The effect of Internal Market Orientation, Internal Dynamics and Knowledge Management strategies on NSD project performance

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Dedication and Acknowledgements

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Abstract

Recognizing that service firms' performance is driven from their capability to innovate, new service development (NSD) is an increasingly important area of interest, as it can provide service organizations with a sustainable competitive advantage and ensure their long-term prosperity. The main objective of this thesis is to deliver an integrated framework for the strategic management of NSD by acknowledging how various internal conditions affect NSD project performance. The focus of this dissertation rests on the contingent effect of project manager's behaviour, interfunctional relationships and team-level contingencies on different new service development outcomes. In particular, the role of project manager's Internal Market Orientation, interfunctional relationships (i.e. trust, conflict, interfunctional integration and political activity), team-level conditions (i.e. climate, task and relationship conflict) and knowledge management strategies (i.e. personalization and codification strategy) for project learning, organizational learning, resource allocation effectiveness and efficiency and project performance during NSD is evaluated.

To investigate these relationships, a hierarchical research design is adopted by drawing nested data from both two different sources (i.e. project managers and participants of NSD projects) across several service industries. A final usable sample of 116 project managers and 543 responses from NSD participants was obtained. Results highlight the importance of project manager's Internal Market Orientation adoption for NSD project performance while the role of interfunctional relationships, team-level contingencies, individual perceptions and knowledge management strategies during also proves critical for NSD. This dissertation is anticipated to provide service managers with several useful insights regarding ways of improving the management and the organization of the NSD process as well as to shed light on the relative effectiveness of different knowledge management strategies for project performance, project learning and resource allocation during NSD. The identification of how intra-organizational dynamics and contextual factors concurrently influence performance, learning and resource allocation during service innovation efforts will optimize their daily management and help practitioners understand the impact of their actions on team dynamics and innovation performance.

Chapter 1: Introduction and Overview of the Thesis

This chapter describes the integral role of service innovation for the modern economy and explains various organizational gains deriving from service innovation activity. Next, the research gap for this thesis is outlined and its originality is exhibited. Moreover, the research objectives are set and the study's scope is introduced. Finally, the last section of this chapter provides an outlook of the thesis which briefly describes the main parts of this thesis.

1.1 Introduction

The service sector constitutes a major part of today's global economic activity in most developed economies. Services make up the bulk of modern economy and the size of the service sector is increasing in almost all economies around the world. All the world's most advanced economies are also dominated by services, with many having more than 70% of their gross domestic product (GDP) generated by services. Industries that deliver help, utility, experience, information, or other intellectual content have expanded rapidly in recent decades and account for more than 70% of total value added in the OECD countries (Sheehan, 2006). Services also constitute over 50% of GDP in low income countries and as their economies continue to develop, the importance of services in the economy continues to grow (Eichengreen and Gupta, 2013). The current list of Fortune 500 companies contains more service companies and fewer manufacturers than in previous decades. Services have also emerged as the main source of job creation in OECD countries. Business services, such as computing, information services, and R&D services, generated more than half of all employment growth in many countries in recent years. Services in many countries make up the majority of the economic foundation and growth potential and their growth is projected to continue unabated for the most developed countries (OECD, 2011). For example, service industries contribute approximately 77% of the gross domestic product in Australia and 80% in the United States (Bitner, Ostrom, and Morgan, 2008).

This global phenomenon of sustained service growth has led to an ever-growing array of questions that need to be addressed—questions that have significant implications for the sustainable success of service organizations, the well-being of societies, and the quality of consumers' lives worldwide (Bitner and Brown, 2008). Economic activity can be significantly enhanced by service innovation which can promote the design of new services and enhancements in service delivery systems. As services' importance for global economy is rapidly growing, the service environment is also evolving as many innovative players offer new service standards in markets where established competitors have failed to satisfy today's demanding customers. Many barriers to competition are being swept away and established businesses often find it hard to maintain customer loyalty in the face of competition from innovative firms offering new product features and the introduction of technology-driven delivery systems (Bitner and Brown, 2008). Moreover, radical changes of the service environment such as increasing customer expectations, competition and speed of technological advances means that service organisations must constantly look for new approaches to ensure high standards of service design and delivery.

Within this increasing competitive pressure, service organizations need to find ways to successfully innovate in order to maintain a sustainable competitive advantage and ensure long-term success (Weiss et al., 2013; Jimenez-Jimenez and Sanz-Valle, 2011). More than ever, scientific research is required to address the complex and highly uncertain process of developing new services. While substantial growth has occurred in services from an economic viewpoint, managing innovation within the service industries remains one of the most emerging challenges to business strategy in the services economy (Moller et al., 2008; Ostrom et al., 2010).

Under such circumstances, the importance of *New Service Development* (NSD) (or service innovation - both terms are often used interchangeably) emerges as an increasingly important concern in service industries, as it can provide them with a sustainable competitive advantage (Jaw et al., 2010). The service development process is associated with the firm's capability to develop new service offerings and constitutes an important aspect of service firm's performance that drives its profitability and market share (Oke, 2007). Developing new services is seen as an

essential component for enhancing corporate profitability through increasing sales, attracting new customers and/or creating loyalty among existing ones. Improvements in brand image and overall organizational health can also be driven by innovation. In addition, NSD wisdom deriving from innovation efforts builds key capabilities and augments the organizational knowledge base by providing a platform for future new services, opening opportunities for repositioning and strategic development such as diversification and new market entry (Smith et al., 2007).

Several academics stress the importance of innovation activity for organizations. For example, Crawford (1983) states that establishing innovation activities may be the most profitable growth strategy. As articulated by Craig and Hart (1992), innovation is a necessity instead of just a strategic option while Brown and Eisenhardt (1995) consider innovation "*among the essential processes for success, survival and renewal of organizations, particularly for firms in either fast-paced or competitive markets*" (p. 344). Given the importance of organizational innovation, this area has received considerable research attention during the last 40 years (De Brentani, Kleinschmidt, and Salomo, 2010; Salomon et al., 2010; Crossan and Apaydin, 2010). However, a recurring theme in the innovation literature is that new services should be developed differently than new tangible products (Ettlie and Rosenthal, 2011).

These differences mainly stem from the special characteristics of services (i.e., intangibility, co-production with customers, simultaneity, heterogeneity and perishability) and scholars provide an extensive discussion of how these characteristics affect the development process of services and render it to a certain degree unique (Nijssen et al. 2006; Fitzsimmons and Fitzsimmons, 2000). Due to these particular service characteristics the service innovation process remains significantly different from new product development in the sense that a different approach and skills are often required (Nijssen et al., 2006; Ettlie and Rosenthal, 2011), while the specific characteristics of services make service innovation more complex and unstructured (Johne and Storey, 1998). For example, new service ideas remain conceptual throughout the development process because of their intangibility, which means that project uncertainty about the exact nature of the developing service remains relatively high across the NSD lifecycle. Furthermore, service intangibility

may also make the resource configuration process during NSD a challenge, and as a result, conflicts and struggles for resources among different functions are more likely to occur (De Clercq, 2009a).

In this regard, an issue that requires further consideration relates to the more effective management and organization of new service development projects, as project managers need insights to understand how to successfully manage and organize service innovation projects in order to enhance overall organizational performance (Ostrom et al., 2010; Melton and Hartline, 2013). Under such circumstances, this dissertation discusses how Internal Market orientation, interfunctional relationships, team-level conditions, individual antecedents and knowledge management strategies affect resource allocation, learning and project performance during NSD. In the following part, the research gap of this research is outlined, the originality of the study is presented and the thesis' key objectives are illuminated.

1.2 Research gap

Despite the existence of several studies identifying various success and/or failure (S/F) drivers within innovation stages, the service innovation area still remains relatively underexplored (Reid and de Brentani, 2004; Melton and Hartline, 2013; Storey and Hull, 2010; Alam, 2013; Papastathopoulou and Hultink, 2012; Homburg and Kuehnl, 2014). In fact, several scholars suggest that NSD literature remains relatively shallow and incomplete, with several authors suggesting that it should constitute an issue of high priority for service researchers (Boerner, Schäffner and Gebert, 2012; Jaw et al., 2010; Lages and Piercy, 2012).

This dissertation's identifies six important gaps in the extant literature which need to be addressed in order that service organizations improve their NSD performance. A first area that requires researchers' attention is the role of project managers for project performance during NSD, as no specific insights designate what behavioural orientations are more advantageous during NSD projects (Dibrell, Craig and Hansen, 2011; Hammedi, Van Riel and Sasovova, 2011). Second, little research

scrutiny is attracted to how to improve interfunctional relationships and team conditions between actors from different functions in service development teams (Brettel et al., 2011; Bertels et al., 2011), as the existence of high levels of political activity and clashes among NSD actors severely impair performance (DeClercq et al., 2009 a;b). Equally important remains the identification of effective knowledge management strategies that can ensure the accurate and timeliness integration of customer and market intelligence in service innovation projects (Storey and Kahn, 2010). Finally, relevant studies have long neglected the importance of investigating organizational phenomena such as innovation from a multilevel perspective and a more spherical view of the way that project managers deliver the organization's strategic orientation is required (Boukis, 2013; Froehle and Roth, 2007). As a result, further research is required in order to provide practitioners with a more comprehensive understanding of how team dynamics and various intra-organizational conditions determine various NSD outcomes (Cheng, Chen and Tsou, 2012; Kindström, Kowalkowski, and Sandberg, 2013; Brettel, Heinemann, Engelen, and Neubauer, 2011). Each of the following paragraphs explicitly epitomizes the importance of each of these gaps and illustrates the value of investigating them.

1.2.1 Project manager's role during NSD

A first area that requires further attention relates to the identification of specific **managerial behaviours and orientations that can enhance innovation performance** (Hammedi, Van Riel and Sasovova, 2011). Although management involvement to innovation activities has recently been linked to performance during innovation initiatives (Dibrell, Craig and Hansen, 2011), the role of project managers is rarely addressed with reference to a NSD setting (Ettlie and Rosenthal, 2011). Current studies do not address how project manager's actions and behavioural patterns influence service innovation performance (Ambrosini and Bowman, 2009; Barreto, 2010). Moreover, there is scarce evidence regarding **what type of behavioural orientations are more likely to stimulate project learning or to ensure a rational allocation of resources** (Dibrell, Craig and Hansen, 2011; Weiss et al., 2013; 2014). In this respect, the importance of adopting an Internal Market Orientation (IMO) philosophy requires further consideration. The notion of IMO

refers to the company's orientation regarding the employee market and demonstrates the management's commitment towards them (Gounaris, 2008; Ruizalba, Bermúdez-González, Rodríguez-Molina and Blanca, 2014). Its value lies on the importance of management focus on employees' needs and well-being, since the latter are key contributors to the success of NSD efforts (Sanchez-Hernandez et al., 2011). The role of IMO for new service development has rarely been addressed, despite the fact that it can prove beneficial for several aspects of the service development process (Sanchez-Hernandez et al., 2011; Boukis, 2013).

1.2.2 The importance of interfunctional relationships and team-level dynamics during NSD

The organizational environment surrounding NSD activities can have a disruptive or beneficial impact on innovation performance (Vermeulen, 2004). As most innovation projects inherently entail some form of conflict and disagreements (Isaksen and Ekvall, 2010), effective management requires dealing with social dynamics existing during NSD projects (Crevani, Palm and Schilling, 2011) with the aim of avoiding the waste of time and money trying to deal with these issues at some later development stage (Oke, 2007). However, **few attempts have been made to examine how interfunctional status quo affects new service development project performance** (Melton and Hartline, 2013), despite the fact that the lack of collaboration between functions due to conflicting priorities or incompatible goals may prove detrimental for success (DeClercq et al., 2009a;b). In addition, **the impact of team-level contingencies on various NSD outcomes such as learning or resource allocation remains unchallenged**, despite that team conditions affect service innovation performance (Boerner et al., 2012; Stevens and Dimitriadis, 2011). Consequently, the concurrent impact of interfunctional environment and team-level conditions on various NSD outcomes need to be encapsulated in future innovation studies (Crevani, Palm and Schilling, 2011; Bertels et al., 2011).

1.2.3 The role of knowledge management strategies during NSD

Although several different management strategies have been suggested to contribute to NSD success (Melton and Hartline, 2013; Froehle, Roth, Chase and Voss, 2000), effective info exchange and high communication quality remain largely important for service innovation, as knowledge resources enable firms to develop innovative service offerings and strategically differentiate themselves from competitors (Storey and Kahn, 2010). Under such circumstances**, the role of various knowledge management strategies that ensure resourceful and accurate information exchange** becomes a priority in order to reduce the amount of risk and uncertainty surrounding NSD activities (Lievens, Moenaert and Jegers, 1999; Storey and Hull, 2010). Although the importance of two knowledge management strategies for service innovation (i.e. personalization and codification strategy) has recently been displayed, their role for various NSD outcomes has not been addressed yet (Storey and Kahn, 2010). In addition, scholars have not examined their effectiveness under different info exchange requirements, as the case between radical and incremental innovation projects (López-Nicolás and Meroño-Cerdán, 2011). Should they be used at the same extent when it comes to improving resource allocation decision-making or to enhancing project learning?

1.2.4 Individual antecedents of participants' performance during NSD

Another underexplored aspect of new service development is related to how individual determinants of participants' performance affect project performance, as individual cognitive categorizations of organizational practices or working conditions have an impact on their actual contribution to project performance (Liao and Chuang, 2007). For example, **few studies explore whether employees' higher market orientation can add to the development of innovative solutions and ideas to non-routine problems during innovation** (Cheng and Krumwiede, 2012). Additionally, **more research is required about how role stressors affect NSD performance** (Wang and Lin, 2012), as pressure for goal accomplishment remains high and strict deadlines have to be met within innovation initiatives. Dealing especially with role ambiguity is quite crucial, as high levels of role ambiguity can

reduce individual participant's creativity during innovation projects (Tang and Chang, 2010). Hence, scholars should take into account various individual-level aspects of NSD participants' performance so that practitioners are able to apply appropriate policies that can improve individual's contribution to NSD projects.

1.2.5 Identification of various NSD outcomes

Despite that having effective mechanisms for assessing NSD success or failure plays a key role in translating innovation strategy into successful outcomes (Storey and Kelly, 2001), most prior studies measure innovation performance from a financial perspective (Store and Kelley, 2001) or use objective measures such as perceived relationship effectiveness (Massey and Dawes, 2007). Service organizations, however, are in need of understanding what gains new service development initiatives can provide to the organization (Weiss et al., 2013).

In reviewing the extant literature, it appears that **the extant literature mainly encapsulates some objective innovation outcomes, ignoring the need to acknowledge other organizational gains that might be reaped through innovation activities.** Delivering a more accurate overview of internal innovation performance**,** top management can more successfully focus on reaping specific innovation benefits such as expanding the organization's knowledge base, enhancing project performance and/or maximizing resource allocation efficiency (Blindenbach-Driessen et al., 2010; Weiss et al., 2014). For example, service firms pursuing a strategy reliant upon innovation are under constant pressure to adopt more effective NSD methods so to maximize the use of their resources (Henard and Szymanski, 2001). Moreover, limited knowledge exists regarding how service organizations can practically foster their learning capability or expand their organizational knowledge base (Limpibunterng and Johri, 2009; Stevens and Dimitriadis, 2011). Based on this evidence, a more clear understanding of NSD project performance needs to be delivered which will help project managers to better assess how various benefits from their innovation efforts can be derived (Weiss et al., 2014).

1.2.6 Need for multilevel NSD conceptualizations

Last but not least, this thesis acknowledges the **need for integrating multilevel research into organizational studies** and illustrates the benefits of investigating organizational phenomena at different levels of analysis (Klein and Kozlowski, 2000). In fact, extant marketing and innovation studies **have long neglected the multi-layered nature of the innovation process embedded in service organizations at different levels of analysis** (Froehle and Roth, 2007; Salvato and Rerup, 2011), despite the fact that using a single level of analysis may inadequately account for many marketing research issues (Liao and Chuang, 2004). This lack of integration between different level of analysis (e.g. managerial actions and subordinates' outcomes) prevents senior executives from having an empirically informed understanding of how project manager's behavioural patterns are influenced by organizational practices and policies and, at the same time, how their behaviour is interpreted from various project participants (Helfat et al., 2007). Accumulating knowledge through the use of multilevel approaches is expected to help project managers to better evaluate the impact of their actions during new service development projects.

Based on the previous discussion, it seems that the extant literature fails to concurrently assess the contextual dynamics of the new service development process as well as to explain the role of everyday contingencies, complexities and situatedness of the process which remain largely unexplored (Crevani, Palm and Schilling, 2011). The lack of knowledge within the aforementioned areas prevents practitioners from understanding how to effectively manage and organize innovation projects so as to boost the chances of developing successful innovations (De Brentani and Reid, 2012). As a result, a deeper understanding of how NSD projects can be more successfully completed is required so as to help service firms to resourcefully manage innovation initiatives (de Jong and Vermeulen, 2003; Weiss et al., 2013; 2014). Recent studies in the field are also indicative of this study's originality and illustrate several of these literature gaps, strengthening our focus on the specific topic (Melton and Hartline, 2013; Blindenbach-Driessen and van den Ende, 2010; Bertels et al., 2011; Weiss et al., 2013; 2014; Razinskas and Weiss, 2013).

On the basis of this evidence some **key research questions** distilled from this discussion emerge:

1. How does project manager's adoption of Internal Market Orientation affect new service development performance?

2. How does Internal Market Orientation adoption affect relationships between different functions, team conditions and individual drivers of participants' performance during new service development projects?

3. Do interfunctional relationships and team-level dynamics influence the resource allocation process and learning during NSD?

4. What kind of knowledge management strategies should be used in order to enhance learning, resource allocation and performance during new service development projects?

5. How do different aspects of project participants' role act on new service development performance?

The following part displays the originality of this study by assessing literature gaps and methodological deficiencies that need further consideration so that practitioners acquire a more complete view of how the NSD process can be more successfully managed.

1.3 Originality of the study

Having located the main gaps in the extant literature that correspond to some pragmatic managerial needs, it remains essential, in next, to describe this study's originality. As service firms are pressured to constantly deliver new competitive service products, a question that remains unanswered is how service firms can more effectively manage their NSD projects (Rubalcaba et al., 2012; Droege et al., 2009). Hence, this dissertation advances a hierarchical model that assesses the joint impact of intra-organizational antecedents of some key NSD outcomes. This thesis not only adds theoretically to the service innovation literature but also contributes from a methodological point of view, while also provides practical insights for executives involved in NSD projects. The following paragraphs establish the originality of the thesis.

As project managers' engagement to NSD is critical due to their know-how and their past engagement in project experiences, the extant literature rarely addresses how their behaviour and actions during new service development projects affect project outcomes (Hammedi et al., 2011; Kleinschmidt et al., 2010). This dissertation stresses the importance of project manager's adoption of **Internal Market Orientation (IMO)** which has not been explored within an innovation setting. Adopting an IMO is expected, through the delivery of higher job-related value to employees, to eventually enhance their performance (Boukis and Gounaris, 2014; Boukis et al., 2014). This study contributes to existing theory by providing evidence of how project manager's internalization of IMO affects project participants' behavioural outcomes during NSD as well as their perceptions of various NSD outcomes e.g. amount of learning or project performance. Based on the results, a number of benefits for service innovation projects are associated with IMO adoption as well as significant links emerge between project manager's levels of IMO and higher NSD performance in terms of project performance, resource allocation and learning.

Relationships between different departments constitute an important determinant of NSD, as the accomplishment of NSD tasks depends to a large extent on the existing relationships among different functional areas (Vermeulen, 2004). Prior studies rarely consider the role of the interfunctional environment during innovation activities such as interdepartmental conflicts and politicking, which are often unavoidable and are considered as important barriers of innovation success (Gobeli, Koenig and Bechinger, 1998; Garcia et al., 2008; De Clercq et al., 2009a;b). As employees with different educational backgrounds and thought worlds need to cooperate effectively during various service innovation stages (Carlborg et al., 2014), project managers still ignore ways for reducing conflict levels and politicking during development projects (Vermeulen, 2004; Song, Dyer and Thieme, 2006). Understanding the importance of interfunctional turbulence during NSD, this thesis unveils the concurrent impact of different interfunctional contingencies (i.e. interfunctional trust, conflict, political activity and integration levels) on various NSD outcomes so to provide a more clear understanding of how interfunctional

status quo determines various NSD outcomes such as project learning and resource allocation.

Team dynamics is also crucial for NSD projects (de Jong and Vermeulen, 2003). Surprisingly, though, the impact of intragroup or contextual contingencies on NSD project performance remains unchallenged, despite that managers might have to deal with these problems at some stage of the process (Akamavi, 2005; Boerner et al., 2012; Vermeulen et al., 2005). Additionally, existing studies do not answer how participants' behavioural patterns affect the completion of a service development project (Jaw et al., 2010; Oke, 2007; Vermeulen et al., 2005). This dissertation realizing the dynamic nature of NSD projects, which requires that employees collaborate harmonically to accomplish NSD tasks (Akamavi, 2005), delivers clear insights of how team climate and different types of intragroup conflict (i.e. task and relationship conflict) affect the effective and efficient allocation of resources, project and organizational learning as well as project performance during service innovation projects. Achieving a more comprehensive view of these issues will help executives to gain a more accurate picture of when task conflict should be promoted or under which conditions, for example, creating a trust climate is more important.

Several critical determinants of NSD performance also lie within the individual level (Jaw et al., 2010), as each participant's performance significantly influences team outcomes. However, limited knowledge is produced on how whether participants' customer-consciousness facilitates the creation of new service offerings (Cheng and Krumwiede, 2012). As pressure for goal accomplishment often remains high within innovation activities (Rodríguez-Escudero, Carbonell & Munuera-Aleman, 2010), reducing role ambiguity also becomes essential due to its detrimental impact on team satisfaction and quality of info exchange (Li and Bagger, 2008). To explore these challenges, this study offers some practical recommendations by examining how NSD participants' role ambiguity and market-oriented behaviour influence different learning outcomes during NSD. These findings are expected to help service managers not only to understand the value of higher customer focus for employees with various backgrounds and working skills but also to assess whether project participants' role ambiguity impairs their individual contribution to NSD.

To achieve successful service innovation, various NSD management strategies have been suggested but only some of them are empirically tested (Melton and Hartline, 2013; Froehle et al., 2000). Effective knowledge exchange strategies are considered as key strategies that a firm can apply due to high risk and uncertainty surrounding NSD (Roth and Menor, 2003). This thesis clearly contributes to this area by exploring the relative effectiveness of the two knowledge management strategies (i.e. personalization strategy and codification strategy) for several NSD outcomes, namely organizational learning, project learning, resource allocation effectiveness and efficiency and project performance. The results provide clear recommendations to practitioners when it comes to the selection of the most appropriate communication style within interfunctional development teams.

This thesis also adds significantly to the service innovation area by embodying several NSD outcomes, capturing this way multiple organizational benefits that can be derived from service innovation activity. Second, two new measures (i.e. resource allocation effectiveness and efficiency) are developed and validated, facilitating researchers to critically assess the resource configuration process during innovation activities. This dissertation also contributes to service management research by providing a set of theoretically and psychometrically sound metrics reflecting several NSD gains. Its theoretical contribution also includes the clarification of the role of team-level conditions and interfunctional relationships for the resource allocation process, for the amount of project learning and for project performance during service innovation. As a result, practitioners might be able to determine whether they were missing any aspects of measurement that would provide them with a more balanced view of potential innovation benefits for their organization.

Another important contribution of this thesis is associated with the methodological approach selected. Interestingly, existing conceptualizations neglect the multilevel nature of service innovation projects (Salvato and Rerup, 2011). This thesis stresses the value of a multilevel research for organizational studies adopting a hierarchical research design with data from different organizational sources with the aim of addressing whether project manager's behaviour can leverage various NSD outcomes. This nesting arrangement has important implications for organizational

theory and research, as the lack of bridging different levels of analysis across the organization inhibits executives from understanding the importance of organizational variety, hindering thus the successful application of appropriate strategies during the creation of new services. Through the selection of a hierarchical research design, service managers can achieve an empirically informed understanding of how employee performance during NSD is influenced by organizational practices, such as IMO, as displayed by project managers.

The evidence provided from this thesis produces a deeper understanding of several critical aspects of NSD project management. In addition, useful implications and applicable recommendations emerge from the results so that service firms improve the management of their new service development initiatives. From a theoretical perspective, this empirical study identifies the interdependence among several interfunctional and project-level determinants of NSD performance, as viewed by both project managers and participants. Hence, special focus is given on cross-level interactions among different hierarchical levels with the aim of better understanding how service innovation works, as different organizational actors may perceive diversely the success of a project or may have conflicting ideas about how it should be conducted (Mathieu and Chen, 2011). This internal view of the NSD process is expected to offer a more crystallized comprehension of service innovation, helping service firms to more successfully coordinate their service innovation activities.

1.4 Objectives and scope of the thesis

To unfold some internal drivers of service innovation performance, prior studies indicate that they range from within various levels of the organizational environment (Melton and Hartline, 2013; Vermeulen et al., 2005; Cheng and Krumwiede, 2012; Storey and Kahn et al., 2010; Jaw et al., 2010; Boukis, 2013). The integration of different levels of analysis could provide practitioners a deeper understanding of the micro dynamics of their work and what fosters or hinders their project's innovative performance. A common denominator of these factors is the pivotal role of innovation actors from different functions that bring the customer

knowledge into the project, analyze market intelligence and know how the new service can be more effective in terms of daily operation (Vermeulen, 2004). In this context, several intra-organizational antecedents are incorporated including interfunctional relationships, team-level conditions, individual determinants of performance and project manager's internal market orientation. Additionally, the role of different knowledge management strategies for NSD is investigated.

The key objective of this thesis is to **examine the effect of Internal Market Orientation, internal dynamics and knowledge management strategies on NSD project performance**. Therefore, an integrated behavioural model of NSD project management is developed, providing executives with practical insights about how to better manage new service development projects. This dissertation advances a model that assesses the joint impact of various NSD antecedents, such as interfunctional relationships, team-level conditions, managerial behaviours, individual determinants and knowledge management strategies on various NSD outcomes. In this vein, the main objectives of this thesis are the following ones:

1) *Uncover the impact of project manager's Internal Market Orientation on various NSD outcomes*

2) *Examine the impact of project manager's Internal Market Orientation on relationships between different functions, team-level conditions and individual drivers of participants' performance during NSD projects*

3) *Decode the role of interfunctional relationships, team-level conditions and individual drivers of performance for effective and efficient allocation of resources during NSD projects*

4) *Clarify the impact of interfunctional relationships, team-level conditions, and individual drivers of performance on project and organizational learning during NSD projects*

5) *Evaluate the effectiveness of different knowledge management strategies for project performance, resource allocation and learning during NSD projects*

By addressing these issues, this dissertation is expected to add to the understanding of the service innovation process by providing clear guidelines of how managers should manage NSD projects. This dynamic perspective of NSD project management introduced can offer some significant strategic insights for service

organizations. Furthermore, the integration of multiple aspects of the NSD environment along with the consideration of social dynamics will provide a more comprehensive understanding of the management of daily innovation activities. Finally, uncovering the importance of several dynamic parameters that cannot be easily specified, due to the very intangible nature of service development, and delivering a more clear understanding of how project managers can effectively manage and organize NSD initiatives, this thesis expands existing knowledge in the service innovation area. To meet these objectives, a careful inspection and survey of earlier innovation, new service development and marketing literature is conducted so as to provide a solid background upon which a dynamic conceptual model can be developed.

1.5 Summary and outlook

The main objective of this thesis is to uncover the relative importance of several intra-organizational determinants of different NSD outcomes. **Chapter 1** includes a brief discussion about the role of service innovation in a globalized environment and the importance of innovating for service organizations. Moreover, the research gap is identified and described; the originality of the topic selected is illustrated as well as the key objectives of the study are stated. In **Chapter 2**, a thorough review of the extant literature in the area is provided and existing NSD knowledge is revised. The nature and the concept of the new service development process are described, the evolution of the NSD is briefly overviewed and differences between service and product development are acknowledged. Moreover, most influential studies in the field are overviewed in order to deliver a more complete understanding of existing knowledge in the area. The rational for selecting the study's constructs is also developed and the main theoretical background of the study is introduced. An analytical review of each construct follows. To accomplish the objectives set, several measures of NSD performance are proposed and their relative importance is described.

In **Chapter 3**, the model development takes place. The theoretical background of the study is analytically established. The following section includes

the development of study's hypotheses, including antecedents of five NSD outcomes, namely, project performance, project and organizational learning and resource allocation effectiveness and efficiency. In **Chapter 4**, the research design and the methodology followed are described. An overview of different research paradigms is provided and the rationale for paradigm selection is developed. Next, the importance of selecting a hierarchical research design is discussed and info about the sampling procedure, the sampling frame and the sampling units is provided. Furthermore, the data collection process is analysed. This section also includes the development of the measurement instruments and provides evidence about the measurement scales employed in the study. The reliability and validity of the measurement instruments is also assessed through conducting Confirmatory Factor Analysis. The scale development process for study's measures is reported as well.

Chapter 5 discusses the method of data analysis employed. In first, information about the demographic profile of study's two sampling units (i.e. project managers and participants) is reported. Some descriptive statistics and correlations are presented as well. The following section presents hypotheses testing and data analysis results via Hierarchical Linear Modelling. In brief, this study uncovers the role of IMO as a philosophy which can improve the new service development performance through enhancing interfunctional, team-level and individual antecedents of NSD project performance. Second, gains from IMO adoption also relate to the more effective implementation of NSD management strategies. Third, several critical aspects of NSD are highlighted so as to capture their relative influence for NSD performance. These aspects include NSD performance in terms of objective proxies, NSD participant's learning, NSD project's contribution to organizational learning, resource allocation efficiency and effectiveness.

Based on these findings, in **Chapter 6**, the results of the study are discussed in detail and several practical recommendations that stem from this study are proposed. The value of this research for this scientific area is presented and finally, the study's limitations are analysed and suggestions for future research are given.

Chapter 2 – Review of the New Service Development (NSD) Area

This chapter will review the existing literature in the area. First, the nature of and the concept of the new service development process is discussed, the differences between service and product development are displayed as well as their importance for this study is justified. In addition, the various stages of the NSD process are described. Next, the main literature review part begins reporting the most important and influential studies in the area as well as the gaps that this study addresses.

Services' domination over both developed and developing countries characterizes the global economic environment. Companies from various industries realize that they must compete in service to survive and sustain their future growth. Several organizations add service to their product offerings with the aim of providing integrated customer solutions while manufacturing firms shift toward "solution" and/or "service" offerings to improve their competitiveness in an era of increasing commoditization that characterizes many product markets (Baron, Warnaby1 and Hunter-Jones, 2013). As companies acknowledge the existence of these challenges, becoming innovative is perhaps one the most critical determinants of remaining competitive in this globalized environment. However, scholars' current understanding of the critical resources and activities to develop new services is inadequate despite NSD's importance as a competitiveness driver. That is why service innovation has been included among the top research priorities by the *Marketing Science Institute* for the period of 2008–2010 (Ostrom et al., 2010).

2.1 The nature of the New Service Development process

Within an increasingly competitive environment, new service development has become a top priority for service organizations in order to maintain a sustainable competitive advantage and ensure long-term success (Ostrom et al., 2010). The benefits that accrue from creating new service offerings include higher profitability of existing offerings, attracting new customers to the firm and improving customer loyalty (Storey and Easingwood, 1999). Service firms report that 24.1% of revenues actually derive from new services introduced in the last 5 years and that 21.7% of

company profits are derived from these new services (Griffin, 1997). As a result, the management of new service development (NSD) has become an important competitive concern in many service industries (Storey and Kahn, 2010; Melton and Hartline, 2013). In response to the increasing importance of the service sector, academic interest in the management of service companies has also grown during the last decade (Oke, 2007; Melton and Hartline, 2010).

Despite the increasing importance of service innovation, it remains among the least investigated topics in the service management and innovation literature (Papastathopoulou and Hultink, 2012; Rubalcaba, Michel, Sundbo, Brown and Reynoso, 2012; Cheng and Krumwiede, 2012), despite the plethora of rigorous research and models on product development, especially in recent years (Menor, Tatikonda and Sampson, 2002; Ostrom et al., 2010; Papastathopoulou and Hultink, 2012; Baron, Warnaby1 and Hunter-Jones, 2013). Early work in services focused on the diffusion and adoption of innovative services and their particular characteristics (Nijssen et al., 2006; Johne and Storey, 1998). Until recently, the generally accepted principle behind NSD was that "new services happen" rather than occurring through knowledgeable and efficient development processes. In fact, frameworks for managing service innovation remain scarce despite an extensive literature on service management, service marketing and service innovation (Ostrom et al., 2010; Droege et al., 2009; Salunke et al., 2013). This dissertation addresses this gap by investigating an integrated framework of NSD project management. Before reviewing existing studies in the area, the following section provides a brief review of the phases of the NSD area as well as the definition of the new service development concept that this study has adopted.

2.1.1 The Evolution of New Service Development research

Research related to service innovation can be categorized into three distinct phases (Carlborg, Kindström and Kowalkowski, 2011; Carlborg, Kindström and Kowalkowski, 2014). Each phase represents an era in the evolution of service innovation research. The initial phase is the *Formation phase* (1986–2000) when the first publications in the area appear, with most of them adopting a service offering

development. As services marketing research expands rapidly in the 80s, it fits the first phase of NSD research, which challenges the dominant product-centric view of innovation activity. During this phase, emerging views of service innovation illustrate the latent need for theories applicable to services (Edvardsson and Olsson, 1996). This new group of demarcation researchers challenges the assimilation view, focusing primarily on the development of the actual service offering and the factors that make service innovation successful. Most authors heeded the call for specific service research that would recognize the specific characteristics that distinguish most services from products (Atuahene-Gima, 1996; de Brentani, 1995; Lievens et al., 1999; Martin and Horne, 1995).

The second phase of the NSD literature is the *Maturity phase* (2001–2005) where the primary focus shifts into customer involvement and customer interaction (Alam, 2002). As management and marketing research increasingly viewed customers as contributors in the service process and as co-creators of value (Vargo and Lusch, 2004), customers' participation receives more attention and studies began to focus on how to learn from customers and how to involve them more systematically in the innovation process (Abramovici and Bancel-Charensol, 2004). Another influential topic addressed during this period is how to organize for service innovation (Drejer, 2004; Stevens and Dimitriadis, 2004). Typical questions raised during this phase included how organizations are, or should be, configured to succeed in their service innovation activities and which factors might help to increase a firm's performance in relation to its service innovation activity. During this phase, research topics cover an increasingly broader range such as leadership and management in service innovation (Johne and Harborne, 2003; van Riel, Lemmink, and Ouwersloot, 2004; van Riel and Lievens, 2004).

The third phase of the NSD literature is the *Multidimensional phase* (2006–2010). Within this phase authors call for more multidisciplinary research. Issues regarding strategy and innovation systems arise, as does the concept of business model innovation (den Hertog et al., 2010). As service innovation issues became more integrating, the need for knowledge and practices to manage this broader set of organizational activities increases. Service innovation involves more significant firm resources, which means that strategic and policy issues were becoming relevant

research areas (Gallouj and Windrum, 2009; den Hertog et al., 2010). During the multidimensional phase, service innovation receives attention as a mean to achieve competitive advantage (Kindstrom and Kowalkowski, 2014; Kindstrom et al., 2013; Ostrom et al., 2010). In addition, the emergence of the service- dominant logic in marketing is evident (Vargo and Lusch, 2004). Having briefly overviewed the key phases of the new service development area, its concept is analysed in the following part.

2.1.2 Defining the New Service Development process

Any discussion of NSD must begin with a definition of what is meant by a "new service". Previous efforts to address this debate have been inconclusive, and thus, additional research is needed to validate or discredit the belief that new services happen as a result of intuition and luck (Storey and Hull, 2010). Several classifications of new services have been offered in the extant literature. In the early stages of the development of service innovation area, Lovelock (1984) defined new services in terms of *the product or service outcomes* (or offerings). New service offerings range the gamut from radical to incremental (Ottenbacher and Harrington, 2010). Tax and Stuart (1997) also provide an alternative way of defining new services based *on the extent of change to the existing service system or based on the operational process and participants*. Gadrey et al. (1995) define service innovations as *innovations in processes and innovations in organization for existing service products*. Service innovations can, therefore, be described as new developments in activities undertaken to deliver core service products for various reasons, e.g. to make those core service products more attractive to consumers. Such developments tend to involve interaction with customers and can be associated with either new or existing service products. Johne and Storey (1998) argue that service suppliers must develop the precise form of service product and the appropriate nature of interaction with customers since the interaction process is typically an integral part of an offering. Service innovations are, therefore, related to *variations in product delivery or add-on services embellishing the service experience for the customer*.

Menor (2000) recognizing the need to consider both the newness of the service offering and the service concept, defines a new service as *an offering not*

previously available to a firm's customers resulting from the addition of a service offering or changes in the service concept that allow for the service offering to be made available. Fitzsimmons and Fitzsimmons (2000) argue that each of the elements of the service concept represents the operational blueprint that communicates to customers and employees what they should expect to receive and to give. The transformation of any service offering— what the customer receives will require the transformation of some elements of the service concept (Stevens and Dimitriadis, 2004). Underlying this definition is the belief that services are essentially a series of interactions between participants, processes and physical elements. Any changes to the service concept that require different competencies from the existing operation can be considered as a new service. Ostrom et al. (2010) define service innovation as the practices to "*create value for customers, employees, business owners, alliance partners, and communities through new and/or improved service offerings, service processes, and service business models*." Their definition indicates that service innovation may induce changes in multiple aspects of the organization (e.g., service concept, service delivery process and revenue model). Such a definition of service innovation is also broad enough in the sense that it can be applied to both service and manufacturing industries.

