "be read as a term of limitation".[179] This is a persuasive approach given the criminal context. However,

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[176] It should be noted that the UEEA (section 1838) does not displace other laws that may apply to TSs.
[177] Similarly, in the case of *United States v. Bottone* 365 F.2d 389 (1966), it was concluded that even if "a carefully guarded secret formula was memorized, carried away in the recesses of a thievish mind and placed in writing only after a boundary had been crossed", the physicality requirement would still not have been met.
[178] *Aleynikov*, 676 F.3d, 82.
[179] Ibid, 80.

Goldman's HFT system was a trading system of enormous profitability that depended on its commercial secrecy. The court ultimately showed some sympathy for Goldman's loss of well-invested information, despite the interstate-commerce interpretation. Judge Calabresi called on Congress to "return to the issue and state in appropriate language" what it was that they "meant to make criminal".[180]

Hence, the UDTSA was introduced in response to Aleynikov's "disastrous" decision that "only encourages other thefts of valuable IT software".[181] The Act amends the UEEA's interstate-commerce provision by requiring that the stolen "product or service be used in, or intended for use in, interstate or foreign commerce".[182] Clearly, the addition of "service" and the replacement of "produced for or placed in" with "used in, or intended for use in" address the issues raised in *Aleynikov* and covers a far wider range of TS misappropriations.

In addition to amending the criminal provisions of the UEEA,[183] the UDTSA responds to the criticism that the UEEA only punishes the felon and rarely compensates the victim.[184] The UDTSA now provides plaintiffs, with TS claims, with a federal civil cause of action to recover damages, enforce injunctions, and prevent the further dissemination of stolen TSs.[185] Hence, it provides a federal civil right of action to compensate victims more adequately. Ultimately, together the UDTSA and the UEEA create a dual scheme to protect US proprietary economic information.

Before concluding, in 2002, on the enactment of the UEEA, Moohr suggested that its property-based criminalisation "is likely to restrain employee mobility, reduce the creation of innovative products and ideas, and constrain economic growth".[186] If

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[180] Ibid, (Calabresi, J., concurring).
[181] Cohent, 191.
[182] Section 2 (b) (1).
[183] It should be noted that the UDTSA increases the maximum fine for theft of TSs to from $5 million to the greater of that amount or three times the value of the stolen secret. Section 1832(b).
[184] Brees, 282.
[185] Section 3 (A) and (B).
[186] Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act', 853.

these are the unintended consequences, one can wonder why the US Congress went along the route of further criminalisation by imposing the UDTSA. What is clear is that the annual cost of TS misappropriation has gone from $300 billion in 2013 to $480 billion in 2014, leading to a loss of 2.1 million US jobs per annum.[187] These real consequences question Moohr's statement and also support Halligan's assertion that "the UEEA is a well-drafted statute with built-in safeguards that prevent [TSs] abuse".[188]

There are two major issues with the US criminal scheme of TS protection. First, it is extremely technical and complex. The web of laws involved and the language used is likely to cause practical difficulty to judges, prosecutors and lawyers who have little experience in dealing with technical TS issues.[189] Secondly, the two Acts proscribe various conducts that are not obviously reprehensible in nature, which makes the current approach too tough and restrictive. Alexander and Wood argue that "trade secret theft prosecutions cannot keep pace with trade secret thefts",[190] however, innovation is crucial, not only for businesses but for society as well.

5.6.4 Summary of Criminal Protection of TSs in the US

In summary, the US is probably one of the most advanced trade secrecy regime in the world.[191] The US has traditionally protected its own industrial technology as a matter of both protecting the national economy and national security. The UEEA, as the main federal vehicle for TSs criminal protection, supplemented by the recent UDTSA, is far-reaching in terms of both private and criminal law. These two Acts were intended

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[187] Ann Fort, Walter Freitag and Robert Kohse, 'Enactment of the Defend Trade Secrets Act of 2016 Opens Doors to Private Enforcement in Federal Court' (2016) 22 IP Litigator 1.
[188] Mark Halligan, 'Protection of U.S trade Secrets Assets: Critical Amendments to the Economic Espionage Act of 1996' (2008) 7 J Marshall Rev Intell Prop L 656, 672.
[189] James Pooley, 'The Myth of the Trade Secret Troll: Why the Defend Trade Secrets Act Improves the Protection of Commercial Information' (2016) 24 Mason L Rev 1045, 1068.
[190] Alexander and Wood, 935.
[191] Lippoldt and Schultz, *Approaches to Protection of Undisclosed Information (Trade Secrets): Background Paper*, 317.

to deter foreign economic espionage with extraterritorial jurisdiction to encompass misappropriation wherever it occurrs and to the fullest extent possible.

Important lessons can be learned from the American approach, such as the property-based protection, provision for the taking of intangibles and openly-prohibited actions. Nonetheless, the extraterritorial jurisdictional power is not usual in Omani law, nor it is suitable for Oman to adopt the complex American web of laws into its current legal framework. Deterrence is important in the Omani context but should not be achieved through hostility and complexity, otherwise, the mistakes of the two-year visa ban law will be repeated.

Unlike the US, Oman does not seem to be facing considerable external economic espionage activities but growing domestic threats. In Oman, balanced criminal provisions would be more reasonable, especially for SMEs, which are by no means as multimillion-dollar as the Google, KFC or Coca-Cola Corporations. Similarly, whilest the UEEA currently prohibits reverse engineering, Oman should allow reverse engineering and other lawful means of acquiring information as a way of promoting innovation and competition.[192]

Furthermore, the level of punishments in the American law are unacceptable in Oman. Even serious crimes like robbery, forgery and arson are not punishable by such lengthy prison sentences. The criminal provisions in relation to IP infringement, including of patents, carry a maximum penalty of two years in prison.[193] Neither foreign workers nor Omani citizens could pay a $10 million fine. In general, the UEEA's provisions are not only harsh but could lead to undesirable consequences if wholly adopted in Oman.

Needless to say, the American approach is more muscular than the English approach. Nevertheless, it would be unwise for Oman to adopt the American property-

[192] For the same provision, see Recital 16 of the EU TSs Directive.
[193] OIPRA, article 93.

focused approach in its entirety, as it pays insufficient attention to accepted standards of commercial morality. Moreover, it would require the creation of a full special Act based on one single justification of property that is unusual in the current Omani legal framework.

Having seen the various approaches the Anglo-American criminal law offers against TS misappropriation, the most appropriate way for Oman to deal with TS misappropriation is by the creation of a specific offence within its Penal Code. Such an offence should take into consideration the valuable lessons extracted from the English and American experiences. The real challenge is how to cover this form of misconduct in a balanced and workable way.

5.7 The Omani Traditional Penal Law: What Can It Do against TS Misappropriation?

5.7.1 Historical Legislative Criminal Provisions

Unlike American and English law, the OPC limits larcenable property to tangibles only. Under Book VIII of the OPC titled "Crimes against Markets", i.e. larceny, fraud, embezzlement and swindling, intangibles are incapable of being stolen. As mentioned earlier, larceny under article 278 of the OPC requires the object of "taking" to be both tangible and moveable.

However, as early as 1974, article 307 of the OPC penalised the "imitation" of any registered trademarks or trade names. This early protection for innovations existed at the time where Oman was not bound by any international obligations for protecting IPRs. Articles 203 and 287 also protected intangible rights, such as debts, bonds, shares, cheques and financial documents against "usurpation" and other misappropriations. Whilst these examples suggest that the OPC is able to accommodate intangible assets, its narrow and static protection of TSs is not in accordance with the contemporary commercial environment.