This study views *New Service Development as a new service experience which consists of the development of a new service, a new service portfolio and/or a new service process that create value for the customer.* This definition is adapted from den Hertog, van der Aa and de Jong's (2010) conceptualization of service innovation and is in line with other studies that share the idea that the essence of a new a service is to provide a solution or an experience to customers (Gadrey et al., 1995; Gronroos, 2007). They suggest that "*a service innovation is a new service experience or service solution that consists of one or several of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system*" (p.494). The degree of novelty however may differ from new to the firm, new to the industry, new to the country or new to the world (Avlonitis et al., 2001; Ottenbacher and Harrington, 2010).

Before reviewing existing knowledge within the NSD area and prior to addressing some literature deficiencies, it remains of high importance to refer to the ongoing debate on why the NSD process is inherently different from new product development by identifying some critical issues that constitute this distinction not just useful but imperative (Schleimer and Shulman, 2011). The key differences between service and product development are briefly highlighted in the following section.

2.1.3 Differentiating between New Product and New Service Development

There has been a lively debate in the literature about the differences between new services and products with regards to the implications for their development process (de Brentani, 1989; Nijssen et al., 2006; Schleimer and Shulman, 2011) (see Table 1). The vast majority of the reported studies in NPD (new product development) focus on manufactured products as opposed to intangible offerings (Atuahene-Gima, 1996). Two different research streams dominate the innovation literature which reflect the existence of distinctive assumptions about service innovation (Coombs and Miles, 2000; Droege et al., 2009).

Proponents of the "*assimilation approach*" argue that the concepts developed in a product setting can be applied in a service context because of their similarity. Taking an assimilation perspective, proposes that the theories and concepts developed in manufacturing contexts can easily be transferred to understand service innovation (Coombs and Miles, 2000). Evidence in support of this perspective shows that differences between services and manufacturing are smaller than within the service and manufacturing sectors, respectively (Wood, 1999). The assimilation approach, however, has been questioned for its limited focus on analytical frameworks primarily derived from manufacturing without consideration of the idiosyncrasies of services. Researchers adopting the "*demarcation approach*" stress the unique characteristics of services and subsequently the need for concepts and models specifically designed for services (Gallouj and Windrum, 2009). This approach emphasizes the distinctive features of services that make it difficult to transfer knowledge from manufacturing to services. The danger of the demarcation perspective lies in inferring that these peculiarities (e.g., intangibility and

heterogeneity) are unique for services, whereas they might actually be as characteristic of manufacturing.

In reviewing the extant literature, several similarities and differences emerge between service innovation and product development (Sirilli and Evangelista, 1998; Schleimer and Shulman, 2011). On the one hand, both successful NSD and NPD firms share a strong commitment to innovation, allocate substantial resources to their innovation efforts, have formalized and structured programs and engage high quality development staff to their innovation activities (Brown and Eisenhardt, 1995; Johne, 1993; Johne and Storey, 1998). Nevertheless, a considerable body of research has been emphasizing over the past that there are significant differences between innovation processes of manufacturing and service firms (Akamavi, 2005; Nijssen et al., 2006; Schleimer and Shulman, 2011). These differences pertain mainly to the specific service characteristics i.e., their intangibility, co-production with customers, simultaneity, heterogeneity and perishability that affect the development process of services and make them to a certain degree unique (Fitzsimmons and Fitzsimmons, 2000; Nijssen et al., 2006). These differences should be taken into consideration when it comes to managing service innovation projects for a number of reasons:

✓ Service innovations are not the service itself that is produced but often the pre-requisites for the service (Edvardsson and Olsson, 1996). Due to services' real-time production new services go hand in hand with modifications of the service delivery process, organizational routines and changes in contact employees' skills. As a consequence, the interaction requirements between the new service development process and service delivery are higher and stronger than the relationship between new product development and production (Tatikonda and Zeithaml, 2001).

✓ In comparison to tangible goods, the specific characteristics of services make service innovation fuzzier and more complex (Johne and Storey, 1998). Therefore, when designing and developing a new service offering, an iterative process is recommended rather than the linear process often advocated for tangible products. Such an approach must ensure that customers, roles and key staff from different supportive activities are engaged successfully in core aspects of the process. Hence, the cooperation of actors from different functions as well as the integration of

customer knowledge remains more pivotal in a service innovation context (de Brentani, 1993; Alam, 2013).

✓ As NSD requires "integrating the needs of new service operations and processes with those of existing business activities" (Johne and Storey, 1998, p. 207), the fit between the new service and existing organizational procedures and systems is also more important than in a NPD setting. For example, while a front-office is typically designed to satisfy customer needs, a back-office's emphasis is on maximizing operational efficiency (Menor et al., 2002). The front- and back-office functions must operate in an integrated way in order to overcome the differences in objectives and time horizon between them. Not surprisingly, their respective goals can be quite different (Metters and Vargas, 2000), as back-office may emphasize operational efficiency whereas front-office may focus on satisfactory customer experiences. This is an issue not raised in the NPD literature, but leads to a unique challenge faced in NSD; tensions, clashes and disagreements created between different might arise and it remains of high importance to be dealt with (Nijssen et al., 2006). That is why enabling sound coordination and reducing intra-organizational conflicts and struggle of power have been identified as fundamental for NSD (Vermeulen, 2004).

✓ Another important difference between service and manufacturing innovation involves development costs. Whereas high R&D investments are more strongly associated with successful manufacturing (Brouwer and Kleinknecht, 1996), most service firms are not characterized by R&D departments (Djellal and Gallouj, 2001). Service innovation involves the development of new procedures, concepts and offerings rather than new core technology. As a result, a smaller influence of the R&D department in service development is evident but greater importance should be devoted to resource configuration issues.

✓ Another difference between NPD and NSD is the output of the development process. In NPD the output is a physical entity which usually consists of a system of parts that must work together in a physical product whole. However, the output of a NSD effort is quite often a service delivery process (Johnson et al., 2000). This too is a system of parts (including personnel, information flows, supporting information technology etc.) which must work together to comprise a functioning service delivery process. The intangibility characteristic places an onus on service

developers to "tangibilize" the service offering so that it is not abstract; that should be understood in a consistent, shared way by all parties engaged to NSD; and that all parties in development work towards the same goal rather than have different perceptions of the actual goal. As a consequence, higher uncertainty is inherent in service innovation, and applying appropriate management strategies is even more crucial for NSD project managers.

The following table (Table 1) reports the most important studies that investigate the differences between service and product development as well as their key findings. As it can be concluded, it appears that the importance of several contingent factors and strategies during innovation activities varies significantly between these two contexts.

Table 1 – Main studies comparing NSD and NPD

Study	Findings	Industry	Method
Froehle et al. (2000)	Cross-functional teams are not related to a higher development speed in NSD, contrary to NPD	Health care, financial services, professional services, utilities, hotels, retail, transportation, industrial services, food services, local governments, information systems and media	Survey
Henard and Szymanski (2001)	Higher importance of market synergy, lower importance of structured formal development process, lower importance of cross-functional communication in NSD	-	Meta-analysis
Nijssen, Hillebrand, Vermeulen and Kemp (2006)	Willingness to change existing routines is more important in NSD than in NPD, R&D strength is more positively related to developing new services than to developing new products; willingness to give up general organisational dimensions is more positively related	Trade and repair, hotels and catering, transport, rental services, financial services, construction and building materials, metal, machinery, electrical and optical goods, wood, paper	Survey

	to NPD than to NSD		
Ottenbacher Harrington (2010)	Several factors are found to influence the outcome of incremental projects, such as: service advantage, empowerment, training of employees, tangible quality and marketing synergy. Highly innovative new hotel services, market responsiveness and pre-launch activities are related to success.	Hotel and catering industry	Survey
Ettlie and Rosenthal, (2011)	Key differences appear to be the alternative ways services, formalize the innovative process; the unique way services test customer concepts, and the combined role of general managers and professionals in the development process.	Design consultation, contract research, tailored software, contract manufacturing services, and consumer services (telecommunications), production firms (automotive suppliers, equipment, contract manufacturing products	Survey
Schleimer and Shulman (2011)	Collaboration on different intensity dimensions of innovation processes (mutual communication, joint engagement, sharing responsibilities) and ownership (relationship commitment and mutual trust) between NSD-NPD	Interfirm Alliances	Survey
Homburg and Kuehnl (2014)	This study investigates the relationship between internal and external integration practices and innovation success of new products and new services.	Companies in manufacturing and service environments	Survey

2.2 Identifying intra-organizational antecedents of New Service Development performance

Within the prolific NSD literature some important streams of research have emerged during the last two decades (Droege et al., 2009; Akamavi, 2005). One widely adopted stream relates to the taxonomies of service firms and explores what types of innovation patterns (e.g. supplier-dominated vs. client-led innovation) exist within the service sector (Den Hertog, 2000). A second prevailing research stream refers to the introduction of different service innovation types e.g. radical or incremental innovations (DeVries, 2006). A third research area that has recently attracted researchers' attention is associated with success and failure (S/F) factors of the new service development process (Carlborg et al., 2014; Chen, Tsou and Huang, 2009; Alam, 2013; Cheng and Krumwiede, 2012).

This dissertation lies primarily within the third category, as limited scientific knowledge has been acquired concerning the role of intra-organizational environment for the NSD process (Nijssen et al., 2006; Froehle et al., 2000; Rubalcaba et al., 2012; Boukis, 2013; Carlborg et al., 2014), despite calls that have been made for research as "current theory and understanding of the strategies and tactics for developing new services is inadequate" (Menor and Roth, 2007, p. 825). This research stream in NSD centers around the performance of service innovation projects and sheds light on the role of several organizational and project characteristics that distinguish successful and unsuccessful NSD initiatives (de Brentani, 1991; Lievens and Moenart, 2000; Jaw et al., 2010).

De Brentani was the first to conduct several studies in NSD, connecting *project characteristics* and *organizational antecedents* to new service performance. *de Brentani (1991)* identified a number of significant factors that affect sales performance such as market attractiveness, effective NSD management, service newness to the firm, product synergy, a formal development process and expert people-based service delivery. D*e Brentani (1993)* also identified several S/F drivers within NSD such as supportive and high involvement, NSD environment and marketing dominated process. D*e Brentani (1995)* suggested that within an industrial service development setting market characteristics, project synergy and new service

proficiency constitute critical success factors. Edvardsson and his colleagues (1995) thoroughly analysed the NSD process and found several structural antecedents of success such as lack of market research, limited market testing/, intra-organisational conflicts, struggle for power and lack of systematic reporting and feedback.

In their extensive NSD literature review, *Johne and Storey (1998)* identified three broad categories of NSD success factors: offer formulation, opportunity analysis and project development. Offer formulation involves building a differentiated service product with better value than the competition; opportunity analysis describes the synergy of the new service with the existing capabilities of the organization; and project development characteristics include a formal development process, an experienced development staff, adequate resources and effective interfunctional communications.

Scholars during the past two decades also concentrated on new service development requirements with reference to *speed and use of technology* which contribute to the success of new financial products (Easingwood and Storey, 1991; Storey and Easingwood, 1993). Various writers also stress the importance of *communication flows and info exchange quality* during financial service innovation for success (Lievens et al. 1999; Lievens and Moenart, 2000, 2001; Athanassopoulou and Johne, 2004). A careful inspection of earlier literature also reveals that the *organizational structure* is an enabler of new financial products' success (Edgett and Parkinson, 1994; Edgett and Jones, 1991). Oke (2007) explores service innovations from an internal perspective and claims that, especially for radical service innovations, a defined innovation strategy, creativity and ideas management and an active human resource management were found to predict service innovation at the firm level. Perks and Riihela (2004) identified the importance of interfunctional integration in the new service development process. Likewise, *Froehle et al. (2000)* and Melton and Hartline (2013) find that the use of cross-functional teams makes the NSD process more effective. *Froehle and Roth (2007)* map NSD success factors into two groups, namely "Resource-orientated" and "Process-orientated" NSD practices and claim that in order to excel at innovation, organizations must consider all factors within both groups of success factors. The need to take both groups into consideration lies in the fact that, on the one hand, process-orientated NSD practices

guide actions and assure that a service organization is effective in its development efforts, while on the other hand, resource-orientated NSD practices shift attention to the intellectual, organizational and physical resources that enhance an organization's NSD capability (Froehle and Roth, 2007).

In fact, just recently scholars started to acknowledge the importance of different knowledge management strategies for NSD performance (Storey and Kahn, 2010; Storey and Hull, 2010). *Storey and Kahn (2010)* propose differential effects of knowledge management strategies on NSD proficiency and NSD innovativeness. In the same respect, *Storey and Hull (2010)* explore how service firms act as a strategic contingency by testing two knowledge-based strategies as contingency factors. *Boerner, Schäffner and Gebert (2012)* investigate the respective influence of formal team meetings and informal cross-functional communication on NSD team performance. Melton and Hartline (2013) explored how cross-functional teams, front-line employees, and learning orientation influence NSD sales and process efficiency outcomes.

Not until recently, academics have started to explore the role of different strategic orientations (i.e. market orientation) within service innovation (Jaw et al., 2010; Cheng and Krumwiede, 2012). For example, Jaw and his colleagues (2010) aim to understand how service characteristics, market orientation, and efforts in innovation together drive NSD performance while Cheng and Krumwiede (2012) identify different components of market orientation that contribute to NSD performance through various types of service innovation. In the same avenue, Hernandez and Miranda (2011) propose that Internal marketing (IM) is a factor of success in new service development. The following table (Table 2) provides an analytical overview of these studies as well as their key findings, context and method.

Table 2 - Review of the most influential NSD studies

Study	Findings	Industry	Method
de Brentani (1991)	Research into factors in NSD incorporating conceptual and research paradigms of new manufactured goods 1. Proficiency in new service development	B2B services sector	Exploratory stage with personal interviews, survey

	2. Market characteristics 3. Nature of the new service offering		
Edgett and Jones (1991)	Development of a new service for a financial institution and deriving critical determinants for success 1. Market research 2. Commitment and enthusiasm of management 3. Well organised development process 4. Presence of product champion	UK based financial institution	Case study research within one financial institution
Cooper and de Brentani (1991)	Research into the characteristics of successful and failed new industrial financial services 1. Product/market fit 2. Quality of launch and marketing activities 3. Superior product 4. Market growth and size 5. Service expertise	Commercial financial services companies	Exploratory interviews with senior managers, Survey
Thwaites (1992)	Research into the characteristics of an organisation that influences the effectiveness of the development process in financial services. Three organisational dimensions were derived: 1. Mission/ 2. People / 3. Communication	Banking, building societies, management consultancy and technological services	Panel of informed opinion drawn from senior levels of academia, Survey
de Brentani (1993)	Research into the new service development (NSD) process. S/F drivers: Formal up-front design and evaluation, extensive launch programme, supportive and high involvement,	Financial firms	Survey

	NSD environment, Marketing dominated NSD process customer-driven and expert driven NSD process		
de Brentani (1995)	Research into new industrial service development: scenarios for success and failure 1. Nature of the service / 2. Product/ market characteristics 3. Project synergy 4.New service proficiency	Industrial Services	In depth interview with senior executives, Survey
Edvardsson et al. (1995)	Analysis, planning and control in developing new services. Lack of market research and limited market testing/ Intra-organisational conflicts and struggle for power between/head office conflicts/ Lack of systematic reporting and feedback	Two mini case studies	Case study analysis
Edvardsson. and Olsson (1996)	Conceptualisation of NSD 1. Customer outcome 2. Customer process 3. Prerequisites for the services 4. Service development	Theoretical/conceptual contribution	-
Johne and Storey (1998)	Identified three broad categories of NSD success factors: offer formulation, opportunity analysis, and project development	-	Literature review
Lievens et al. (1999)	Investigation into communication flows during financial service innovation 1. Internal and external communication 2. Information process capacity and requirements 3. Innovative uncertainty	Banking	Case study analysis

Froehle et al. (2000)	Explore the strategic influence of team-based organizational structure, NSD process design, and information technology (IT) choices on the speed and effectiveness of NSD efforts	Multi-industry sample of U.S.	Survey
Lievens and Moenart (2000)	Intra-project/ extra-project communication. Examines the effectiveness of these communication flows and assesses the amount of uncertainty reduced about customers, competitors, technologies and resources.	Banking	Survey
Storey and Kelly (2001)	How service firms evaluate their new service development (NSD) activities	UK services companies across five sectors: Banking, Telecommunications, Insurance, transportation and Media	Survey, Interviews
Menor and Tatikonda and Sampson (2002)	Propose some intra-organizational and operational antecedents of NSD performance.	-	Conceptual paper
De Jong and Vermeulen (2003)	Classification of current literature on organizing NSD into two stages: managing key activities in the NSD process, and creating a climate for continuous innovation	Financial service firms	Case study, Interviews
Athanassopoulou and Johne (2004)	Investigation into the effective communication with customer lead in financial NSD 1. Types of skills in communications: 2. NSD success	UK-based financial services firms	Case study, Survey
	Analyse the relationship between new financial		

Blazevic and Lievens (2004)	innovation process antecedents and performance 1. Nature of communication 2. Organisational design 3. Project learning 4. Performance	Banking	Survey
Perks and Riihela, 2004	Interfunctional integration in the new service development process	UK postal service	Interviews
Vermeulen (2004)	Explore the management of financial product innovation and innovation barriers	IT experts	Exploratory Interviews and case studies
Stevens and Dimitriades (2004)	organisational learning model for better understanding the NSD process	Supermarket, retail bank service package	Case study
Stevens and Dimitriades (2005)	The development process of a new financial product and to identify learning actions that contribute to its effectiveness.	Banking	Longitudinal case study
Akamavi (2005)	Examine the banking process innovation: 1. Service quality 2. Process innovation as NSD Improvement assessment	Banking	Literature Review
Froehle and Roth (2007)	NSD success factors into two groups, named "Resource-orientated" and "Process-orientated"/ defining NSD-related practices and activities in service firms.	Financial, Energy Services Healthcare Healthcare, Education Media/ Food services Pharmaceuticals	Interviews and card-sorting exercises
Menor and Roth (2007)	Group innovation success factors found in NSD process focus, market acuity, NSD strategy, NSD culture and IT experience.	Retail banking	Survey

Oke (2007)	An internal perspective of NSD/ For radical service innovations, a defined innovation strategy, creativity and ideas management, and an active human resource management were found to predict service innovation at the firm level.	-	Literature Review
Smith, Fischbacher, Wilson (2007)	Five models from the NSD literature for success	Hospital	Case study
Droege et al. (2009)	Review existing schools of thought and to identify present research fields in NSD research	-	Literature Review
Limpibunterng and Johri (2009)	The role of organizational learning capability in relation to leadership tasks performed by executives and organizational performance by bridging the concepts of organizational learning and NSD.	Telecom service providers	Survey
Chen, Tsou and Huang (2009)	Identify innovation orientation, external partner collaboration, and IT capability as the antecedents of service delivery innovation and analyse the impact of service delivery innovation on firm performance	Financial firms	Survey
Jaw et al. (2010)	Aim to understand how service characteristics, market orientation, and efforts in innovation together drive NSD performance	Logistics, transportation engineering, medical communication, retailing, entertainment, finance and insurance	Survey
	Differential effects of		

Storey and Kahn (2010)	knowledge management strategies of codification and personalization with codification promoting NSD proficiency and personalization promoting greater NSD innovativeness	U.K.-based service businesses	Survey
Storey and Hull, (2010)	Explore how service firms act as a strategic contingency. Two knowledge-based strategies tested as contingency factors.	Financial and other services	Survey
Zomerdijk and Voss (2010)	Focus on five dimensions of NSD: process; market research; tools and techniques; metrics and performance measurement; and organization	Service providers, design agencies, and consultancies known for focusing on the customer experience	Case research methodology, Survey
Sanchez-Hernandez and Miranda (2011)	Internal marketing (IM) is a factor of success in new services development	Service firms	Survey
Crevani, Palm and Schilling (2011)	Agenda for research on innovation management in service firms	Different service firms	Literature review, Interviews
Melton and Hartline (2013)	How cross-functional teams, front-line employees, and learning orientation influence NSD sales and process efficiency outcomes	Financial, health care, education, technology, legal, transportation, government, agricultural and entertainment service	Survey
Boerner, Schäffner and Gebert (2012)	Investigate the respective influence of formal *team meetings* and informal *cross-functional communication* on NSD team performance	Consulting and financial services	Survey
Cheng and Krumwiede (2012)	Different component of market orientation contributes to new service performance through various types of	Information, financial services, tourism and travel, scientific, entertainment and recreation services	Survey

	service innovation		
Lages and Piercy (2012)	Investigate the drivers of front-line employee generation of ideas for service improvement	Fast-food outlets and restaurants	Survey
Salunke, Weerawardena, and McColl-Kennedy (2013)	How entrepreneurial service firms combine resources at hand to innovate and stay ahead of rivals	US and Australian project-oriented firms	Survey

2.3 Rationale for construct selection

Despite the existence of several studies identifying success and/or failure (S/F) drivers within various innovation stages, the new service development area still remains relatively underexplored (Melton and Hartline, 2013; Storey and Hull, 2010; Alam, 2013). Several scholars suggest that the NSD literature remains relatively shallow and incomplete despite that service innovation remains an issue of high priority for service researchers (Boerner, Schäffner and Gebert, 2012; Jaw et al., 2010; Lages and Piercy, 2012). Having briefly overviewed the most influential studies in the area, it can be concluded that extant research acknowledges the role of several performance antecedents such as structure, communication quality, stage proficiency, formality, etc. However, the service innovation literature still remains relatively embryonic with regard to how various internal dynamic conditions interact with knowledge management strategies and how they jointly affect various NSD outcomes (Bertels et al., 2011; Dibrell, Craig and Hansen, 2011; Storey and Kahn, 2010; Weiss et al., 2013; 2014). The following section justifies the rational for selecting the specific variables in the models examined.

2.3.1 The value of Internal Market Orientation for NSD

As prior studies ignore how project manager's actions influence project participants' performance (Dibrell, Craig and Hansen, 2011; Hammedi, Van Riel and Sasovova, 2011), uncovering ways to enhance project manager's contribution to project success remains pivotal due to his/her centrality in guiding the innovation

program particularly when high uncertainty exists, as often the case in NSD. In this respect, the importance of project's manager adoption of an Internal Market Orientation (IMO) is considered. *Internal Market Orientation constitutes a managerial philosophy which reflects company's focus on employees' needs and its commitment towards them* (Gounaris, 2008). Although adopting an IMO has proved useful in the management of service employees (Lings and Greenley, 2010), its potential benefits for the NSD process remain largely unexplored (Sanchez-Hernandez and Miranda, 2011; Hernández, 2008), as the contemporary literature seldom addresses marketing orientations in this setting (Oke, 2007; Jaw et al., 2010). Based on the notion that IMO through the delivery of higher job-related value to employees can eventually enhance their task performance, (Boukis and Gounaris, 2014), it can prove beneficial for project participants since the latter are key contributors to the success of NSD initiatives (Cheng and Krumwiede, 2012). Despite some benefits and organizational gains that can be reaped from implementing an Internal Market Orientation e.g. job satisfaction or commitment (Gounaris, 2006), whether IMO adoption can prove useful for various aspects of new service development projects has not been previously addressed (Sanchez-Hernandez et al., 2011; Boukis, 2014; Sanchez-Hernandez and Miranda, 2011; Hernández, 2008). Hence, examining the consequences of adopting Internal Market Orientation within a NSD setting constitutes one of the key objectives of this dissertation.

As service innovation success depends heavily on enabling employees from various functions to cooperate more effectively (Lievens and Moenaert, 2000), the management of interfunctional relationships is crucial as that they affect relationship quality between NSD actors and resource exchange during service innovation projects (Vermeulen, 2004). For example, high levels of **political activity and conflicts existing among organizational functions** constitute important inhibitors of innovation success (De Clercq et al., 2009a). Dealing with these issues will allow more effective market intelligence dissemination across departments and a better response to customer needs.

The formation of **interfunctional trust** constitutes another key tenet during innovation (Rispens et al., 2007), as it promotes cooperation and relationship effectiveness during development activities (Rodriguez et al., 2007; Massey and

Kyriazis, 2007). Third, due to high task interdependencies and intense info exchange during service innovation the role of **intefunctional integration** needs to be acknowledged (Akamavi, 2005), which ensures successful integration of employees from different departments and thus is a prerequisite for NSD success (Perks and Riihela, 2004; Melton and Harltine, 2013). Nevertheless, limited attention has been given to managerial behaviours and actions that encourage trust formation or interfunctional integration during innovation activities (Dayan and Di Benedetto, 2010). Hence, Internal Market Orientation needs to be addressed in order to assess whether it can contribute to the formation of more effective interfunctional relationships (Boukis, 2013; Sanchez-Hernandez and Miranda, 2011).

Many authors emphasize the importance of multidisciplinary development teams as a key success factor for innovation projects (Blindenbach-Driessen and van den Ende, 2010; Homburg and Kuehnl, 2014). Despite scholars highlight project manager's role for communicating effectively inside the team and resolving conflicts (Blindenbach-Driessen and van den Ende, 2010), scant research examines how project managers affect internal conditions of innovation teams e.g. whether they can reduce intrateam conflict or promote participants' understanding of other functions' priorities during innovation (Rispens et al., 2007). In this context, the role of internal market orientation for **relationship and task conflicts** needs further investigation, as the role of Internal Marketing Orientation as a managerial behaviour that can improve internal relationships has only theoretically been highlighted in relevant studies (Gummesson, 1991; Ahmed and Rafiq, 2003; Varey and Lewis, 1999). Additionally, it is not clear whether applying internal marketing techniques can actually create a satisfactory **team climate** that meets employees' needs and encourages employees to adopt behaviours consistent with organisational objectives (Lings and Greenley, 2010; Gounaris and Boukis, 2014).

Although IMO has been associated with several positive behavioural consequences, its importance for other individual determinants of performance remains relatively unchallenged (Vasconcelos, 2008; Fang, Chang, Ou, & Chou, 2013). Few things are told about its impact on **role ambiguity** which may be quite destructive under conditions of high pressure for goal accomplishment and performance (Tang and Chang, 2010), as often the case in service innovation

activities. Likewise, the importance of enacting an IMO for rendering innovation actors more customer-focused still remains unchallenged and more research is required to clarify its role for employee performance during service innovation activities. Last but not least, the role of IMO for promoting info exchange and communication quality during NSD should be addressed, as they constitute critical prerequisites for NSD success (Blazevic and Lievens, 2004). Hence, IMO's role for two fundamental knowledge management strategies i.e. codification and personalization strategy needs further consideration.

2.3.2 The impact of Interfunctional Relationships on NSD

The organizational environment surrounding NSD activities may also have a disruptive or beneficial impact on NSD performance (Vermeulen, 2004; Evanschitzky, Eisend, Calantone, and Jiang, 2012). Relationships between different departments constitute an important determinant of NSD success, as the accomplishment of NSD tasks depends to a large extent on the existing relationships among different functional areas (Vermeulen, 2004). However, little research scrutiny is attracted to how interfunctional status quo between organizational functions affect the performance of service development teams (Brettel et al., 2011; Bertels et al., 2011), despite the fact that the lack of collaboration between participants due to conflicting priorities or incompatible goals may prove detrimental (DeClercq et al., 2009a;b). The existence of **political activity and conflicts** among organizational functions may impair innovation performance while little evidence exists regarding whether **trust** can act as a suppressor of conflicting viewpoints during innovation activity (Langfred, 2004). In addition, our understanding of the true impact of interfunctional integration on innovation success remains clouded by the variation that exists in how **interfunctional integration** is applied under different levels of interfunctional turbulence (Evanschitzky, Eisend, Calantone, and Jiang, 2012). Based on this evidence, the impact of interfunctional relationships on NSD project performance needs to be further examined.

2.3.3 The impact of Team-level Conflicts and Climate on NSD

Apart from the importance of the intra-organizational environment surrounding service innovation teams, team conditions and dynamics are also crucial for NSD (de Jong and Vermeulen, 2003). Surprisingly, though, the impact of intragroup dynamics and contextual contingencies on project performance remains unchallenged, despite that managers might have to deal with these internal problems at some time during the process (Boerner et al., 2012; Jaw et al., 2010; Oke, 2007; Vermeulen et al., 2005). In this context, the role of **task** and **relationship conflict** need to be investigated as different types of conflict may have a differential effect on various innovation outcomes (DeClercq et al., 2009a;b). The impact of a positive **team climate** on service development performance also needs to be evaluated, as it may boost team's performance when resource constraints exist (Weiss et al., 2011). In considering this evidence, the concurrent impact of interfunctional environment and team-level conditions on NSD project performance need to be encapsulated in future innovation studies in order to have a more comprehensive understanding of how various aspects of the internal organizational environment affect the performance of innovation projects (Crevani, Palm and Schilling, 2011; Bertels et al., 2011).

2.3.4 The impact of individual Market Orientation and Role Ambiguity on NSD

Another underexplored aspect of the service development process remains the importance of individual drivers of participants' performance during NSD (Jaw et al., 2010), as individual perceptions of working conditions influence employees' contribution to project performance (Liao and Chuang, 2007). Few studies explore whether employees' **market-oriented behaviour** can add to the development of innovative solutions to non-routine tasks during innovation (Cheng and Krumwiede, 2012). As limited knowledge is produced on how whether participants' customer-consciousness facilitates the creation of new service offerings (Cheng and Krumwiede, 2012), future research needs to explain whether promoting an individual market orientation can facilitate new service development. Additionally, as pressure for goal accomplishment remains high and strict deadlines have to be met during

innovation projects, the role of **role ambiguity** has not been previously investigated, despite that high levels of role ambiguity reduce creativity (Tang and Chang, 2010) as well as decrease team satisfaction and quality of info exchange (Li and Bagger, 2008).

2.3.5 The importance of knowledge management strategies for NSD

Despite a number of NSD management strategies have been suggested to contribute to successful service innovation, only some of them are empirically tested (Melton and Hartline, 2013; Froehle et al., 2000). Effective knowledge exchange management is considered as the most important resource that a firm can control due to high risk and uncertainty surrounding NSD (Roth and Menor, 2003), as knowledge resources enable firms to develop innovative service offerings (Storey and Kahn, 2010). Hence, identifying appropriate knowledge management strategies that ensure high info exchange quality during NSD becomes a priority in order to reduce the amount of uncertainty surrounding NSD activities (Storey and Hull, 2010; Storey and Kahn, 2010). In this vein, the role of two key knowledge management strategies, namely personalization and codification strategies, is discussed.

2.3.6 Examining various NSD Outcomes

The extant literature mainly encapsulates various objective or subjective NSD outcomes, ignoring the need to provide practitioners with an integrated internal assessment of innovation performance (Blindenbach-Driessen et al., 2010). Identifying various benefits from innovation activities might provide senior executives with a comprehensive understanding of the value of service innovation efforts of their organization. Therefore, this study also captures the importance of several NSD outcomes such project learning, project performance, resource allocation effectiveness and efficiency and organizational learning with the aim of delivering a wider view of the gains that be reaped through innovation activities.

In overall, it seems that existing work fails to concurrently assess the contextual dynamics of the new service development process as well as to explain the role of daily complexities of the service development process (Crevani, Palm and

Schilling, 2011). The lack of knowledge within the aforementioned areas prevents practitioners from managing and organizing the innovation process successfully. As a result, a deeper understanding of how NSD projects can be more successfully completed is required so as to help service firms to resourcefully manage innovation initiatives (Melton and Hartline, 2013; Blindenbach-Driessen and van den Ende, 2010; Bertels et al., 2011; Storey and Kahn, 2010; Storey and Hull, 2010; Weiss et al., 2013; 2014; Razinskas and Weiss, 2013).

2.4 Theoretical Background

This study primarily views service innovation from an internal dynamic perspective with the aim of capturing the most influential determinants of the internal environment that determine NSD project performance. The adoption of such a dynamic perspective is highly dependent on a plethora of contingency variables, as the extent to which companies can reap gains from an organizational strategy depends on the fit between their strategy and existing internal conditions (Galbraith, 1973). Hence, the primary interest remains to deepen understanding of the link between innovation strategy and various internal contingencies and parameters. Contingency theory offers the potential to comprehend how the intra-organizational environment affects the organization of innovation activity (Tidd, 2001). On these grounds, the importance of the **contingency theory** for organizations and innovation needs to be portrayed in first.

2.4.1 The importance of Contingency Theory for Innovation

Contingency theory has been one of the major strands of thinking about organizational performance and strategic actions (Galbraith, 1973). A considerable volume of research has been conducted using contingency theory as the principal framework, relating the task environment to organizational characteristics (Burns and Stalker, 1961, Lawrence and Lorsch, 1967) or to strategic management. Contingency theory states that there is no one best way to organise, and that any one way of

organising is not equally effective under all conditions (Galbraith, 1973). Numerous organizational theorists suggest that there is no one universally optimal approach to management for all organizations (Drazin and Van de Ven, 1985). Drazin and Van de Ven (1985) note the "fit-as-mediation" view which posits that managers choose organizational structures, processes, and strategies that reflect the contingent circumstances of their organizations. As the organization is essentially an "information-processing network", the objective of organizational design is to "achieve an efficient correspondence between the information-processing requirements of its strategic contingencies and the information-processing capabilities of its integration mechanisms" (Galbraith, 1973, p. 6). On this basis, the appropriate organizational strategies and management style depend on a set of "contingency" factors.

Contingency theory underlies this study as interfunctional collaboration during service innovation projects implies increased resource dependency among functional units and a greater need for enhanced info-processing capability to coordinate the acquired NSD wisdom. Functional units' interdependence grows along with the volume of resource flows and increases the use of coordinating mechanisms (Olson, Walker, and Ruekert 1995). Thus, increased collaboration between innovation actors represents a critical contingent factor of innovation projects and firms need to provide structural mechanisms to put such willingness into action (De Luca and Atuahene-Gima, 2007). Second, the transfer and flow of knowledge among interdependent units is often ambiguous and uncertain because of the diversity of functional information, backgrounds and thought worlds. In order to obtain value from cross-functional interactions, "mechanisms [must] evolve to help reduce the uncertainty and ambiguity of resource, work, and assistance flows" (Ruekert and Walker, 1987, p. 6). Likewise, Garud and Nayyar (1994, p. 372) point out that firms develop integration mechanisms because of the uncertainty and ambiguity in translating embedded collective knowledge into knowledge embodied in the new offering (Griffin and Hauser 1996, p. 209). Thus, increasing knowledge exchange during innovation within the firm is dependent on strategic collaboration among functions which dictates the type and degree of integration mechanisms adopted to disseminate knowledge across the organization (De Luca and Atuahene-

Gima, 2007). Based on this evidence, knowledge that derives from contingency theory is quite applicable to the introduction of a dynamic perspective of service innovation which is delivered by this study.

2.5 Review of the study's constructs

As the key objective of this thesis is to uncover some intra-organizational antecedents of NSD project performance, five groups of determinants are identified in order to capture the impact of the most critical determinants of the firm's internal environment on new service development performance. First, project manager's adoption of an Internal Market Orientation (IMO) is discussed. The second group of antecedents takes into account the role of interdepartmental relationships during NSD and especially, emphasizes the role of interfunctional political activity, interfunctional conflict, interfunctional trust and interfunctional integration. Third, the role of three aspects of team dynamics of NSD is also encapsulated, namely task conflict, relationship conflict and team climate. Fourth, individual antecedents of NSD performance are also taken into account, including the importance of role ambiguity and market orientation. Ultimately, the impact of two knowledge management strategies (i.e. codification and personalization strategy) on five NSD outcomes is also queried. Taken together in a cohesive structure, the following section provides an analytical review of each construct included in the study.

2.5.1 Internal Marketing and Internal Market Orientation (IMO)

Despite the growing recognition that employees drive services and services drive competitive advantage (Gummesson, 1994), few attempts have been made to explicate how to sustain superior service employee performance (Tortosa et al., 2009). Strengthening service organization's competitive position in service markets cannot be obtained unless top management commits to the satisfaction of employees' wants and needs, since the latter are key contributors to organization performance (Boukis and Kaminakis, 2012; Boukis et al., 2014; Fang et al., 2014). This internal relationship between service employees and the management is the focal point of the

internal marketing discourse. Hence, the notion of **Internal Marketing (IM)** is introduced to describe *the company's effort to understand employees' needs and increase their job satisfaction, so that they eventually enhance their performance and satisfy firm's customers* (Berry et al., 1976; Tortosa et al., 2009; 2010).

2.5.1.1 Defining the Internal Marketing concept

Early attempts to incorporate an internal focus of marketing to complement the external focus arose in the services marketing literature (Berry 1981; Booms and Bitner 1981). Internal marketing is generally considered to be the application of marketing like tools to the employee market inside the firm (George, 1990). The IM concept has evolved from the original conceptualization of employee satisfaction/motivation by treating employees as customer and jobs as products to improve service quality (Berry, 1981), to customers orientation / market orientation and to use marketing-link approaches internally to motivate employees (Gronroos, 1985).

Rafiq and Ahmed (2000) describe IM's development as including three phases: the employee satisfaction phase, the customer orientation phase and the strategy implementation-change management phase. The early definitions of IM were based on a *total quality management approach* (Sasser and Arbeit, 1976; Berry, 1981). Berry (1981) described internal market (IM) as "viewing employees as internal customers and viewing jobs as internal products" and suggests just like external customers, internal customers desire to have their needs satisfied. Given that there may be some elements of coercion in the internal exchange where the 'products' (jobs) employees are sold may in fact be unwanted, or have 'negative utility', firms must first seek to satisfy their internal customers in order to provide an atmosphere for effective marketing behaviour (Ballantyne, 2000).

The second development phase, (i.e. *customer orientation approach*) is largely attributed to Gronroos' (1982) ''interactive marketing'' concept. Gronroos (1984) argues that marketing-like tools could be used internally to motivate employees to deliver superior services in a customer-oriented way. George and Gronroos (1991) considered IM as a philosophy for satisfying and motivating employees based on a marketing perspective. The third phase of more recent IM

conceptualizations provides evidence drawn from studies that recognize IM as a vehicle for strategy implementation and expanded the scope of the internal marketing concept (Ballantyne, 2003; Lings, 2004). Rafiq and Ahmed (2000, p. 449) defined IM as, 'a *planned effort using a marketing-like approach to overcome organizational resistance to change and to align, motivate and inter-functionally coordinate and integrate employees towards the effective implementation of corporate and functional strategies in order to deliver customer satisfaction through a process of creating motivated and customer oriented employees*". Recent advances in the field of internal marketing have led to the identification of managerial behaviours associated with internal marketing and their conceptualization as a multidimensional Internal Market Orientation construct (Lings and Greenley, 2005; Gounaris, 2006; 2008).

2.5.1.2 The notion of Internal Market Orientation (IMO)

The notion of Internal Market Orientation (IMO) refers *to the company's orientation regarding the employee market and demonstrates the management's commitment towards them* (Gounaris, 2008). It is based on the philosophy of viewing jobs as internal products and employees as internal customers of these (Sasser and Arbeit, 1976). IMO arises from the view that contact personnel is of primary importance to service industries, and that satisfied, committed and motivated front-line employees are essential if customers are to perceive that they have received superior service (Berry and Parasuraman, 1991). This allows organizations to manage the employee-employer exchange by modifying existing marketing techniques to the internal environment of the firm (Greene, Walls and Schrest, 1994). One of the fundamental ideas of IMO is the concept of exchange between employees and the organization. This internal exchange is based on the equity theory (Gounaris et al., 2010).

As previously noted, IMO *promotes the formation of effective relationships between the company's employees and management* (Rafiq and Ahmed, 1993) so that the company's strategy responds to internal customer's needs more effectively (Lings, 1999; Bansal et al., 2001). This, in turn, facilitates the fit between the company's internal conditions and its external market objectives while developing a

motivating company climate that facilitates customer-oriented responses (Lings, 1999). Gounaris (2006; 2008) has referred to IMO suggesting that three core dimensions comprise the notion: **Internal market intelligence collection, internal-market communications** and **internal-market response** (see Figure 2). The first dimension, *internal market intelligence collection*, relates to such activities as the identification of exchanges of value for the employees, the comprehension of the labour market conditions, the recognition of internal segments of employees with different characteristics and needs and designing strategies for the internal market. Lings (2004) recommends that segmenting the internal market is a dimension of the company's effort to collect intelligence regarding the employees' market while internal intelligence is a prerequisite for effective segmentation.

With regard to the second dimension, two facets are identified; the communication between managers and employees and the communication between managers from different departments and hierarchical levels. Internal communication has two purposes. The first one is to communicate new marketing strategies and strategic objectives to employees, mainly through internal formal or informal communication channels (Gounaris, 2006). The second objective is to derive a thorough understanding of employees' needs and wants between the company's senior executives. Finally, *responsiveness to the internal market* comprises the actions taken in response to the needs of the employees and consists of designing jobs to meet the needs of the employees, adjusting the remuneration schemes accordingly, making the company's management more considerate with regard to the employees' needs and offering them the necessary training in order to develop the skills and capabilities that their job description requires (Gounaris, 2008).

2.5.1.3 Theoretical background of Internal Market Orientation

Given that manager-employee interactions constitute one of the focal points of this study, it is required to describe the underlying mechanism through which higher managerial concern and focus for employees is expected to enhance their performance during service development activities.

Internal marketing is considered as a philosophy of valuing and treating employees as an intermediate set of customers inside the firm and enhances the value

provided to employees with the aim of encouraging them to align with strategic marketing objectives (Sasser and Arbeit, 1976; Berry and Parasuraman, 1991).

Figure 2 – Key pillars of Internal Market Orientation
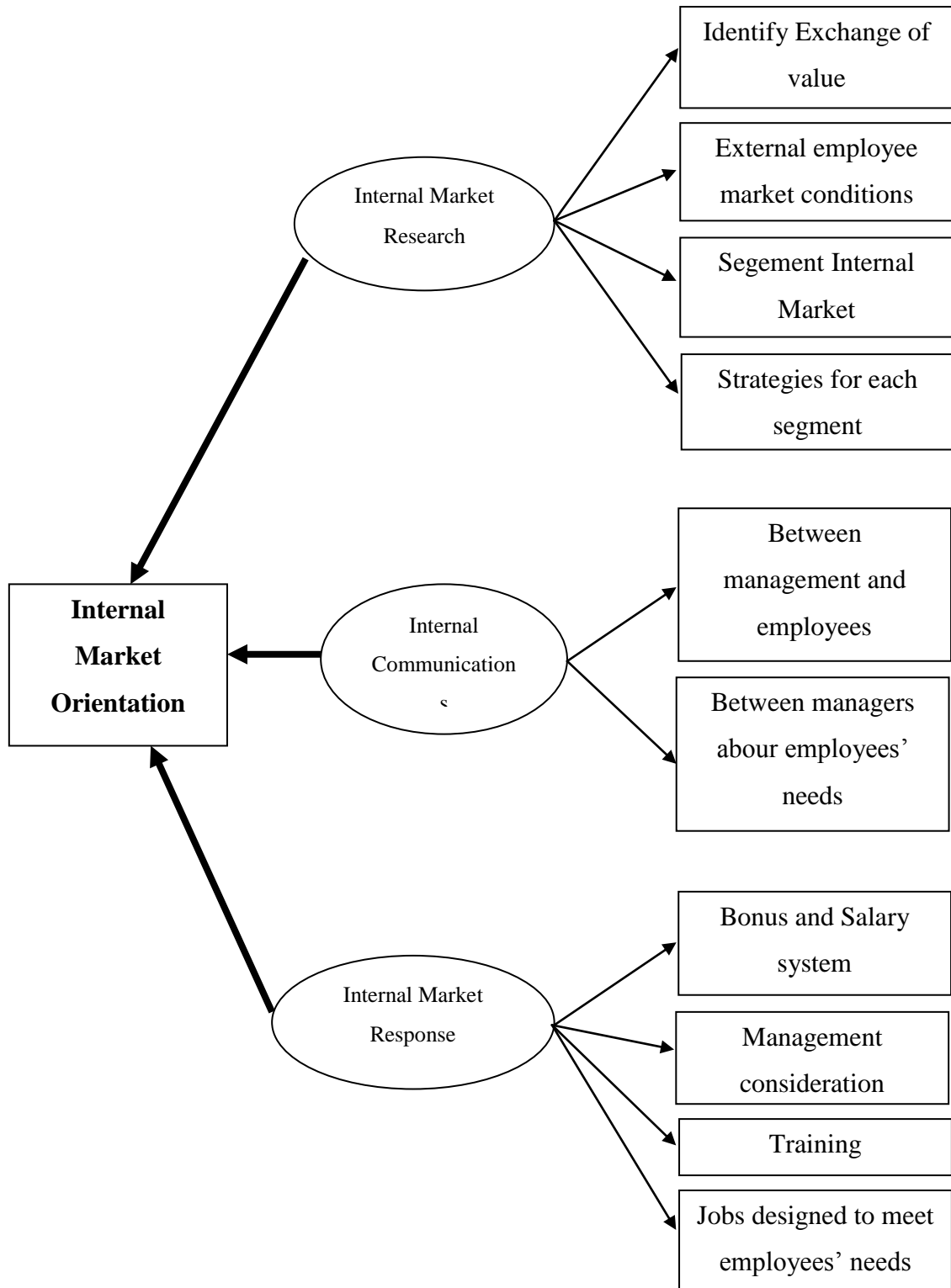
IM theorists have proposed that it is impossible for firms to provide better service to external customers than they provide to their internal customers (George, 1990; Gronroos, 1983). Only after effective internal exchanges have occurred can successful external exchanges between employees and customers take place. Consequently, implementing an internal marketing program encourages organizations to build effective relationships with its employees, based on a commitment to providing superior job-related value for employees by understanding and meeting their expressed and latent needs (Boukis et al., 2014). On the basis of these acknowledgements, the *social exchange theory* and the *equity theory* constitute the theoretical cornerstones of IMO implementation (Adams, 1963; Homans, 1958). These two fundamental and interrelated theoretical perspectives explain how service firms through delivering higher levels of job-related value can enhance the formation of fruitful and harmonic relationships between managers and employees during NSD projects.

Equity Theory

Equity theory was first proposed by Adams (1963) and suggests that employees evaluate their jobs by comparing what they put into their work with what they get out of it. It "draws on exchange, dissonance, and social comparison theories in making predictions about how individuals manage their relationships with others" (Huseman, Hatfield and Miles, 1987, p. 222). Huseman and Hatfield (1990) claim that inputs include effort on the job, time, loyalty to the organization and compliance to organizational policies. On the other hand, outputs include pay and less tangible rewards such as status and recognition for good work.

Equity theory maintains that subordinates and supervisors are most satisfied when the ratio between the benefits received and the contributions made is similar as compared to the perceived ratio of their co-workers (Messick and Cook, 1983). Actually, employees' value perceptions, regardless of their organizational position and hierarchical power, can influence the value that the company's customers receive (George, 1990). While the manager has control over most working conditions, the employee's perception of how he is compared to others limits the manager's control over the individual sense of competence, feeling of personal worth and sense of

confidence. So when employees feel inequity on their job from their perception point, they seek to reduce it. In this case, three possible assumptions capture the essence of this theory.

The first one is a *social assumption* that one will expect a fair return for the contribution to the job one does (Adams, 1965). In turn, the more employees perceive inequity the more distress they will feel. Second, the "*social comparison*" is the determination employees will make as to whether or not their outcome is equitable in comparison to other colleagues' inputs and outcomes (Adams, 1965). Under reward leads to more distress when employees feel others' equity is greater than their own. Finally, when inequity is perceived, employees will seek to reduce it in three ways. First, by cognitively distorting inputs and outcomes, meaning they may make a psychological adjustment justifying the imbalance, or the behaviours they take to reduce the imbalance; second, individuals may change their inputs, meaning they will restrict work inputs until they reach a level that they perceive is on par with the outcomes they are receiving; and/or they may quit the organization (Adams, 1963).

Social Exchange Theory

Social exchange theory is among the most influential conceptual paradigms for understanding workplace behaviour (Cropanzano and Mitchell, 2005) and is grounded in a model of human behaviour whereby interactional processes between individuals are motivated by a desire to maximize rewards and minimize individual losses (Thibaut and Kelley, 1959). Its roots can be traced back to the 1920s, bridging such disciplines as social psychology and sociology (Blau, 1964; Gouldner, 1960; Homans, 1958). Social exchange theory views interpersonal interactions from a cost-benefit perspective, deals with the exchange of intangible social costs and benefits (e.g. respect) and is not governed by explicit rules or agreements. Like economic exchange, social exchange assumes that individuals take part in an exchange only when they expect their rewards from it to justify the costs of taking part in it (Gefen and Ridings, 2002, p. 50). Its core concept is that *social exchange involves the exchange of tangible and intangible resources between interdependent parties with an expected benefit to one or both of them* (Cropanzano and Mitchell, 2005).

Some important issues need to be addressed when the nature of social exchange perspective is analysed. First, like economic exchange, social exchange is a form of ''exchange'' and still involves an obligation or generates an expectation of some return for a contribution. Second, the rewards or reciprocations of social exchange are delivered by the other party. The relationship itself is not considered as a form of reciprocity in exchange theory. Third, social exchange is distinguished from economic exchange because the exact nature or time of the return is unspecified and social exchange does not occur on a calculated basis (Blau, 1964). In sum, *for social exchange to occur, the benefiting party must reciprocate to the providing party some long-term benefit in return, although the exact duration or form may be unspecified*.

Theorists agree that social exchange involves a series of interactions between parties that generate obligations (Emerson, 1976). These interactions are usually seen as interdependent and contingent on the actions of the other party (Blau, 1964). When one party provides another with a valued and beneficial resource, an obligation is generated to return a beneficial resource. These interdependent transactions have the potential to generate high-quality relationships. However, the formation of these relationships will not be actualized unless certain prerequisites exist. The basic premise of social exchange theory is that relationships providing more rewards than costs will yield enduring mutual trust and attraction (Blau, 1964). Furthermore, these social transactions incorporate both material benefits and psychological rewards including status, loyalty and approval (Yukl, 1994). High-quality social exchanges reduce workplace conflict while also improve beneficial work behaviour, such as job performance (Cropanzano et al., 2002). Conversely, negative exchanges imbalance social exchange relations and negatively influence employees' attitudes, psychological well-being (e.g., Harvey et al., 2007) and performance (e.g., Harris, Kacmar, and Zivnuska, 2007).

Theory Integration

The social exchange perspective claims that relationships are based on trust and the feeling of common purpose between the individuals of the relation (Gouldner, 1960; Homans, 1958). However, individuals will not participate in a

social exchange unless they think that the other party has something of value to offer in the relationship and will fulfil his obligation (Chiaburu and Marinova, 2006). Obligations are, therefore, the most critical aspect in any social exchange relationship (Rousseau, 1990). Settoon, Bennett, and Liden (1996) posit that "positive, beneficial actions directed at employees by the organization and/or its representatives contribute to the establishment of high-quality exchange relationships that create obligations for employees to reciprocate in positive, beneficial ways" (p. 219). Due to the reciprocal obligations between existing between employees and their managers (Robinson and Rousseau, 1994), the need of delivering higher value to employees arises so that they view from a more positive perspective the fulfilment of their own obligations (Adams, 1963). This notion, or the so-called *psychological contract,* is based on equity theory which maintains that in every social exchange relationship each participant values the equity of what is offered by one party against what is received from the other party (Adams, 1965). According to Levinson (1965), employees respond reciprocally to their perception of the equity existing in the relationship with the firm. So, if employees consider that the level of outputs exceeds that of inputs they will be under the obligation to reciprocate by increasing the level of inputs that they deliver (e.g. higher quality in the completion of their NSD task).

Adopting an Internal Market Orientation can enhance employee perceptions of job-related value. This delivery of higher job-related value to employees constitutes a prerequisite for the fulfilment of their obligations towards their managers and thus, for the reciprocation to their employer with higher task performance. Among the outputs most highly valued by the employees are direct, fluid and bidirectional communication with their manager as well as higher perception of managerial support, so that they feel like protagonists in the organization, taking part in its strategic decisions and in their application (Bell et al., 2004). Managerial consideration and direct communication between managers and subordinates are indicative of high employee focus, which lies at the heart of the internal marketing construct. Consequently, project manager's adoption of internal marketing orientation should contribute to employees' reciprocal response to their organization through their successful completion of their NSD task.

2.5.1.4 Organizational benefits deriving from IMO

Internal Market Orientation is crucial for the effective management of the organization's human resources (Lings and Greenley, 2010), but its contribution to various aspects of organizational performance has yet to be tested (Sanchez-Hernandez and Miranda, 2011). Extant research has associated IMO adoption with several internal and external consequences for the firm. For example, IMO is thought to influence employee attitudes and behaviours such as employee motivation to provide good customer service (Tansuhaj, Randall, and McCullogh, 1988), retention (Berry and Parasuraman, 1991), organizational commitment (Caruana and Calleya, 1998), empowerment (Gounaris, 2008), job satisfaction (Tortosa et al., 2010), motivation (Bell et al., 2004), customer-consciousness (Lings and Greenley, 2010) and extra role performance such as willingness to report service complaints and patronage (Boukis and Gounaris, 2014). Internal marketing behaviour displayed by senior executives is thought to foster employee identification with the organisation and to reduce their dysfunctional behaviours, such as service sabotage or false reporting (Ramaswami, 1996). In addition, internal market-oriented behaviour increases compliance with organisational strategies (Piercy and Morgan, 1990). Likewise, IMO has implications for external aspects of organizational performance such as perceived service quality and customer relational switching costs (Gounaris and Boukis, 2013). Figures 3 and 4 display some of the employee- and customer-related outcomes associated with IMO adoption.

Figure 3 - Internal Marketing Research – Employee consequences

70
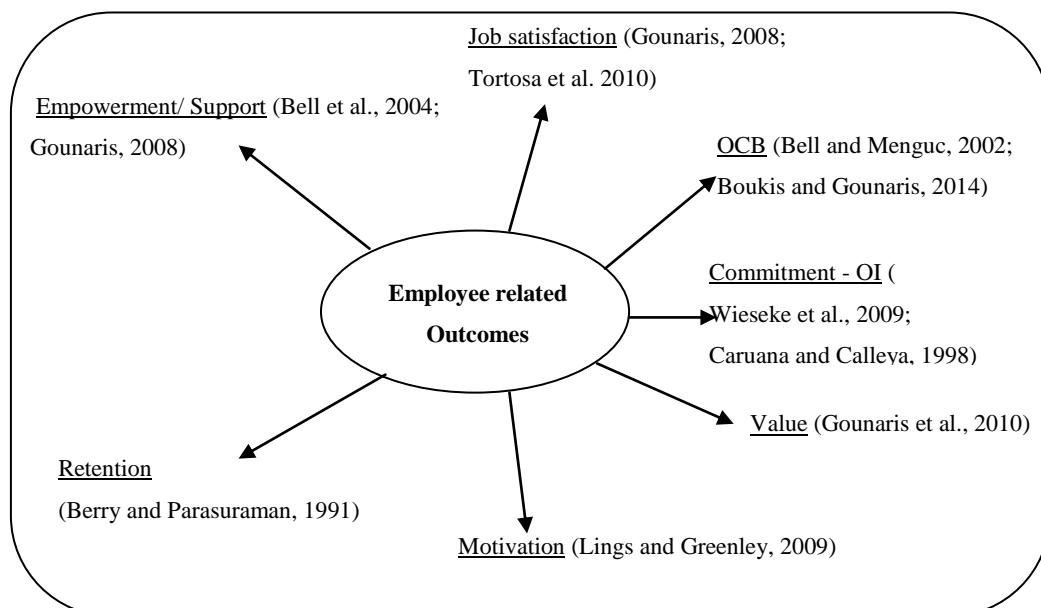
Figure 4 - Internal Marketing Research – Customer consequences

Relational Switching costs (Gounaris and Boukis, 2013)

Service quality (Bell and Menguc, 2002; Mukherjee and Malhotra, 2006; Tortosa et al., 2009)

Customer related Outcomes
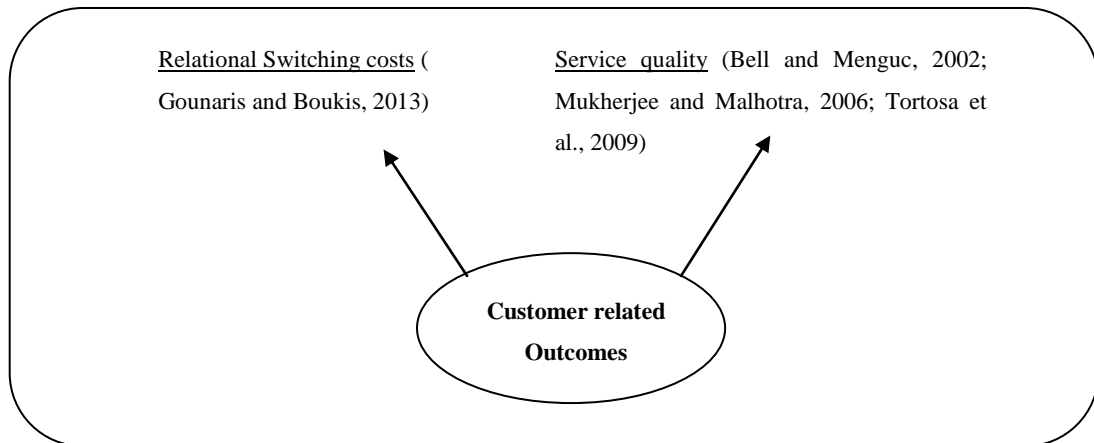
Despite some different conceptualizations of IMO, the pertinent literature concurs on some important issues that need further consideration (Gounaris et al., 2010; Wieseke et al., 2009; Fang et al., 2013). First, it is crucial that employees remain "well-attuned to the mission, goals, strategies, and systems of the company" (Gummesson, 1987, p.24) and therefore, aligning employees with organizational goals and directives constitutes an ultimate goal of IMO adoption (Wieseke et al., 2009). Implementing an IMO is an ongoing educational and experimentation process initiated by senior management and how middle-level executives' (e.g. project managers) actions determine the success of the firm's internal marketing initiatives still remains underexplored (Wieseke et al., 2009; Lam et al., 2010). In fact, scholars mostly encapsulate single-level perspectives within internal marketing conceptualizations, leaving unchallenged how cross-level interactions between organizational actors from different organizational echelons determine the effectiveness of IMO implementation (Lings and Greenley, 2009). Capturing project manager's perceptions of IMO lays the ground for uncovering how organizational policies and managerial actions are interpreted across the management echelons, as by examining one level at a time prevents one from knowing whether factors at one level remain important in explaining cross-level outcomes after factors at the other level are accounted for (Kozlowski and Klein, 2000). To deal with these concerns, research must go beyond short-term marketing programs and examine how IMO can

evolve into a dynamic managerial philosophy that can enhance employees'
understanding of their centrality for service organizations.

2.6 Interfunctional antecedents of NSD performance

Given that innovation performance is based on cross-functional cooperation,
it is surprising that researchers have devoted so little attention to clarify the role of
interfunctional relationships in organizational processes such as innovation (Maltz
and Kohli, 2000; García, Sanzo, & Trespalacios, 2008). Relevant studies note that
innovation results are highly dependent on relationships between participants from
different functional units (Maltz et al., 2001). This emphasis is understandable since
sharing and using info can only be achieved when there is involvement, collaboration
and effective conflict management (Perks and Riihela, 2004; García, Sanzo, &
Trespalacios, 2008; Behfar et al., 2008).

The importance of managing successfully interfunctional interactions within
NSD is rarely captured in the extant literature (Boukis, 2013; De Clercq et al.,
2009a), although conflicts and mistrust are considered as the main causes for the
poor results in innovation efforts (Hurmelinna-Laukkanen, 2011). Responding to
calls from Declercq and his colleagues (2009b) that the innovation literature lacks
evidence of how to deal with political struggling, conflicts and battles for resources
that arise within innovation, the importance of interfunctional contingencies during
NSD is examined. In particular, the importance of interfunctional trust, conflict,
political activity and integration for NSD performance are discussed.

2.6.1 Interfunctional Trust

Trust has emerged as an increasingly important issue for current
organizations. Organizational researchers are of the view that "trust" remains the
basis of high performance management team and organizations seek to increase
commitment and productivity through higher trust levels (Frenkel, & Orlitzky, 2005).
Trust in the workplace is suggested to have a strong influence on a variety of

organizational phenomena, including job satisfaction, organizational citizenship behaviours, organizational commitment, turnover, job satisfaction (e.g. Colquitt et al., 2007). Research on organizational effectiveness also indicates that trust plays a significant role in the collaborative behaviour of organizations (Koskinen et al., 2003; Akgun et al., 2005; Dayan et al., 2009). Despite this large body of research on trust, much less attention has been paid to the role of trust in the effective functioning of innovation teams or during product development projects (Garcia et al., 2008; Dayan and Di Benedetto, 2010; Muethel, Siebdrat and Hoegl, 2012).

Trust is conceptualized in various ways across different disciplines such as management, psychology and economics; a behavioural intention or an internal action; synonymous with trustworthiness within the context of personal characteristics that inspire positive expectations on the part of other individuals; a facet of personality that develops early in life and remains relatively stable through adulthood, and; a synonym for cooperation or risk taking (e.g. Colquitt et al., 2007). Trust has also been conceptualized as an expectancy held by an individual that the promise or statement of another party can be relied on (Moorman et al., 1992), as a confidence in the motives of the other party in conditions involving risk, or as a belief in the benevolent intentions of the other party (Lewicki et al., 2006; McEvily et al., 2003).

Despite all these conceptualizations, this study conceptualizes trust as the perceived credibility and benevolence of innovation participants. As such, it represents the belief that the trustee will make accurate statements, fulfil its promises, and act in the trustor's best interest (Moorman et al., 1993). The first dimension of trust, named *credibility*, is based upon a partner's intention and ability to keep promises and deals. In other words, trust is viewed as a behavioural intention that reflects a reliance on the partner's good future intentions and involves vulnerability and uncertainty (Moorman et al., 1992). Credibility also involves the individual's belief that the partner has the required expertise to perform the job effectively and keep his/her promises. The second dimension of trust, *benevolence*, is based on the intentions and characteristics attributed to the partner that demonstrate a genuine concern for the partner through sacrifices that exceed a purely profit motive (Kumar et al., 1995). So trust is considered as a belief, sentiment or expectation

about the partner's trustworthiness that results from his/her expertise, reliability and past behaviour (Ganesan, 1994).

With regard to an innovation setting, several authors underline the importance of trust in the area (Garcia et al., 2008; Dayan and Di Benedetto, 2010; Dayan et al., 2009; Muethel, Siebdrat and Hoegl, 2012). Given the discussion about whether trust matters, more research is warranted so as to ''shed light on how trust formation affects outcomes such as project performance'' (Bstieler, 2006; p. 58). Previous evidence shows that more complex tasks call for more collaboration among different actors (Akgun et al., 2005), and as a result the role of trust should be more relevant in fostering interfunctional integration. Garcia and his colleagues (2008) examined the effect of trust on cross functional integration in an innovation context and claimed that managers should foster trust among functional areas, since when trust is low integration is difficult to achieve. The role of trust appears to play an essential role during innovation projects whereas its role has not attracted any research scrutiny in a NSD context (Dayan and Di Benedetto, 2010; Dayan et al., 2009), although performing basic development activities (i.e. info exchange, interfunctional integration) is highly dependent on the existence of trust during NSD. Moreover, Muethel, Siebdrat and Hoegl (2012) argue that trust becomes even more important under the condition of geographic dispersion, computer-mediated communication, and national diversity.

Trust's importance during service innovation is increased, as development efforts inherently entails high levels of uncertainty and relies heavily on the integration of employees from different functions (Dayan and Di Benedetto, 2010; Dayan et al., 2009). Participants' perceived trustworthiness can increase the chances of success, as it enhances cross functional relationships and makes it possible that the areas do not mistrust the information or decisions brought forward by the personnel belonging to another functional unit. Trust is also proposed as a mechanism that reduces conflict levels during innovation (Rispens et al., 2007), as it enhances collaboration and decreases the detrimental impact of relationship clashes within development activities (De Clercq et al., 2009a). Despite this evidence, little research scrutiny is attracted to the role of trust for service innovation activity (Schleimer and

Shulman, 2011) and scholars recognize its value due to lower resource requirements and intangibility that exist in service settings.

2.6.2 Interfunctional Conflict

One of the most outstanding aspects of intra-organizational conflict is that it is practically intrinsic to social dynamics. Conflict is present in interpersonal relations, in intragroup interactions (Jehn, 1995), in strategic decision-making (Amason, 1996) and other organizational episodes. As many authors have pointed out (Medina et al., 2005) conflict is a phenomenon that may give rise to both beneficial and dysfunctional effects on individuals, groups and organizations.

Although the importance of conflict at work is difficult to underestimate, our knowledge about the effect of different types of conflict is relatively limited and narrow (Rispens et al., 2007; 2012). Generally speaking, conflict can be viewed as the interaction of interdependent parties who perceive opposition of goals, aims and values, and who see the other party as potentially interfering with the realization of these goals (Medina et al., 2005). Over the past 20 years an increasing number of studies have considered the possible antecedents and consequences of conflict in firms at the interfunctional level, showing that conflict among different organizational functions can be destructive for innovation performance (De Clercq et al., 2009a,b; Gobeli et al., 1998). Scholars have increasingly identified conflict as one of the central topics that should concern marketing (Barclay, 1991; Menon et al., 1996; Song et al., 2000; Song et al., 2006) and there continues to be a paucity of studies on the dynamics of conflict in the area (De Clercq et al., 2009b; Veldhuizen, Hultink and Griffin, 2006).

Conflict has been defined as a "perception of incompatibility between values, needs, interests or actions (Deutsch, 1973; Wall and Callister, 1995) or as an expressed struggle between two interdependent parties who perceive incompatible goals, scarce resources and interference from others in achieving their goals (Wilmont and Hocker, 2001). Although there is a considerable degree of inconsistency in terms of conflict conceptualizations there is some common ground as well (Tjosvold, 2007). First, whether conflict exists or not is a perception issue, as the perceived difference may often not be real but conversely if the difference is real

but not perceived there is no conflict. The second common ground is that interdependence is required among parties. Third, there are issues of blockage and scarcity, as resources like money and power are not indefinite and their scarcity creates conflicting behavioural patterns. As a result, battles for decision-making between employees from various functions often impair relationship quality within innovation projects (Gobeli et al., 1998). Last but not least, there is a positive relationship between effective conflict management and innovation performance (Song et al., 2006). This study adopts Korsgaard and his colleagues' (2008, p. 1224) definition of conflict as "*the experience between or among parties that their goals or interests are incompatible or in opposition*".

Interfunctional actors with varying expertise sharing information and schedules are interdependent so as to develop a timely and profitable new service (Perks and Riihela, 2004). Consequently, functional managers tend to encourage interpersonal communication, increase integration and decrease conflict via more meetings, greater interfunctional information flow and documented information exchange (De Luca and Atuahene-Gima, 2007). However, functional specialization results in language barriers, goal conflict, project prioritization differences, and varying department incentives and reward systems often result in higher interfunctional conflict (Griffin and Hauser, 1996). Ample evidence indicates the importance of managing conflicts for interfunctional relationships (De Clercq et al., 2009a; b; Menguc and Auh, 2008; Chimhanzi and Morgan, 2005) and much of the work conducted in a product innovation setting centres around integration between marketing and other interfunctional units such as engineering and R&D (Song et al., 2006; Maltz and Kohli, 2000; Olson et al., 2001). In a service innovation setting, it is not empirically observed whether high levels of interfunctional conflict affect project performance, despite conflicts and disagreements are likely to arise due to the intangible and fuzzy new service development process (de Jong and Vermeulen, 2003; Vermeulen, 2004; Boukis, 2013).

2.6.3 Interfunctional Integration

Interfunctional integration constitutes a social action system having interrelated properties (Ruekert and Walker, 1987). Although originally proposed as

a theory for examining how and why relationships between service organisations voluntarily emerge, and how they function (Van de Ven, Koenig and Delbecq, 1976), the *social system theory* can potentially be useful for understanding interfunctional interfacing. According to Ruekert and Walker (1987), an open social system consists of a group of individuals that interact and exchange things of value on a regular basis. Interfunctional interactions in NSD exhibit two basic elements of any organised form of collective behaviour. First, behaviour among the members of the social system is motivated, attaining both individual and collective interests. Second, interdependent processes emerge due to specialisation and task allocation. The innovation process is driven by mutual, individual and functional interests and interdependency exists between and within the specialised functions interfacing during the development process.

This study draws attention to a broader understanding of how different functions link together during the development of new services. The creation of new services is a multidisciplinary process that demands interaction and close collaboration of different organizational functions (Garcia et al., 2008). The importance of interfunctional integration during innovation activities has been widely acknowledged (Perks and Riihela, 2004; Olson, Walker, and Ruekert, 1995; Pinto, Pinto and Prescott, 1993; Garcia et al., 2008). Many concepts have been used to encapsulate the meaning of interfunctional integration such as coordination (Van De Ven, Delbecq and Koenig, 1976), collaboration (Kahn, 1996), cooperation and integration (Garcia et al., 2008). The lowest common denominator which integrates the aforementioned concepts is *joint behaviour toward some goal of common interest.* The need for interfunctional cooperation stems from the complex interdependencies among members of functional groups working together on project teams and greater interdependence requires a greater cooperation effort. Indeed, firms identified as having "best practices" in innovation tend to employ interfunctional integration more extensively than other firms (Griffin, 1997) while interfunctional teams tend to be more effective when they have a shared or common goal and exhibit greater integration (Atuagene-Gima, 1996). Without it, each function develops its own perceptions and "thought worlds," which lead to interpretive barriers among them during the innovation process.

Interfunctional integration represents *the extent and nature of interpersonal relationships among actors from multiple functional areas* (Olson et al., 2001; Troy et al., 2008) and reflects *the recognition by functional units of their interdependence and their need to cooperate for the benefit of the organization* (Kahn, 1996). Naturally, though, it is considered as a critical prerequisite of successful new service development performance (Perks and Riihela, 2004; Melton and Hartline, 2013). However, within the services innovation literature, some research focusing on interfunctional interfacing is evident (Froehle et al., 2000; Melton and Hartline, 2013) and our understanding of the true impact of interfunctional integration on NSD success remains clouded by the diversity that exists in how interfunctional integration is implemented in the firm and how scholars study it (Perks and Riihela, 2004; Troy et al., 2008). Given that NSD is considered as a system of parts (i.e. personnel, information) which must work together to comprise a functioning service delivery process (Menor, Tatikonda and Sampson 2002), managing behavioural contingencies during interfunctional interface needs further consideration (Melton and Hartline, 2013; Crevani et al., 2011; Garcia et al., 2008).

2.6.4 Interfunctional Political Activity

Organizational politics is a reality of organizational life and constitutes one of the options for those who wish to influence decision-making (Ferris et al., 1989). It is common to find individuals or units engaging in influence attempts so as to protect or further their own interests. Political activity is fuelled by conditions such as uncertainty about organizational decisions, ambiguity about expectations, role stressors and competition for scarce resources (Ferris et al., 2002; Kacmar and Baron, 1999). Not surprisingly, it is considered dysfunctional, as it has widespread effects on critical processes (e.g., resource allocation and managerial decision making) that influence organizational efficiency (Kacmar et al., 1999). Although political manoeuvring consumes time, restricts information sharing, and creates communication barriers (Eisenhardt and Bourgeois, 1988), employees may engage in some organizationally sanctioned activities that are beneficial to work groups and organizations. For example, managers who are "good politicians" may develop large bases of social capital and strong interpersonal relationships that allow them to

increase the resources that are available to their subordinates (Treadway et al., 2004). On the other hand, employees also demonstrate a number of illegitimate political activities (e.g., favouritism-based promotion decisions) that are strategically designed to benefit, protect or enhance self-interests, often without regard for the welfare of their organization or co-workers (Ferris, Russ and Fandt, 1989; Chang et al., 2009).

Organizational politics is generally understood as involving behaviour that is directed toward furthering self or group interest at the expense of others' well-being (Kacmar and Baron, 1999). A commonly cited definition of organizational politics is that of Mintzberg (1983) who described the phenomenon as individual or group behaviour that is informal, typically divisive and above all in a technical sense, illegitimate—sanctioned neither by formal authority, accepted ideology, nor certified expertise. In their seminal conceptual work, Ferris et al. (1989, p. 145) defined organizational politics as ''*a social influence process in which behaviour is strategically designed to maximize short-term or long-term self-interest, which is either consistent with or at the expense of others' interests''*. This definition is consistent with assertions by earlier scholars (Gandz and Murray, 1980) who suggest that it is not actual politics that matters most to organizational consequences— rather, it is the subjective perception of workplace politics, whether actual or not, that results in typically adverse reactions and behaviours. Indeed, as people's responses are based on their perceptions of reality rather than on reality itself, workplace politics is best understood as a state of mind (Gandz and Murray, 1980; Chang et al., 2009). In other words, political activity may not be an objective reality, but a subjectively constructed one (Ferris et al., 1989). As a result, the bulk of research has measured organizational politics in terms of perceived political activity. Hence, a definition by Ferris et al. (2000, p. 90) more applicable to the current study is adopted: "*the perception of political activity involves an individual's attribution to behaviours of self-serving intent,* and is defined as *"an individual's subjective evaluation about the extent to which the work environment is characterized by co-workers and supervisors who demonstrate such self-serving behaviour."*

Many conceptualizations of political activity carry a negative connotation, since employees tend to associate it with behaviours that promote personal objectives, usually at the expense of others. Such behaviours are often considered

discretionary, associated with manipulation and abuse of power; and contrary to organizational goals and the interests of other individuals (Vigoda, 2000). Academics have provided two explanations that link perceptions of organizational politics to negative work outcomes. First, Ferris and his colleagues (1989) suggest that politics are a source of stress that elicits strain responses from employees while other scholars claim that perceptions of organizational politics are detrimental to the maintenance of healthy employee-organization exchange relationships (Aryee, Chen and Budhwar, 2004; Chang et al., 2009). Examples of political behaviour include discrediting one's rival at work in order to get ahead, not sharing useful information with other employees in order to increase one's power over them, and doing favours for the boss to secure a higher salary increase. Prior research on political activity has captured its occurrence within organisations, employee perceptions of political activity (Ferris and Kacmar, 1992) and their consequences (Vigoda, 2002). Scholars call for continuing work to broaden understanding on the causes and consequences of organisational politics (Poon, 2003). Quite often, negative outcomes are associated with political activity as higher levels of perceived politics leads to negative psychological states such as anxiety and job stress (Valle and Perrewe, 2000); poor employee attitudes such as diminished job satisfaction (Hochwarter et al., 2003; Vigoda, 2000); withdrawal behaviours (Poon, 2003) and reduced individual and organizational performance (Ferris et al., 2002).