Another example of an early penalisation of interfering with certain kinds of secret commercial information is found under article 276(10) of the OPC which penalises "any person who intentionally and illegally uses the informational network or the information technology tools to disclose or use computer software in breach of intellectual property and trade secrets laws". This text clearly indicates that confidential digital information does qualify as intangible property for criminal purposes. Thus, it is inconsistent for Oman to have this criminal framework but fail to recognise TSs as worthy, and in need, of protection, as intangible assets.

It could be said that the present criminal framework seems historically accommodative of new criminal offences in relation to business secrets misappropriation, and this is supported by international law and by the constitution. Nonetheless, a consideration needs to be given to the current property-related offences and the law relating to the disclosure of secret information in order to recommend appropriate accommodative criminal mechanisms. The issues now to be explored concern the what kind statutory provisions are required to fit TSs within the current framework, and how the OPC can be amended to criminally proscribe the dishonest acquisition, disclosure and use of TSs.

These areas raise complex issues of both policy and legal technique, answers to which can be formed from the deficiencies in the present law. Before presenting the rest of our analysis on how the shortcomings in the existing law can be corrected, it is necessary to briefly consider one of the chief defects, which relates to the gap in the relationship between criminal property and civil property.

5.7.2 Clarifying the Relationship between Subject-Matter of Larceny and Civil Property

Only property can be the subject of larceny. However, as illustrated above, the OPC deems *only* tangibles can form the subject matter of larceny. This current approach neglects the increasing proportion of intangible products in modern economic practice.

In fact, the significant economic impact of intangibles has driven an important legal change where the civil law now regards valuable intangibles as property for all purposes.

Article 50 of the OCTC, which is one of the most modern Civil Codes in the region, has codified "property" to mean any: "thing or usufruct or right having a value in dealing". To understand the scope of this recent definition, it is useful to compare it with the neighbouring Civil Code of the United Arab Emirates (UAE) from 1985, in which article 95 defines property as any: "thing or right having a material value in dealing". The first difference between the scopes of these two Codes is that while property in the UAE Code covers only two types (the thing and the right), the Omani Code provides three types of property (the thing, the usufruct and the right). Secondly, and more essentially, the UAE Code requires its two types of property to have "material value", while the OCTC does not.

It is apparent that the civil law's conception of property is broader in its remit than the criminal law. Therefore, it could be argued that there is a lacuna left in the criminal law where appropriation of intangible property is concerned, because the OPC maintains a conceptual barrier that the OCTC shed several years ago. It is inappropriate for the criminal law to not recognise things that are recognised as property by the civil law as it leaves the possibility for legal uncertainty. Of course, the criminal law protects different interests, however, the OPC should not be entirely independent from the OCTC to decide when property rights exist.

Professor Sarah Green contends that "[i]t is generally accepted that criminal law follows civil law in terms of what amounts to "property".[194] Ormerod insists that changes in the civil law are likely to affect the scope of the criminal law, where the criminal law's provisions regarding theft are necessarily dependent upon property law.[195] More fundamentally, Simester and Sullivan assert "the essential dependence

[194] Green, 'Theft and conversion - tangibly different?', 568.
[195] Ormerod, 778.

and subjugation of the law of theft to the civil law of property".[196] In their view, "the criminal law must take its lead from the civil law: the creature it protects is a creature of the civil law", because "property offences exist primarily to reinforce and protect those rights once recognised by the civil law".[197]

Delimiting the relationship between property law and property offences, surprisingly, has received no attention in Oman. However, as the theoretical analysis in Chapter 4 demonstrates, there is no convincing reason not to protect certain intangibles. Similarly, it is submitted here that there is no rationale to divorce the OCTC and create unnecessary inconsistency. Obviously, the OCTC is the most recent law of property. Given the Omani legislator's recent recognition of valuable intangibles as property via the enactment of the OCTC, the conventional approach of the OPC is outdated.

Undoubtedly, the criminal law generally has different standards and tests to the civil law. This is why Hammond argues that there is no requirement for criminal property to be in congruence with civil property.[198] Nevertheless, in a basic legal sense, things that had become recognised as property within the civil law should not remain excluded from the criminal law. Although in the Omani legal system criminal laws are often narrower than their civil counterparts, when it comes to the protection of societal interests, criminal law has more comprehensive scope.

To take a crude example, an official employee is defined under the civil law as "any person, nominated by his Majesty or the government as against a salary paid from the Public Treasury and any person delegated or elected to give a public service, either against payment or not".[199] However, to provide wider protection for the integrity of public service and public funds[200] the criminal law extends this definition by adding:

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[196] Simester and Sullivan, 179.
[197] A P Simester and G R Sullivan, *Simester and Sullivan's Criminal Law: Theory and Doctrine* (4 edn, Oxford: Hart Publishing 2010) 487.
[198] Hammond, 'Theft of information', 528.
[199] Article 2 of the Civil Service Act 1973.
[200] Particularly against the crimes of bribery and embezzlement.

"any person works in corporations, companies, associations, organisations, and establishments, shall be deemed an official if the State or a public authority is contributing a share to their capital, in any quality whatsoever".[201] Other concepts crossing the civil/criminal divide are marriage, cheat, cheque, bankruptcy and contract (for the purpose of the crime of breach of trust).

Since the civil law and the criminal law are directly aligned with each other in terms of central legal concepts, it is irrational for the OPC to remove this regular dependency. That is to say, the OPC should not disregard interests recognised by the OCTC and withhold legal recourse. If a thing is property for the purposes of the OCTC, it should also come within the recognition of the OPC. How can it be consistent for the Omani legal system to acknowledge intangibles as civil property but not as criminal property.

This is not to suggest that criminal law and civil law should have identical content, but the former at its essence has wider purposes. Civil liability is chiefly aimed at awarding reparations for damages, whereas criminal liability as the Omani Supreme Court identified, serves preventative, censuring and justice purposes.[202] These wider aims and functions of the criminal law, consequently, shelter wider rights and interests. If the criminal law does not usually focus on the type of objects lost but rather on the value of the assets lost, it *a fortiori* should not inquire exclusively into tangibility and exclude intangible property that is economically valuable and increasingly threatened.

In brief, criminal property should be something in which a civil claimant could be compensated for. As this argument has demonstrated, the current approach of the OPC warrants reconsideration to be in line with the lead and preferred position of the OCTC. That would bring more consistency and coherence to the Omani property regime. More specifically, it would resolve the subject matter of larceny.

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[201] Article 154(2) of the OPC.

[202] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (17/2007) 391.

5.7.3 Larceny

It has been stated earlier that the OPC is inadequate for dealing with the problem of TSs misappropriation. The existing market-related crimes have not been refined in 44 years. As a result, the OPC lacks teeth against the misappropriation of TSs, a position which needs to be clarified and improved. Considering the application of the existing crimes to TSs, enables the development of policies that ought to underpin the law in Oman to meet new needs.

There are no reported cases where TS misappropriation has been prosecuted as larceny because such cases would be dismissed by the Public Prosecution due to being "non-suit cases" or "not being a crime" or because, since they have ended in acquittals, they will not get into the court reports, but there may be some unreported ones. Some Arab courts, as will be discussed below, have held that information, in general, is not property for the purposes of larceny: one cannot steal facts.

Clearly, unlike tangible property, the intangible nature of proprietary information makes the application of traditional crimes problematic. The question of whether or not the existing offence of larceny could cover cases of TSs misappropriation is uncertain and is likely to cause instability if remained unanswered. The consequences resulting from the inability of the current criminal rules to penalise the misappropriation of TSs could lead the community and investors to lose confidence in the Omani legal system. The following examination of larceny and other relevant crimes will enable an identification of their inadequacies and the development of suitable reform.