Despite the pervasiveness and importance of political activity for organizational effectiveness, the role of political activity during innovation activities such as resource allocation remains quite unchallenged (Varey and Lewis, 1999; Zanko, Badhamb, Couchmanc and Schubert, 2008; De Clercq et al., 2009b), although intense political struggles may ultimately hinder the effective implementation of innovation strategies (Dean and Sharfman, 1996; Ruekert and Walker, 1987). Researchers argue that the successful completion of an innovation project requires the fair allocation of resources, commensurate with each functional areas' resource needs (Weiss et al., 2013; 2014). Nevertheless, politicking among departments, aimed at acquiring resources for the own department rather than a fair sharing of resources across departments, may decrease the effectiveness of an innovation strategy (Leenders and Wierenga, 2002). As functions often do not get

sufficient monetary, informational or human resources, they may be tempted to engage in political activity, irrespective of others' immediate or long-term research needs. Political behaviours undermine effort-reward expectancy which introduces uncertainty into the resource allocation process thereby denying employees control over the allocation process (Elovainio, Kivimaki and Helkama, 2001; Zanko, Badhamb, Couchmanc and Schubert, 2008). On this ground, more research is needed in order to investigate the role of political activity levels during NSD projects.

2.7 Team-level Antecedents of NSD performance

Due to a highly competitive and dynamic environment, service firms must become more adaptive. Therefore, the use of flexible interfunctional structures has become a vital asset for innovation performance (Evanschitzky, Eisend, Calantone, & Jiang, 2012), which is considered as a critical antecedent of a sustainable competitive advantage (De Luka and Atuahene-Gima, 2007). Project performance during innovation may be affected by various group contingencies and conditions. The role of team parameters that can determine NSD performance still remains unexplored (Vermeulen, 2004; Eisingerich, Rubera and Seifert, 2009). As this model aims at offering a dynamic perspective of NSD management, it acknowledges the importance of three crucial team conditions that influence project performance namely, task conflict, relationship conflict and team climate.

2.7.1 Intragroup conflict

Conflict appears to be an inevitable part of the work environment. A recent global survey found that 85 per cent of employees across levels in organizations experience conflict to some degree (CPP, 2008). Conflict in organizations is a core tension that arises naturally when people experience interdependencies, and they are embedded in structures and systems that attempt to constrain or control their behaviour (Gelfand, Leslie & Keller, 2008) and, as a result, it is often unavoidable. Over the past 20 years an increasing number of studies have emphasized the impact

of conflict on intragroup dynamics and outcomes (De Dreu and Beersma, 2005; Tjosvold, Hui and Yu, 2005; Greer et al., 2008).

Team conflict is quite different from interfunctional conflict levels in the sense that it is associated with the amount of disagreements, tensions and clashes during a specific NSD project and it captures participants' perceptions about the extent they perceived conflict situations specifically during the project (De Dreu and Weingart, 2003). On the other hand, interfunctional conflict refers to employees' perceptions of existing interdepartmental incompatibilities and disagreements between different organizational functions.

De Dreu and Weingart (2003) define intragroup conflict as *the process arising from perceived incompatibilities or differences between team members*. However, researchers still debate whether different types of conflict are detrimental or beneficial for team effectiveness (De Clercq et al., 2009a, b; Hon and Chan, 2013). Early work suggested that conflict was harmful to organizations (Pondy, 1967). Conflict inhibits communications between individuals, breaks personal and professional relationships, and reduces effectiveness, because it produces tension and distracts team members from performing the task (Wall and Callister, 1995). Thus, it is no surprise that today's managers and employees still overwhelmingly view conflict as negative and something to be avoided or resolved as soon as possible. Indeed, growing evidence suggests that conflict may be also beneficial to team performance. Suppressing conflict could reduce creativity, innovation, performance, quality of decisions, and communication between group's members and studies suggest that certain types of conflict (i.e. task conflict) could be beneficial to group performance (Jehn and Bendersky, 2003; Hon and Chan, 2013).

As innovation activities generally encompass ongoing interaction and high interdependence between team members, intragroup conflict constitutes an inevitable and commonplace element in teams' dynamics during innovation (DeDreu, 2006; Desivilya and Yagil, 2005; Tjosvold, 2006). Moreover, as almost 60% of innovation projects have some form of disharmony (Souder, 1988), scholars emphasize the importance of integrating different perspectives among participants in conditions of high uncertainty and interdependence (Desivilya and Yagil, 2005). Therefore, dealing with different types of conflict during innovation initiatives is critical for

several reasons. First, conflict is endemic among employees when they work together under conditions of high interdependence (Gelfand, Leslie & Keller, 2008). The second reason lies in the positive relationship between effective conflict management and innovation team performance (Song et al., 2006). Third, team performance is affected by the participants' relationship effectiveness (Chen, Liu and Tjosvold, 2005), as their perception of the amount of internal conflicts determines performance outcomes (DeDreu, 2006; Jehn and Bendersky, 2003).

Different types of conflict have been shown to coexist within organizations and teams (De Dreu & Weingart, 2003; Tidd, McIntyre & Friedman, 2004). Task conflict describes disagreement about the work that is being done in the group and exists when there are disagreements among team members about the content of the tasks being performed including differences in viewpoints, ideas and opinions (Amason, 1996; Jehn, 1995). The second type is referred to as emotional, relationship or affective conflict and is characterized by anger, aggression, frustration or hostility among or between individuals on a personal level. This type of conflict has been consistently associated with harmful effects on task performance and satisfaction (De Dreu & Weingart, 2003).

Although studies in the area point a negative relationship between conflict intensity and NPD performance in a project level (Gobeli, Koenig and Bechinger, 1998), the role of different types of conflict has not yet been considered explicitly in an innovation context (Song et al., 2006; De Clercq et al., 2009a,b). This lack of understanding is an important area of concern, since innovation performance can be negatively affected by high tensions and disagreements. To the best of our knowledge, no studies provide evidence of how various types of conflict occurring during NSD determine various aspects of the new service development process (Weingart, Todorova, and Cronin, 2010; Vermeulen, 2004; De Clercq et al., 2009a,b).

2.7.1.1 Relationship Conflict

This study incorporates the impact of two types of intragroup conflict that have been proposed in past research: *task* and *relationship* conflict (Jehn, 1997). Pertinent research has established these conflict types as distinct, both in their nature

and in their potentially differential effects on team outcomes (Jehn and Mannix, 2001; Matsuo, 2006), as each conflict type appears to predict various group outcomes (Amason, 1996; Jehn, 1995).

Relationship conflict involves disagreements based on personal and social issues that are not related to work. It is related to interpersonal incompatibilities among team members including tension, animosity and annoyance among members within a team (Jehn, 1995) and is considered as an affective disagreement arising from personal dislikes and disaffection (Amason and Sapienza, 1997). Examples of relationship conflict are conflicts about personal taste, political preferences or interpersonal style. Relationship conflict describes social–emotional conflicts stemming from interpersonal disagreements (Jehn, 1995). Unlike task-related conflict, interpersonal, emotional conflict causes negative psychological reactions like strain, fear, anger, and frustration. These feelings absorb energy and distract team members from performing their tasks. Moreover, relationship conflict undermines team functioning to the degree that anger and frustration impede effective communication within the team and reduce team members' receptiveness. Its importance within service innovation activities has not been previously considered, despite its detrimental effect for team performance during innovation (Gebert, Boerner and Kearney, 2010; Isaksen and Ekvall, 2010).

2.7.1.2 Task Conflict

Refining the theory of intragroup conflict, researchers started to differentiate between task and relationship conflict (e.g., Jehn, 1995; Greer et al., 2008). Task conflict refers to "disagreements among team members about the content of the tasks being performed, including differences in viewpoints, ideas, and opinions" (Jehn, 1995, p. 258). Task conflict describes disagreement about the work that is being done in the group and exists when there are disagreements among team members about the content of the tasks being performed including differences in viewpoints, ideas and opinions (Amason, 1996; Jehn, 1995). Task conflict is related to cognitive disagreement arising from differences in perspective and is thought to increase group members' tendency to scrutinize task issues and to engage in deliberate processing of task-relevant information. Task conflict may enhance performance through

discussions and debates that improve decision-making and the quality of the outcomes (Jehn, 1995). This distinction being drawn within the conflict management literature appears to have parallels with the creative climate literature (Isaksen and Ekvall, 2010).

This kind of conflict is quite conducive to innovation: Task-related disagreement among team members triggers information exchange, thorough exploration of opposing opinions, re-evaluation of the status quo, and scrutiny of the task at hand. This in turn fosters the generation of new ideas and solutions and improves problem solving (Shalley and Gilson, 2004). Bledow et al. (2009) have argued that conflict is inherent in innovation and necessary for it to occur. Support for this position also stems from social– psychological research on decision making, which shows that dissent leads to higher consideration of unshared information in groups and thereby enhances decision quality (Brodbeck, Kerschreiter, Mojzisch, Frey, & Schulz-Hardt, 2002). In a similar vein, it has been argued that minority dissent, which is conceptually and empirically related to task conflict, reduces conformity and consensus-seeking and enhances cognitive complexity and divergent thinking, and thereby innovation (De Dreu & West, 2001). Acknowledging this evidence, more research is required in order to uncover the impact of task conflict on various NSD outcomes such as resource allocation and learning (Boukis, 2013).

2.7.2 Team Climate

Organizational climate is defined as "a set of shared perceptions regarding the policies, practices and procedures that convey messages regarding what is rewarded, supported and valued in an organization, and is often thought to emerge through social interaction processes at the group level" (Kuenzi and Schminke, 2009, p. 637). As a collective phenomenon, work-unit climate drives employees' behaviours by giving them guidelines to make sense of work situations, acting as a source of pressure for desired outcomes. Although research has examined global organizational climate (Kuenzi and Schminke, 2009), some scholars have recently explored particular facets of climate such as climate for innovation (Anderson and West, 1998; Eisenbeiss et al., 2008).

Innovation team climate reflects norms and practices that encourage flexibility, the expression of ideas and learning (Mathisen, Torsheim, and Einarsen, 2006). It also denotes norms and practices, supported and rewarded by the organization, that value taking charge and adapting to changing contexts (van der Vegt, van de Vliert, and Huang, 2005; West and Hirst, 2003). Employees who work in a climate supportive for innovation are used to get empowered, think on their own and build on their cognitive and emotional resources to contribute in a creative manner to the assigned tasks. Therefore, a climate for innovation conveys the message that building on one's inner resources to contribute to the organization's mission creatively is a strategic priority for the organization.

As cross-functional teams are considered as hotbeds of creativity and innovation, the effective integration of knowledge and expertise of individuals with different skills, perspectives and backgrounds remains critical (Anderson and West, 1998). However, performance in innovation teams is not straightforward. Teamwork involves social and psychological processes that can influence the generation, evaluation, acceptance and implementation of new ideas. For example, team members are unlikely to generate and communicate novel and unusual ideas if they expect these to be criticized (West and Anderson, 1996). Rather, what is required is a team and organizational environment that allows creative ideas to be openly communicated, fairly evaluated and properly implemented. West (1990) proposed that innovation can be encouraged in a team climate where creative ideas are valued and supported, can be presented without fear of reprisal and where team members are focused on achieving both organizational and task objectives. There are several conceptualizations of innovation team climate in the extant literature (Caldwell and O'Reilly, 2003; Mathisen, Torsheim, and Einarsen, 2006; West, 1990). Common elements include a sense of security, the open exchange of information and the encouragement of trying new things and risk taking.

This study focuses on NSD team climate which functions as a critical contingency in enhancing the NSD performance in different ways. A satisfactory innovation climate supports team members in their search for novel strategies by facilitating access to necessary information and by encouraging team members to think creatively and to develop new approaches to known problems (Gilson and

Shalley, 2004). Furthermore, a positive team climate incorporates the provision of sufficient opportunity for team participants to experiment with new ideas, thus allowing for phases of individual thought and work which are necessary to better leverage individual creative ability (Amabile et al., 1996; Weiss et al., 2011). Hence, creating a harmonic internal team climate tackles barriers of capability, namely the impossibility to rely on established work approaches, by facilitating the search for unusual alternatives. A positive climate may allow the team to be more innovative as a unit or may promote the innovativeness of participants within the team. This can be achieved through the creation of a feeling of safety among team members when experimenting with novel ideas and approaches, allowing them to make mistakes without fearing negative consequences (Bertels et al., 2011). As a result, team members will be more likely to take risks and subsequently implement novel ideas and strategies, although they may be connected to uncertain outcomes (West, 1990). The importance of a supportive climate may be helpful to employees engaging in the pre-launch stages of NSD as it will increase networking activities and knowledge sharing within NSD team, increasing the usage of knowledge which may otherwise stay in an individual's head.

2.8 Individual antecedents of NSD performance

Having identified some critical interfunctional and team-level drivers of NSD performance, it is also crucial to scrutinize some individual aspects of participants' performance during SND. NSD actors' perceptions of working conditions and other contextual factors are considered as direct determinants of their performance, as individual cognitive categorizations of the working environment may vary across firm's employees (Liao and Chuang, 2007). This perspective is strongly supported from prior work that considers the effects on employee attitudes manifested at the individual instead of the group level of analysis. In this context, two critical individual aspects of participant's performance during service innovation activities are investigated, namely *Role Ambiguity and Market Orientation*.

2.8.1 Role Ambiguity

Roles refer to a set of expectations about behaviours for a position in a social structure and are a defining feature of groups and teams (Salas, Dickinson, Converse and Tannenbaum, 1992). Role ambiguity relates to the lack of understanding about job responsibilities and knowing what is expected in terms of individual job performance (Wang and Lin, 2012). It often occurs when an employee lacks salient information needed to effectively enact his/her role (Singh, 1993). Role theory provides the background for explaining the importance of role ambiguity as an intervening variable between various job conditions and job outcomes (Kahn et al. 1964). Kahn and his co-authors (1964, p. 73) define role ambiguity in a broad sense by arguing that "*Role ambiguity is a direct function of the discrepancy between the information available to the person and that which is required for adequate performance of his role*". Subjectively, it is the difference between one's actual state of knowledge and that which provides adequate satisfaction of one's personal needs and values. King and King (1990) elaborated on this conceptual definition by observing that four forms of ambiguity are likely to be critical in understanding the uncertainty in a role ambiguity about one's scope of responsibilities; the role behaviours necessary to fulfil one's responsibilities; role senders' expectations for various role behaviours; and the consequences of one's actions on the attainment of one's goals and the wellbeing of oneself, the role set and the organization.

Existing studies have consistently associated role ambiguity with negative outcomes such as higher job-related tension and impaired performance (Jackson and Schuler, 1985). Several organizational and group-level studies show conflicting findings on the effect of job stressors on performance (Song, Dyer, and Thieme, 2006). Whereas some studies have found a negative association between role stressors and performance (Tubre and Collins, 2000), others report a positive association (Singh, Goolsby, and Rhoads, 1994) and still other studies have found a curvilinear effect (Jehn, 1995). To date, role ambiguity research is limited to work roles within organizations (King and King, 1990) and has not yet examined roles neither within interfunctional groups nor within an innovation setting with a few exceptions (e.g. Akgun et al., 2007; Barczak and Wilemon, 2003; Kim and Wilemon, 2001; Rodrıguez-Escudero et al., 2010).

Kahn and his co-authors (1964) state that some individuals are more likely to experience role ambiguity when they cross boundaries; produce innovative solutions to non-routine problems; and experience diverse role expectations and demands. Actually, all these conditions largely apply to NSD. Dealing with role ambiguity remains crucial for new service development, as it represents the degree to which NSD tasks are lacking the clarity of behavioural requirements, uncertainty about duties, authority, allocation of time and relationships with others. To the best of our knowledge, no studies within the service innovation area have considered how role ambiguity determines various NSD outcomes (Rodriguez-Escudero et al., 2010; Leung et al., 2010), despite the fact that participants are often confronted with stressful and ambiguous situations. For example, they have to deal with changes in customer demands, organizational ambiguities and conflicts with senior management or other departments (Barczak and Wilemon, 2003; Akgun, Lynn and Byrne, 2006) and clarity about their role requirements is required.

Scholars concur on role ambiguity's importance when innovative solutions and ideas to non-routine problems are required (Kahn et al., 1964). As pressure for goal accomplishment and performance remains high within innovation activities, strict deadlines have to be met and changes in customer demands should be considered (Rodrıguez-Escudero et al., 2010), team members experience ambiguity and conflict and are likely to become disillusioned (Akgun et al., 2007). Particularly, feelings of ambiguity have a negative impact on team satisfaction because it is difficult for team members to like their job and to achieve feeling of personal accomplishment and growth when they are uncertain about what they are expected to do. As role ambiguity increases, the ability of the employees to make accurate judgments decreases (Bagozzi, 1980), resulting in a low level of outcome expectation in their NSD task. Similarly, when role ambiguity is high, the ability to visualize one's performance is impaired, thereby reducing one's confidence in his/her ability to perform effectively. This is understandable because clear goal setting in employees' roles helps them pursue excellence and concentrate on attaining expected higher levels of performance. In addition, role ambiguity can reduce innovation participants' creativity (Tang and Chang, 2010) in the sense that role expectations are antecedents of creativity and unless clear organizational goals are established,

creative initiatives may be abandoned (Tang and Chang, 2010). In this context, role ambiguity may impair individual performance in several ways during innovation initiatives.

2.8.2 Individual Market Orientation

The market orientation (MO) construct has attracted significant attention over the past 20 years (Kohli and Jaworski, 1990; Narver and Slater, 1990; Liao et al., 2011). Market Orientation (MO) is an organizational culture that provides strong norms for learning from customers and competitors and remains instrumental in creating superior value for customers, generating superior organizational performance and innovating successfully (Kirca, Jayachandran, and Bearden 2005; Jimenez-Jimenez et al., 2008). MO is associated with market intelligence generation, integration and dissemination of such intelligence across the firm as well as the coordinated design and execution of the organization's response to market opportunities (Matear et al., 2004). Researchers mainly consider market orientation either as an organisational culture (Slater and Narver 1994) or a set of behaviours (Kohli and Jaworski 1990). Despite its widely acknowledged importance for practitioners and its centrality in marketing studies (Cheng and Krumwiede, 2012), different approaches so as to derive an MO conceptualization have emerged out of the pertinent literature; some managerial ones such as *the decision-making perspective* (Shapiro, 1988) and *the market intelligence perspective* (Kohli and Jaworski, 1990); and cultural ones like *the culturally based perspective* (Narver and Slater, 1990).

Most existing conceptualizations portray the market orientation construct as a set of organizational behaviours which is suggested to encompass five main activities: customer orientation, competitor orientation, interfunctional coordination, responsiveness and profit emphasis (Liao et al., 2011). Customer orientation relates to the extent that customer commitment is an important part of business strategy whereas competitive orientation refers to the extent to which competitor activity is monitored and reported (Gray et al., 1998). Interfunctional co-ordination assesses how well marketing information is shared between functions while responsiveness acknowledges whether the firm responds to competitors' activities. Finally, profit

emphasis indicates the ability of management information systems to determine the profitability of specific areas of business activity (Gray et al., 1998).

Based on Lam and his colleagues' (2010) work, this study embraces a behavioural perspective of Market Orientation but it is conceptualized as an individual-level construct. Following recent developments in the area, MO is conceptualized '*as an organizational member's practice of integrating customer preferences, competitor intelligence, and product knowledge into the process of creating and delivering superior value to customers*' (Lam et al., 2010; p. 62). Their conceptualization is highly conformable for the purposes of this study as it corresponds to three types of market driven learning: customer orientation, competitor orientation and product orientation. Customer orientation refers to the focus on customer preferences and needs; competitor orientation is related to the monitoring of competitors' activity, while product orientation displays the importance of and/or innovative service offerings for the firm (Lam et al., 2010). This definition was selected as its three key components clearly capture individual's the most critical aspects of market orientation for innovation activities.

The *consequences* of MO are related to several aspects of organizational performance (Slater and Narver, 1994), customer consequences, employee consequences (Jaworski and Kohli, 1993), and innovation consequences (Cheng and Krumwiede, 2012). The contribution of MO to innovation has been highlighted by several scholars (e.g., Agarwal et al., 2003; Ordanini and Maglio, 2009; Cheng and Krumwiede, 2012). However, empirical support for this contribution remains controversial, as some studies have found support for a direct contribution to innovation (Kumar et al., 1998) whereas others have failed to find support (e.g., Han et al., 1998). Despite that several studies generally agree that the market orientation–innovation–performance relationship does exist (Grinstein 2008; Augusto and Coelho, 2009; Song et al., 2009), the MO-NSD relationship seems far from fully explained (Zhou et al., 2009). For example, some scholars note that MO can have negative consequences for innovation because it leads to the development of "me-too" products rather than real innovations (Bennett and Cooper, 1981).

Although research on MO antecedents and consequences has greatly advanced in the past two decades (Narver and Slater 1990; Kohli and Jaworski,

1990), "the prevalent research design has been a between firm analysis, with an emphasis on organizational-level determinants of how market oriented a firm should be" (Lam et al., 2010, p. 61). Additionally, few studies explore how individual-level perceptions of MO can help organizational members from different functional units and organizational levels to cooperate and perform better (Lam et al., 2010).

2.9 The role of Knowledge Management strategies for NSD

The current literature illustrates the importance of several management strategies for NSD such as the use of cross-functional teams (Froehle et al., 2000), project champions (Schilling and Werr, 2009), formal communication meetings and informal communication (Boerner et al., 2012), brainstorming and lead user analysis (Cooper and Edgett, 1999) or more formalized procedures for generating and evaluating new service ideas (de Brentani, 1991). Despite some organizational gains derived from the adoption of these strategies, it is becoming increasingly critical for firms to gather and integrate knowledge necessary to achieve higher NSD performance (Melton and Hartline, 2013), as collecting, managing and exploiting customer knowledge, competitor and market info can indisputably deliver a sustainable competitive advantage to service firms (Alam and Perry, 2002). As a result, the impact of two knowledge management strategies is investigated that can contribute to the success of service development projects.

Knowledge management is crucial for fostering sustainable competitive advantage and remains an issue of heightened importance for service firms (Nonaka, 1994), as increasing competition and the vast amount of available info renders it one the most critical organizational strategies (Kumar and Ganesh, 2011). Organizations that are aware of their knowledge resources possess a valuable and unique resource that is difficult to imitate (Alavi and Leidner, 2001). Hence, knowledge management includes all the activities that utilize knowledge to accomplish the organizational objectives in order to face the environmental challenges and maintain a sustainable competitive advantage in the market place (Miller et al., 2007).

Knowledge can be distinguished in two different types – *tacit* and *explicit* knowledge (Polanyi, 1966). Tacit knowledge is the personal and context-specific

knowledge of a person. It is bound to the individual and is thus difficult to formalize and communicate (Nonaka and Takeuchi, 1995). Consequently, it is not possible to separate, store, and distribute the whole knowledge of somebody. In contrast, explicit knowledge can be codified, stored and disseminated. It is not bound to a person and has primarily the character of data. It is the part of tacit knowledge that can be expressed verbally and does not represent the entire body of knowledge (Nonaka and Takeuchi, 1995). Based on this classification, two different knowledge management strategies have been discussed in the literature for sharing tacit and explicit knowledge respectively: a codification and a personalization strategy.

2.9.1 Codification Strategy

A codification strategy has the objective to collect knowledge, store it in databases, and provide the available knowledge in an explicit and codified form (Storey and Hull, 2010). The design of databases, document management and workflow management can be considered as part of this approach. A codification strategy is assumed to be successful for these companies whose business strategy mainly promotes re-using existing knowledge (Hansen et al., 1999; Malhotra, 2004). The objective of the codification strategy is to transfer, communicate, and exchange knowledge via knowledge networks such as discussion forums (Hansen et al., 1999). As the strategy's success lies in making large scale people-to-document connections, it is infeasible without the use of information technology (Earl, 2001). However, a codification strategy can have some drawbacks. For example, it can increase info overload in the form of large directories of unprocessed documents or unread mail (Schulz and Jobe, 2001). Given that explicit knowledge is easily imitable and highly mobile, the involuntary transfer of strategic know-how (e.g. blueprints) to competitors is also a possibility (Schulz and Jobe, 2001). Additionally, in fast-changing industries such as information technology, explicit knowledge has a short shelf-life and rapidly becomes obsolete (Mukherji, 2005). More importantly, codified knowledge needs remarkable investments in IT for creating and maintaining repositories, expert systems and web pages.

<u>2.9.2 Personalization Strategy</u>

A personalization strategy involves both formal (e.g., project meetings) and informal mechanisms (e.g., short conversations) and results in the sharing of tacit knowledge, which is hard to articulate, acquire, and store within individuals without direct personal experience (Szulanski, 1996). Direct interactions between people, corporate yellow pages that provide information about which expertise resides in whom, communities-of-practice, storytelling and setting up shared physical and virtual spaces that inspire constructive interactions are common practices related to this strategy (Haesli and Boxall, 2005; Hansen et al., 1999). The focus of this approach is *not to store knowledge, but to use information technology to help people communicate their knowledge*. A personalization strategy can more deeply involve different functions during innovation through enhancing connectedness among functional units and through ensuring the effective use of the firm's competencies to engender radical outcomes (Atuahene-Gima, 2005).

Some of the concerns associated with codification approach are overcome by the use of a personalization strategy, whose primary concern is to transfer tacit knowledge among employees. In this case, knowledge is considered to be closely tied to its owners and conditions are created to ensure its movement between them. Personalization favours the stickiness of knowledge and causal ambiguity in the firm, situations in which knowledge does not easily flow out, and competitors cannot clearly decipher the precise reasons for one's success or failure (Szulanski, 1996). As a result, the risk of imitation is lowered. Moreover, applying a personalization approach is highly favourable to creativity and is relevant where products and services are customized and innovative solutions need to be delivered fast (Haesli and Boxall, 2005; Mukherji, 2005). However, this strategy also invokes some concerns. First, people are reluctant to share knowledge with each other due to their fear of losing status and power (Szulanski, 1996). This restricts the movement of knowledge even within the organization and necessitates due attention towards social and cultural issues. Second, employee turnover implies loss of valuable and complex tacit knowledge (Droege and Hoobler, 2003) that could not anyway be captured by codification and this suggests that people retention strategies need to be given due

importance, in conjunction with the use of a personalization approach (Haesli and Boxall, 2005).

2.10 Project Innovativeness

Several service innovation types have been proposed in relevant studies (Debackere et al., 1998, Berry et al., 2006; Paswan et al., 2009; Liu, 2013). The degree of service innovation ranges from a totally new or discontinuous innovation to a service involving a minor improvement of an incremental nature (Avlonitis et al., 2001; Garcia and Calantone, 2002). As different categories of innovation are potentially linked to the levels of new product or service development related risks, it seems important that the firms adjust their approach depending on the types of new services they develop (Veryzer, 1998; de Brentani, 2001; Liu, 2013). Booz, Allen and Hamilton (1982) were the first to develop a typology for new tangible products. Adapting their findings to services, Gadrey, Gallouj and Weinstein (1995) proposed four types of financial service innovation: innovations in service products, architectural innovations, modifications of service products, innovations in processes and organization for existing service. Gallouj and Weinstein (1997) synthesized the findings both from tangible product and service literature and introduced six types of service innovation radical, incremental, improvement, combinatory, formalization and ad hoc innovations. Furthermore, Chan et al. (1998) have suggested a triad categorization of service innovation named breakthrough innovations; distinctive innovations and incremental ones.

More recently, Avlonitis et al. (2001) explored the typology of product innovativeness in the financial services industry and presented another synthesis of new service types. Although all of the above typologies seem useful in studying the new service types, this more recent categorization of financial services by Avlonitis and his colleagues (2001) appears to capture varying levels of service innovativeness fairly well. They distinguish among six types of innovation (i.e. new-to-the market services, new-to-the company services, new delivery processes, consisting of lines new to a firm, service modification, service line extension and service repositioning).

The innovation literature has indicated that a formidable relationship exists between the degree of project innovativeness and new service performance (e.g.,

Song et al., 2009, Crawford and Di Benedetto, 2008; Avlonitis et al., 2001; Cheng and Krumwiede, 2012; Liu, 2013). Service innovation is not an end itself but its value lies in the facilitation and generation of outcomes that benefit NSD regardless of financial rewards or market positions (Benner and Tushman, 2003). Specifically, the way for service innovation to contribute to new service performance is through new benefits to existing customers, creation of new markets through an incremental addition of existing service values or radical creation of new service values. In other words, project innovativeness, regardless of whether it is incremental or radical, is able to contribute significantly to new service profitability in terms of financial or market perspectives.

As this study is concerned with the greatest and least degree of project innovativeness, project innovativeness was categorized into *incremental* and *radical* innovation projects. Such a differentiation has been frequently used in similar innovation research (Olsen and Sallis, 2006, Min et al., 2006; Song and Thieme, 2009). ***Incremental service innovations*** are related to customer-led strategies and are posited to be the most common form of innovation (Slater and Narver, 1999). In addition, the development of incremental service innovation tends to limit the range of potential service innovation, because it relies on customers' current view of the service market (Becheikh et al., 2006). On the other hand, ***radical service innovations*** are defined as fundamental changes in new services that represent revolutionary changes in service benefits (Berry et al., 2006, den Hertog, 2000). To sum up, incremental service innovation describes a new value creation through the incremental addition of existing values whereas radical service innovation creates brand new values through the development of innovative concepts.

2.11 New Service Development Outcomes

In today's global and dynamic competitive environment, innovation is becoming more and more relevant, mainly as a result of three major trends: intense international competition, fragmented and demanding markets, and diverse and rapidly changing technologies. Competitive advantage is increasingly derived from

knowledge and experience in the creation of new products and services (Ottenbacher 2006). Within this context, special attention needs to be paid to various gains that can be reaped from service innovation activities (Jiménez-Jiménez and Sanz-Valle, 2011). Various organizational gains from deriving from innovation projects are a central issue in the innovation management research. However, having effective mechanisms for assessing innovation success or failure plays a key role in translating an organization's innovation strategy into desired behaviours and results and in achieving long-term success (Blindenbach-Driessen, Van Dalen, & Van Den Ende, 2010). Since the 1990s, there has been a recent upsurge in academic interest related to NSD gains and respectively a number of authors have provided a number of performance measures (de Brentani, 1989; Voss et al., 1992; Ottenbacher 2006; Menor and Roth, 2007; Blindenbach-Driessen, Van Dalen, & Van Den Ende, 2010; Melton and Hartline, 2013).

Typically, most performance assessments are based on subjective measures obtained in retrospect from single respondents (Montoya-Weiss and Calantone, 1994; Weiss et al., 2013). Several researchers have used subjective measures of performance based on the perception of key executives because the subjective measures of performance are essentially equivalent to those for objective performance (Storey and Kelly, 2001). Meager research focusing on internal and/or operational proxies of innovation performance, emphasizes objective outcomes like time, cost and schedule or subjective ones such as perceived relationship effectiveness and stage proficiency (Cooper et al., 1994; Voss et al., 1992; Ottenbacher 2006; Menor and Roth, 2007; Blindenbach-Driessen et al., 2010).

Few studies however, identify both project- and organizational-level gains from innovation performance (Blindenbach-Driessen et al., 2010). Even fewer studies employ measures of service innovation performance that reflect the resourceful execution of the specific project or assess project efficiency and effectiveness (Van Riel et al., 2004; Kleinschmidt et al., 2010; Weiss et al., 2013; 2014). In addition, there is little consensus amongst relevant studies regarding how to provide an internal integrated view of NSD; which dimensions of success to include and how to set about measuring these dimensions (de Brentani, 1989; Storey and Kelly, 2001; Menor and Roth, 2007; Blindenbach-Driessen, Van Dalen, & Van Den

Ende, 2010; Weiss et al., 2013). As good measurement is a prerequisite for good empirical science (Menor and Roth, 2007), this lack of psychometrically sound and generally accepted multi-item measurement scales has hindered the theory and understanding of organizational gains associated with NSD.

With the aim of capturing both project- and organizational-level benefits deriving from service innovation projects, this study considers five different NSD outcomes (i.e. *organizational learning, project learning, resource allocation effectiveness, resources allocation efficiency and project performance*). These measures also capture objective and subjective, financial and process, short- and long-term, project- and organizational consequences of the new service development process with the aim of providing a more comprehensive view of the contribution of the development of new services to organizational effectiveness. The NSD outcomes investigated are displayed below in figure 5.

Figure 5 - NSD Outcomes
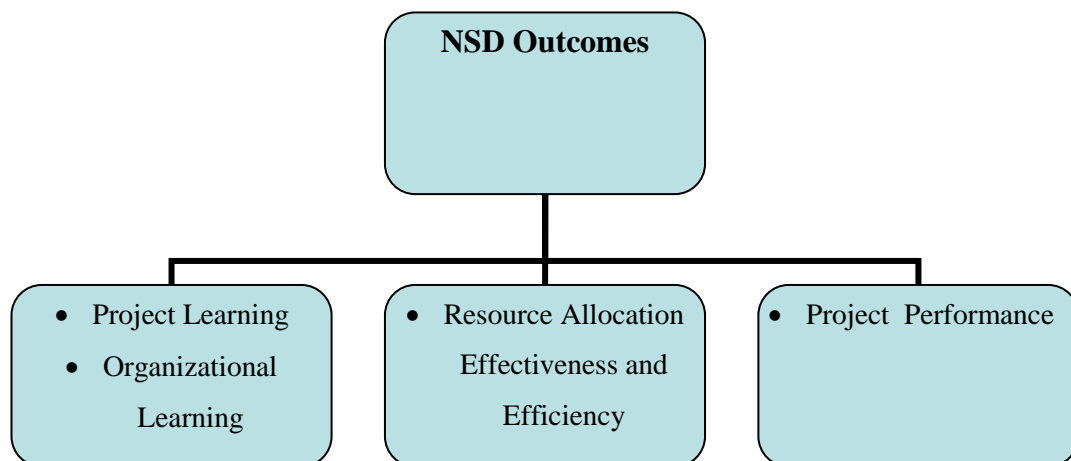
Organizational learning is associated with long-term benefits for service firms in terms of expanding their knowledge base and maintaining a sustainable competitive advantage (Jiménez-Jiménez and Sanz-Valle, 2011). Project learning not only adds to tacit and explicit organizational knowledge but also enhances individual experience that can be proved crucial in the long-term. Third, resource allocation effectiveness and efficiency are pivotal as scarce resources can impede the execution of many parallel projects (Ulrich and Eppinger, 2003). Finally, project performance assesses the overall performance of the interfunctional NSD team, providing an

operational measure of NSD success. Next, it is critical to establish the rational for selecting these NSD outcomes through reviewing the extant literature and providing an overview of their relative importance for new service development success. The following sections discuss the importance of these five outcomes of the NSD process.

2.11.1 NSD Project Performance

Project performance constitutes one of the critical aspects of innovation success and assesses the extent to which the development project was successful or not (de Brentani, 1991). The extant literature often addresses both internal and external, objective and subjective measures of project performance (Melton and Hartline, 2013; Blindenbach-Driessen et al., 2010). For example, meager research focuses on objective proxies of NSD performance related to time, cost, budget, market success, ROI, schedule, etc. (Akamavi, 2005; Storey and Kelly, 2001) but other academics stress the importance of more subjective NSD outcomes such as perceived relationship effectiveness, project learning and stage proficiency (Rodriguez et al., 2007; Massey and Dawes, 2007; Oke, 2007). Innovation performance is also measured with various outcomes such as the degree of service innovativeness (Avlonitis et al., 2001) and decision-making effectiveness (van Riel and Lievens, 2004). Managers typically use financial measurements, such as revenue or profit, to evaluate the performance of new service developments. Time, cost and quality can be seen in prior research as the objectives and outcomes of new service development activities (Tatikonda and Montoya-Weiss, 2001). Some researchers adopt a quantifiable measure, including market share and sales quantity, to assess new service performance (Griffin and Page, 1996).

NSD performance can also be seen as a multidimensional construct that reflects a project's or a firm's operational effectiveness and market competitiveness (Tatikonda and Montoya-Weiss, 2001). Some previous empirical studies have provided different dimensions of measurement to assess new service success or failure in service industries. For example, de Brentani (1989) provides some different dimensions of measurement to assess NSD performance which include: 1) sales and market share; 2) competitiveness; 3) cost and 4) other boosters. Fitzgerald et al.

(1991) argue that the success or failure of an innovation can be measured by five criteria namely financial performance, competitiveness, quality, flexibility and resource utilization. Voss et al. (1992) provide an integrated assessment by including process and outcome measures to evaluate the performance of new service developments. The integrated measurement of new service developments was based on the different levels of the new service development process. Based on Storey and Kelly's work (2001), the levels of performance measurement include: 1) project level, assessing the success of individual products/services and 2) programme level, assessing the success of new products/services over time. Storey and Kelly's study (2001) also reveals that the use of performance measurements for new service development varies with the type of service firm. Less innovative firms often use financial measures to assess the performance of new service development. Customer-based measures are usually adopted by fast followers whereas the most innovative firms employed financial measures and some internal process measures to assess the performance of their service development efforts.

As the literature very perceptively indicates, most studies put effort on the outcome perspective measurements, such as financial and competitiveness measures and some cost measures as well (Store and Kelley, 2001; de Brentani, 1989). This study, understanding the importance of capturing various benefits that might derive from service innovation projects, measures *NSD project performance* from an internal perspective which is complementary to the aforementioned objective proxies of NSD performance. NSD project performance addressed the operational performance of the service innovation team in terms of goals, cost, budget etc. and aims at identifying internal contingencies that might determine the project outcome.

In line with Tatikonda and Montoya-Weiss (2001), this dissertation draws a distinction between operational and market performance. Operational performance relates to meeting project goals such as adherence to schedule, budget, and quality requirements. Market performance relates to the financial and market performance of the developed service (Storey and Kelly, 2001; Weiss et al., 2014). The focus of this dissertation lies *on the operational aspect of service innovation performance with the aim of delivering an internal perspective of NSD project management*. Academics purport that if underlying NSD benefits could be identified, then regardless of which

specific measures are used to quantify the firm's performance in a particular dimension, we might ultimately be able to provide firms them with a more balanced view of their performance (Blindenbach-Driessen et al., 2010; Weiss et al., 2013).

2.11.2 NSD Project Learning

Organizational learning is related to direct experience, experiences of others and the existing knowledge base of the organization (Slater and Narver, 1995) and involves the contributions of different individuals and groups towards organizational problems. Organizational and individual learning, and the associated transfer of production know-how, allow firms and employees to connect their daily work experiences with opportunities for improvement and innovation (Ferdows, 2006). Thus, an organization's ability to learn depends on the experience and actions of employees and teams within the organization. In fact, accumulated prior knowledge will not enhance learning unless individuals, groups and the organization tap knowledge from each other (Cohen and Levinthal, 1990; Crossan et al., 1999).

NSD interfunctional teams act as information processing systems which use and develop organizational knowledge (Sinkula, 1994). Evidence suggests that their contributed knowledge base produces greater efficiency and reduced development time (Froehle et al., 2000). The knowledge produced during service development projects is the result of a process involving the acquisition, the distribution and the use of existing knowledge (Stevens and Dimitriadis, 2004) so as to reduce project uncertainty and to lead eventually to the creation of new knowledge for the firm. Project learning is conceptualized as "*the amount of experiences, insights and knowledge that project participants gained during a specific NSD project*".

Under such circumstances, NSD project learning becomes a critical aspect of the firm's performance in the sense that enhancing organizational knowledge largely depends upon the current acquired knowledge of the NSD participants. Recent work has addressed the importance of project learning in a NSD context by establishing a relationship between project learning and performance (Blazevic and Lievens 2004; Stevens and Dimitriadis 2004; 2005). However, uncovering contingent and contextual drivers of NSD actors' project learning as well as managerial behaviours

that contribute to project learning during the innovation process is important to be identified (Stevens and Dimitriadis, 2011).

2.11.3 Organizational Learning during NSD

In today's service-oriented and knowledge-based economies, organizations are quickly realizing that they can no solely compete on past success factors such as assets or products but should promote knowledge management and foster individual learning (Blazevic and Lievens, 2004; Argote, 2011). Organizational learning is a basis for gaining a sustainable competitive advantage and a key variable in the enhancement of organizational performance (Brockmand and Morgan, 2003; Limpibunterng and Johri, 2009). Firms that are able to learn stand a better chance of sensing events and trends in the marketplace (Day, 1994). As a consequence, learning organizations are usually more flexible and faster to respond to new challenges than competitors (Slater and Narver, 1995) which enables them to maintain long-term competitive advantages.

Organizational learning is the process by which the firm develops new knowledge and insights from the common experiences of people in the organization with the potential of influencing behaviours and improving the firm's capabilities (Huber, 1991; Jiménez-Jiménez, & Sanz-Valle, 2011). It refers to the idea that organizations, as independent entities, can acquire knowledge as a result of organizational activity and is the capability within an organization to maintain or improve performance based on experience (Bell et al., 2002). This occurs through improving and expanding information dissemination across departments so that more organizational areas can reap feedback benefits. The process takes place within a community of interaction in which the organization creates knowledge, which expands in a constant dynamic between the tacit and the explicit (Nonaka and Takeuchi, 1995; Argote, 2011).

Adopting the perspective that organizational learning is the development of an organizational knowledge base (Hult and Ferrell, 1997), organizational learning is conceptualized as *"the process within the organization by which knowledge about action–outcome relationships and the effect of the environment on these relationships is developed''* (Duncan and Weiss, 1979). Learning is vital to the

survival of the organization and critical particularly during innovation as it steers the transformation of market information into new service offerings (Lievens et al., 1999; Blazevic and Lievens, 2004). Some studies propose that organizational learning can enhance innovation (Jiménez-Jiménez and Sanz-Valle, 2011; Ussahawanitchakit, 2008; Aragon-Correa et al., 2007). The basic assumption is that learning plays a key role in enabling companies to achieve speed and flexibility within the innovation process (de Weerd-Nederhof et al., 2002). In other words, organizational learning allows the company to develop capabilities that foster innovation and that innovation is what positively affects organizational performance (Han et al., 1998; Jiménez-Jiménez, & Sanz-Valle, 2011).

Organizational learning has recently attracted some attention with academics stressing its importance for new service development (Limpibunterng and Johri, 2009; Stevens and Dimitriades, 2004; 2005; 2011; Argote, 2011; Melton and Hartline, 2013). Successful innovation requires that individuals exploit existing knowledge, share and use this knowledge within NSD projects to generate new and common insights (Nonaka, 1994). Organizational learning in this sense, allows the development, acquisition, transformation and exploitation of both new and existing knowledge so as to improve NSD performance and participants' learning.

This construct actually measures in particular the contribution of each specific NSD project to the amount of organizational knowledge. This is quite important as despite the fact that individual participant's project learning might be high, this is not automatically translated into the expansion of the organizational knowledge base. Capturing the extent to which each NSD project's contributes to existing organizational knowledge is crucial as service development efforts should not only add on market performance but also expand the organization's knowledge base (Stevens and Dimitriades, 2011; Argote, 2011).

Most prior research adopts a cultural approach for measuring organizational learning (Hult et al., 2004; Hurley and Hult, 1998; Keskin, 2006; Mavondo et al., 2005; Ussahawanitchakit, 2008; Argote, 2011) or focus on innovation orientation, that is to say, the extent to which the firm's culture promotes and supports innovation (Hult et al., 2004; Ussahawanitchakit, 2008). In fact, very few studies analyse the dynamic environment within which the organizational learning process occurs

(Tippins and Sohi, 2003). To the best of our knowledge, few attempts have been made to identify contingent factors that can expand firm's knowledge base with insights and knowledge derived from service development efforts. Thus, a more complete understanding of how service organizations can practically foster their amount of organizational knowledge is required (Limpibunterng and Johri, 2009; Stevens and Dimitriades, 2011; Argote, 2011).

2.11.4 Resource Allocation Effectiveness and Efficiency during NSD

Competing in rapidly changing markets often requires the ability to quickly develop and deploy new service offerings (de Brentani 1989; Gallouj and Weinstein, 1997). Services firms pursuing a strategy reliant upon innovation are under constant pressure to make more efficient use of their resources (Henard and Szymanski, 2001; Alegre, Lapiedra and Chiva, 2006). The resource allocation process deals not only with the expenditure of funds but also with the allocation of personnel, other support services, infrastructure, and info (Roth and Menor, 2007). Achieving efficiency and effectiveness during resource configurations is crucial for a number of reasons. First, the effective fit and collaboration of human resources i.e. employees with different educational backgrounds, expertise and often conflicting priorities can influence NSD process success (Umashankar, Srinivasan, and Hindman, 2011). In a similar vein, accurate and timeliness information exchange and use between different departments reduces uncertainty and enhances NSD project learning (Blazevic and Lievens, 2004; Lievens and Moenaert, 2000; Moenaert et al., 1994). Third, the provision of resource slack can significantly increase NSD-related costs, withdrawing resources from other critical organizational activities. For all these enhancing resource allocation and efficiency during NSD projects is pivotal.

Some scholars conceive efficacy and efficiency as two aspects of innovation performance. Rothwell (1972) led the SAPPHO studies which analysed innovation success and failures found that efficient development was significantly related to success. Since, this pioneering study, many others have claimed the importance of speed for an innovation project to be successful (Gupta and Wilemon, 1990; Cooper and Kleinschmidt, 1995; Griffin and Page, 1993). Innovation efficacy reflects the degree of success of an innovation whereas innovation efficiency reflects the effort

carried out to achieve that degree of success, as usually determined by the cost and the time of the innovation project (Wheelwright and Clark, 1992). These two dimensions of product innovation performance are consistent with previous literature (Valle and Avella, 2003).

In a similar vein, this dissertation views the resource allocation process as "the efficient and effective allocation of resources during a NSD project" which is comprised of two-newly introduced constructs, namely resource allocation effectiveness and efficiency. *Resource Allocation Efficiency* **captures the extent to which organizational resources were efficiently used during the specific NSD project**. On the other hand, *Resource Allocation Effectiveness* **captures the extent to which organizational resources were adequately provided for the specific NSD project**. In other words, *efficiency* allows project managers to do the same amount of work with fewer resources whereas *effectiveness* allows project managers to generate higher performance, independent of resources required. These definitions are similar to the ones previously mentioned but do not focus on the overall market success of the innovation process but rather on its internal operational NSD performance. These two aspects of the resource configuration process remain pivotal; the provision of resource slack can significantly increase NSD costs and withdraw resources from other critical organizational activities while project performance is required to ensure market success (Weiss et al., 2014).

Within the product innovation literature, enhancing resource allocation effectiveness and efficiency during innovation is an issue that has not attracted a lot of research scrutiny until recently (Weiss et al., 2013; 2014; Kleinschmidt et al., 2010). The predominant view about resource allocation during innovation activities primarily centre around whether resources that are input into each development activity result in successful or unsuccessful projects (Cooper and Kleinschmidt, 1988; Kleinschmidt et al., 2007). In other words, resource slack, rather than resource efficiency is proposed to drive innovation success (Damanpour, 1991; Weiss et al., 2014).

Although there has been some research into the factors that connote effective processes and the arrangement of activities that best position the firm to succeed (de Jong and Vermeulen, 2003), there has been comparably little scrutiny to the

resources required to support development initiatives (Leenders and Wierenga, 2008). Scholars confirm that resource configuration is a critical aspect of innovation performance (Hendriks, Voeten and Kroep, 1999; Kleinschmidt et al., 2010), but few articles deeply explore what drives project effectiveness and efficiency (Melton and Hartline, 2013 Weiss et al., 2013; 2014). Despite that resource scarcity impedes the pursuit of many parrarel projects (Ulrich and Eppinger, 2003), more research is required to provide insights on how project managers can ensure the effective and efficient allocation of resources in the development process within dynamic and turbulent environments (Kleinschmidt et al., 2010; de Brentani and Reid, 2012).

This chapter provided an overview of existing knowledge within new service development area, identified some critical differences from new product development and described the key constructs of the study. In the following chapter, the development of the conceptual model is developed.

Chapter 3 - Model Development

In this chapter, the development of the conceptual framework is presented and research hypotheses are formulated. This chapter is divided into two sections. The first section refers to the effect of project manager's Internal Market Orientation on team participants during service development projects and the second one investigates the joint impact of the various intra-organizational conditions and knowledge management on various NSD outcomes.

The service innovation process is characterized by high uncertainty, interfunctional clashes, extensive info-processing and high task interdependence (Vermeulen, 2004; Storey and Kahn, 2010). Therefore, investigating the role of intra-organizational contingencies and conditions for service innovation performance remains an imperative before selecting appropriate management strategies. In this context, five groups of intra-organizational drivers of NSD performance are identified in order to capture the impact of the most critical determinants of the firm's internal environment on various five critical NSD outcomes. The NSD outcomes investigated include project performance, project learning, organizational learning, resource allocation effectiveness and resource allocation efficiency.

Recognizing the importance of project managers for innovation success (Dibrell, Craig and Hansen, 2011), the first group of determinants examines whether project manager's adoption of an Internal Market Orientation (IMO) affects team-level parameters, intefunctional conditions, individual antecedents of NSD, knowledge management strategies and various NSD outcomes. The second set of factors acknowledges the role of team-level conditions for NSD projects. Briefly, the impact of team climate and two different types of conflict (i.e. relationship and task conflict) on the five NSD outcomes is assessed. The third group of predictors is associated with individual antecedents of NSD performance. As role ambiguity is detrimental under high pressure for goal accomplishment and market-oriented employees can boost innovation success, their impact on NSD outcomes is weighted. Managing successfully interfunctional interactions remains of high importance, as innovation results are highly dependent on relationships between team participants from different units (Maltz et al., 2001). Accordingly, the third group of

antecedents takes into account the role of interdepartmental relationships between organizational functions during NSD and especially, emphasis on interfunctional political activity, interfunctional conflict, interfunctional trust and interfunctional integration is given. Last but not least, the impact of two knowledge management strategies (i.e. codification and personalization strategy) on the five NSD outcomes is also queried. These effects are displayed in figure 6. Taken together in a cohesive structure, the conceptual model of this study is shown in Figure 6 (see next page). This model displays the close interrelationships that tie intra-organizational antecedents and various NSD outcomes. Overall, 44 hypotheses were developed and tested.

3.1 The role of Internal Market Orientation for New Service Development

Scholars also elaborate that a sustainable competitive advantage results from effective teamwork induced by senior managers (Aragon et al., 2007). Senior executives' contribution to innovation is pivotal as their know-how and understanding are usually of a tacit nature and result from their past engagement in project experiences. Moreover, their role becomes even more crucial in high uncertainty projects as they can guide the innovation program (Reid and de Brentani, 2004), champion innovation efforts during critical phases (Takeuchi and Nonaka, 1986) and participating in daily activities as project reviewers (Cooper, Edgett and Kleinschmidt, 2003). Despite some evidence about management's role for product innovation activities (Kleinschmidt et al., 2010), no specific recommendations are provided specifying what how project manager's behaviour can affect participants' project performance during service innovation projects (Hammedi et al., 2011; Kleinschmidt et al., 2010; Ettlie and Rosenthal, 2011). A relatively neglected aspect of project manager's work-role is to effectively manage team participants and ensure that their actions are aligned with superordinate goals, improving chances for project success (Dibrell, Craig and Hansen, 2011). Under such circumstances, the importance of project manager's adoption of **Internal Market Orientation** for various NSD aspects needs to be investigated.

Figure 6 - Conceptual Model

Level-2

Level-1

Interfunctional relationships

Political Activity

Integration

Conflict

Trust

Team-level conditions

Team Climate

Task Conflict

Relationship Conflict

Internal Market Orientation

Individual level drivers

Role ambiguity

Market Orientation

Knowedge management strategies

Personalization strategy

Codification strategy

NSD Outcomes

NSD project performance

Organizational Learning

Project Learning

Resource Allocation Efficiency

Resource Allocation Effectiveness

Project Innovativeness

Although adopting an IMO has proved useful in the management of service employees (Gounaris, 2006), its potential benefits for the NSD process remain largely unexplored (Sanchez-Hernandez and Miranda, 2011; Hernández, 2008), as the contemporary literature seldom addresses the role of employee related factors in this setting (Oke, 2007; Vermeulen et al., 2005; Jaw et al., 2010; Perks and Riihela, 2004).

One of the shortcomings of traditional internal marketing approaches is that they ignore the impact of top-down interactions on any strategic activity (i.e. new service development). Without being cognizant of this impact, academia cannot provide specific recommendations of how service firms can more effectively manage NSD. Hence, Internal Market Orientation (IMO) is proposed as a philosophy whose adoption can benefit several aspects of new service development projects.

3.2 IMO and interfunctional relationships during NSD

Service innovation success depends heavily on enabling employees to perform more effectively (Johne and Storey, 1998; Cheng and Krumwiede, 2012). Senior executives are in need of improving the quality of interfunctional interactions during NSD in order to reduce development uncertainty, increase resource effectiveness and finally improve overall firm performance (Edgett and Parkinson, 1994; Lievens and Moenaert, 2000). Nevertheless, controversy remains how behavioural intricacies that arise in development projects influence performance (Vermeulen, 2004). Thus, the question of how employees from different functions can better collaborate and perform still remains unanswered (Melton and Hartline, 2013). In this respect, providing project managers with effective ways to deal with the influences of intra-organizational environment on NSD projects is a top priority for researchers (Froehle and Roth, 2007; Ostrom et al., 2010), as they are the only ones that can ensure the alignment of NSD efforts with firm's strategic orientation.

The management of interfunctional relationships during innovation is crucial in the sense that they have a direct effect on firm's innovation performance (De Clercq et al., 200a,b), due to their impact on resource exchange, interfunctional cooperation and communication quality (Perks and Riihela, 2004; Froehle and Roth,

2007). In fact, Varey and Lewis (1999) have first highlighted the importance of Internal Marketing for intra-organizational political activities developed between different departments or employees during work interactions. The role of Internal Marketing for improving internal relationships has only theoretically been highlighted in relevant studies. Gummesson (1991) suggested the term "tribal warfare" so as to describe the relationships between functions that operate as "tribes" and may favour their own members and not the organization as a whole. Such behaviours can be attributed to the fact that each department has its own goals, priorities, and procedures which often creates a lack of understanding and decreases information exchange among different organizational functions. As departments are dependent on those performing work in the preceding stages and are subject to pressures by departments that follow, it becomes imperative that employees in the organisation must see the linkage between what they do and their impact on the '**next customer'** of the organizational chain (Ahmed and Rafiq, 2003).

This internal customer-supply chain perspective is replayed in interactions across different organizational levels and results in a network of complex relationships that are difficult to manage (Lings and Greenley, 2009; Boukis, 2013) but vital for NSD success, as effective market intelligence dissemination across departments allows a thorough understanding and better response to customer needs (Lings, 2004). Albeit, companies must gain an understanding of how to develop and manage these interfunctional relationships in order to enhance the effectiveness of the service development process. This model investigates the impact of IMO on interfunctional relationships during NSD and particularly its role for interfunctional trust, interfunctional conflict, interfunctional political activity and interfunctional integration.

3.2.1 Reducing Interfunctional Conflicts

Several internal marketing approaches are based upon the recognition that effective strategy implementation requires to deal first with interfunctional conflict (Rafiq and Ahmed, 1995). Theoretical assertions associate IM practices with reduced departmental isolation, interfunctional friction (Conduit and Mavondo, 2001) and the formation of a more supportive climate (Johnston et al., 1990). Despite this

theoretical evidence, no empirical validation exists for the IMO - interfunctional conflict link.

A positive effect of IMO on interfunctional conflict levels can be attributed to the fact that IM practices enhance the quality of interdepartmental interactions (Ahmed, Rafiq and Saad, 2003), shaping a positive internal climate and allowing better response to employees' needs. The crucial role of IMO for dealing with intra-organizational conflict is also illustrated by the importance of training, which reduces language barriers between functional units and perceived conflict resulting from them (Griffin and Hauser, 1996). Cross-functional training enhances managers' understanding of the goals and priorities of other functions, thereby reducing interfunctional misunderstandings due to differences in thought worlds (Dougherty, 1992). As conflicting priorities and battles for resources between various functions often influence relationship quality (Vermeulen, 2004), formal and informal internal communication systems can enhance info exchange between functional executives reducing, thus, interfunctional clashes (Ballantyne, 2003). Considering the importance of dealing with interfunctional frictions during innovation activities (DeClercq et al., 2009), nurturing an internal marketing orientation across the organization can contribute to the formation of more harmonic interdepartmental relationships. On the basis of the previous arguments, it is hypothesized that

H1: IMO will have a negative impact on the levels of interfunctional conflict during NSD projects

3.2.2 Enhancing Trust among organizational functions

While trust is critical to the surfacing of ideas within a firm, it is just as important in the realization practices to convert those ideas into new services (Dovey, 2009). However, although trust constitutes a key variable in the relationship marketing framework (De Ruyter et al., 2001), with regard to an innovation context, academic research is fragmented (Rodriguez et al., 2007; Muethel et al., 2012). Several authors underline the importance of trust within innovation (Dayan and Di Benedetto, 2010; Bstieler, 2006). Interfunctional trust constitutes a key tenet during innovation (Rispens et al., 2007), as it promotes cooperation and relationship effectiveness during development activities (Massey and Kyriazis, 2007).

Nevertheless, limited attention has been given to managerial behaviours and actions that can encourage trust formation during innovation activities (Dayan and Di Benedetto, 2010).

On the basis of the social capital perspective, trust formation requires the delivery of value to employees in order to raise their confidence in the organization (Cohen and Prusak, 2001). Research acknowledges two different trust dimensions, *cognitive* and *relational* dimension (Webber, 2008). Affective trust is grounded in reciprocated interpersonal care and concern or emotional bonds whereas cognitive trust is grounded in individual beliefs about peer reliability and dependability (McAllister, 1995; Jeffries and Reed, 2000). Internal marketing orientation intensifies the provision of higher value to firm's employees as well as the development of a satisfactory climate (Johnston et al., 1990; Boukis and Gounaris, 2014), adding to the formation of trust within the organization. Applying IM practices can overcome several inhibitors of innovation, such as disciplinary training, the insulation of functional silos and the segregation of functions. IMO can enhance the cognitive aspect of trust through higher participative decision-making and empowerment that establish a shared cognitive frame of reference during NSD projects. Such a framework facilitates the bidirectional flow of knowledge and work-related info across the organizational pyramid ending up in higher responsiveness of firm's employees (Gounaris et al., 2010).

The relational dimension of trust remains crucial as well in the sense that trust is also built during face-to-face encounters (Webber, 2008). IMO through the effective management of relationships between different organizational echelons and the ongoing consideration of employees' needs (Gounaris, 2006) can encourage the development of a trust climate where participants feel safe and capable to innovate. The effect of IMO on the relational aspect of trust is reflected upon the high quality of interpersonal interactions during daily meetings and experiences during NSD projects. During informal interactions between managers and their subordinates, the former discuss the problems that their employees face, identify their needs within their roles and communicate this information throughout the organisational hierarchy in order for appropriate responses to be implemented (Lings and Greenley, 2010). Ensuring that employees' needs will not come second to those of managers and by

creating an environment where employees can develop new competencies, trust is highly likely to be developed. Despite that maintaining high levels of trust throughout innovation activities is pivotal (Dayan and Di Benedetto, 2010), the IMO - trust linkage lacks empirical evidence and therefore, constitutes an issue needing further investigation. On these grounds, the following hypothesis is advanced

H2: IMO will enhance the formation of interfunctional trust during NSD projects

3.2.3 Promoting Interfunctional Integration

Interfunctional integration refers to the degree to which employees between different functions cooperate in conducting specific NSD-related tasks. Employees' integration becomes substantial as NSD activities create high task interdependencies and require intense info exchange (Akamavi, 2005). Interfunctional integration allows for better dissemination and utilization of firm knowledge, so participants are more inclined to formulate new service concepts (Boyd, 2007). Therefore, integrating successfully employees from different departments constitutes a prerequisite for NSD success (Sanchez-Hernandez et al., 2011). Higher levels of integration across functional and disciplinary specialties are associated with higher NPD performance (Leenders and Wierenga, 2008). Nonetheless, relevant studies seldom acknowledge the conditions that make integration more or less beneficial for firms, as they examine integration in relative isolation and do not address its role for a broader organizational context of resources (Leenders and Wierenga, 2008; Melton and Hartline, 2013).

The use of internal marketing in integrating different functions so as to cooperate effectively is considered critical (Gupta and Rogers, 1991; Gounaris, 2006). Ahmed and Rafiq (2003) stress the benefits from internal marketing in enhancing quality related to NSD and argue that IM is able to reinforce aspects that determine quality of the NSD process such as communication between employees and cooperative behaviour. Moreover, Gupta and Rogers (1991) propose IM as a philosophy which can lead to the integration of different functions to overcome the difficulties of getting new ideas adopted. Still, affirming an IMO can improve the management of interfunctional dynamics, as internal communications ensure the

dissemination of market intelligence across the firm, reducing uncertainty throughout the project life-cycle. Furthermore, cross functional training provided as a part of IMO can contribute to the better understanding of other function's viewpoints. Therefore, the following hypothesis is formed:

H3: IMO will have a positive influence on interfunctional integration during NSD projects

3.2.4 Reducing Interfunctional Political Activity

As each department has its own interests, disagreements about innovation decisions favour the development of political activity which often impedes the innovation process (De Clercq et al., 2009b). Researchers commonly suggest that political activity has a negative influence on employees and the working environment (e.g. Ferris et al. 2002; Kacmar and Baron, 1999). Political behaviours reflect participants' tendency to further self- or functional interests at the expense of others in the organization (Kacmar and Baron, 1999). Such behaviours can be attributed to the fact that each department has its own priorities which often create a lack of understanding and decrease information exchange during NSD activities. In an organizational setting, scholars illustrate the importance of political activity, recognizing that organizational functions emphasize their own interests at the expense of others, instead of favouring the organization as a whole (Gummesson, 1991). Yet somewhat surprisingly, few evidence exists about how interfunctional political activity influences innovation outcomes (De Clerq et al., 2009a,b), although political agendas developed by functional managers may impair social relationships and hinder innovation performance (Ruekert and Walker, 1987; De Clerq et al., 2009b).

Applying an internal marketing orientation can improve interfunctional relationships during NSD, on the basis of the internal customer perspective. As organizational functions are not always aligned with strategic goals, IMO through delivering higher job-related value to different segments of internal customers can motivate employees to realize the impact of their actions on the 'next customer' of the organizational chain, rendering them more eager to put the interests of the

organization ahead of those of their individual or departmental ones. Furthermore, Internal Market Orientation through effective info exchange can reduce the levels of interfunctional political struggling through facilitating understanding of other functions' needs. Third, it can reduce politicking through the better description of work roles and provision of clear performance criteria, minimizing this way role ambiguity about project responsibilities. For example, when employees are uncertain about their work objectives and about what they have to do to get rewarded, they have more latitude to safeguard their interests using the political route in the form of passing the buck or playing dumb (Ferris et al., 1996; Chang et al., 2009). Therefore, it is assumed that

H4: IMO is expected to have a negative impact on interfunctional political activity during NSD projects

Figure 7 – Interfunctional outcomes of IMO
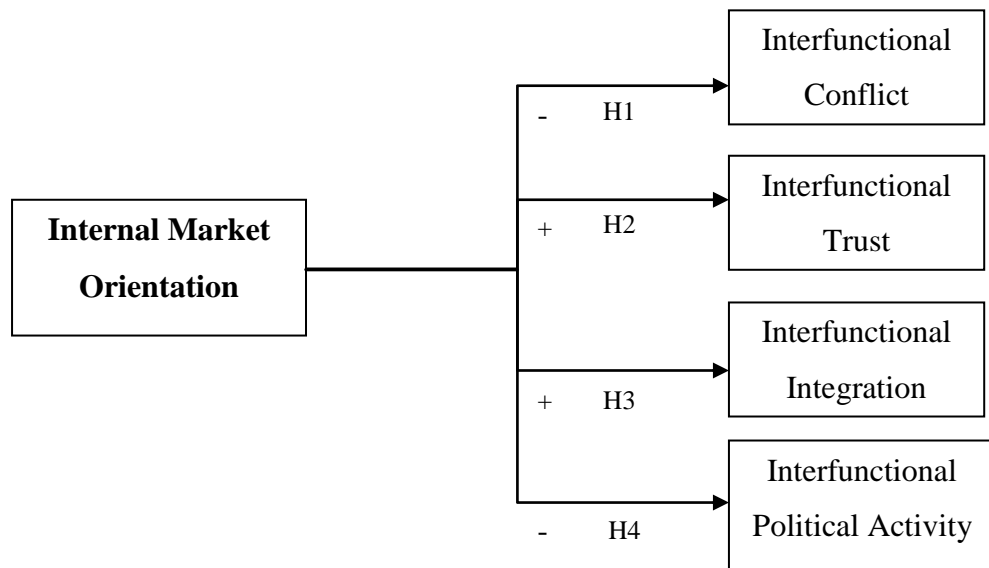
3.3 The impact of Internal Market Orientation on NSD team dynamics

Many authors emphasize the importance of multidisciplinary teams and effective collaboration between functions as a key success factor for innovation projects (Henard and Szymanski, 2001; Blindenbach-Driessen and van den Ende, 2010). Scholars also highlight project manager's role for daily project activities and

define his/her tasks as 'understanding the multi-languages of different departments, dealing with engineering issues, communicating effectively inside the team as well as outside, while guarding the concept, and resolving conflicts' (Blindenbach-Driessen and van den Ende, 2010, p.711). "A project manager of a development project often possesses the required knowledge of the market and the technology involved" (Wheelwright and Clark, 1992, p. 195) and indeed, can add to the success of an innovation project (Van der Panne et al., 2003). On these grounds, it is proposed that project manager's internalization of IMO can improve several aspects of NSD project performance. Considering that the extant literature assumes away the political contingencies, conflicts and communication difficulties that arise within service innovation initiatives (Vermeulen, 2004), the impact of IMO on several team-level antecedents of NSD performance is addressed, including team climate, relationship conflict and task conflict.

3.3.1 Managing different types of Conflict during NSD projects

Given that multidisciplinary teams have become a vital asset for service performance and development activities demand continuous interaction between team members (Meyer and de Tore, 1999), dealing with various conflict situations constitutes a key element in innovation team's performance (Alper, Tjosvold and Law, 2000; DeDreu, 2006; Tjosvold, 2006). Academics primarily identify two different types of conflict; relationship conflict and task conflict (Jehn, 1997). The work by Jehn and Bendersky (2003) as well as the De Dreu and Weingart's (2003) meta-analysis associate relationship conflict with negative outcomes such as dissatisfaction and decreased performance. On the other hand, mixed evidence exists for task conflict, as it is associated with both constructive and destructive outcomes (Simons and Peterson, 2000; De Dreu and Weingart, 2003).

Scholars identify conflict as one of the most important barriers of innovation success (De Clercq et al., 2009b), as almost 60% of innovation projects have some form of disharmony (Souder, 1988). Despite disagreements and conflicts between employees about innovation-related issues are often unavoidable (De Luca and Atuahene-Gima, 2007), limited evidence exists portraying how to reduce the detrimental effects stemming from different types of conflict (De Clercq et al.,

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200a,b). Dealing effectively with different types of conflict that arise within innovation teams is particularly crucial (Jehn, 1995) in the sense that they require the use of significant resources on behalf of the participants that could be more effectively used for other tasks (De Clerq et al., 2009a). Moreover, different conflict types have neither a similar effect on performance (Simons and Peterson, 2000) nor the same triggering mechanisms (Rispens et al., 2007). Third, the risk of conflict transformation exists as well, as ineffective management of one type of conflict (particularly for task conflict) could eventually transform into a different conflict type (i.e. relationship conflict) with negative consequences for the quality of dynamics among team participants (Greer et al., 2008).

Scant research has investigated the mechanisms that may have an impact on team conflict levels (Rispens et al., 2007). Implementing an IMO program via effective info exchange is expected to enhance NSD participants' understanding of the priorities of other participants, reducing interpersonal misunderstandings. In addition, cross-functional training can reduce perceived incompatibilities due to different backgrounds (Griffin and Hauser, 1996). Third, ongoing and bidirectional communication, which is an integral part of IMO, remains a highly collaborative form of interaction, and is likely to lead to positive outcomes within innovation teams such as facilitating dialogue (Massey and Kiriazis, 2014). Previous studies suggest that bidirectional communication is related to greater perceived relationship effectiveness, a low conflict state (Fisher et al., 1997), and thus it is expected to clarify issues and resolve conflicts. In this avenue,

H5a: IMO is expected to reduce the levels of relationship conflict during NSD projects

The role of IMO can prove important for reducing task conflict during NSD projects as well. Executives embracing the IMO tend to better respond to employees' needs by designing jobs that meet their expectations and collecting ongoing intelligence through internal communication networks (Lings and Greenley, 2005). As a result, the negative impact of role ambiguity can be suppressed just like conflicting priorities between NSD participants raised due to ineffective allocation of responsibilities. As task conflict pertains to the awareness of differences concerning resource allocation (De Dreu and Weingart, 2003), IMO can reduce the amount of

task conflict through enhancing employees' understanding of other participants' perspectives and goals. Moreover, the clearer communication of organizational goals and directives will also add to the decrease of task-related clashes. Adopting IM practices can also reduce employees' dysfunctional behaviours (Ramaswami, 1996), facilitate information exchange and favour behaviours that are compliant with organisational goals (Piercy and Morgan, 1990). In this context, it is suggested that

H5b: IMO is expected to reduce the levels of task conflict during NSD projects

3.3.2 IMO and NSD Team Climate

Climate is defined as the shared perception of policies, practices and procedures (Anderson, Hardy and West, 1994). In contrast to the organizational level, shared climates are most likely to evolve, as people tend to identify with their proximal work group, and common norms and patterns of behaviour emerge at this level. West (1990) proposed that team innovation can be encouraged in a team climate where creative ideas are valued and supported, can be presented without fear of reprisal and where team members are focused on achieving both organizational and task objectives. Although several authors stress the importance of climate for innovation performance (Weiss et al., 2011; Gil, Rico, Alcover and Barrasa, 2005), few studies provide effective management practices that can actually contribute to the formation of a positive project climate for innovation (Weiss, Hoegl, and Gibbert, 2011; Bertels, Kleinschmidt, and Koen, 2011).

Berry and his colleagues (1976) were the first who argued that service firm's management should apply "marketing-like" techniques internally in order to derive a satisfactory internal climate that meets employees' needs. IMO is more than providing rewards for desirable behaviours. It involves the generation of information about employees' feelings towards their work, the benefits that they seek, their met and unmet needs in their roles and communications between and amongst managers and employees of these (Lings and Greenley, 2005). Such information generation and communication in itself may foster a culture in which employees perceive that the firm views their needs on an equal basis as those of other stakeholders. In this vein, IMO may help to develop a work climate of helpfulness, friendliness and

mutual trust. It may be this "climate" that encourages employees to adopt behaviours consistent with organisational objectives and goals (Lings and Greenley, 2010).

However, a working climate entailing, for instance, great doses of empowerment and participation in decision making, is not necessarily equally attractive for all employees (Gounaris, 2008). Hence, massive internal marketing approaches, without prior commitment to understand employees' needs through internal-market intelligence generation, dissemination of this intelligence company-wide and responding based on this intelligence, would most probably resemble an effort to "sell" jobs and responsibilities irrespectively of employees' needs. Therefore, NSD managers are key enablers of a positive climate for innovation in the sense that their adoption of IMO can render team participants more prone to comply with organizational strategies and project requirements (see figure 8). Thus, it is proposed that

H6: IMO is expected to enhance team climate during NSD projects

Figure 8 – Team-level outcomes of IMO
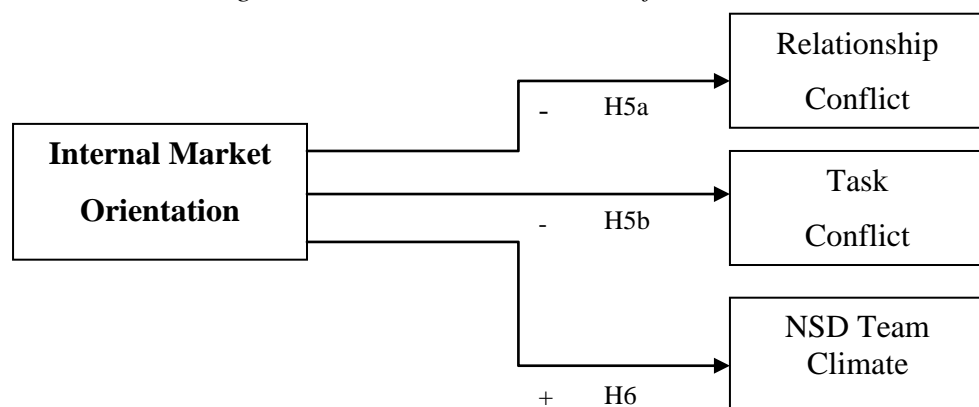
3.4 The impact of Internal Market Orientation on individual drivers of NSD performance

Although IMO has been associated with several behavioural consequences (Gounaris, 2006; Tortosa et al., 2009), its importance for other determinants of employee performance remains relatively unchallenged (Vasconcelos, 2008; Boukis and Gounaris, 2014). For example, there is a relative lack of evidence regarding how managers can build a more satisfactory working environment through reducing the

impact of role stressors. This is particularly critical in innovation activity, as when an employee lacks salient information needed to enact his or her role, (s)he is more likely to devote time and effort in seeking role clarification instead of focusing on his/her assigned task (Onyemah, 2008). For this reason, role ambiguity can prove quite destructive under conditions of high pressure for goal accomplishment and performance (Tang and Chang, 2010), as often the case within NSD activities. Additionally, rendering NSD participants more customer-focused may enhance their performance during NSD projects. In fact, higher levels of firm's market orientation are positively associated with successful NSD and NPD efforts (Jimenez-Jimenez et al., 2008). In this context, the effect of IMO on role ambiguity and market orientation is portrayed, both important determinants of NSD success.