5.7.3.1 Does TS Misappropriation Involve an "Illegal Taking" of the Property of Another?

The first element of larceny constitutes the "illegal taking" of another's property. This formulation defines larceny narrowly as a crime against possession, whereas the ETA has moved to the wider protection of ownership. As explicitly set down in article

399(2) of the Jordanian Penal Code ""taking away property" means eliminating the owner's powers over the property through moving it from its original place". The OPC omitted such an explanation from the text of larceny, but it is generally held that carrying away property or moving it completely if it was attached to immovable property or securing control over it are actions that the defendant must commit.[203] "Illegality" implies a lack of consent from the owner or possessor.

This provision might touch certain kinds of misappropriation where a defendant unlawfully takes a book or a memory stick that containing secret information and the victim possesses no other copies of that information. However, this unlawful removal of the physical item would be the subject of larceny and that does not account for the fact that the secret information has been removed.

A more difficult issue arises when a defendant only copies the information without removing an item. This behaviour is morally illicit but involves no taking. The fact that the owner has lost the secrecy and probably the value of the information does not change the fact that the defendant has carried nothing away and the victim still possesses the information.

The use of the English legal term "appropriation"[204] would catch these conducts. The CLRC illustrated that the notion of appropriation denotes a much broader set of conducts than "taking and carrying away".[205] However, Omani larceny focuses more on the protection of possession in a way that undermines the appropriation solution.

This position may conflict with one of the Constitution's major principles. Article 11(5) of the Basic Statute asserts, "private *ownership* is safeguarded". Clearly, the Constitution does not embrace the term "possession" as some other legal

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[203] 'A Set of the Supreme Court Judgments in Oman: 2008', Criminal Department, (300/2008) 324; Alani, *Crimes Against Property in the Omani Penal Law* 12 (Arabic)..

[204] Section 3(1) of the ETA provides that "Any assumption by a person of the rights of an owner amounts to an appropriation…".

[205] The CLRC, 20; R. v Lloyd [1985] Q.B. 829, 834 (any act "to treat the thing as his own to dispose of regardless of the other's rights" can amount to appropriation, so stealing).

instruments do;[206] instead, it protects the wider right of "ownership". It is, therefore, inadequate for the OPC to emphasise the question of taking the owner's possession when this should be a question of infringing another's ownership or proprietary interests.

The key point here is that if the legal system safeguards possession of physical objects only then it can never extend to TSs because they are not tangible. If, however, it relates to an interference with ownership rights, then TSs may be protected. The fact that misappropriation of property is dealt with by other property-related crimes, as shall be seen, makes no difference, as larceny remains the core element.

For the purposes of establishing a new offence, it would be suitable for a person is to be guilty of the misappropriation of a TS if they dishonestly take, obtain or carry away any article embodying a TS. Additionally, this policy proposal goes beyond the taking of physical sources to cover any unauthorised transfer of a TS in any form, such as copying, photographing, mailing the information, and the unauthorised reading or illicit taking by memorisation. This list of prohibited actions warrants criminalisation because of the interference with proprietary rights, dishonesty and the harm inflicted to financial interests of others.

It is possible to argue against the criminalisation of misappropriation through reading or memorisation.[207] In effect, there is no legislation in Oman that outlaws the taking of information by memorisation, even under the Official Secrets Act. Nevertheless, these conducts are different from everyday business or where someone finds out something lawfully during the course of one employment and applies it in their next job. According to the Law Commission, specialist schools for economic spies exist in some countries;[208] however, sensitive business information should not be

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[206] Article 1 of the First Protocol of the ECHR states that every "person is entitled to the peaceful enjoyment of his possessions". Although the term "possession" can be read to signify the things that the person owns, whether in his/her possession or in the possession of others, it signifies the basic right of possession.

[207] Cohent, 205.

[208] Law Com No 150, 1997, 72.

policed by narrow criminal provisions that can be exploited by criminals who are trained to memorise TSs for their own financial gain. Arguably, the nature of prohibited conducts depends upon context. In the business sphere, TSs are pursued for economic and competitive advantages. That is to say, if the information is so open that it can be easily obtained and memorised, it is doubtful that it is a TS.

5.7.3.2 Does TS Misappropriation Involve the Taking of "Property"?

Even if the Omani legislator did adjust legal protection from possession to wider violations of property rights as the Egyptian law has,[209] it would still be important to inquire further what kinds of things can be the subject of larceny. The OPC provides no definition of property or examples of larcenable property, nor have the courts done so, but they have stipulated the requirement of "movable property". In contrast, the ETA embraces the term "thing" with a specific definition of property that also enumerates things that can be an object of theft.[210]

It may be possible for Oman to adopt the English approach where a TS can be recognised as intangible property and then protection is provided on the basis of larceny in the case of stolen TSs. However, this depends on the current statutory purpose and context. One Omani scholar argues that because larceny is linked to the protection of possession, only tangible objects can be taken away.[211] Similarly, in Wazir's interpretation, only physical movables are covered under larceny and anything else goes beyond the bounds of larcenable property.[212]

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[209] Article 311 of the Egyptian Penal Code (1937) provides that "whoever peculates a movable owned by another person shall be a thief". Similarly, article 382 of the UAE Penal Code (1987) states that "theft occurs by embezzlement of a movable property owned by a person other than the culprit…".
[210] Section 5.5.2.
[211] Alani, *Crimes Against Property in the Omani Penal Law*, 36.
[212] Wazir, 30.

The courts have a similar interpretation. In the Jordanian case of *Tariq school v Alkhalil*, the defendant stole original examination papers. After making copies of the papers, he sold them and was later charged with larceny. The first court dismissed the charge on the basis that property is goods that can be publicly sold and bought in the markets but examination papers are something that are not usually bought or sold and therefore shall not be regarded as property. However, the Appeal Court overruled the decision and held that larceny applies to movable things that can be transported from one place to another, and that is was, therefore, applicable to the taking of pieces of paper, but not to the information on them.[213]

It is true that tangible carriers can be a straightforward object of larceny, but the crime would be the "pilferage" larceny of the object, not the information, meaning that the larceny of a valuable asset that could cost millions is actually dropped to a "pilferage" larceny that is punishable by maximum fine of $50. The above proposal would avoid such classification and would also accommodate the earlier cases.

Thus, it is advantageous that TSs are clearly not property under the general provision of larceny. The creation of a specific offence would convey the development needed to protect such a new form of property. Adil Alani suggests that the OPC should not be concerned with definitions, including that of property, as this would allow it to keep pace with social developments and would save occasional amendments to the Penal Code.[214] The avoidance of definitions should not be a general rule as it could place a heavy burden on courts and could cause the law to be applied wrongly.

It might appear that information can never be property under the OPC. By the insertion of Chapter two *bis* "Computer Crimes" into the OPC in 2001, information became a type of property for the purposes of theft or destruction of computer information. Article 276 *bis* clearly penalises "anyone who illegally obtains, accesses or destroys information or data belonging to another". The sole function of this article

[213] Jordanian Appeal Court, Criminal Department, (68/1997).
[214] Alani, *Crimes Against Property in the Omani Penal Law*, 35.

is to protect information held on computer, or other digital property, against unauthorised access. Thus, it offers limited protection. However, TSs are not always digitised or inaccessible to insiders but rather can constitute confidential commercial information that is embodied in hard formats such as documents and plans that are exchanged in business spheres.

It is important for Oman to recognise TSs as stealable property. It is not realistic to adopt an English style general definition of property into the OPC. This approach, although yielding an immediate recognition of intangible commercial assets and therefore criminal protection, would have the effect of triggering a number of existing provisions in the OPC. Under the OPC "Crimes against Markets" are divided into 15 offences, not all of which concern proprietary interests. These crimes cannot be regarded as theft and cannot be brought under the single heading of larceny like the English all-encompassing law of theft. The Omani market crimes are highly specific forms of wrongful behaviour that, while they relate to information, are not really about appropriating it for personal use but rather about disrupting economic equilibrium.

5.7.4 Other Markets-Related Crimes

The analysis detailed above demonstrates the broad structure and coverage of the OPC. The "Crimes against Markets", as the OPC rightly termed them,[215] are headed by larceny, fraud and embezzlement. There are also other crimes such as robbery, extortion, blackmail, swindling, cheque fraud, gambling, cheating in dealings, fraudulent bankruptcy, counterfeiting of goods and unlawful weights and measures. These crimes focus more on negative impacts on market efficiency than property stealing.

The fact that the OPC incorporates many separate crimes, which in large part concern preserving standards in commercial life, can be a fitting backdrop for a new crime of "dishonestly taking, obtaining, or disclosing trade secrets". In effect, larceny

[215] This Omani term is unique and different from the common Arabian title "Crimes Against Property".

itself is subdivided into simple and aggravated. The illegal taking of manufacturing tools or factory equipment or workplace funds is classified as "aggravated" larceny punishable by up to 3 years' imprisonment.[216] This crime might be better termed "industrial larceny", for it reflects the OPC's intention to safeguard industrial infrastructure and facilities. However, nowadays it is technical information that is produced and operates these instruments and that equally needs protection.

5.7.4.1 Fraud

The crime of fraud is a practical example that the OPC is not necessarily restricted to physical property. Although fraudulently enjoying housing, food or drink, or taking rides without paying are not considered criminal offences in many Arab Codes,[217] the OPC deems such conducts types of fraud.[218] This might be a sign of the English influence, where "obtaining pecuniary advantage by deception" is also a fraud but with a much wider scope.[219] Basically, Omani fraud, like the English definition, requires no physical property and obtaining any "unlawful benefit […] by using fraudulent means" should suffice.[220] The crime obviously covers services that are intangible and analogous to TSs. If services can be objects of fraud, TSs might also be regarded as such.[221]

In the previous case of *Abdulaziz v Nawras Ltd*,[222] the defendant, an engineer, participated as a member of the judging panel in a business competition. In spite of the non-disclosure agreement, he obtained and then sold telecommunication information to his employer Nawras company for US $100,000.[223] Abdulaziz had been defrauded

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[216] Article 280(3).
[217] Alani, *Crimes Against Property in the Omani Penal Law*, 18.
[218] Article 289(2), (3).
[219] Section 5.5.3.
[220] Article 288 of the OPC.
[221] It should be noted that the OPC has always prohibited "illegal speculations of shares" by fraudulently increasing or decreasing the prices of public or private shares traded in or outside the stock market.
[222] Appeal Court, Commercial Department, (208/2011).
[223] It is relevant to mention that the Nawras company claimed that the new services launched were licensed by the British telecommunication company Intervoice Limited and provided a copy of that

of his valuable innovative assets but the court failed to recognise that the act constituted dishonest economic enrichment, despite Abdulaziz's calculated loss of US$30 million.

One can see no reason why the crime of fraud should not be applicable in this case. If this case were in England, it would have probably been regarded as a fraud. It might be said that the defendant had acted fraudulently in abusing his position or breaching confidentiality (akin to "using fraudulent means") and that an "unlawful benefit" was gained by him. Though these requirements were met, the court was not legislatively aided. The Omani legislator might, in drafting any new law, consider the replacement of the expression "fraudulent means" by the broader "dishonesty" requirement as it is less technical and can be more easily understood by courts and lawyers.

This possible improvement of the law would be useful for the purpose of the new offence. Moreover, it would be in accordance with the Supreme Court's recent interpretation of fraud as covering all misconducts that are socially stigmatised as dishonest, including deceit, falsehood and other improper acts cause others to suffer ruin or defeat of trust.[224]

5.7.4.2 Embezzlement

The breach of trust or, as it is commonly called embezzlement is a crime that concerns ownership and trust more than possession. Article 296 of the OPC penalises "[a]nyone who is entrusted by another with money or any movable property but conceals, embezzles or spoils it with intention to draw a benefit or to cause harm". Adil Alani comments that the underlying reason behind this crime is the inadequacy of the civil law to deter breach of trust and to preserve proper standards in business life.[225]

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contract. However, Abdulaziz insisted that the licensed services were different from his own stolen information.

[224] 'A Set of the Supreme Court Judgments in Oman: 2010', Criminal Department, (95/2009) 26.

[225] Alani, *Crimes Against Property in the Omani Penal Law*, 197.

TS misappropriation is a serious breach of commercial standards.[226] However, it is not clear whether it can be regarded as embezzlement. An employee, licensee, business partner or consultant who uses TSs for their own benefit, without the consent of the owner, seems to commit a breach of trust. Certainly, these conducts constitute a breach of trust, yet not in regard to *movable* property. It is problematic that embezzlement is limited to tangible and movable property, while trust and commercial morality are substantially intangible notions. This is an undesirable gap in the law that undermines businesses and markets.

5.7.4.3 Insider Dealing

Insider dealing is a misappropriation of specific confidential price-sensitive information.[227] It is prohibited to ensure the integrity and efficiency of the financial market.[228] Article 64 of the Capital Market Act 1998 states that

> "Any person who is proved to have had dealings in the Market on the basis of undeclared information, and was, by virtue of his position, aware of such information, […] shall be punished by imprisonment […]. These punishments shall also apply to the Chairman and members of the Board of Directors of any member company, its general manager, deputy general manager or any member of staff."[229]

A comparison between insider dealing and TS misappropriation may reveal very interesting similarities. First, the disclosure of an "inside information" is likely to affect the price of securities and their issuers.[230] Similarly, if sensitive TSs are

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[226] Section 4.5.2.

[227] A TS is also specific and secret information. However, "inside information" relates to particular securities and issuer, while a TS relates to wider commercial know-how, industrial techniques and manufacturing processes.

[228] Siti Faridah Abdul Jabbar, 'Insider dealing: fraud in Islam?' (2012) 19 Journal of Financial Crime 140, 143.

[229] The text penalises "insider dealing", which is also a criminal offence in England (ss. 52-64 of the Criminal Justice Act 1993 and s. 397 and 398 of the Financial Services and markets Act 2000) and the US (s. 32 of the Securities Exchange Act 1934 and s. 4 of the Insider Trading and Securities Fraud Enforcement Act 1988). However, the Omani text is more focused on "dealing" than "trading" and on "any person", rather than "an individual who has information as an insider".

[230] Sarah Clarke, *Insider Dealing* (OUP 2013) 13.

disclosed, not only the value of the information will be affected but also the whole company may collapse, because TSs are very valuable assets that vital to innovative and competitive performance of companies.[231] Second, insider dealing impairs shareholders/investors' confidence and investment in financial markets. Likewise, TS misappropriation damages business competitiveness and research innovation.[232] Third, both insider dealing and TS misappropriation are contrary to good business ethics. Clearly, these rationales for making insider-dealing criminal apply to the misappropriation of TSs.