3.4.1 IMO and Role Ambiguity

Research applies role theory to explain employee attitudes and behaviours (Ford, Walker and Churchill, 1975). Based on role theory, scholars view role ambiguity as a key ingredient of role stress (Harris, Artis, Walters and Licata, 2006). Role ambiguity is defined as a lack of understanding and clarifying about job responsibilities and knowing what is expected in terms of individual job performance (Wang and Lin, 2012). As employees' perceptions of their role is mainly shaped by the influences they perceive from other role senders (i.e. project managers), IMO, through increased direct communication with their supervisor, is anticipated to render project requirements and priorities more explicitly communicated to all parties involved to NSD projects (Sanchez-Hernandez et al., 2011; Hernandez, 2008). As certain amount of info is required for NSD participants to perform their role requirements within development teams, internal communication systems can ensure the distribution of adequate market and customer info, enhancing this way participants' knowledge. Moreover, IMO adoption inherently entails a significant amount of empowerment (Gounaris, 2006) which helps employees to develop their own skills and enhance their self-efficacy levels (Hartline and Ferrell, 1996), reducing role conflict. As evidence indicates that the lack of feedback from co-workers is highly correlated with role ambiguity (Jackson and Schuler, 1985), project

manager's responsiveness to employees' views may significantly reduce their perceptions of role ambiguity. Therefore, it is hypothesized that:

H7: IMO is expected to reduce NSD participants' role ambiguity during NSD projects

3.4.2 IMO and Individual Market Orientation

A review of the extant literature reveals several mechanisms that have been suggested to promote customer-consciousness (Bansal, Mendelson and Sharma, 2001; Lings and Greenley, 2009). Internal Marketing is considered as a mean of enabling employees to behave in a more market-oriented manner and motivate them to do so (Harris and Piercy, 1999). Training and motivating employees to internalize market-oriented behaviours is a major consideration for organizations aiming at the implementation of marketing philosophy (Lings and Greenley, 2009; Gounaris et al., 2010). IMO adoption results in employees being better informed and motivated to achieve company objectives and enables employees' development of market capability. As a matter of fact, scholars emphasize the role of management in developing appropriate systems and structures to create market-oriented behaviours and claim that internal marketing practices such as recruitment, training and rewards systems promote the adoption of MO within the firm (Tuominen and Moller, 1996; Lings and Greenley 2009). Although Harris (2002) asserts that managerial behaviours are a major determinant of developing customer-conscious employees, the consequences of manager's adoption of IMO have yet to be explored (Wieseke et al., 2009; 2011; Gounaris and Boukis, 2014) (see figure 9). Thus,

H8: IMO is expected to have a positive impact on participants' individual market orientation during NSD projects

Figure 9 – Individual outcomes of IMO

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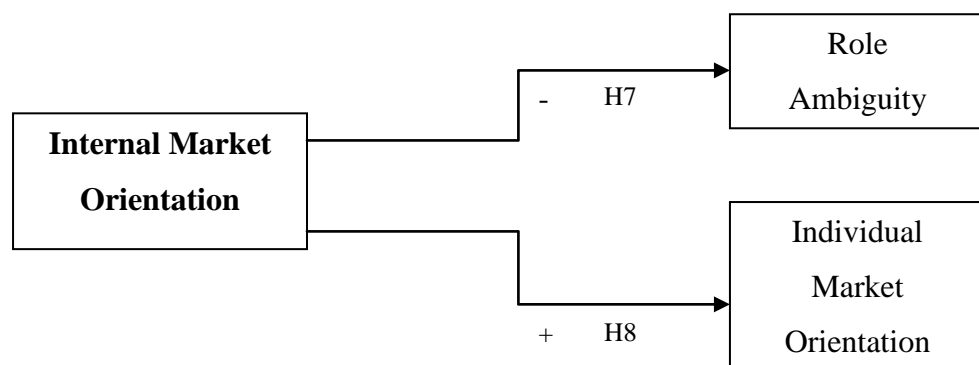
3.5 Internal Market Orientation and knowledge management strategies

As the need for interfunctional coordination between NSD actors becomes substantial due to high task interdependencies, it is crucial that effective management strategies are implemented (Storey and Kahn, 2010). Knowledge stemming from service innovation needs to be distributed throughout the organization and downstream functions such as customer service need to be involved in the NSD, increasing thus the interdependence among different functional units. As a result, the volume of info exchange is increased (De Luca and Atuahene-Gima, 2007) and the relative importance of effective strategies that can collate and integrate knowledge remains high (Storey and Hull, 2010). Although some benefits from effective internal communications have been identified (Lings and Greenley, 2005), researchers have limited knowledge of appropriate knowledge management strategies that can improve interaction quality during service innovation projects (Storey and Hull, 2010).

Scholars emphasize two key knowledge management strategies for innovation activities—*a codification* and *a personalization* strategy (Hansen et al., 1999; Storey and Kahn, 2010). The adoption of a personalization strategy encourages employees to share their knowledge with co-workers through interpersonal interactions and personal relationships (Szulanski, 1996). A codification strategy is 'a document-cantered strategy where organizations accumulate, codify, and store individual knowledge in NSD manuals, project reports, and best practice databases, for collective current and future use' (Storey and Kahn, 2010, p. 398). Despite a codification strategy has been suggested to enhance NSD proficiency due to the focus on routines and standardization surrounding the process (Storey and Kahn, 2010), IMO is expected to strengthen both the pursuit of a personalization and a codification strategy within NSD. These knowledge management strategies can influence NSD outcomes in a different way as they accumulate and process knowledge differently (Storey and Hull, 2010).

Internal Market Orientation can encourage the use of both knowledge management strategies (see Figure 10). First, a personalization strategy can be

promoted by facilitating formal and informal feedback between NSD participants and ensuring higher info use during NSD meetings. Internal communications not only enhance the diffusion of new ideas by disseminating NSD knowledge across the firm (Vermeulen and Van der Aa, 2003) but also build commitment for the project and reduce the amount of risk and uncertainty surrounding it (Lievens et al., 1999). Due to higher employee-supervisor direct info exchange, info bidirectionality provides an opportunity for both parties to increase the clarity of communication exchanges as well as the opportunity for healthy constructive discussion during NSD interactions. Furthermore, internal marketing practices promote the formation of a trust climate where employees feel safe to exchange info and combine it in new and different ways to create new service offerings (Nonaka, 1994). A codification approach represents explicit knowledge transmitted through a more formal language (Storey and Hull, 2010). It is the embodiment of tacit knowledge into processes, routines and procedures (Grant, 1996). IMO may also foster the adoption of a codification strategy, as the use of strict formal communication channels and the use of information technology for knowledge exchange constitute an integral part of the IMO philosophy (Lings and Greenley, 2005). Figure 10 displays the effect of IMO on codification and personalization strategy.

H9a: IMO is expected to have a positive impact on the use of a codification knowledge management strategy during NSD

H9b: IMO is expected to have a positive impact on the use of a personalization knowledge management strategy during NSD

Figure 10 – IMO and knowledge management strategies
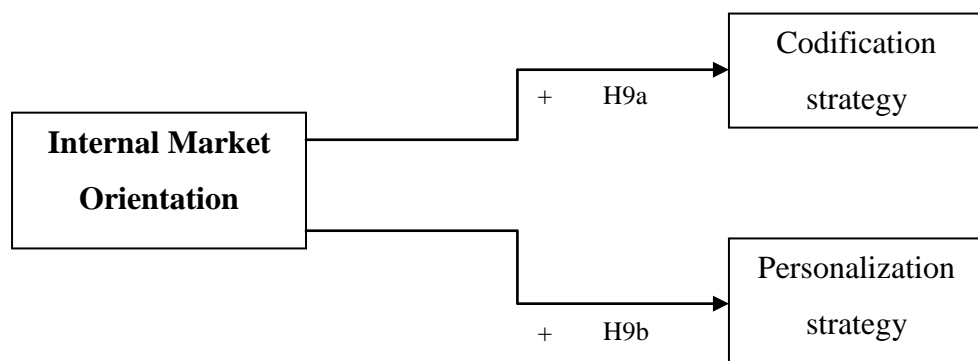
3.6 Antecedents of NSD Project Performance

This dissertation acknowledges several organizational outcomes of new service development projects in order to provide a more clear understanding of various benefits stemming from NSD. This is important as unless the impact of innovation initiatives on different organizational gains is displayed, practitioners will only take into consideration a short-term view of service innovation project performance, ignoring perhaps other long-term organizational benefits (i.e. organizational learning). Various antecedents have been associated with NSD performance such as structural factors, NSD strategies, intra-organizational conditions etc. This study acknowledges the role of adoption of IMO, interfunctional relationships, team-level conditions and individual participant antecedents, knowledge management strategies as well as the moderating role of project innovativeness, as displayed in figure 11 (see next page).

3.6.1 IMO and NSD project performance

The role of internal marketing practices for service innovation is mostly displayed in a normative context (Ahmed and Rafiq, 2003; Boukis, 2013). The beneficial impact of internal market orientation on NSD project performance could be attributed to several reasons. First, as internal communications encourage cooperation and information sharing within members of different functions (Ahmed and Rafiq, 2003; Ahmed and Rafiq, 1995), they can stimulate employees' creativity (de Brentani, 2001; Tsai, 2002) and new ideas' development (Gupta and Rogers, 1991). Second, as one of the basic premises of IMO adoption is to build harmonic relationships between organization's employees and functions (Gounaris, 2008) and improve interfunctional environment (Naude et al., 2003), this effort is expected to contribute NSD member's relationship effectiveness. Third, as supervisors adopt internal market oriented behaviours employee perceived value is enhanced (Boukis et al., 2014) through rewarding behaviours and actions beneficial for the firm (i.e. ideas generation). Moreover, the delivery of higher work-related value on employees through project manager's higher focus on their needs and wants constitutes an

effective way to enhance innovation performance (Jaw et al., 2010). Therefore, a basic premise of this conceptual model is that

H10: IMO adoption is expected to enhance NSD project performance

Figure 11 – Antecedents of NSD project performance
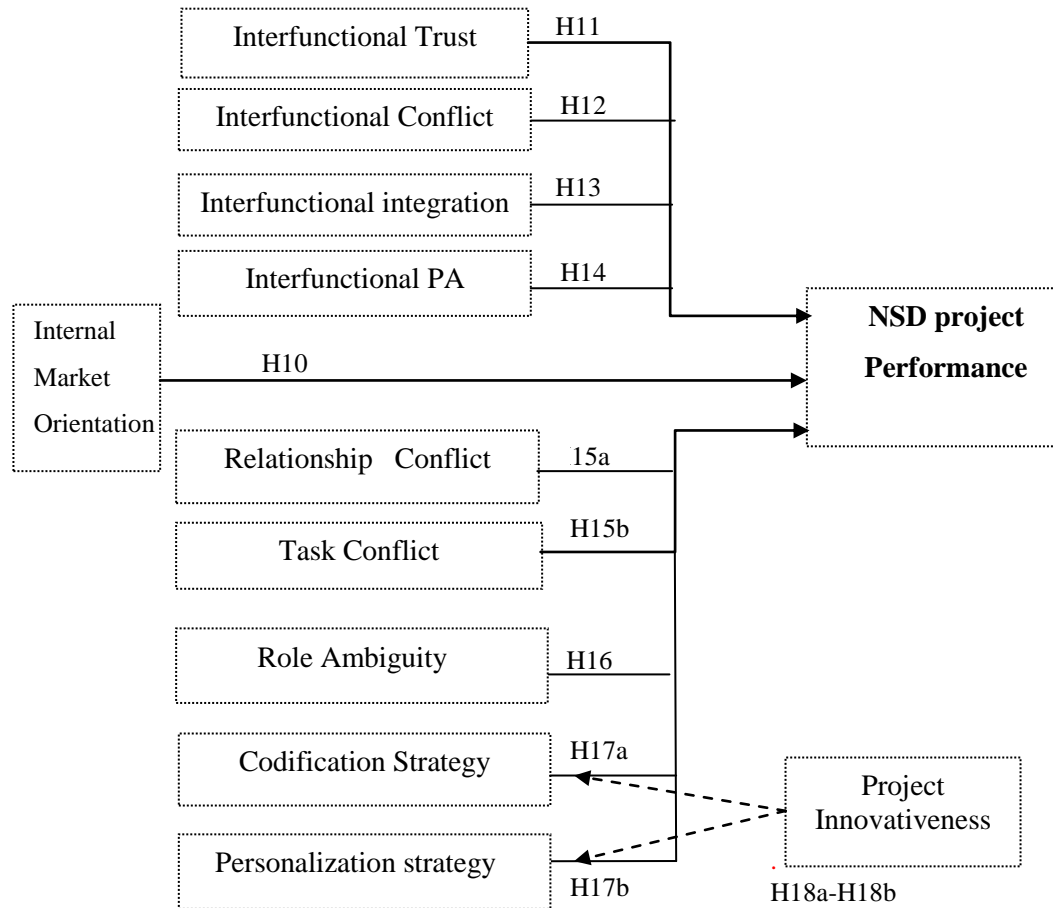
3.6.2 Interfunctional relationships and NSD project performance

New service development activities depend, to a large extent, on whether the relationships between functions are built on a basis of mutual trust. In such a setting, trust acts as an informal coordination mechanism which can potentially influence project success, since complex tasks create behavioural interdependence and heighten the need for coordinating activities. Similarly, interfunctional actors who take part in development projects that contain trust are more willing to share ideas and relevant information or clarify problems (Bstieler, 2006). Trust represents a necessary basis so as to attain a working environment with open communication, team spirit and cooperation (Webber, 2002) through increasing the quality of

information exchanges and improving relationships between different departments (Garcia et al., 2008). On the other hand, the lack of trust causes employees to withhold information and this hinders the processes of knowledge articulation, internalization and reflection (Madhavan and Grover, 1998). On the basis of this evidence, NSD participants' perceived trustworthiness can positively influence project performance, as it expected to improve the quality of interfunctional interactions and to make it possible that the areas do not mistrust the information or decisions brought forward by the personnel belonging to another functional unit. Hence, it is assumed that

H11: High levels of interfunctional trust during NSD projects will enhance NSD project performance

Interfunctional actors with varying expertise sharing information and schedules are interdependent so as to develop a timely and profitable new service (Perks and Riihela, 2004; Troy et al., 2008). Consequently, functional managers tend to encourage interpersonal communication, increase integration and decrease conflict via more meetings, greater interfunctional information flow and documented information exchange in order to improve innovation performance (De Luca and Atuahene-Gima, 2007). However, functional specialization often results in language barriers, goal conflict and project prioritization differences between innovation actors. Moreover, varying department incentives and reward systems can also result in higher interfunctional conflict (Griffin and Hauser, 1996). In this context, several studies stress the importance of managing interfunctional conflicts during innovation (De Clercq et al., 2009b) but most of the work conducted in a product innovation setting centres around integration between marketing and other interfunctional units such as engineering and R&D (Maltz and Kohli, 2000; Olson et al., 2001). In a service innovation setting, it is not empirically observed whether high levels of interfunctional tensions and disagreements affect project performance (Vermeulen, 2004; Menguc and Auh, 2008; Boukis, 2013), despite the fact that the existence of tensions and disagreements between NSD actors from various functions can inhibit info exchange and can impair relationship effectiveness resulting in lower project performance. On these grounds, it is assumed that

H12: Higher levels of interfunctional conflict will impair NSD project performance

The importance of interfunctional integration during innovation activities has been widely acknowledged (Perks and Riihela, 2004; Cuijpers, Guenter, & Hussinger, 2011). The lowest common denominator which integrates the aforementioned concepts is *joint behaviour toward some goal of common interest.* The need for interfunctional cooperation stems from the complex interdependencies among members of functional groups working together on project teams and greater interdependence requires a greater cooperation effort (De Luca et al., 2010). Indeed, firms identified as having "best practices" in innovation tend to employ interfunctional integration more extensively than other firms (Griffin, 1997).

Within the services innovation literature, some research focusing on interfunctional interfacing is evident (Fitzsimmons and Fitzsimmons, 2000; Froehle et al., 2000; Melton and Hartline, 2013; Troy et al., 2008) but our understanding of the true impact of interfunctional integration on NSD success remains clouded by the diversity that exists in how interfunctional integration is implemented in the firm and how scholars study it (Melton and Hartline, 2013; Perks and Riihela, 2004). Given that NSD is considered as a system of parts (i.e. personnel, information) which must work together to comprise a functioning service delivery process (Menor, Tatikonda and Sampson 2002), the role of interfunctional interface for various NSD outcomes needs further consideration (Perks and Riihela, 2004; Troy et al., 2008). Interfunctional teams tend to be more effective when they have a shared or common goal and exhibit greater integration (Atuagene-Gima, 1996), since without it, each function develops its own perceptions and "thought worlds," which lead to interpretive barriers among them during the innovation process. Hence, it is proposed that

H13: Higher levels of interfunctional integration will enhance NSD project performance

Scholars illustrate the importance of political struggling between organizational functions which emphasize their own interests at the expense of others, instead of favouring the organization as a whole (Gummesson, 1991; Kacmar and Baron, 1999). Within new service development, as each department often has its

own priorities, participants often serve departmental goals and are likely to perceive NSD project's goals as incongruent (Vermeulen, 2004). Equally important, NSD participants do not feel obligated to engage in discretionary performance to reciprocate the organization's support and become less willing to play with ideas that will ultimately lead to creative innovation performance. Therefore, it is proposed that

H14: High levels of interfunctional political activity will negatively influence NSD project performance

3.6.3 Team-level conditions and NSD project performance

Relationship conflict involves disagreements based on personal and social issues that are not related to work and is considered as an affective disagreement arising from personal dislikes and disaffection (Amason and Sapienza, 1997). The nature of the list of non-sanctioned activities reflects group member descriptions of relationship conflict in terms of friction, personality clashes or threat between members (Jehn, 1995). Because relationship conflict stimulates cognitive attention on interpersonal issues, it limits the use of cognitive resources for task issues and directs behaviour, energy, and time away from the task at hand (Simons and Peterson, 2000). Based on this evidence, NSD participants experiencing high relationship conflict may become preoccupied with activities such as reducing threat, increasing power and building coalitions with other members. In addition, interpersonal conflict limits receptivity to new ideas (Pelled, 1996), reduces cognitive flexibility and creativity (Carnevale and Probst, 1998) and impairs productive information processing (Simons and Peterson, 2000). As a result, when relationship clashes are intense during NSD projects, participants are less likely to perform effectively. Hence, it is expected that

H15a: High levels of relationship conflict will decrease NSD project performance

Task conflict describes disagreement about the work that is being done in the project and exists when there are disagreements among team members about the content of the tasks being performed including differences in viewpoints, ideas and opinions (Amason, 1996; Jehn, 1995). In cross-functional teams, the hope is that membership diversity will foster creative tensions and disagreements that are

reconciled through collaborative communication and exploration, resulting in innovative service offerings. Task conflict is related to cognitive disagreement arising from differences in perspective and is thought to increase group members' tendency to scrutinize task issues and to engage in deliberate processing of task-relevant information. It may enhance project performance through discussions and debates that improve decision-making and the quality of the outcomes (Jehn, 1997). Moreover, task conflict is reasoned to enhance team creativity by triggering greater information exchange, re-evaluation of the status quo and scrutiny of the task at hand (Hulsheger, Anderson and Salgado, 2009). It is expected that high levels of task conflict will enhance the development of new and more creative insights leading the NSD team to become more innovative. The reasoning underlying this assumption is that task conflict makes NSD participants aware of customer and market intelligence, and as a result they can better fulfil their NSD tasks. It follows that

H15b: High levels of task conflict will increase NSD project performance

3.6.4 Role ambiguity and NSD project performance

Prior studies within the service innovation area ignore how role ambiguity determines performance during NSD projects (Rodriguez-Escudero et al., 2010; Leung et al., 2010). This lack of evidence is really important as NSD participants often have to deal with stressful situations and remain under high time pressure. Under conditions of high role conflict and ambiguity, NSD actors that interact with different role senders for info exchange are likely to invest a lot of cognitive resources in seeking role clarification and reconciling conflicting demands instead of focusing on the task at hand (Onyemah, 2008). Moreover, role ambiguity can reduce innovation participants' creativity in the sense that role expectations are antecedents of creativity (Tang and Chang, 2010) and unless clear project requirements are established, creative initiatives may be abandoned. The lack of clear info about the tasks they need to perform is expected to impair project performance and thus, it is hypothesized that

H16: High levels of participants' role ambiguity will reduce NSD project performance

3.6.5 Knowledge management strategies and NSD project performance

Knowledge management contributes to the achievement of a sustainable competitive advantage and remains a critical issue for service organizations (Kumar and Ganesh, 2011), as organizations that are aware of their knowledge resources possess a valuable and unique resource that is difficult to imitate. Two knowledge management strategies have been suggested in the extant literature. A codification strategy aims at collecting knowledge, storing it in databases, and providing the available knowledge in an explicit and codified form (Storey and Hull, 2010). On the other hand, a personalization strategy results in the sharing of tacit knowledge, which is hard to articulate, acquire, and store within individuals without direct personal experience (Szulanski, 1996). Extant research notes that companies will favour the use of either a codification strategy or a personalization strategy (Hansen, Nohria, and Tierney 1999). Nevertheless, firms that rely on solely one strategy or another may miss some of the benefits of their joint adoption, as both strategies are likely to reinforce each other. If a firm's knowledge management strategy is managed as an interconnected operant resource including both strategies to reinforce each other, the firm is more likely to be able to produce efficiently and effectively valued market service offerings (Madhavaram and Hunt, 2008).

Although some recent evidence has just recently addressed the role of these different approaches for NSD success (Storey and Kahn, 2010; Storey and Hull, 2010), practitioners are in need to realize how the joint use of these approaches affects the new service development project performance. Previous studies indicate that a codification strategy is suggested to enhance NSD stage proficiency whereas the adoption of a personalization strategy is proposed as a key contributor of NSD success (Storey and Kahn, 2010). Acknowledging the lack of evidence of how the concurrent use of these two knowledge management approaches affects NSD project performance, the following hypotheses are formed:

H17a: The adoption of a codification strategy will enhance NSD project performance

H17b: The adoption of a personalization strategy will enhance NSD project performance

3.6.6 The moderating effect of Project Innovativeness

Darroch and McNaughton (2002) suggest that innovation activity requires different knowledge resources and, hence, the use of different knowledge management strategies. In this context, Majchrzak et al. (2004) claim that the knowledge management implementation constitutes a facilitator of innovation and identify a significant and positive effect of explicit knowledge re-use (which considered a codification strategy) on radical innovation. Likewise, Rhodes et al. (2008) argued that the effect of codification and personalisation strategies that regarded as a knowledge transfer strategy leads to enhanced innovative capabilities, including product innovation and process innovation. According to their results, only the personalisation strategy is significantly and positively related to product innovation and process innovation. In addition, different degrees of project innovativeness may require different amount of info exchange and use, allocation of resources and strategies for success (Avlonitis et al., 2001), and as a result, the extent to which these knowledge management strategies should be used during NSD may vary. Due to the lack of empirical studies investigating the relationship between personalization and codification strategies and NSD innovation outcomes (Storey and Kahn, 2010), it is naturally assumed that

H18a: The degree of project innovativeness will moderate the impact of codification strategy on NSD project performance

H18b: The degree of project innovativeness will moderate the impact of personalization strategy on NSD project performance

3.7 Antecedents of NSD Project Learning

The service development process is considered as an organizational activity directed at the expansion of existing knowledge. NSD projects are seen as a process of info acquisition and a search for "new combinations" that reduces uncertainty, during which a learning process will lead the team to select the most efficient "new solution" (Lievens and Moenaert, 2000). NSD teams act as information processing systems which contribute to the development of organizational knowledge (Massey

and Kiriazis, 2014). Thus, project learning remains a critical outcome of their performance in the sense that the experience and insights gained can be used for future projects. More importantly, learning during the project contributes to group performance which in turn enhances organizational performance (Gibson, 2001). Despite this evidence, few relevant studies capture the importance of project learning within NSD (Limpibunterng and Johri, 2009; Storey and Kahn, 2010) while current research overlooks how intra-organizational and team dynamics during service innovation projects affect the amount of project learning (Stevens and Dimitriadis, 2005; 2011). In this context, the role of internal market orientation, team-level antecedents, interfunctional conditions, knowledge management strategies as well as the moderating role of project innovativeness for NSD project learning is examined (See figure 12).

Figure 12 – Antecedents of NSD Project Learning
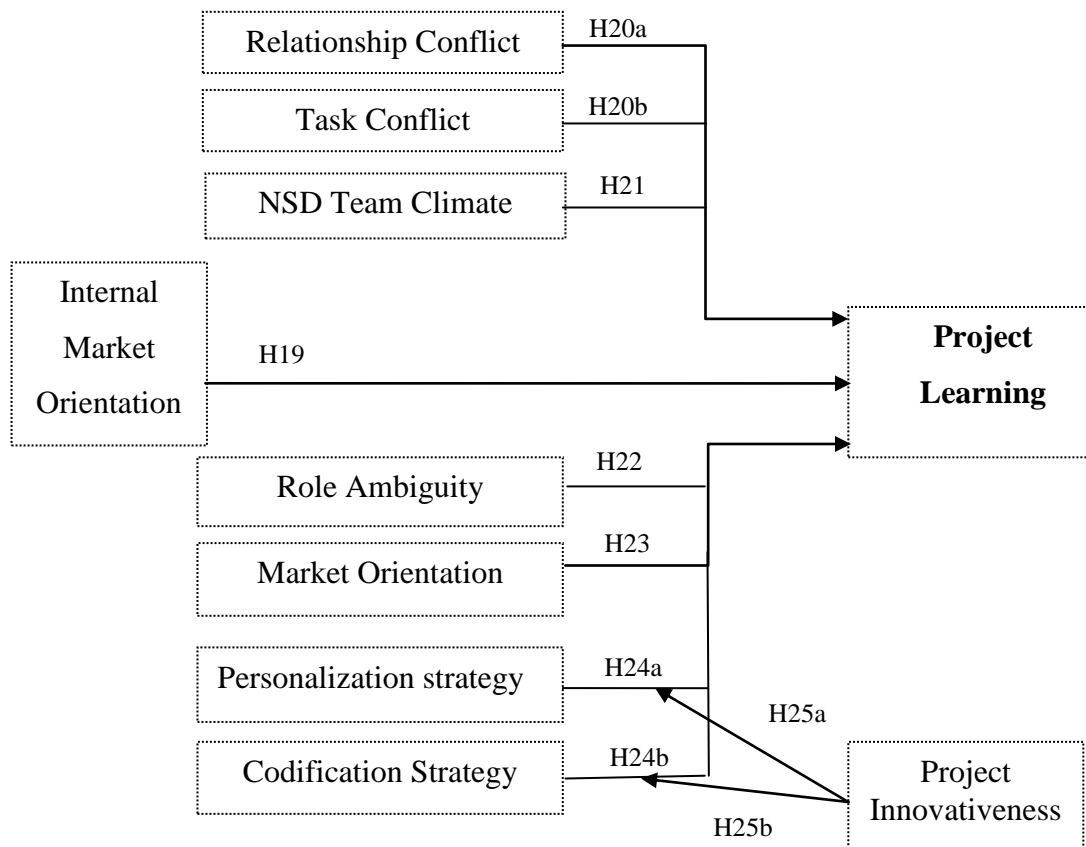
3.7.1 IMO and NSD project learning

Implementing an internal marketing orientation can offer significant advantages towards the enhancement of project learning. First, training, which constitutes a main pillar of IMO, can reduce language discrepancies between functions (Griffin and Hauser, 1996) and can integrate participants' different viewpoints, facilitating constructive discussion related to new ideas and service offerings. As a result, participant's motivation to learn is expected to increase. Additionally, IMO facilitates information exchange with front line staff (Ballantyne, 2003) so as their in-depth knowledge about customer preferences be disseminated to the service development team members, offering this way practical insights during NSD discussions. The provision of performance incentives (financial and non-financial ones) can also render NSD participants more willing and motivated to learn and transfer their experience back to their own department, promoting the marketing of new service offerings internally (Fang et al., 2013). On these grounds,

H19: IMO is expected to increase NSD project learning

3.7.2 Team-level conditions and NSD project learning

The role of some team-level conditions for NSD project learning is also examined. Although dealing with various types of conflict during innovation is critical (DeDreu, 2006; Jehn and Bendersky, 2003), few studies provide evidence of how task and relationship conflict determine NSD outcomes (de Jong and Vermeulen, 2003; Vermeulen, 2004; Boukis, 2013).

Relationship conflict may interfere with project learning for affective reasons. For example, the interpersonal negativity characteristic of relationship conflict often reduces constructive debate (Amason and Schweiger, 1997). Relationship tensions may be particularly important within development teams because team members' comfort in sharing ideas, challenging each other, accepting others' opinions or offering alternatives are negatively influenced (Joshi and Roh, 2007). In fact, De Dreu and Weingart (2003, p. 747) support the "traditional information processing perspective that conflict interferes with information processing capacity and therefore impedes task performance, especially when tasks are complex and demand

high levels of cognitive activity". High relationship conflict will make it difficult for team actors to effectively express and integrate the various perspectives deriving from their different bases of expertise and to come up with an effective solution to the team's task (Jehn, 1995; Jehn et al., 1999). As a result, the negative environment and status contests created by higher relationship conflict within NSD teams may render participants reluctant or unable to contribute ideas and effort, and share personal insights and experiences so as to enhance task learning. Hence, it is expected that

H20a: Higher levels of relationship conflict will decrease NSD project learning

Unlike their relationship counterpart, task conflicts encourage cooperative strategic choice designed to foster attainment of work team goals and foster the use of the constructive ways of handling internal disputes, underscoring the cognitive aspects of this strategy, notably effective information processing. The motivational and cognitive elements in tandem help to realize the potential of integrating in eliciting team innovation (Desivilya, Somech and Lidgoster, 2010). Furthermore, authors have contemplated an interaction between task conflict and a trusting team climate in their relationship with team learning activities (De Dreu, 2006; Tekleab, Quigley, and Tesluk, 2009). Task conflict within a supportive climate could provide a platform for constructive expression of different opinions, identification of mistakes and cooperation to solve mutual problems (Kostopoulos and Bozionelos, 2011). On the other hand, excessive levels of task conflict may present an overload of possibilities and render it difficult for teams to arrive at a coherent solution (De Dreu, 2006). Acknowledging previous evidence, task conflict may expose NSD team members to new ideas, stress the integration of novel information to develop new task-related capabilities without the fear of negative criticism (De Dreu, 2006) and enhance the potential to produce creative outcomes, stimulating this way project learning within service innovation teams. Therefore, it is posited that:

H20b: Higher levels of task conflict will enhance NSD project learning

As climate plays an essential role in shaping employees' behaviours and in influencing their perception of knowledge management (Chen and Lin, 2004; Sveiby and Simons, 2002), one of the keys to sustain competitive advantage for

organizations is to foster a continuously innovative atmosphere which set in motion their internal capabilities (Tidd and Bessant, 2011). Employees who work in a climate supportive for innovation are used to get empowered, think on their own and build on their cognitive and emotional resources to contribute in a creative manner to the assigned tasks. When insightful ideas occur to individuals, cooperation between individuals typically plays a critical role in developing these ideas (Jaw and Liu, 2003; Sveiby and Simons, 2002). Effective collaboration in the use of information also adds to the achievement of a competitive advantage (Gibson, 2001). New organizational knowledge initially generated by the individual is often developed through the communities of interaction (Floyd and Lane, 2000). When cooperative climate exists in companies, team participants are more inclined to working together, to sharing tacit knowledge and to trying to promote each other's performance and learning (Janz and Prasarnphanich, 2003). Reasonably then it can be assumed that a supportive NSD team climate will provide a vital atmosphere for strengthening project learning during NSD. Therefore,

H21: A positive team climate will enhance NSD project learning

3.7.3 Individual antecedents of NSD project learning

To the best of our knowledge, no studies within the service innovation area have considered how role ambiguity determines various NSD outcomes (Rodriguez-Escudero et al., 2010; Leung et al., 2010), despite the fact that participants are often confronted with stressful situations during NSD. For example, they have to deal with changes in customer demands, organizational ambiguities and conflicts with senior management or other departments (Barczak and Wilemon, 2003; Akgun, Lynn and Byrne, 2006).

As pressure for goal accomplishment and performance remains high within innovation activities (Rodrıguez-Escudero et al., 2010), team members experience ambiguity and conflict and are likely to become disillusioned (Akgun et al., 2007). Particularly, feelings of ambiguity have a negative impact on team satisfaction because it is difficult for team members to like their job and to achieve feeling of personal accomplishment and growth when they are uncertain about what they are expected to do. As role ambiguity increases, the ability of the employees to make

accurate judgments decreases (Bagozzi, 1980), resulting in a low level of outcome expectation in their NSD task. In addition, role ambiguity can reduce innovation participants' creativity (Tang and Chang, 2010) in the sense that role expectations are antecedents of creativity and unless clear organizational goals are established, creative initiatives may be abandoned.

Under conditions of high role conflict and ambiguity, employees from different functions that interact with different role senders for info exchange are likely to invest a lot of resources in seeking role clarification and reconciling conflicting demands instead of developing new customer knowledge (Onyemah, 2008). High role ambiguity also reduces the quality of the information that can be used to make an accurate assessment of one's ability to perform a task (Li and Bagger, 2008) and as a result, individual learning capability can be impaired. As NSD activities require high levels of knowledge integration, it is likely that when participants lack salient info needed to effectively enact their role, they cannot promote effectively overall team's learning. As innovative performance remains distinct from performance on routine tasks in the sense that participants are often asked to engage in non-routine tasks that call for creativity and out of the box thinking, it is hypothesized that

H22: High participants' levels of role ambiguity will reduce NSD project learning

Whereas some scholars suggest that market-oriented firms may focus too strongly on the expressed needs of customers by prioritizing adaptive learning at the expense of generative learning (Baker and Sinkula, 2002; Slater and Narver, 1995), the prevailing view is that a strong market orientation enables firms to balance customer led adaptive learning. Customer led adaptive learning is related to satisfying manifested customer needs with lead-the-customer generative learning (Day, 1994). As a result, NSD participants with high levels of market focus are more likely to ensure the integration of customer preferences, competitor info and product knowledge into the process of creating superior value for customers, they can enhance therefore, learning during the specific NSD project. Thus, it is assumed that

H23: High levels of participants' MO will enhance NSD project learning

3.7.4 Knowledge management strategies and NSD project learning

Another issue that needs further investigation is to explore whether the use of these info exchange strategies can deliver some significant knowledge-related gains from NSD activities (Storey and Kahn, 2010). Adopting a personalization approach, for example, can enhance employee integration as through this interpersonal socialization NSD participants can foster interfunctional understanding and combine individuals' knowledge to provide new service concepts (Nonaka 1994; Storey and Hull, 2010). Taking into consideration some particular characteristics of service innovation (i.e. low formalization, less structured earlier stages), it is expected that a personalization strategy would enhance info exchange and use during NSD projects. Likewise, implementing a codification strategy is also critical as formal info exchange and the use of IT constitutes a prerequisite so that participants communicate within NSD teams. Therefore, both strategies are required in a company attempting to expand its knowledge base. Given knowledge exchange strategies are central for employees' learning, it is assumed that

H24a: The adoption of a codification strategy will enhance NSD project learning

H24b: The adoption of a personalization strategy will enhance NSD project learning

3.7.5 The moderating effect of Project Innovativeness

Innovation activities require various knowledge resources and as a result the use of different knowledge management strategies is imperative (Darroch and McNaughton, 2002). Rhodes et al. (2008) argue that the personalisation strategy is significantly and positively related to product innovation and process innovation. In considering that different degrees of innovativeness are associated with different amount of info exchange and use (Avlonitis et al., 2001), the extent to which service organizations use of a codification and/or a personalization strategy will affect the NSD learning process, as different communication channels and approaches will have a differential outcome on participants' amount of knowledge gained during the project. So, it is assumed that

H25a: The degree of project innovativeness will moderate the impact of codification strategy on NSD project learning

H25b: The degree of project innovativeness will moderate the impact of personalization strategy on NSD project learning

3.8 Antecedents of Organizational Learning during NSD

Learning is vital to the survival of the organization and particularly during NSD, as it transforms market intelligence into customer-demanded outcomes (Lievens et al., 1999). Producing and disseminating new knowledge across the firm will eventually enhance organizational effectiveness (Blazevic and Lievens, 2004). Nevertheless, few prior studies capture how NSD initiatives contribute to the expansion of organizational knowledge base or provide recommendations of how practitioners can maximize knowledge-related gains from service innovation projects (Stevens and Dimitriadis, 2004; 2011). A careful inspection of prior research reveals important gaps in whether knowledge produced during NSD projects is actually distributed across organizational functions and used for enhancing firm's competitive position (Limpibunterng and Johri, 2009). Moreover, current research overlooks how knowledge benefits from service innovation projects can be disseminated across the organization (Stevens and Dimitriadis, 2011). In this context, the impact of internal market orientation, interfunctional conditions, individual determinants and knowledge management strategies on organizational learning during NSD is investigated (see figure 13).