For these reasons "insider dealing" could be seen as a suitable framework for dealing with TS misappropriation. In effect, the Omani legislator needs to tell us why to illegally trade inside information is considered as cheating and a species of criminal fraud, and yet to misappropriate TSs, which equally undermines business and employment standards.

5.7.5 Divulgence of Employment Secrets

As discussed in Chapter 3, business has become fiercely competitive in Oman. There is also an increasing reliance on cheap and easily obtainable foreign labour. As a consequence, there is now more fear of TSs being misappropriated by disloyal employees, both Omani nationals and expatriates. Given this situation, it has become more important for Oman to provide effective protection against dishonest use or disclosure of TSs by employees.

Nonetheless, the OPC is one of, if not the, poorest Arab Code in this regard. There are a number of modern Arab Codes that contain provisions penalising the unauthorised disclosure or use of secret information obtained in the course of an employment relationship. For instance, article 379 of the UAE Penal Code penalises

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[231] Douglas Lippoldt and Mark Schultz, *Uncovering Trade Secrets-An Empirical Assessment of Economic Implications of Protection for Undisclosed Data: OECD Trade Policy Papers, No. 167* (OECD Publishing 2014) 4.
[232] The EU TSs Directive, Preamble 1.

> "Anyone who is entrusted with a secret by virtue of his profession, trade, position or art and who discloses it in cases other than those lawfully permitted, or if he uses such a secret for his own private benefit or for the benefit of another person, unless the person concerned permits the disclosure or use of such a secret".[233]

By contrast, in Oman, there may be no crime at all if an employee in the private sector uses or discloses a TS entrusted to him or her with regard to their employment. The OPC recognises only those disclosures committed by officials. Pursuant to article 164, "officials shall not divulge, without lawful reason, secrets which they know, by virtue of their job even after the termination of employment". This sole article provides protection to TSs (pharmaceutical and agrochemical data) submitted to government officials for test purposes as required for obtaining marketing approval.[234] The article can also cover the disclosure of TSs during trials.[235]

It could be argued that this very limited protection is inconsistent with the current Omani business environment, where TS misappropriation is a prevalent threat due to the increase in the number of disloyal employees and employee turnover.[236] Studies have shown that "employee theft of sensitive information" is a side-effect of global competitiveness.[237] It is inconceivable that employees who betray their employers' trust by selling those TSs to rivals should escape liability in order to maintain employee mobility and the free flow of information.

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[233] See also article 437 of the Iraqi Penal Code, article 355 of the Jordanian Penal Code, article 310 of the Egyptian Penal Code and article 332 of the Qatari Penal Code.
[234] OIPRA, article 65.
[235] Article 63 of the Basic Law provides that "the hearings of the courts shall be in public, except when the court decides to hold them *in camera* […] In all circumstances, the pronouncement of judgement shall be in open hearing". Moreover, article 93 (3) of the OIPRA "impose[s] sanctions on parties to a litigation, their counsel, experts, or other persons subject to the court's jurisdiction, for violation of judicial orders regarding the protection of confidential information produced or exchanged in a proceeding".
[236] Statement of the OCCI in local media, http://timesofoman.com/article/68861/Oman/Expatriates-in-Oman-hope-for-reversal-of-two-year-visa-ban/ accessed 5 January 2018.
[237] EU Impact Assessment 2013, 161.

The Omani government has declared on many occasions that boosting private-sector participation in the economy is a priority.[238] However, the public-sector dominance over penal protection does not seem consistent with the announced strategic policy of privatisation. In effect, there is a troubling inconsistency in the current legal practices. To illustrate this discrepancy; if a misappropriation is committed against TSs of a company in which the government has shares of more than 50%, this conduct will be treated as a theft of official secrets and will be punished severely.[239] In contrast, if the same misappropriation is committed against a company that the government has no shares in, or less than 50%, the conduct will be treated as a civil case only.

In the case of *Alhanai v Petroleum Development Oman (PDO)*,[240] an employee stole secrets of oil explorations. The case was classified as a criminal case because the government owns 60% of the PDO. On the other hand, in the case of *Smart Drilling Ltd*,[241] an employee stole similar secrets of a leading oil company's explorations but the case was categorised as a civil employment case because the government owns no shares in Smart Drilling Ltd. Nevertheless, the Basic Law stresses that "justice" and "free economy" are bases of the national economy.

Despite this legal inconsistency, special privilege for "official secrets" can be accepted on the basis that the government has committed public funds; therefore, there is a greater need for protection. Nonetheless, it could be argued that, if Oman already recognises the value of official secrets, it should modernise the laws in relation to TSs. Under the current blanket exclusion of liability for TS misappropriation in the private sector, an employee can take up employment with a rival company for the purpose of obtaining TSs. This is not to suggest that employees in all circumstances should be automatically included in the new offence, but employees who trade their employers' TSs should not escape a penal deterrent.

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[238] http://timesofoman.com/article/91724/Oman/Government/'Boost-private-sector-to-solve-Oman's-economic-problems' accessed 20 May 2017.
[239] Article 17 of the Job Secrets and Protected Areas Act of 1975.
[240] Appeal court, Criminal Department, (66/2014).
[241] Appeal Court, Labour Department, (522/2013).

To sum up, the current criminal provision in Oman has several weaknesses. It is true that suffering financial losses or economic injuries are not the only concerns of criminal law. However, it is also true that business traditionally attracts protection from the criminal law via a range of markets-related crimes. As is the case with these crimes, the misappropriator of business secrets acts for commercial gain and, thus, it seems axiomatic that every case of TSs misappropriation results in financial loss. Hence, it would be consistent and legitimate for a new crime against dishonest economic gains from TSs to be added into the current criminal framework.

5.7.6 Summary of Criminal Protection of TSs in Oman

Not all misappropriations in Oman are committed by employees, but even industrial spies can operate freely. It is clear that there is very little protection afforded to individuals and businesses in relation to valuable intangible assets as compared to other mundane tangible property. None of the crimes highlighted in the above analysis appears to be able to deal with the deliberate and dishonest misappropriation of TSs. The main deficiencies identified include the failure to punish the copying of TSs, the failure to address the embezzlement of TSs, the failure to catch the fraudulent use of TSs, the failure to capture the disclosure of TSs, and overall failure to provide necessary protection for TSs.

The perceived difficulty of prosecuting wrongdoers under the OPC derives from the intangible nature of TSs. That is to say, Omani larceny is exclusively confined to possession and goods. If a person enters a factory and steals a bottle of soft drink (worth $1), he will surely be charged with larceny. Alternatively, if he steals the recipe of that drink (worth $100,000), he will not be charged with the larceny of a TS and will probably escape any criminal liability. Entering a closed area or accessing an information system protected against unauthorised persons – even with intention to steal – may not be rendered an offence.

The present market-related crimes, under the OPC, are at best effective only against some general means of misappropriating TSs, though their recognition of some

kinds of intangible property and dishonest conducts indicate a framework capable of accommodating a new intangible property related offence. This is an appropriate tool for the criminalisation of TS misappropriation.

The chief weakness of the Omani law relating TSs is the lack of specialised criminal provisions. The civil law is inadequate for deterring nonaffluent defendants and wealthy corporations. Similarly, the OPC was introduced to deal with ordinary property and stealing. Currently, the inadequacy and inconsistency of the present criminal provisions to combat economic espionage demand an effective legislative reform.

5.8 Criminal Reform

To bridge the current legislative gaps and implement effective criminal provisions to safeguard TSs, Oman should not rely on existing crimes nor amend these, but, rather, it should introduce a new offence beyond its traditional rules. In other words, if Oman were to choose to impose criminal sanctions on TS misappropriation, a *sui generis* offence is the most appropriate legislative response. A new separate offence would enable Oman to construct a more systematic criminal intervention.

It is not realistic for Oman to adopt the English model in its current legal framework, where TSs can be recognised as "intangible property" and then criminal sanctions are provided on the basis of theft. Adopting the English general theft provisions in this way to proscribe the misappropriation of intangible assets would be problematic. Oman does not have a separate Theft Act but a Penal Code that includes many crimes against property, therefore, the creation of a definition of property that incorporates TSs may trigger a series of crimes that not necessarily related to property.

Similarly, it would be a mistake to expand larceny and attempt to squeeze TSs into a property/theft paradigm for the purposes of protecting TSs. TS misappropriation is not only about taking and carrying away but includes technological stealing, unauthorised copying, communication and unauthorised disclosure. Indeed, with the highly technical nature of business secrets and the sophistication of commercial

dealings, the Omani courts would need new criminal provisions that specifically tailored to target TS misappropriation. Thus, the extension of larceny or other traditional crimes would only cover taking without covering the new tools, tactics, and methods used to steal the information.

This is not to say that market-related crimes should be left unaltered. But larceny and other traditional property crimes should be modernised in a similar manner to the English Larceny Act of 1916. Alongside that, a new bespoke legislation for criminalising misappropriation of TSs should be created. In applying this proposal, the Omani legislator might consider the English concepts of "intangible property", "appropriation" and "dishonesty", which are mature and not irrelevant to the Omani penal law.

The American approach accords with this thesis's conceptual bases of proprietary information and unjust enrichment. Hence, the UEEA could serve as a model as it contains special provisions against TS misappropriation that appear to be the most effective vehicle for the criminal protection of TSs. The UEEA's broad definition of a "trade secret" and explicit prohibition of wide acquisitive conducts can provide solid grounds for fighting against the misappropriation of TSs.

To design a functioning model that would fit within the present social-legal framework and bridge the legal gaps, this study proposes the adoption of a new and specific offence for "Dishonestly taking, obtaining, or disclosing trade secrets", as drafted in the Appendix below. This new bespoke offence for deterring the misappropriation of TSs could well be situated at the end of chapter VIII of the OPC "Crimes against Markets", immediately after the crime of embezzlement, which as with TS misappropriation involves a breach of trust and dishonest interference with property rights.

In the Omani context, it is crucial to avoid an extreme and unnecessary deterrent, as this would constrain the socio-economic development. However, introducing a balanced and separate crime of "dishonestly taking, obtaining, or

disclosing trade secrets" under the existing market-related crimes appears to be the most appropriate and promising option for policy and legal objectives in Oman.

By criminally sanctioning TSs misappropriation not only would Oman send a strong message to those tempted to participate in misappropriation activities, but it would also protect investment and preserve business standards that would contribute directly to the economic interests of the country.

5.9 Potential Consequences of Using Criminal Law in Protecting TS Misappropriation

Controversially, while criminal law is considered as a mechanism of social control to prevent and punish culpable acts by the state, its intrusion into the commercial arena to control business conduct is vehemently opposed.[242] Particularly, the relationship between criminal protection of TSs and economic growth is a controversial area in academic discourse. It has been contended that criminalisation of TS misappropriation would chill competitive and innovative activities due to the over-deterrence effect of criminal sanctions. Moohr, for example, argues that the use of the criminal law in the industrial and commercial spheres of trade secrecy is likely to restrain employee mobility because their ability to use the knowledge learned from a previous employment to move to a better job or start a new business will be diminished as a result of the possibility of incurring criminal charges.[243]

The burdening of employment relationships can be linked to another concern emphasised by Kingsbury that "protection can reduce competition, as competitors are unable to access and use the trade secret to compete, to the potential detriment of the

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[242] eg. Jetu Edosa Chewaka, 'The Criminal Sanctions of Commercial Deceptions in Ethiopia: Could it Contribute to the Reduction of Commercial Disputes?' (2014) 3 HaramayaLRev 46; George Terwilliger, 'Under-Breaded Shrimp and other High Crimes: Addressing the Over Criminalization of Commercial Regulation' (2007) 2 CrimLRev 1417; Ellen Podgor, 'Laws Have Overcriminalized Business Behavior' *The New York Times* (10/11/2013) 7.

[243] Moohr, 'The Problematic Role of Criminal Law in Regulating Use of Information: The Case of the Economic Espionage Act', 903- 907.

consumer".[244] Similarly, Bone contends that TS protection could cause a reduction in the creation of innovative products as innovators may believe that information subject to free use is a TS even when it is not.[245] Aplin called these potential risks "chilling and deterrent effects on competition and innovation".[246]

On the other hand, a number of scholars have viewed the criminalisation of TSs misappropriation as the necessary regulation for preserving the integrity of the market. For example, Lederman argues that criminal law is of paramount importance to cope with the phenomenon of industrial espionage and to "the maintenance of standards of commercial ethics and the encouragement of invention".[247] Almeling also asserts that, in today's technology, changing work environment and growth of TSs theft, criminal law plays a critical role in preserving the increasing value of TSs.[248] Moreover, it is agreed that the imposition of criminal sanctions is the appropriate way of protecting investment in innovation and promoting public confidence in commercial and industrial activities.[249]

In response to these arguments, one can easily understand that the Omani situation is complex. As detailed earlier in Chapter 3, Oman is trying to build its economy on the basis of processing trade and manufacturing industry via the adoption of an economic reform programme and the launch of an industrialisation strategy. Unfortunately, however, this shift has not been developed alongside an appropriate legal framework. Due to these economic developments and the increasing importance of TSs, there has been a growing problem of misappropriation activities. Admittedly, civil remedies are unable to tackle the problem, therefore, criminal sanctions were suggested as last resort. In Oman, resorting to criminal sanction can effectively deter commercial misappropriations compared to civil sanction.

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[244] Kingsbury, 152.
[245] Bone, 279.
[246] Tanya Aplin, 'A Critical Evaluation of the Proposed EU Trade Secrets Directive' (2014) 14 KCLJ 1, 42.
[247] Lederman, 260.
[248] Almeling, 1094.
[249] E. Vandebroek and F. Verbruggen K. De Schepper, 'Countering Economic Espionage and Industrial Spying: A Belgian Criminal Law Perspective' (2016) KU Leuven , 9; Law Com No 150, 1997, 30.

Proponents for criminalisation in business matters have their concerns that the role of criminal law has shifted from protecting commerce to regulating it.[250] Nevertheless, criminal law is traditionally used in Oman to deter commercial misconduct. As mentioned earlier in this chapter, in the OPC, Book VIII labelled "Crimes against Markets" deals with business crimes. Additionally, there are economic and commercial crimes in regulatory legislations designed to ensure good business practices.[251] These crimes under Omani penal law are not new and, in fact, are viewed as powerful weapons for ensuring sound and healthy commercial practice.[252]

The Omani Conference on Law and Socio-Economic Transformations 2018, which aimed at highlighting deficiencies in the current legal system to cope with the economic changes, made a number of recommendations that in line with the outcome of this study. First, establishing specialised courts for business crimes. Second, the need for adequate protection of foreign investment. Third, amending the Omani IP system to provide effective protection for knowledge-based capital.[253]

Indeed, criminal protection of TSs is now considered more important by society. The weak civil law has its drawbacks to the economic well-being of society; nor is the problem alleviated by the two-year visa law. In the long term, the problem of TS misappropriation is likely to harm domestic innovation, competition and technology transfer. Consequently, Oman will undermine both its national interests and its international obligations to provide effective and adequate protection of trade-related IPRs. Therefore, adopting criminal measures is consistent with Oman's current social and economic environments and does not contradict *Sharia* principles.