3.8.1 IMO and Organizational Learning during NSD

Project manager's IMO is expected to contribute to organizational learning from service innovation projects. This argument is based on the use of effective internal communication systems which facilitate the acquisition, dissemination and use of knowledge produced during NSD (Lievens and Moenaert, 2000; Blazevic and Lievens, 2003). Additionally, valuable market intelligence gathered during the service encounter can be more effectively disseminated to various departments (Varey, 1995) and add to better understanding of market conditions. As a result,

customer demands can be more clearly identified and successfully communicated to all NSD actors, adding to their understanding of market needs. As a result, the coherent use of new knowledge is anticipated to increase throughout the organizational pyramid (Fang et al., 2013). In this vein,

H26: IMO adoption is expected to enhance organizational learning during NSD projects

Figure 13 – Antecedents of Organizational Learning during NSD
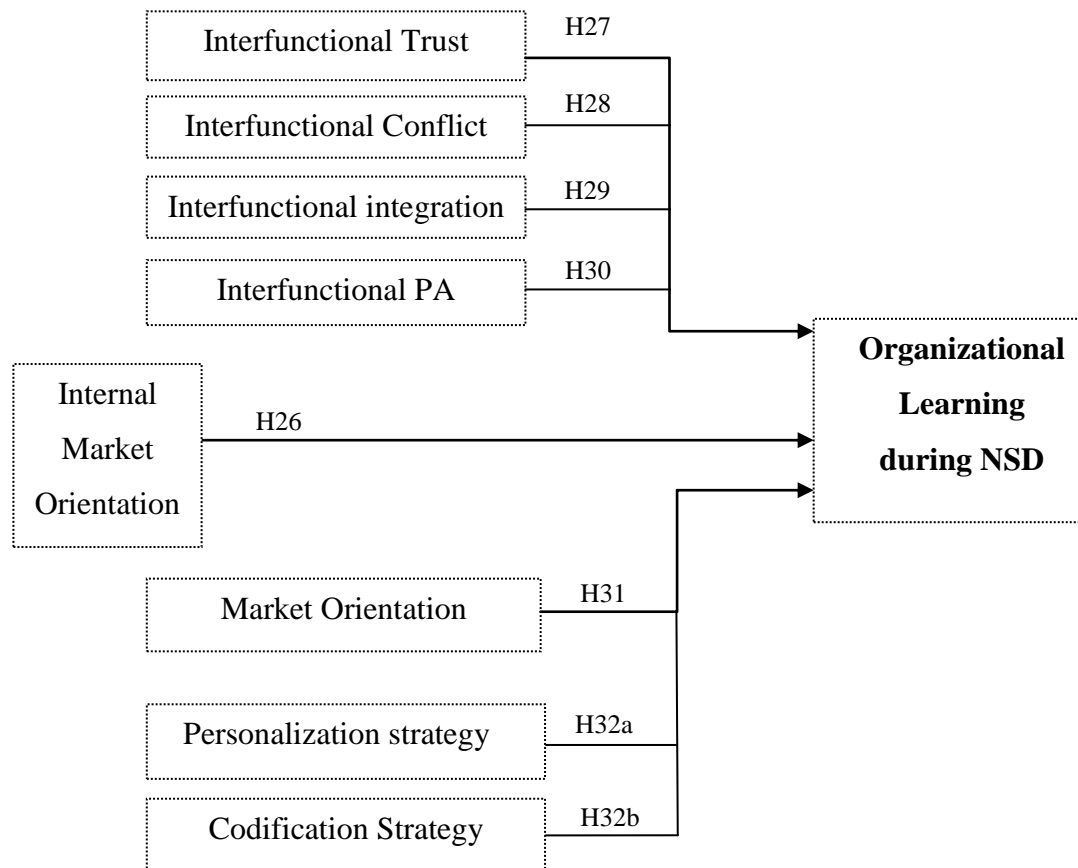
3.8.2 Interfunctional relationships and Organizational Learning during NSD

Organizational learning refers to the process of developing new knowledge and insights derived from the common experiences of people within the organization (Jimenez-Jimenez et al., 2008; Slater and Narver, 1995). This process includes the acquisition of new knowledge stemming from the internal environment, its dissemination within the company, its interpretation and storing for future use.

In this context, trusting relations between different functions can facilitate info dissemination, use and feedback. As trust facilitates affective attachments and

feelings of connection (Yli-Renko et al., 2001), it is less likely that trusting functional executives will compromise the quality of their knowledge exchange due to personal animosities during NSD efforts. The role of interfunctional trust as an enabler of organizational learning during innovation has seldom been addressed (Koskinen et al., 2003), despite that organizational effectiveness cannot be enhanced unless new knowledge is successfully disseminated across the organization and timely exploited. High levels of trust are expected to encourage NSD participants to transfer their new knowledge back to their departments as well as to share new insights and experiences with other co-workers. As a result, the existence of a trust climate between different functions can add significantly to the diffusion of NSD experiences across the organization. Thus, the following hypothesis is advanced:

H27: High levels of interfunctional trust will enhance organizational learning during NSD projects

Interfunctional cooperation is crucial during NSD as actors engaging in development projects need to exchange insights and experience with other team participants to increase the odds of success (Perks and Riihela, 2004). However, differences across functional areas often favour higher levels of conflict (Griffin and Hauser, 1996). High tensions can impair the expansion of the organizational knowledge base, as new knowledge produced within NSD is difficult to be disseminated across various functions due to the lack of cross-functional cooperation and the existence of functional silos. Interfunctional conflict might also have a negative influence because low levels of connectedness between departments inhibit interdepartmental information exchange (Veldhuizen, Hultink and Griffin, 2006). Third, as high levels of conflict often reduce perceived trustworthiness, receivers from different areas are more likely to perceive the intelligence provided as inaccurate. So,

H28: High levels of interfunctional conflict will impair organizational learning during NSD projects

As new service development requires the collaboration of actors from different functions (Melton and Hartline, 2013; Lievens and Moenaert, 2000), interfunctional integration facilitates the diffusion of novel market and customer information among different functions, offering this way significant advantages for

the innovation process e.g. increasing communication frequency and information flow in the organization (Boerner et al., 2012). Additionally, information integration in the cross functional structure helps employees to achieve a shared understanding about the new service and enhances consistency among decision-making throughout the process. On the contrary, the lack of interfunctional integration will hinder the diffusion of new knowledge produced during NSD projects across the firm, undermining the extension of the organizational knowledge base and the effective use of organizational resources. On these grounds, interfunctional integration can enhance the diffusion of NSD knowledge across the organization. Therefore, the following hypothesis is advanced,

H29: Interfunctional integration will enhance organizational learning during NSD projects

Quite often innovation participants act as representatives of their own department and promote its interests at the expense of other functions (De Clercq et al., 2009a). This fact may affect the effectiveness of the decision-making process during the development process due to the lack of adequate info exchange between competing functions or due to the distortion of related info (Olson et al., 2001). High levels of political activity may render employees more suspicious of the motives, intentions and prospective actions of their colleagues. Not surprising, though, employees' willingness to engage in various forms of spontaneous sociability such as sharing useful information during group discussions diminishes and personal agendas are posited ahead of organizational goals (Griffin and Hauser, 1996). Under such circumstances, organizational learning is anticipated to be impaired not only due to decreased info exchange and use between functional representatives but also because NSD participants will be disoriented from the dissemination of their NSD wisdom back to their functions because of their focus on the promotion of personal agendas. So, the following hypothesis is advanced:

H30: High levels of interfunctional political activity will decrease organizational learning during NSD projects

3.8.3 Individual antecedents of Organizational Learning during NSD

Due to particular service characteristics the need for customer intelligence and credibility with customers is higher for services industries (Nijssen et al., 2006). With reference to the fact that characteristics deriving from the very nature of a service differentiate NSD from NPD (Ettlie and Rosenthal, 2011) and acknowledging that prior research has mostly used a single service case (e.g. Han et al., 1998) or service type (Agarwal et al., 2003), the role of individual market orientation for influencing different various NSD outcomes needs further consideration (Cheng and Krumwiede, 2012; Jaw et al., 2010).

Market orientation can facilitate learning, as it provides the cultural framework from which a learning orientation can emerge (Santos-Vijande et al., 2005). A strong MO can help employees to absorb market knowledge from the external environment e.g. competitors and customers, so it is certain that MO can enhance market-based organizational learning (Lu, Chen and Liao, 2008). The existence of high levels of individual market orientation is expected to prioritize learning about customer-related knowledge that affects the individual ability of participants to understand and satisfy customer needs. Market orientation is expected to enhance generative learning as well which lead to successful innovation efforts (Slater and Narver, 1995; Baker and Sinkula, 2005). Additionally, MO can also contribute to effective interfunctional coordination in terms of rapid dissemination of customer and competitor info to different functions (Jaw et al., 2010). Based on this evidence, the following hypothesis can reasonably be advanced

H31: High levels of participants' MO will enhance organizational learning during NSD projects

3.8.4 Knowledge management strategies and Organizational Learning during NSD

Storey and Kahn (2010) display the direct impact of both knowledge management strategies on the level of task knowledge created within service innovation. They define task knowledge as "the accumulation of facts, insights, experiences, and lessons learned from previous and emergent service development activities and originating from different functions within the company" (p. 398). In a

similar vein, both knowledge management strategies are anticipated to directly increase the amount of organizational knowledge produced from NSD activity. A personalization knowledge management strategy is expected to enhance knowledge dissemination throughout the organization through informal chats and interactions. The adoption of a codification strategy is also important in the sense that formal communication channels can effectively diffuse new NSD knowledge across various functions, stimulating organizational awareness (Kumar and Ganesh, 2011). As both knowledge management strategies aim to acquire, capture, and distil knowledge, thereby increasing the amount of NSD knowledge available to the firm, it is assumed that

H32a: The adoption of a codification strategy will enhance organizational learning during NSD projects

H32b: The adoption of a personalization strategy will enhance organizational learning during NSD projects

3.9 Antecedents of Resource Allocation Effectiveness and Efficiency during NSD

Successful innovation strategies require effective resource configuration. Notwithstanding the assertion that each functional area has its own resource needs, different thought worlds and cultural differences with other functions (Griffin and Hauser, 1996), political manoeuvring and conflicts for resources are likely to arise and hinder innovation success (Ruekert and Walker, 1987; De Clercq et al., 2009a). Nevertheless, it has been disregarded how these conditions shape new service development project performance and, in particular, how service firms can optimize their resource allocation process within turbulent internal environments (Jaw et al., 2010; Kleinschmidt et al., 2010). Under such circumstances, the role of internal market orientation, team-level antecedents, interfunctional conditions, knowledge management strategies as well as the moderating role of project innovativeness for resource allocation effectiveness and efficiency is examined (see figure 14).

Figure 14 - Antecedents of Resource allocation Effectiveness/ Efficiency
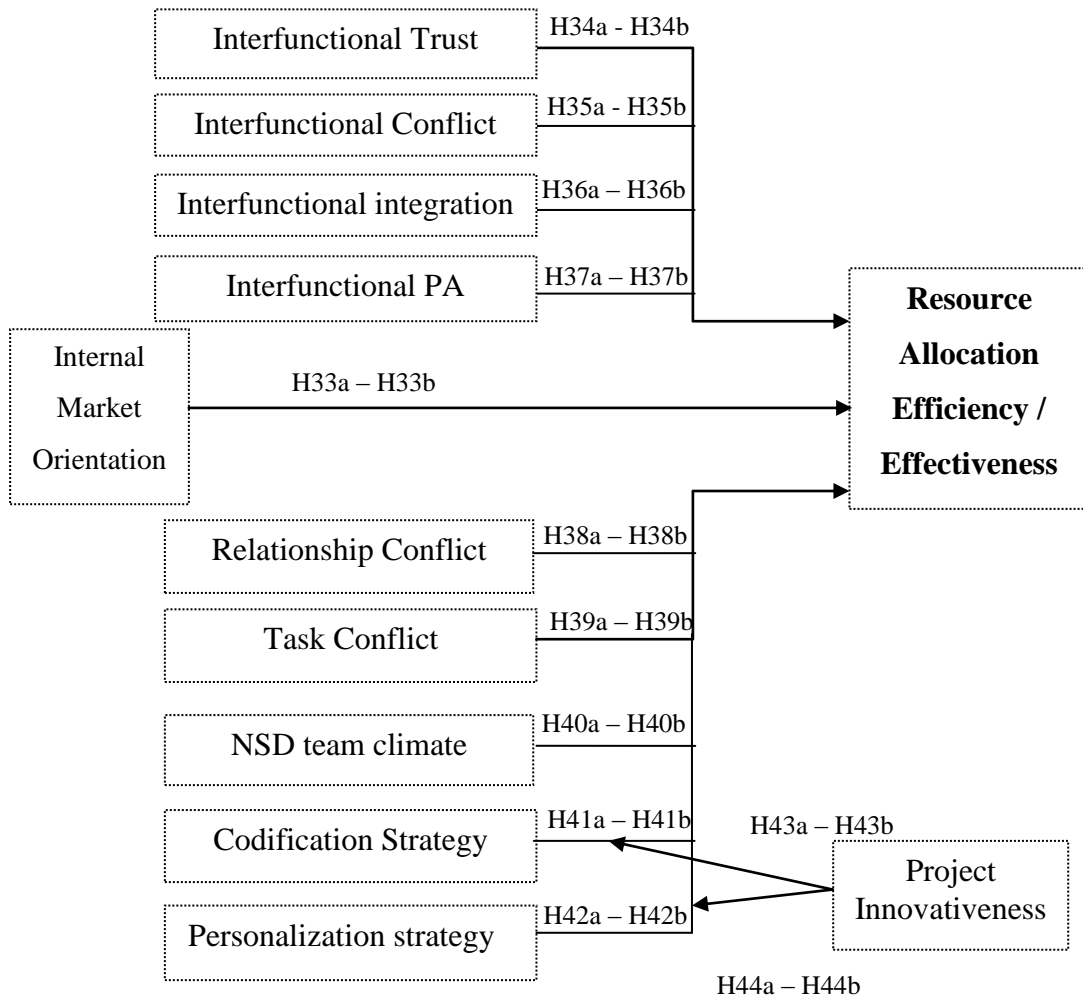
3.9.1 IMO and Resource Allocation Effectiveness and Efficiency during NSD

Adopting an IMO can improve the effective and efficient allocation of resources during NSD such as information and personnel. This suggestion lies on the internal customer perspective, which argues that each employee should acknowledge the impact of his/her behaviour on the following customers of the organizational chain (Conduit and Mavondo, 2001). Thus, IMO can better align functional executives with project goals and discourage them to put the interests of their own department ahead of those of the specific innovation project. Effective bidirectional info exchange will not only help actors from other functions to better assess each department's needs but also provide innovation participants with adequate market intelligence (Ahmed and Rafiq, 2003) so to better rank their goals, avoiding in this way political struggling during resource allocation decision-making (De Clercq et al.,

2009a). Likewise, internal communication systems can encourage employees to provide their supervisors with critical feedback regarding resource requirements, enhancing allocation effectiveness and efficiency across different NSD stages. Finally, clear individual task responsibilities due to more effective job design, which is a key part of IMO, are likely to reduce the amount of time wasted due to seeking role clarification. Thus, it is assumed that

H33a: IMO is expected to enhance resource allocation effectiveness during NSD projects

H33b: IMO is expected to enhance resource allocation efficiency during NSD projects

3.9.2 Interfunctional relationships and Resource Allocation Effectiveness and Efficiency during NSD

The use of flexible interfunctional structures has become a vital asset for innovation performance (De Luka and Atuahene-Gima, 2007). As organizations need to ensure high cross-functional cooperation so as to deliver higher customer value, it is not surprising that researchers have devoted considerable attention to clarify the role of interfunctional relationships in organizational processes such as innovation (Garcia et al., 2008). Relevant studies note that innovation results are highly dependent on relationships between participants from different functional units (Rodriguez et al., 2007). This emphasis is understandable since sharing and using info can only be achieved when there is involvement, collaboration (Perks and Riihela, 2004; Kok and Biemans, 2009) and effective conflict management (Behfar et al., 2008).

Several authors underline the importance of trust within innovation (Dovey, 2009; Garcia et al., 2008). Trust's importance during innovation increases, as it inherently entails high uncertainty and relies heavily on the integration of employees from different functions (Dayan and Di Benedetto, 2010; Dayan et al., 2009). Garcia and his colleagues (2008) examined the effect of trust on cross functional integration in an innovation context and claimed that managers should foster trust among functional areas, since when trust is low, integration is difficult to achieve. Collectively, the role of trust appears to play an essential role during innovation

whereas its role has not attracted any research scrutiny in a NSD context (Dayan and Di Benedetto, 2010; Dayan et al., 2009).

The role of **interfunctional trust** is pivotal for service innovation, as firms do not innovate based on resource commitments to the extent they do in NPD (Johne and Storey, 1998). As it is unlikely that all NSD participants have the adequate expertise, knowledge and information to carry out the project, trust remains as a key prerequisite, as it is important for the propensity of team members to share knowledge and information and to absorb other's knowledge (Tsai and Ghoshal, 1998). Therefore, higher levels of intra-organizational trust increase the frequency and accuracy of information exchange and resource coordination (Maltz and Kohli 1996), motivate cooperative decision making and reduce fears of exploitation and facilitate resource sharing (Chiles and McMackin, 1996). High levels of trust also allow teams to function smoothly and achieve objectives as well as promote interpersonal relationships creating a more collaborative culture (Middel, Boer & Fisscher, 2006). Thus, teams that illustrate team trust are likely to be more tolerant and accepting of divergent ideas and viewpoints. Given that resource allocation often requires the integration of conflicting viewpoints, high levels of trust can reduce negative conflict outcomes (Langfred, 2004) and develop more harmonic relationships between members of teams (Hattori & Lapidus, 2004), decreasing the likelihood that task conflict turns into relationship conflict (Greer et al., 2008). Overall, trust is expected to enhance the quality of the resource allocation process. On these grounds,

H34a: High level of interfunctional trust will enhance resource allocation effectiveness during NSD projects

H34b: High level of interfunctional trust will enhance resource allocation efficiency during NSD projects

When there is little or no contact across departments and functional goals are not in harmony with each other, less market information is processed (Cummings and Teng, 2003). Hence, functional executives have limited knowledge of NSD project requirements. As service innovation is characterized by relatively high resource scarcity (Schleimer and Shulman, 2011), efficient resource exchange during NSD remains quite critical. Ongoing interfunctional tensions are likely to impair

resource optimization during service innovation activities, as the extent to which different functions compete for the same resources increases (De Clercq et al., 2009b). Consequently, resource allocation is likely to be more based on relative functional power rather in actual project needs, so efficiently and effectiveness is hard to achieve. Furthermore, higher executives' perceptions of conflict are anticipated to favour the adoption of political behaviours during resource allocation decision-making, promoting this way struggling and favouritism during NSD resource configuration. Under such circumstances,

H35a: Higher levels of interfunctional conflict will reduce resource allocation effectiveness during NSD projects

H35b: Higher levels of interfunctional conflict will reduce resource allocation efficiency during NSD projects

Given that the development of new services demands the use of resources and knowledge from different organizational functions, functional representatives may play a more or less critical role in dealing with problems raised during different NSD projects. Resource dependency theory suggests that as uncertainty increases, varied functional expertise is required (Pfeffer and Salancik, 1978). It is, therefore, likely to assume that as uncertainty and equivocality increase, higher knowledge integration and diverse skills and abilities are required to resolve NSD challenges. Under such conditions, interfunctional integration is needed as participants seek to provide clarity and consensus of opinions within their allocated innovation tasks (Garcia et al., 2008). In fact, interfunctional integration can contribute to resource optimization in the sense that it ensures the dissemination of customer and market info to project participants as well as communicates effectively project requirements (Smith and Tushman, 2005), rendering decision-making during resource configuration less uncertain. In addition, integration can lead to a more effective and more efficient use of resources, as it can reduce coordination problems between different organizational units and actors in the innovation pipeline. In this vein, the following hypotheses are developed:

H36a: Interfunctional integration will enhance resource allocation effectiveness during NSD projects

H36b: Interfunctional integration will enhance resource allocation efficiency during NSD projects

The role of political activity during innovation activities remains unchallenged, although intense political struggles may ultimately hinder the implementation of innovation strategies (De Clercq et al., 2009a;b; Ruekert and Walker, 1987). Researchers note that the successful completion of innovation activities requires the fair allocation of resources, commensurate with each functional areas' resource needs (Weiss et al., 2013; 2014). Nevertheless, politicking among departments, aimed at acquiring resources for the own department rather than a fair sharing of resources across departments, may decrease the effectiveness of innovation strategies (Leenders and Wierenga, 2002). As functions often do not get sufficient monetary, informational or human resources, they may be tempted to engage in political activity, irrespective of others' immediate or long-term research needs. Political behaviours undermine effort-reward expectancy which introduces uncertainty into the resource allocation process thereby denying employees control over the allocation process (Elovainio, Kivimaki and Helkama, 2001). Within tasks that are characterized by scarcity of resources such as NSD, political manoeuvring is anticipated to increase and employees will become less motivated to exercise responsible restraint in the use of organizational resources. As a result, resource allocation effectiveness is likely to diminish, as resource configuration is mainly based on relative functional power rather than actual project requirements. Thus, it is assumed that

H37a: High levels of interfunctional political activity will decrease resource allocation effectiveness during NSD projects

H37b: High levels of interfunctional political activity will decrease resource allocation efficiency during NSD projects

3.9.3 Team-level conditions and Resource Allocation Effectiveness and Efficiency during NSD

Extending De Clercq and his colleagues' work (2009a,b) who investigated how different types of conflict shape innovation performance, it is expected that high levels of relationship conflict will also affect the NSD resource allocation process.

This assumption is based on the fact that high levels of relationship conflict in a team are associated with more disagreements among team members and are usually expressed with lack of cooperativeness among them revealing feelings of anger, distrust and frustration (Jehn, 1997; Jehn and Mannix, 2001). Due to interpersonal tensions and annoyance among NSD participants, trust in exchange relationships and decisions taken will be reduced as well as the belief in others' goodwill for allocating resources fairly. Under conditions of low relationship conflict, the team is more likely to be more conducive to the integration of diverse perspectives and participants are more likely to use less time and fewer cognitive resources for conflicts occurred, thus allowing for a better focus on task performance (De Dreu and Weingart, 2003; Jehn et al., 1999). On this ground, it is anticipated that

H38a: High levels of relationship conflict will decrease resource allocation effectiveness during NSD projects

H38b: High levels of relationship conflict will decrease resource allocation efficiency during NSD projects

Task conflict may prove beneficial for NSD resource allocation in the sense that cognitive disagreements among NSD participants can enhance their understanding of other functions' needs as well as their willingness to contribute to a more fair and rationalized allocation of resources. However, considering the risk of the conflict transformation process, which describes how ineffective management of one conflict type can eventually transform into a different type of conflict impairing the quality of interpersonal relationships (Greer et al., 2008), it is anticipated that higher levels of task conflict can easily stimulate higher relationship conflict. This is quite likely to happen as specific NSD characteristics such as increased levels of pressure, high interdependence and continuous interactions between NSD actors can amplify task conflict transformation into its relationship counterpart. As a result, the development process could be impaired due to the destructive impact of relationship conflict on team performance. Thus, it is hypothesized that

H39a: High levels of task conflict will decrease resource allocation effectiveness during NSD projects

H39b: High levels of task conflict will decrease resource allocation efficiency during NSD projects

As cross-functional teams are considered as hotbeds of innovation, the effective fir of individuals with different skills, perspectives and backgrounds will enhance innovation performance (Anderson and West, 1998). Performance in innovation projects can be affected from for team participants' ability to experiment with new ideas, thus allowing for phases of individual thought and work which are necessary to better leverage individual creative ability (Amabile et al., 1996).

A positive NSD team climate may also be supportive of a resource allocation efficiency and effectiveness acknowledging strict financial resource constraints that usually exist for development efforts (Weiss et al., 2011; Bertels et al., 2011). For example, team members are unlikely to generate and communicate novel info if they expect to receive criticism (West and Anderson, 1996). Empirical research thus far has provided evidence of the team climate for innovation being a team internal contingency variable positively influencing the relationship between financial resource constraints and innovation project performance by overcoming these two barriers (Weiss et al., 2011). The argument is that a positive NSD team climate can emerge as an enabler of higher resource efficiency and effectiveness. As understanding of NSD requirements needs to be developed collaboratively, a commonly shared social and normative background will give much needed grounding and trust (Bertels et al., 2011) and additionally will counterbalance the disadvantages initially imposed due to any resource constraints (Weiss et al., 2011). Moreover, under a positive NSD team climate, employees are more inclined to exchanging knowledge for creative thinking (Chen and Huang, 2007), resulting in the clear communication of project requirements and tasks to participants. In this context, it is proposed that

H40a: A positive team climate will enhance resource allocation effectiveness during NSD projects

H40b: A positive team climate will enhance resource allocation efficiency during NSD projects

3.9.4 Knowledge Management strategies and Resource Allocation Effectiveness and Efficiency during NSD

A codification strategy represents explicit knowledge transmitted in a systematic language and is a document-cantered strategy where organizations accumulate, codify, and store individual knowledge in NSD manuals, project reports, and best practice databases for collective current and future use (Garud and Nayyar, 1994). The integration of knowledge into organizational routines provides a platform for more effective use of existing organizational resources in current and especially in future projects. Complementarily, when a firm employs a personalization strategy employees can share their knowledge with other people in the organization through personal discussions and correct misunderstandings in written documents or allow people who could not be present to be brought up to speed (Hansen, Nohria, and Tierney, 1999). The mix of these two knowledge management strategies can prove quite important when it comes to resource configuration during NSD, as communicating successfully project requirements as well as disseminating in-depth market and customer knowledge of some participants (e.g. contact employees) will significantly increase the chances for a rational allocation of available resources. Nevertheless, the relative importance of each approach for effective and efficient resources allocation remains unexplored. Hence, it is assumed that

H41a: The adoption of a codification strategy will enhance resource allocation effectiveness during NSD projects

H41b: The adoption of a codification strategy will enhance resource allocation efficiency during NSD projects

H42a: The adoption of a personalization strategy will enhance resource allocation effectiveness during NSD projects

H42b: The adoption of a personalization strategy will enhance resource allocation efficiency during NSD projects

3.9.5 The moderating effect of Project Innovativeness

Innovation activities require extensive knowledge exchange and thus favouring the use of a personalization or a codification strategy is critical (Storey

and Kahn, 2010). In considering that different degrees of innovativeness are associated with different amount of info exchange and use (Avlonitis et al., 2001), the extent to which service organizations use of a codification and/or a personalization strategy will affect the impact of these strategies on the resource allocation process during NSD, as different communication channels and approaches will have a differential outcome on participants' decision-making for allocating resources during the project. So, it is assumed that

H43a: The degree of project innovativeness will moderate the impact of codification strategy on resource allocation effectiveness during NSD projects

H43b: The degree of project innovativeness will moderate the impact of personalization strategy on resource allocation effectiveness during NSD projects

H44a: The degree of project innovativeness will moderate the impact of codification strategy on resource allocation efficiency during NSD projects

H44b: The degree of project innovativeness will moderate the impact of personalization strategy on resource allocation efficiency during NSD projects

Having developed the conceptual framework, the following table summarizes all hypotheses developed in this chapter in order to provide a more clear view of the research hypotheses that will be tested in chapter 5.

Table 3 – Hypotheses Overview

H1	*IMO will have a negative impact on the levels of interfunctional conflict during NSD projects*
H2	*IMO will enhance the formation of interfunctional trust during NSD projects*
H3	*IMO will have a positive influence on interfunctional integration during NSD projects*
H4	*IMO is expected to have a negative impact on interfunctional political activity during NSD projects*
H5a-H5b	*IMO is expected to reduce the levels of relationship conflict during NSD projects (H5a)* *IMO is expected to reduce the levels of task conflict during NSD projects (H5b)*
H6	*IMO is expected to enhance team climate during NSD projects*

H7	*IMO is expected to reduce NSD participants' role ambiguity during NSD projects*
H8	*IMO is expected to have a positive impact on participants' market orientation during NSD projects*
H9a – H9b	*IMO is expected to have a positive impact on the use of a personalization knowledge management strategy during NSD (H9a)* *IMO is expected to have a positive impact on the use of a codification knowledge management strategy during NSD (H9b)*
H10	*IMO adoption is expected to enhance NSD project performance*
H11	*High levels of interfunctional trust during NSD projects will enhance NSD project performance*
H12	*Higher levels of interfunctional conflict will impair NSD project performance*
H13	*Higher levels of interfunctional integration will enhance NSD project performance*
H14	*High levels of interfunctional political activity will negatively influence NSD project performance*
H15a – H15b	*High levels of relationship conflict will decrease NSD project performance (H15a)* *High levels of task conflict will increase NSD project performance (H15b)*
H16	*High levels of participants' role ambiguity will reduce NSD project performance*
H17a – H17b	*The adoption of a codification strategy will enhance NSD project performance (H17a)* *The adoption of a personalization strategy will enhance NSD project performance (H17b)*
H18a – H18b	*The degree of project innovativeness will moderate the impact of codification strategy on NSD project performance (H18a)* *The degree of project innovativeness will moderate the impact of personalization strategy on NSD project performance (H18b)*
H19	*IMO is expected to increase NSD project learning*

|	
H20a - H20b	*Higher levels of relationship conflict will decrease NSD project learning (H20a)* *Higher levels of task conflict will enhance NSD project learning (H20b)*
H21	*A positive team climate will enhance NSD project learning*
H22	*High participants' levels of role ambiguity will reduce NSD project learning*
H23	*High levels of participants' MO will enhance NSD project learning*
H24a– H24b	*The adoption of a codification strategy will enhance NSD project learning (H24a)* *The adoption of a personalization strategy will enhance NSD project learning (H24b)*
H25a – H25b	*The degree of project innovativeness will moderate the impact of codification strategy on NSD project learning (H25a)* *The degree of project innovativeness will moderate the impact of personalization strategy on NSD project learning (H25b)*
H26	*IMO adoption is expected to enhance organizational learning during NSD projects*
H27	*High levels of interfunctional trust will enhance organizational learning during NSD projects*
H28	*High levels of interfunctional conflict will impair organizational learning during NSD projects*
H29	*Interfunctional integration will enhance organizational learning during NSD projects*
H30	*High levels of interfunctional political activity will decrease organizational learning during NSD projects*
H31	*High levels of participants' MO will enhance organizational learning during NSD projects*
H32a- H32b	*The adoption of a codification strategy will enhance organizational learning during NSD projects (H32a)* *The adoption of a personalization strategy will enhance organizational learning during NSD projects (H32b)*
H33a-	*IMO is expected to enhance resource allocation effectiveness during NSD*

H33b	*projects (H33a)*
	IMO is expected to enhance resource allocation efficiency during NSD projects (H33b)
H34a- **H34b**	*High level of interfunctional trust will enhance resource allocation effectiveness during NSD projects (H34a)*
	High level of interfunctional trust will enhance resource allocation efficiency during NSD projects (H34b)
H35a- **H35b**	*Higher levels of interfunctional conflict will reduce resource allocation effectiveness during NSD projects (H35a)*
	Higher levels of interfunctional conflict will reduce resource allocation efficiency during NSD projects (H35b)
H36a- **H36b**	*Interfunctional integration will enhance resource allocation effectiveness during NSD projects (H36a)*
	Interfunctional integration will enhance resource allocation efficiency during NSD projects (H36b)
H37a- **H37b**	*High levels of interfunctional political activity will decrease resource allocation effectiveness during NSD projects (H37a)*
	High levels of interfunctional political activity will decrease resource allocation efficiency during NSD projects (H37b)
H38a – **H38b**	*High levels of relationship conflict will decrease resource allocation effectiveness during NSD projects (H38a)*
	High levels of relationship conflict will decrease resource allocation efficiency during NSD projects (H38b)
H39a – **H39b**	*High levels of task conflict will decrease resource allocation effectiveness during NSD projects (H39a)*
	High levels of task conflict will decrease resource allocation efficiency during NSD projects (H39b)
H40a – **H40b**	*A positive team climate will enhance resource allocation effectiveness during NSD projects (H40a)*
	A positive team climate will enhance resource allocation efficiency during NSD projects (H40b)
H41a –	*The adoption of a codification strategy will enhance resource allocation*

H41b	*effectiveness during NSD projects (H41a)*
	The adoption of a codification strategy will enhance resource allocation efficiency during NSD projects (H41b)
H42a – H42b	*The adoption of a personalization strategy will enhance resource allocation effectiveness during NSD projects (H42a)*
	The adoption of a personalization strategy will enhance resource allocation efficiency during NSD projects (H42b)
H43a – H43b	*The degree of project innovativeness will moderate the impact of codification strategy on resource allocation effectiveness during NSD projects (H43a)*
	The degree of project innovativeness will moderate the impact of personalization strategy on resource allocation effectiveness during NSD project (H43b)
H44a – H44b	*The degree of project innovativeness will moderate the impact of codification strategy on resource allocation efficiency during NSD projects (H44a)*
	The degree of project innovativeness will moderate the impact of personalization strategy on resource allocation efficiency during NSD projects (H44b)

Chapter 4 - Methodology

The previous chapter develops the conceptual framework that will be investigated. This chapter justifies the quantitative nature of this study and outlines the dominant research paradigm of the researcher in relation to other philosophies. Additionally, this section proposes suitable research methods to answer the research hypotheses outlined in previous chapters and expounds our research strategy, including the research methodologies adopted. Third, it introduces the research instruments that were developed and utilised in the pursuit of the research objectives. Next, the psychometric properties of each measurement scale are assessed, before any further statistical analyses are performed. This assessment is conducted via the use of Confirmatory Factor Analysis (CFA) and the estimation of relative fit and reliability indices. Finally, the scale development process of two newly measurement instruments of this study is analysed in detail.

4.1 Overview of Research Paradigms

This chapter analyses existing scientific paradigms and provides some of their ontological, epistemological and methodological considerations. A paradigm can be defined as the "basic belief system or world view that guides the investigation" (Guba and Lincoln, 1994, p. 105). Paradigms are a system of thinking, a basic orientation to theory and research and express the affiliations, organizations and techniques of the scientific research community. This knowledge claims seem to be crucial to an understanding of the philosophy of science. Whereas positivism lies at the one end of a continuum, interpretivism is at the other end. However, some social researchers do not agree with all parts of one approach (Neuman and Blundo, 2000), given that there has been a recent explosion of paradigmatic alternatives in social science and hence, more scientific paradigms have been introduced by scholars (Tashakkori and Teddlie, 2003; Krauss, 2005). In the following section, these two main scientific paradigms will be reviewed in more detail as well as the rational for paradigm selection will be developed.

4.1.1 Positivist Social Science

Positivism arose from a nineteenth-century school of thought and holds that the goal of knowledge is simply to describe the phenomena that researchers experience (Trochim, 2006). A positivist researcher will precisely measure selective quantitative details about thousands of people and will use statistics, whereas an interpretive researcher may live a year with a dozen people and use careful methods to gather large quantities of detailed qualitative data to acquire an in-depth understanding of how they behave in their daily life (Neuman and Blundo, 2000). The positivist vision in social research is located in a world that is independent of local human concerns. Positivists uncritically accept the assumption about the positing of an external objective world of social phenomena, the validity of quantitative measurement of those phenomena and the capacity to make empirical generalizations and formulate theoretical propositions of increasing abstraction (Tashakkori and Teddlie, 2003).

Positivism predominates in science and assumes that science quantitatively measures independent facts about a single apprehensible reality (Healy and Perry, 2000). In other words, the data and its analysis are value-free and data do not change because they are being observed. That is, scholars view the world through a "one-way mirror" (Healy and Perry, 2000). As such, positivists separate themselves from the world they study, while researchers within other paradigms acknowledge that they have to participate in real-world life to some extent so as to better understand and express its emergent properties and features (Healy and Perry, 2000).

According to the positivist epistemology, science is seen as the way to get at truth, to understand the world well enough so that it might be predicted and controlled. The world and the universe are deterministic and they operate by laws of cause and effect that are discernible if one applies the unique approach of the scientific method. Thus, science is largely a mechanical affair in positivism. Deductive reasoning is used to postulate theories that can be tested. Based on the results of studies, one may examine whether a theory fits or not the data well and so the theory must be revised to better predict reality. The positivists believe in empiricism, the idea that observation and measurement are at the core of the

scientific endeavour. The key approach of the scientific method is the experiment, the attempt to discern natural laws through direct manipulation and observation (Trochim, 2006).

4.1.2 Interpretivism

Whereas the *positivist* approach maintains that a true explanation or cause of an event or social pattern can be found and tested by scientific standards of verification, the *interpretivist* approach does not seek an objective truth so much as to unravel patterns of subjective understanding. The latter assumes that all versions of the truth are shaped by the viewers' perceptions and understanding of their world. Interpretive social science is related to hermeneutics, a theory of meaning that originates in the nineteenth century and is guided by the researcher's beliefs and feelings about the world and how it should be understood (Denzin and Lincoln, 2005). It adopts a practical orientation and is concerned with how people interact and get along with each other (Neuman and Blundo, 2000). The interpretivist approach begins with the premise that methodological monism is no basis for the study of the social world (Healy and Perry, 2000). Based on this perspective, social world is not "given". It is produced and reinforced through human actions and interactions while its interpretation involves getting inside the world of those generating the social process. No a priori researcher-imposed formulations of structure, function and attribution are assumed and knowledge is never value-free. The researcher's interpretations intervene with the actual meaning of the world, and as result one is in part, enacting the social reality of the actors (Guba and Lincoln, 1994).

4.2 Rationale for Paradigm selection

The following section explains the philosophical position, research approaches, strategies, and time horizon of the present study. To sum up, *the ontological position of this study is the adoption of a positivist approach*. This research is based on the search to understand the causal explanation for the investigated phenomenon. Its underlying reasoning is that the basis for knowledge

and thought should depend on the use of a robust scientific method rather than resesarcher's introspection or intuition. Scientific methods are the best way of achieving this knowledge. These methods ensure that there is a distance between the subjective biases of the researcher and the objective reality one studies. This involves hypothesis generation and testing through the use of quantitative methods.

The key belief that underlies this approach is that there are general patterns of cause-and-effect that can be used as a basis for predicting and controlling natural phenomena (Healy and Perry, 2000). Consequently, the main objective of this approach is to discover these patterns. Additionally, empirical validation of the results is quite important in the sense that we can rely on the measurements of the world to provide with accurate information. Third, provided a strict methodological protocol is followed, research will be free of subjective bias and objectivity will be achieved (Trochim, 2006). Ontologically speaking, the positivist position is grounded in the theoretical assumption that there is an objective reality that can be understood by the researcher, if she or he uses the correct methods and applies those methods in a correct manner. This type of research is evaluated using three criteria:

● Validity - the extent to which a measurement approach or procedure gives the correct answer (allowing the researcher to measure or evaluate an objective reality)

● Reliability - the extent to which a measurement approach or procedure gives the same answer whenever it is carried out

● Generalizability - extent to which the findings of a study can be applied externally or more broadly outside of the study context

Meeting these criteria is a key prerequisite for any positivist approach. The aforementioned principals are in line with the adopted research design which is presented in the following sections.