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[250] Chewaka, 47.
[251] See section 1.2.
[252] Alani, *Crimes Against Property in the Omani Penal Law*, 18.
[253] The Fourth Scientific Conference: Law and Socio-Economic Transformations, Sultan Qaboos university, College of Law, 18–19 April 2018.

The above challenges of restraining the free flow of information and employee mobility are not definite consequences of using the criminal law but will warrant cautious criminalising legislation. Hence, the proposed criminalisation is restricted to certain behaviour, which carries degree of harmfulness and immorality, that should minimise any potential risks. As the normative analysis in Chapter 4 demonstrate, TS misappropriation is indicia of dishonest and harmful conduct, which justify criminal sanctions on both economic and moral grounds. This stamp of moral condemnation refers to conducts that should not be tolerated but should warrant criminal intervention.

Unlike the American approach, the proposed new offence will not extend to reverse engineering. It will also not touch on the use or disclosure of information acquired solely by independent development or an employee's own discovery based on personal knowledge and skills. As such, the fear of being exposed to a criminal prosecution is applicable only to dishonest individuals. In effect, what could reasonably put overseas employees in fear of being deported if they share knowledge that they acquired in previous jobs is the current two-year visa ban.

Clearly, the effects on employee mobility are one of the most controversial aspects of the criminalisation of TS misappropriation. Although it is often difficult to draw a decisive line between information that belongs to the company and that which belongs to the employee, TSs are precisely defined and more specific than general knowledge. There is no question that employees are entitled to use their experience and skills to make a cake, for example, but not to sell or disclose the company's secret recipe for a new type of cake. In fact, what stymies the production of new information is misappropriation. As the EU TSs Directive most recently provided, TSs play an important role in "employment growth and for improving competitiveness".[254]

Certainly, in practice, the UEEA's heavy criminal penalties, overly extensive measures and very expansive coverage may endanger innovation and competition. In this respect, the UEEA is sometimes similar to the two-year visa ban law as well as

[254] The EU TSs Directive, para, 3.

the English 18th-century law against the movement of skilled workers. However, this part of the US model, as discussed above, was excluded from the proposed reform.

There is some evidence that if businesses lost control of their TSs, they would lose competitive advantages and might collapse,[255] but if a balanced protection is provided then economic progress can be augmented. As Cohen explains, only harsh protection of TSs that prohibits reverse engineering or independent discovery "would be a significant setback for innovation".[256]

The Omani legislator has recently shown awareness of the importance of protecting TSs and a willingness to tackle the problem, however, the above arguments against utilising criminal law for the protection of industrial or commercial information may discourage them. Nevertheless, "there is a growing international trend toward use of the criminal law to protect trade secrets" and "a growing number of jurisdictions have criminal provisions applying in some form to the taking of trade secrets."[257]

As with all criminalisation solutions, there may be some consequences. Arguably, even with serious conducts, such as drugs possession and alcohol misuse, criminalisation can give rise to consequences like the creation of active "black markets". But this unintended consequence is not worse than the situation that gives rise to it. In the same way, any possible side-effects of restraining competitive activity could hardly be worse than the economic mischief at which TS criminal law aims. Ashworth and Horder suggest that "where criminalization would be productive and cost-efficient it should be used".[258] To their "effectiveness principle", they also add that if the conduct is culpable and harmful enough it would tip the balance in favour of criminalisation.

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[255] OECD, 'An Empirical Assessment of the Economic Implications of Protection for Trade Secrets', *Enquiries into Intellectual Property's Economic Impact* (OECD Trade Policy 2015) 184.
[256] Cohent, 226.
[257] Anna Kingsbury, 'Using the Criminal Law Computer Misuse Provisions to Protect Confidential Information' (2016) 3 New Zealand Law Journal 128, 128.
[258] Ashworth and Horder, 34.

Furthermore, although the financial harm caused by TS misappropriation is analogous to the harm in theft, prosecutions of TS misappropriations are not straightforward. In addition to the fact that obtaining proof in TSs cases is challenging,[259] the criminal law requires high levels of both intent and evidence compared to civil law. Criminal convictions are only passed on certainty; if the judge had doubts about the wrongful conduct, innocence is guaranteed. Therefore, only those unauthorised persons who dishonestly obtain, disclose or use TSs will be subject to the new offence.

This attentive reform offers many advantages beyond the predominant civil tort. Most importantly, it would supply the necessary deterrent that the Omani system currently lacks. It is true, particularly, in Oman that a civil "remedy cannot realistically be described as instant […] Only the criminal law can guarantee prompt relief for the victim and provide a sufficient deterrent to the intruder".[260]

The study normatively investigates how criminal sanctions under the OPC could contribute to the reduction of TS misappropriation, which is not beyond the modern boundaries of criminal law. In the current economy of information, there can be no doubt that "a legal system that fails to recognise that information itself can be stolen is simply out of touch with the role of information in modern commercial practice".[261]

It could be submitted that Oman has historically employed its penal law in service of economic health. It is less likely that Oman would continue using it if it is detrimental to the economy. The impact of criminalisation on economic development may differ from one country to another, depending on the domestic circumstances of that country. In this respect, the reliance on criminal sanction can effectively deter TS misappropriations compared to civil remedies provided under the civil law. Indeed,

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[259] EU Impact Assessment 2013, 26.
[260] Victor Tunkel, 'Industrial Espionage: What Can the Law Do' (1993) 8 Denning LJ 99, 108.
[261] Weinrib, 142.

criminal law could potentially contribute to the reduction of commercial misappropriations.

As Nuotio emphasises, "society defines itself through criminalization",[262] where the criminal law should react to harmful financial practices and respond to changing economic realities. Professor Alastair Hudson has observed that there is a "significant" interaction between the criminal law and financial regulation, in particular, the role of criminalisation is very important in deterring disobedience in financial activities and "maintaining the integrity of financial markets".[263]

In conclusion, the Omani legislator has been reluctant to impose criminal sanctions against TS misappropriation due to a lack of experience in the issue. If they are still searching for a legally legitimate and practical mechanism that is considerably better than the two-year visa ban law, then the proposed offence would solve many of the deficiencies and concerns regarding misappropriation of TSs. The new offence is sufficiently flexible to encompass any type of misappropriation. Equally, it is in strong accordance with the wide variety of roles that penal law plays in Omani society, particularly those related to discouraging unacceptable conducts, stigmatising immoral behaviours and improving business standards. The proposed reform would, therefore, be fit for the challenges of the 21st century.

[262] Nuotio, 243.
[263] Hudson, *The Law of Finance , The Law of Finance*, 361.

CHAPTER 6
CONCLUSION OF THE STUDY

6.1 The Project and the Outcome

This study considered whether TSs should be protected by the criminal law and found no clear reasons why Omani law does not do so at present. While criminal sanctions against the misappropriation of TSs have been adequately legislated for and successfully implemented by many Arab and Western countries, Oman is still reluctant to protect TSs through the criminal law. The reasons behind this postponement are not due to a lack of willingness but a lack of experience as to how and to what extent the criminal law should be applied to this modern form of commercial piracy.

Though even England has not yet criminalised the specific conduct of TS misappropriation, economically developed jurisdictions, like the US and most of the EU and GCC countries, are expected to provide strong protection for TSs. It is not workable, of course, to expect Oman to provide the same level of sanctions and procedures as these countries because it has its own legal system, culture and traditions. Accordingly, the central goal of this research was to propose an adequate protection mechanism for TSs that would contribute practically to an efficient and healthy commercial environment and the overall economic growth in Oman.

Due to both the industrial strategy of Oman and the economic importance of TSs in its current domestic market, this study found that an effective legal protection of TSs is necessary. The widespread concerns about the harmful effects of misappropriation activities require an appropriate legal response. However, the present Omani provisions on the problem are inappropriate. As seen above, the provisions in the OPC on this matter need to be updated. Specifically tailored criminal measures could provide a very effective response, given their financial and deterrent impacts upon defendants.

The primary problems of the protection of TSs in Oman are the lack of criminal sanctions and the inadequacy of the civil law. This study examined the current civil remedies adopted by Omani law to deal with misappropriations of TSs and found them to be generally lacking as mechanisms for TS protection. Civil remedies not only suffer from weak enforcement but are also themselves unsuitable for discouraging TS misappropriation since many wrongdoers lack sufficient means to satisfy any judgement against them.

The situation is further problematised by the recent imposition of the two-year visa law. This controversial Omani policy to tackle the misappropriations committed by foreign workers was found to resemble the British 18th-century policy of proscribing the emigration of skilled British workers. Arguably, its practical failure and moral illegitimacy is likely to cause the Omani government to be sued or at least censured. It is not a sound economic policy for ensuring secure business environment.

Consequently, criminal intervention has emerged as an urgent response. Nevertheless, misappropriation activities cannot fall under a charge of larceny or other criminal offences in Oman. The current scope of the OPC is limited to tangible property and does not encompass intangible resources of the information age. A consideration of existing legislative penal approaches revealed no irrefutable reasons why this culpable wrong remains untouched by the penal law.

The argument that has been made throughout this study is that specific criminal provisions are the most suitable way of combatting TS misappropriation. Although criminal sanctions could close the existing gaps and make Oman compliant with its international obligations to provide ample protection of intellectual property, criminal law is not a regulatory tool that could be used lightly without evidence of sufficient harmfulness and wrongfulness. The utilisation of the criminal law as the most coercive tool of social regulation entails plausible justifications that outweigh other social presumptions.

This study has offered a novel theoretical framework to provide plausible and cogent justifications for criminalisation. The exploratory application of the three normative theories of property, harm and morality to TS misappropriation demonstrates that there is a *prima facie* case for criminalisation. The property theory is the most discussed justification for the criminal protection of TSs and the tradeable nature of TSs played a key role in situating TSs alongside tangible property. Hence, the dishonest acquisition of a TS might be considered an interference with proprietary rights over valuable commercial assets.

This notwithstanding, further analysis has demonstrated that the property theory, which is not a substantive theory for criminalisation, needs to be supplemented by the harm principle, which is the dominant theory of criminalisation. Under this principle, TS misappropriation was found to inflict harm upon various societal interests. Since culpability is central to the notion of legitimate criminalisation, the property and harm analysis were supported by moral precepts. In this respect, TS misappropriation might be deemed a moral wrong, given that it essentially comprises dishonesty, breach of confidentiality and abuse of commercial standards.

Another significant finding in relation to the search for a coherent justification for criminalising TS misappropriation is the *Sharia* perspective. Islamic law generally condemns any unjust enrichment from the efforts, time and money of others. Its notion of *mal* constitutes a category that encompasses anything that is economically valuable and customarily tradeable. Therefore, any interference with the *mal* of others, whether tangible or intangible, is punishable under Islamic law. Interestingly, *Sharia* commands that no harm of any kind should be done, whereas secular law is largely confined to physical harm, at least for tortious liability. Additionally, Islamic law protects against any immorality especially in the spheres of commerce and trade. All that having been stated, the criminalisation of TS misappropriation should gain social and legal acceptance.

However, to formulate a new offence in a balanced and workable way a greater caution was needed. The construction of an overly broad theft-type offence, like the

English law's general protection of intangible property, is not suitable for Oman, nor can it be accommodated under the current penal framework. Unlike England, Oman has no general definition of property for criminal purposes, nor are Markets-Related Crimes in the OPC concerned only with the appropriation of property. Thus, the amendment of the OPC, by incorporating a new distinct offence would save the creation of an unwelcome definition of property and would avoid its application to other property-related offences. In this regard, the US TS criminal laws offered a number of valuable lessons for developing a workable reform in Oman. The crime of "dishonestly taking, obtaining, or disclosing trade secrets", as proposed in the appendix, is a new contribution of this study that should be considered as a viable option for an adequate criminal reform.

Finally, though the criminalisation of the dishonest acquisition, use and disclosure of TSs would chill misappropriation activities and contribute to the reduction of economic mischief due to the deterrence effect of criminal sanctions compared to civil remedies, this study is not comprehensive in addressing all relevant issues. It could however help in triggering legal scholars to undertake further investigations into this critical area.

6.2 Suggestions for Future Research

The discussion in this study has been largely theoretical and doctrinal. Some occasional references have also been made to research data and empirical research. Through undertaking a social and economic analysis and a black latter approach, the study reached its conclusion that it would be both legitimate and practical for Oman to criminalise the misappropriation of TSs. This thesis leaves the door open for empirical research in the field, which is currently lacking in Oman.

It would be interesting to empirically investigate the impacts of the current weak mechanisms adopted by Omani law (the sole reliance on civil compensation) on the use of TSs, economic growth and the performance of businesses, particularly SMEs. Such empirical material could strengthen the argument for the criminalisation solution

articulated here. The harm and immorality of TS misappropriation have been arrived at could be supported by greater reference to local empirical data.

It would also be useful to see an economic analysis and empirical research on the two-year visa ban law to systematically examine its moral legitimacy, effectiveness in eliminating misappropriations, its effects on labour mobility and, more importantly, the extent to which the ban is compatible with *Sharia* principles. A proper empirical investigation of the legitimacy and enforceability of the ban could be the subject of further special academic inquiry.

Further, due to the lack of studies of trade secrecy in Oman, combined with the under-developed nature of Omani penal law, particularly in relation to business crimes, there are many related areas open for further research. Subjects of trade secrecy that are yet to be examined include the interaction between official secrets and TSs of state-owned commercial enterprises. Here, it would be interesting to investigate, what the proper sanctions against misappropriations committed by large corporations would be, and how to improve the protection of TSs against disclosure during trials?

Appendix

Article 297B: Dishonestly taking, obtaining, or disclosing trade secrets

(1) Everyone is liable to imprisonment for a term not exceeding … years and a fine not exceeding…or to one of these two penalties who, with intent to make a gain or to cause loss to any other person, dishonestly—

(a) steals, or without authorisation appropriates, takes or carries away or by fraud or deception acquires any document or model or any thing containing or embodying any trade secret; or

(b) obtains, or without authorisation copies, duplicates, sketches, draws, photographs, photocopies, downloads, uploads, replicates, alters or destroys any trade secret; or

(c) discloses, or without authorisation uses, mails, delivers, sends, communicates, transmits or conveys any trade secret, knowing that it is a trade secret;

(2) The acquisition of trade secrets through reverse engineering or parallel invention or independent discovery shall not be deemed violation of the rights of the rightful holder.

(3) For the purposes of this section, "trade secret" means any information that is, or may be, used industrially or commercially and has actual or potential economic value from not being generally available in that industry or trade and is the subject of all reasonable efforts to preserve its secrecy.

"Trade secret" includes information in tangible or intangible forms, including but not limited to formulas, patterns, compilations, techniques, manufacturing processes, business planning, customer lists and all other commercial know-how.

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