4.2.1 Ontology and Epistemology

The positivist paradigm is based on robust quantitative research. Science is characterized by empirical research; all phenomena can be analysed through empirical indicators which represent the truth. The **ontological** position of the quantitative paradigm is that there is only a single truth, an objective reality that exists independent of human perception. **Epistemologically**, the investigator and

investigated are independent entities. Therefore, the investigator is capable of studying a phenomenon without influencing it or being influenced by it; "inquiry takes place as through a one way mirror" (Guba and Lincoln, 1994: 110). The objective of positivism is to measure and analyse causal relationships between variables within a value-free framework (Denzin and Lincoln, 1994). Techniques to ensure this include randomization, highly structured protocols, and written or orally administered questionnaires with a limited range of predetermined responses. Sample sizes are much larger than those used in qualitative research so that statistical methods to ensure that appropriate samples can be used (Carey, 1993).

4.2.2 Methodology

The third element of the research paradigm is methodology. The methodology employed by the researcher must match the selection of the research paradigm. Methodology is different from research method in the sense that is refers to the theoretical assumptions of how the researcher can gain knowledge. Quantitative research methods are commonly associated with positivism. Different phenomena may require the use of different methodologies. By focusing on the phenomenon under examination, rather than the methodology, researchers can select appropriate methodologies for their enquiries (Falconer and Mackay, 1999).

Marketing research can be carried out on one of three levels: *exploratory*, *descriptive* or *causal*. The main purpose of **exploratory research** is to reach a better understanding of the research problem through informal personal interviews and/or focus group interviews with stakeholders (Wilson et al., 2010), acknowledging that when there is little understanding of the topic it is impossible to formulate hypotheses without some exploratory research. On the other hand, **descriptive research** is more rigid than exploratory research and seeks to define questions, people surveyed, and the method of analysis prior to beginning data collection. **Causal research** deals with the "why" questions and seeks to find cause and effect relationships between variables through laboratory and field experiments (Zikmund, Carr, Griffin, Babin, and Carr, 2009). This dissertation adopts a *descriptive research design* given that its main goal is to investigate the hypothesized relationships of the conceptual model proposed and verify or reject the research hypotheses previously

established (Churchil and Iakobucci, 2002). A hypotheses-based field study design is employed to test the hypotheses proposed.

Prevailing empirical approaches in marketing have to date focused mainly on analysing data collected at the single level of analysis (Wieseke et al., 2008). Although it is the case that collecting empirical data with regard to level issues may be more demanding, it is also clear that using only a single level of analysis may inadequately account for many marketing research issues (Liao and Chuang, 2004). In response, scholars have recently recognized the importance of investigating and drawing conclusions regarding the influence of phenomena at different levels of analysis, and increasing numbers of studies take into account two or more levels of analysis (e.g., Homburg and Stock 2004; Lam et al., 2010; Wieseke et al., 2009; Wieseke et al., 2011).

The *main goal of multilevel research is to synthesize intra-organizational processes* within a unified conceptual framework (Hox, 1998; Raudenbush and Bryk, 2002; Raudenbush, 1995). The main goal of this empirical study is to explore possible connections among several intra-organizational antecedents, project-level drivers, individual characteristics, knowledge management strategies and various NSD outcomes, as viewed by project managers and project participants. Special focus, therefore, is given on different hierarchical levels of the organization and the use of appropriate methods of analysis. In this context, this section outlines the research design of the study, sample characteristics, the sampling frame, the sampling units, the data collection method, measurement issues as well as the statistical analysis method used. Briefly, a field research was conducted with a hierarchical research design with nested data through the use of two structured questionnaires for each sampling unit (project managers and project participants). Exploratory research included several in-depth interviews with both scholars and practitioners so as to get an overview of some fuzzy aspects of the new service development process. In addition, pilot tests were conducted before launching the specific field study in order to develop and assess the measurement instruments required.

4.3 Stages of the New Service Development process

The NSD process is significantly different from the NPD process in terms of stage sequence (Hammedi et al., 2011), as the specific characteristics of services make the development of new services more complex (Johne and Storey, 1998). The extant literature proposes a relatively different sequence of stages and processes within NSD projects in contrast to NPD (Johnson et al., 2000; Song, Song and Di Benedetto, 2009). Despite different viewpoints related to the most effective structure required for NSD success (Gadrey et al. 1995), scholars recognize that the fundamental NSD stages revolve around the design and configuration of the service concept elements and that resources such as development teams play an enabling function in the development process (Menor et al., 2002). The NSD cycle represents a progression of planning, analysis and execution activities. The cyclic nature is meant to suggest the highly iterative and non-linear processes typically employed in most NSD efforts (Menor et al., 2002; Griffin, 1997).

Within the existing literature a number of models and stage sequences have been conjectured (Johnson et al., 2000; Bessant and Davies, 2007). A well-established distinction of NSD activities is based on the *front-end and back-end* NSD phase approach (de Brentani and Reid, 2012). The front end phase of NSD includes activities like idea generation and screening, strategic positioning and concept development whereas execution-oriented back-end consists of activities involved in actually implementing the chosen service concept (Khurana and Rosenthal, 1997; Zahay and Handfield, 2004). Additionally, the *stage-gate model*, originally developed within a tangible goods environment, has also been applied extensively to NSD. Clearly defined stages from idea generation through to pilot testing, launch and review are separated by 'gates' which are intended to focus the minds of designers onto the financial and strategic considerations of progressing to the next stage. Ideas from early stages are evaluated and reduced until a limited number of 'prototypes' are developed, tested and finally launched (Johnson et al., 2000).

Although different approaches about the NSD process have been developed, scholars concur that the NSD process mainly involves four different stages (Bessant and Davies, 2007; Fitzsimmons and Fitzsimmons, 2000). The first two stages,

namely ***design*** and ***analysis***, represent the planning stage of the service innovation process where decision-making about market feasibility and resource allocation is considered. During the *design* stage, strategy formulation takes place, idea generation and initial screening are actualized and the new service concept is developed and tested. Within the *analysis* phase, business analysis, market forecast and project authorization occur (Johnson et al., 2000). The last two stages, namely *development* and *launch* stages represent the execution phase of the process cycle. In the *development* stage plans from previous steps are actually executed. Service design and development are carried out, including pilot run and customer testing. In addition, training employees about the new service offering is required as well as designing the service delivery process needs to be carried out (Fitzsimmons and Fitzsimmons, 2000). In the *full launch* phase, the company launches its promotion campaign and evaluates the success of the specific project. The main four NSD stages are described below in figure 15.

Figure 15 – NSD stages
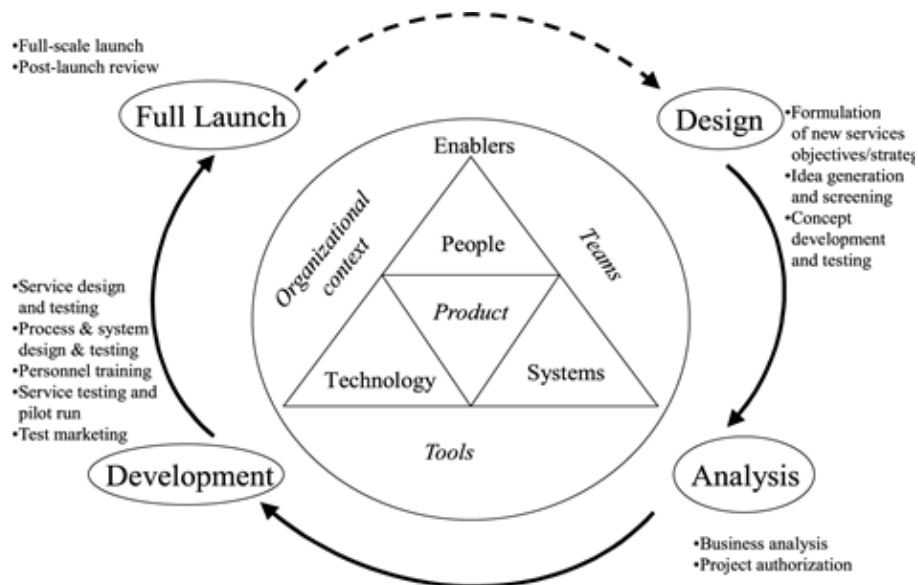
This dissertation primarily focuses on the *three first stages of the service innovation process* (i.e. design, analysis and development) or pre-launch stages for a number of reasons. New service development is viewed from an internal perspective and, in this respect, the core intention is to identify intra-organizational conditions that affect the performance of NSD teams. From this point of view, the full

commercialisation stage (i.e. full-scale launch and post-launch review) often includes outsourcing and interfirm collaboration and, as a result, its success is significantly influenced by a number of non-organizational factors. Moreover, full-launch effectiveness should mainly be measured through market-based measures in contrast to our investigation of intra-organizational factors that provide an internal view of NSD project performance. On the basis of these arguments, the main objective is to uncover the role of managerial behaviours and different intra-organizational parameters that determine NSD project performance rather than the impact of environmental conditions or other non-controllable factors on market performance (e.g. market growth).

4.4 Originality of the Research Design

To understand complex phenomena such as innovation it is important to integrate various levels of analysis (Hitt, Beamish, Jackson, and Mathieu, 2007; Klein and Kozlowski, 2000). Relevant studies however, have long neglected the multi-layered nature of the innovation process embedded in firms at different levels of analysis (Froehle and Roth, 2007). Only few marketing studies demonstrate how cross-level interactions between actors from different organizational levels shape organizational effectiveness in terms of more effective strategy implementation (Wieseke et al., 2009), as the bulk of the research adopts single-level perspectives often with evidence from a single key informant (Hitt, Beamish, Jackson, and Mathieu, 2007). Acknowledging the existence of several methodological inefficiencies within the innovation and marketing areas (Obstfeld, 2005; Salvato and Rerup, 2011), some important methodological inefficiencies are illustrated, in first, establishing this study's high originality from a methodological perspective.

On the basis that higher-level organizational activities can affect firm's innovation activity within dynamic environments (Salvato and Rerup, 2011; Knight and Cavusgil, 2004), current conceptualizations of innovation research do not address how project manager's actions and behavioural patterns trigger strategic innovation (Ambrosini and Bowman, 2009; Barreto, 2010) and thus, practitioners' understanding of what type of managerial behaviours can facilitate the creation of

new services remains limited (Sanchez-Hernandez et al., 2011). Second, service managers do not have an empirically informed understanding of how individual behavioural patterns are influenced by intra-organizational practices, as few is known about how the latter are performed and interpreted at different levels of the organizational hierarchy (Lam et al., 2010). Moreover, the lack of bridging different levels of analysis across the organization hinders the formation of a comprehensive understanding of all activities and interactions associated with NSD, as different actors may perceive in a different way the success of a project or have conflicting ideas about how it should be actualized (Mathieu and Chen, 2011). Integrating views from multiple key informants from several organizational levels will render executives more capable of capturing organizational variety and will deliver an overall understanding of how NSD actually works.

On this ground, this dissertation adopts a nested hierarchical (or multilevel) research design drawing evidence from both employees and managers participating to new service development projects. NSD project participants (or actors) are supervised from the project manager on the basis of a specific new service development project which includes participants from several organizational functions and organizational levels. The following section explicitly describes the methodology used as well as how different methodological concerns were treated.

4.5 Sampling

4.5.1 Sampling frame

The first stage of this field research relates to the definition of the population to whom it addresses (Parasuraman, Grewal and Krishnan, 2004). Given inherent differences between service and product development (Nijssen et al., 2006) and the importance of internal environment for service innovation (Vermeulen, 2004), an internal consideration is attempted whose main focus is to investigate intra-organizational parameters of NSD project performance. A main reason for selecting service firms which operate in Greece is due to their limited knowledge of how to organize the service innovation process in a resourceful way so as to improve their

success rates (Papastathopoulou, Avlonitis and Indounas, 2001). The importance of this study increases considering the fact that successful NSD can provide service firms with a sustainable advantage within intense competition conditions (Han et al., 1998). Based on these acknowledgements, the population entails different types of service industries such as advertising, financial, insurance, shipping, maritime, consulting, banking, IT services, telecommunications, internet providers and asset management firms (see Table 4 below for the full list). Service organizations constitute the focal point of this study for two reasons. First, achieving a sustainable competitive advantage through NSD can boost their organizational performance (Han et al., 1998). Second, the importance of human factor for service innovation activities remains relatively high due to higher task interdependences, service intangibility and extensive info exchange that are required during service innovation projects (Castellacci, 2008). In addition, given the centrality of employees for service organizations, Internal Marketing practices are mostly applied within service organizations, so the value of internal market orientation cannot be easily explored in a manufacturing setting. Table four displays various service industries that were included in the study.

Table 4 - Type of service industries included in the study

Advertising / Public Relations firms
Consulting companies (Management consulting / IT consulting/design / HR consulting / Technology consulting)
Investment banking / Financial advising services
Shipping / transportation companies
Retail Banking services
Insurance brokerage services
Telecommunications / Internet providers

Asset management / Wealth management
IT services/ Software development services
Maritime companies

However, some service industries were excluded from our sampling frame due to their particular characteristics that do not promote the investigation of our research objectives. In particular, *educational services, hotel providers* and *medical services* were not included in the sampling frame. These types of services were excluded due to the fact that developing new services in these sectors remains quite a different and more complex process related to traditional NSD activities (Hjalager, 2010). In fact, studies that lie within these service categories often draw evidence from a single service category (Dwyer and Edwards, 2009). First, medical services remain *supplier dominated* and primarily rely on technology adopted from the manufacturing sector, while their characteristics are widely heterogeneous in terms of firm size (Castellacci, 2008). For example, medical service innovations are mainly technology-driven and therefore, their successful design and launch is based on technological evolution and not primarily on firm's medical staff capabilities to innovate (Shaw, 1985; Biemans, 1991). In addition, educational services are non-market services and are excluded from the sample because they follow different patterns of competition and growth while their non-market nature is often considered as a hindrance to innovation (Djellal and Gallouj, 2012). Third, hotels provide a wide range of services with different degrees of complexity and heterogeneity (Silvestro et al., 1992). Whereas some of these services remain highly formalized (e.g. breakfast), others are quite complex and heterogeneous (i.e. conference management) and as a result, service innovation in hotel firms could vastly vary across the development of different service types in terms of organizational capabilities or resources required (Tremblay, 1998).

The sample selected includes service firms operating nationwide within Greece with the exception of the previously mentioned service sectors. However, as this study employs a hierarchical research design, multiple key informants from

different organizational echelons were contacted and, as a result, some minimum requirements have to be met so as to reassure that firms included in our sampling frame can actually provide us with the required intelligence. Under such circumstances, some key criteria are posited that all sample's firms should meet in terms of size, revenues, innovation activity and structure so as to reassure that multiple informants approached could provide us with the type of info required. These criteria are:

1. *The minimum size of the organizations was set to be at 50 employees, in order to draw evidence from at least one managerial- level respondent and five employee-level respondents from each firm.*

2. *Firms included in our population should have total annual revenues over 500.000 euros.*

3. *Firms included must have developed at least a new/ modified service / process within the last year.*

4. *The use of interfunctional teams during the new service development process.*

5. *The innovation projects selected had no participation of any collaborative partners or any type of interfirm collaboration.*

Unless all these criteria are met respondents may be not capable of providing the information needed for a number of reasons. On the basis of the first criterion, small service firms (with less than 50 employees) were excluded from our sampling frame as they often do not have developed adequate organizational structures to support innovation activity (Hoffman, Parejo, Bessant and Perren, 1998) or clearly formed separate organizational functions (Teece, 1996) so as to set interfunctional development teams. As a result, investigating e.g. cross-functional relationships in such a context is pointless. In addition, the lack of standardized procedures and/or formal project roles may render measuring organizational practices and policies within this firm type purposeless (McKiernan and Morris, 1994). Third, considering limited funding opportunities of small service firms, they are often not engaged to

service innovation but use collaborative schemes or external partnerships so as to develop new services (Bougrain and Haudeville, 2002). Equally important, firms that have not introduce any development projects within the last year are also excluded from our sampling frame, as recalling in detail some aspects of a specific NSD project that took place two or more years ago may prove unachievable.

As defining "small" firms varies by country and by industry, ranging from fewer than 15 employees under the Australian Fair Work Act (2009) and 50 employees according to the definition used by the European Union, the number of 50 employees per firm is set acknowledging European standards. In the same vein, firms included in our sampling frame should also have total annual revenues over 500.000 euros. The projects selected did not include any integration of collaborative partners, despite several service firms integrate external parties with internal stakeholders during the service development projects. Their moderating role in the service development process is of minor importance in our case given that the main objective of this study lies on the impact of intra-organizational parameters on NSD project performance. Last but not least, firms included in our sample have to employ interfunctional teams during new service development initiatives, as team-level contingencies constitute an important aspect of NSD project performance (Vermeulen, 2004). This criterion was assessed during the kick-off meeting of the researcher with each company representative.

Having met these five criteria, our sampling frame finally consists of approximately 750 service firms. In order to identify and contact firms selected, info is drawn from the ICAP database (www.icap.gr). ICAP is the only Greek Company recognized by the European Securities and Markets Authority (ESMA) and provides several sector and industry studies on an annual basis. Having identified our sampling frame, in next, sampling unit issues are discussed and the method selected is justified.

4.5.2 Sampling unit

Achieving the core objectives of this thesis renders data collection from multiple organizational sources an imperative, as both a managerial viewpoint and a

participant perspective are necessary to investigate how project manager's internal market orientation is interpreted from subordinates as well as is impact on NSD outcomes. New service development projects constitute the key sampling unit of the study. However, two different sub-units are identified. The first sampling unit selected consists of *project managers of new service development projects* (Level-2 unit). This group of respondents mainly refer to middle-level, senior and top management executives from different organizational functions (i.e. sales, operations or marketing executives) that are in charge of or supervise new service development projects. In most cases and depending of the strategic importance of the project, project managers are other senior executives such as CEOs, head of departments, marketing managers, sales managers, Chief operation officers (COOs), financial managers and/or IT managers. Figure sixteen displays the research design as for each project manager at least info from five project participants from the same project were obtained.

In particular, evidence is obtained from a single NSD project manager from each firm of our sampling frame (Level-1 unit). The second sampling unit selected consists of NSD project participants (employees) that collaborated with the aforementioned project manager during an indicated project. Info was obtained from one NSD project per firm. This unit consists of employees form middle and lower-level organizational echelons with different levels of expertise, different educational background that participate in service innovation projects under the guidance of the specific project manager. Contact employees, sales reps, marketing and sales executives, financial analysts, IT specialists and HR executives were included in our sample. Functional representation was determined on a random project basis by the firms approached.

Figure 16 - Hierarchical Research Design
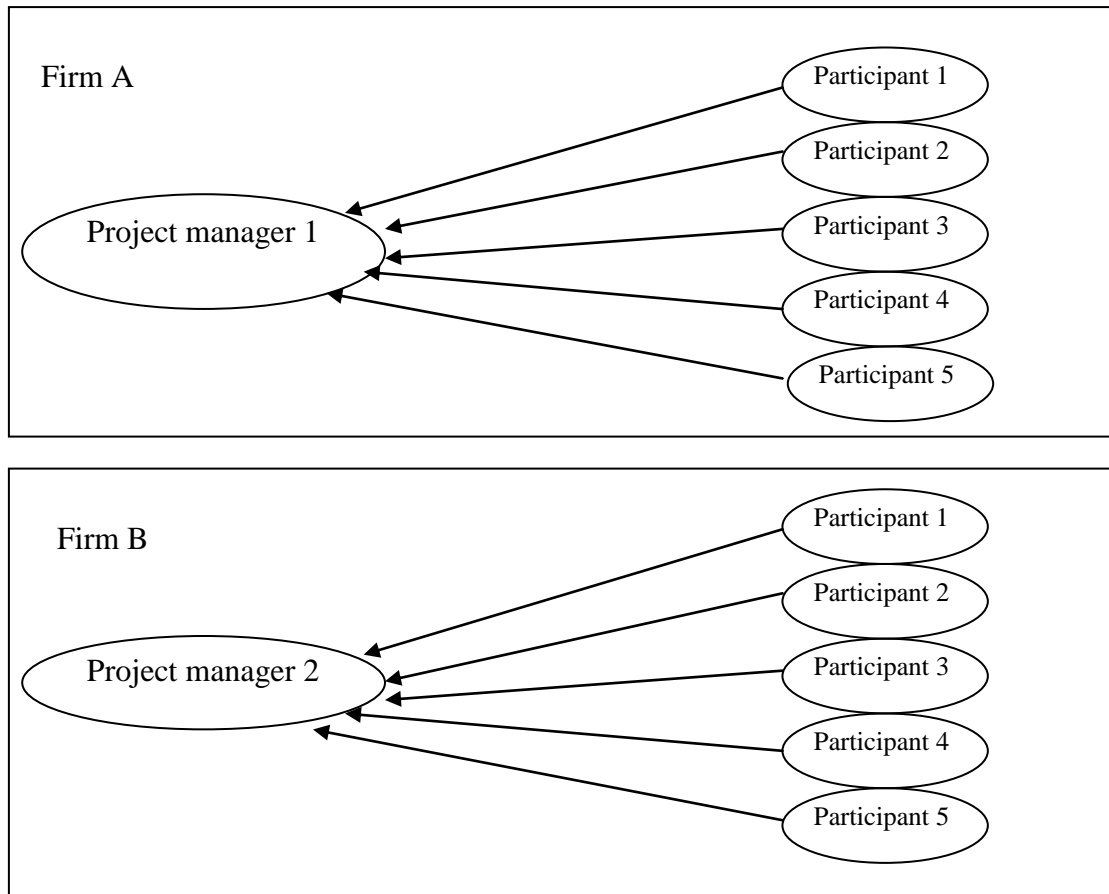
Although several methodologies have been proposed to enhance field study's reliability such as elite surveys (Walker and Enticott, 2004) or expert surveys (Kumar, Stern and Anderson, 1993), the **key informant approach** was selected as the primary method for data collection. Relying on key informant accounts is appropriate when the content of inquiry is such that complete or in-depth information cannot be expected from representative survey respondents (Kumar, Stern and Anderson, 1993). Whereas respondents describe their personal feelings and behaviours, key informants generalize "about behavioural patterns, after summarizing either observed or expected organizational relations" (Seidler, 1974, p. 817). Therefore, key informants are not selected on a random basis and are therefore not considered to be representative members of the sample units in any statistical sense (John and Reve, 1982; Phillips 1981), but instead because *they are knowledgeable about the issues being researched and able and willing to*

communicate about them (Bagozzi et al., 1991). Like other research techniques, the single key informant methodology has some drawbacks, as informant bias and random error can taint informant reports due to differences related to informants' varying organizational roles (Phillips, 1981). This approach can also be criticized because the risk of increased correlations between systematic measurement errors is enhanced (Wieseke et al., 2008).

To deal with these concerns, this study advocates querying **multiple informants** as superior to the single informant approach (van Bruggen, Lilien and Kacker, 2002), so as to increase the reliability and validity of reporting (Bagozzi, Yi, and Phillips, 1991). The assumption behind multiple informant surveys is that more accurate accounts can be obtained by surveying a range of actors located in different parts of an organization. Survey respondents may be differentiated according to managerial level, department, or any other method which reflects a variety of views within the organization (Enticott, Boyne and Walker, 2009). Despite scholars mainly highlight knowledge as one of the key criteria for the selection of key informants (Wagner, Rau and Lindemann, 2010), the current research design requires key informants from various hierarchical levels and departments.

Informants who are higher up in the hierarchy tend to be more reliable than those who occupy lower ranks for issues related to strategic awareness or other organizational aspects (Hambrick, 1981; Philips, 1981). A practical approach to identify the most knowledgeable person in an organization is to let one or more members of the organization nominate the most knowledgeable persons and choose them as informants (Huber and Power, 1985). In this vein, organizational members' knowledge is not blindly used to identify suitable informants, but informants' competency is still controlled through the use of some parsimonious measures proposed to assess the competency of informants (Enticott, Boyne and Walker, 2009).

In first, NSD participants' tenure with their firm was taken into consideration. The inclusion criterion for staff members was employment by the organization for at least one year so that they have adequate knowledge of organizational policies and practices as well as perception of the working environment and other contextual factors. Additionally, informants addressed should have been involved at least twice

in their organizational life with innovation projects so to be able to understand the project environment, role requirements and capable of assessing the quality of the project outcomes. Third, only regular team participants in interfunctional teams were considered whereas the role of executives or other employees that may have contributed on a non-regular basis is not investigated. Meeting these prerequisites is important in order to ensure the validity of informants' reports.

4.5.3 Sample size for multilevel research designs

Having described the two sampling units of the study, the sample size for each level must be determined. In single-level designs, power is a monotonic function of the sample size when holding the other factors constant. However, in hierarchical (or multilevel) research designs, power is not a simple linear function of the sample sizes at either level when holding the other factors constant (Raudenbush and Bryk, 2002). In this avenue, estimating power is an optimization problem in which one determines the range of sample sizes at each level that will result in the desired level of power (Maas and Hox, 2004; 2005). As a general rule of thumb, increasing the sample size at the highest level (i.e., sampling more groups) will do more to increase power than increasing the number of individuals in the groups.

Based on simulation studies that examine power for simple fixed effects for a variety of sample sizes at both levels, scholars reveal that for fixed effects, increasing the sample size at Level 2 had a greater impact on increasing power than increasing the Level 1 sample size at multiple values of the intraclass correlation (Bliese and Halverson, 1998). More recently, two simulation studies by Maas and Hox (2004; 2005) examined the accuracy of the standard errors for the fixed effects and variance components for different samples sizes at both levels and intraclass correlations. The accuracy is important to consider because standard errors that are positively or negatively biased may lead to overestimates or underestimates of power and required sample sizes. They found that *Level-2 sample sizes greater than 30 had a minimal impact on the accuracy of the standard error for the fixed effects*. In fact, sample sizes less than 30 at Level-2 led to standard errors that were too small, especially in the case of a large ICC (Maas and Hox, 2005).

Maas and Hox (2004) also reveal that with Level-2 sample sizes of 30 and 50, the standard error for the variance components at Level-2 were too small, which will lead to an overestimate of power and an underestimate of the required sample sizes. Their results also indicate that Level-2 sample sizes closer to 100 may be needed if the variance components are the effects of interest in the study. Thus, for estimates involving the Level 2 variance components, samples larger than 30 at Level 2 are necessary (Maas and Hox, 2004, 2005). Similarly, Kreft (1996) argued *that 30 groups is the absolute minimum while the standard errors of the second-level variances are not estimated too small when the number of groups is around 50 and therefore this size is practically acceptable*.

In general, higher levels of power are achieved with larger samples at Level 2 than at Level 1. Estimates for the Level-1 variance component seem to be the only parameter for which larger sample sizes at Level-1 are needed. Based on her review of the simulation studies, Kreft (1996) offered a 30/30 rule of thumb for each type of effect. Specifically, she advocates a minimum of 30 groups with 30 individuals in those groups, which results in a total sample size of 900 individuals. Hox (1998) advocated an even larger sample size with the 50/ 20 rule (i.e., 50 groups with 20 individuals in those groups). For estimates involving the intercept, smaller sample sizes may be possible because the intercept is estimated more precisely than the slopes (Hofmann, 1997).

Given the hierarchical nature of this study, it is conjectured that five level-1 informants should be interviewed for any single respondent existing within level-2 (Maas and Hox, 2005). The extant research proposes that in hierarchical research designs *100 groups should ideally be drawn from the higher level* (Van der Leeden and Busing, 1994; Afshartous, 1995; Kreft and De Leeuw, 1998) and that *a large number of groups appears more important than a large number of individuals per group* (Maas and Hox, 2004). However, several studies almost meet the aforementioned criteria (Wech, Kennedy and Deeter-Schmelz, 2009; Mossholder, Bennett and Martin, 1998) due to the lack of any other informants or based on the view that "when the knowledge of the informants varies, and the most knowledgeable people are likely to be queried first, responses from additional but less knowledgeable informants can actually decrease the accuracy of responses,

when they are averaged arithmetically" (Huber and Power, 1985, p.175). The robustness of this study in terms of adequate sample size is undisputable as **116 groups were finally obtained in level-2 (project manager-level) and 543 cases from employee-level (level-1)**, both numbers well over the lower thresholds.

4.6 Data collection process

The research design was a multilevel model consisting of employees from service firms operating nationwide working within new service development projects who are supervised from a project manager (NSD project manager). Thus, the data of this study was gathered on the basis of two structured questionnaires, covering varying sizes and types of firms from several service industries. As the separation of data collection methodologically (i.e., from different sources using different methods) was previously analysed, in next, the data collection process is described.

The most commonly used approach is to survey members of one level about their perceptions of variables that are relevant at two or more levels (e.g., Klein and Kim 1998; Smidts, Pruyn, and van Riel 2001). For example, employees are asked to indicate their own job satisfaction as well as their perceptions of the organizational support. This approach incorporates a risk of common method bias and also raises the issue of informant bias, which could result from the specific hierarchical position of the surveyed subjects. To deal with these issues and reduce potential bias, separate data collection on each level of interest is commonly recommended (Bryk and Raudenbush 1992; Kidwell, Mossholder, and Bennett, 1997) and that is the key criterion that the following sampling method was selected; that is to reduce the levels of common method variance (Podsakoff et al., 2003). Consequently, a mixed multilevel sampling was selected drawing evidence from two different data sources, **NSD participants and NSD managers on a project-level basis** (Teddlie and Yu, 2007), minimizing in this way sampling bias (Raudenbush and Bryk, 2002).

A two-stage sampling procedure was used to approach the selected participants. In first, the CEOs or the top management representatives of the organizations were contacted in order to get the permission for conducting the survey in the particular organization and getting the contact details of the initial group of

respondents, NSD project managers. A letter of introduction was attached to the survey package highlighted the objectives and background of the study, participants' rights, and the confidentiality of both the respondents themselves and the data. During pre-study visit(s), the study's objectives and the data collection procedure were explicitly explained to project managers involved in our study and secured endorsement from senior and HR management so as to encourage participation.

In order to draw evidence from NSD project managers, *structured standardised interviews* were conducted. A structured interview follows a specific questionnaire and this research instrument is usually used as the basis for most quantitative surveys (Hart, 1987). A standardised structured questionnaire is administered where specific questions are asked in a set order and in a set manner to ensure no variation between interviews. Using this method, variability between different interviews is reduced, resulting in comparability of data (Zaltman and Burger, 1975; Hart, 1987). This method was selected due to the fact that it increases participants' response rate and reassures high reliability (Campion, Pursell and Brown, 1988). On the other hand, the drawback of this type of interviewing is that its rigidity results in data of little depth, like the mailed questionnaire (Wilson et al., 2010). In short, although the reliability of the technique is higher than more informal types of interviewing, it is not appropriate for probing or searching questions (Parasuraman, Grewal and Krishnan, 2004). This issue was dealt through conducting informal meetings with several different actors involved to service innovation activities at a preliminary stage (see sections 4.7.1 and 4.7.2 for further details) so as to get in-depth knowledge of the deficiencies, requirements and contingencies that determine new service development project performance.

In the second step of the sampling procedure, project managers that agreed to participate were asked to identify participants who had also participated in the same development project that managers had previously indicated. The selected NSD project must have taken place within the last year so that employees could easily recall info regarding NSD-related interactions and processes. The main criterion suggested on behalf of the researcher for selecting employees was to identify the most knowledgeable ones that participated in the investigated project. Thus, a non-probability sampling technique, named *snowball sampling*, was used to select level-1

data (employee-level data) from sampled firms. Snowball sampling uses a procedure in which initial respondents are selected and additional respondents are then obtained from referrals or by other information provided by the initial respondents (Green and Tull, 1978). The major advantage of snowball sampling is that it constitutes the more effective technique for the investigation of the manager-employee relationships/interactions at the project level.

Having identified the second sampling unit (i.e. NSD participants), they were contacted them through mail and I personally provide them a letter of introduction highlighted the goals and background of the study. In the email cover letter and survey instructions, employees were explicitly informed of the objectives of the study, participants' rights and the confidentiality of the data, reassuring them that their responses would remain confidential. They were kindly requested to participate to our study and the option of completing an online structured questionnaire was also available, soliciting information about their perceptions of the specific NSD project as well as their evaluations of different aspects of the performance of the specific project, as indicated by our key informant (NSD project manager). No responses provided, reminder notes were sent to participants' group 7 days after questionnaire distribution had taken place within each firm.

The data collection process was conducted between May 2010 and June 2011 (lasted around 13 months). In first, each firm's top management were contacted so as to get the permission for conducting the survey in the particular organization and getting the contact details of the initial group of respondents (i.e. NSD project managers). This length of time can be fully justified on the basis of the fact that achieving a meeting with top management executives so as to make clear the objectives of the study proved to be quite time-consuming. In fact, several times more than one kick-off meetings had to take place due so as to convince senior executives to provide us the allowance for conducting the research. In final, 118 service firms agreed to participate in this research out of 606 firms contacted. A total of 571 employees and 118 managers responded to our survey for a response rate of 20.16%. The response rate could be considered as satisfactory acknowledging other relevant studies which adopt a similar research design (Netemeyer et al., 2010; Wheeler, Halbesleben and Harris, 2012) and given the complex research design of

the study, as a relatively high number of respondents are required from each firm. Deletion of incomplete and unmatched responses led to a final usable sample of 116 projects including 116 responses from NSD project managers and 543 responses from NSD project participants for an overall response rate of 19.30%. In average, the rate of manager (level-2) to employee (level-1) responses is 1 to 4.64. Although scholars report that the optimal number of informants is primarily a trade-off between additional resources required for including additional informants and the expected error reduction (Libby and Blashfield, 1978), this rate is relatively close to the 1 to 5 analogy suggested by the extant literature as an indicative bound for assessing cross-level effects with nested research approaches.

In order to control for response bias, our respondents were categorized in two categories considering the effort and time required to arrange a contact meeting. In this context, *early respondents* responded within a week after our first attempt to contact while it took more than a week to approach *late respondents*. The importance of addressing non-response bias lies to the fact that where nonresponse bias exists results can produce misleading conclusions that do not generalize to the entire population (Rogelberg and Luong, 1998). Therefore, some response facilitation techniques were employed (Fox, Crask, and Kim, 1988). Unless respondents had provided the data requested, reminder notes were sent to respondents seven days after survey distribution within each firm. Second, the survey's importance was well established as a wide range of employees was included, as suggested by the extant literature (Rogelberg and Stanton, 2007). A T-test analysis was employed (table 5) and results indicate that no statistically significant differences exist between early and late respondents in terms of IMO adoption (p= 0.25 / t= 2.914).

Table 5: T-test between Early and Late respondents

Managers	Frequency	Relative frequency	Mean
Early Respondents	81	69.23%	4.14
Late Respondents	35	30.77%	4.01
Total	116	100%	-
Sig. (2-tailed)	p= 0.25 / t= 2.914		

Another technique employed to identify potential response bias is cross-tabulation analysis. Cross-tabulation analysis (or cross-tabs) is a statistical technique that establishes an interdependent relationship between two tables of values, but does not identify a causal relationship between the values (Babbie, Halley and Zaino, 2007). The service sectors included in our sample were grouped categorized into five main categories namely consulting services, financial services, IT services, telecommunications and shipping/transportation services based on the sector of the service. Chi-square tests were performed among the aforementioned categories of services, as indicated in table 6 below, in order to assess whether significant differences exist between them in terms of the extent that they use cross-functional teams.

Table 6 – Service categories based on the type of service provided

Advertising / Public Relations firms / Consulting companies (Management consulting / IT consulting/design / HR consulting / Technology consulting)	Telecommunications / Internet providers
	IT services/ Software development services
Investment banking / Financial advising services / Retail Banking services / Asset management / Wealth management / Insurance brokerage services	Shipping / transportation companies / Maritime companies

Tables 7– Chi-square tests between interfunctional integration and different service categories

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.481	6	.481
Likelihood Ratio	.481	6	.481
Linear-by-Linear Association	.485	1	.487
N of Valid Cases	543		

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.481	6	.481
Likelihood Ratio	.481	6	.481
Linear-by-Linear Association	.485	1	.487
N of Valid Cases	543		

Table 8 -Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.048	.291
	Cramer's V	.074	.291
N of Valid Cases		543	

Table 7 suggests that $\chi^2 = 0.481$ and $p = 0.291$. The results indicate that there is no statistically significant association between interfunctional integration and different service categories. That is, all different service types of services equally use cross-functional teams during new service development process. Phi and Cramer's V are both tests of the strength of association (see table 8) and it appears that the strength of association between the variables is very weak.

4.7 Development of the measurement instrument

Given the different sampling units of this study, two different questionnaires were developed (as shown in the Appendix - see the Questionnaire Section), one for each sampling unit (i.e. one for project managers and one for participants). During questionnaire design, several development principles were taken into account so as to produce a reliable and valid measurement instrument. Considering scholars' suggestions for effective questionnaire design (Churchill and Iacobucci, 2002; Landsheer and Boeije, 2010), several issues were emphasized. For example, strong visual features were used when the navigational flow needs to be interrupted (i.e. between intra-organizational and project-level sections). Additionally, the use of a shorter and more accurate questionnaire was proclaimed as it offers three major

advantages (Parasuraman, Grewal and Krishnan, 2004). First, it reduces completing time and therefore, increases response rate. Second, it also reduces the potential for non-response bias and the size of the sample frame required to assure a minimal number of respondents for statistical analysis. Emphasis was given on asking additional, simple questions, rather than fewer, more complicated ones so as not to reduce content validity (Parasuraman, Grewal and Krishnan, 2004). Complex questions and ambiguous phrases were avoided. Items of the same variable were often re-ordered so as to reduce concerns of common method variance (Podsakoff et al, 2003). When applicable, existing measurement scales were mostly employed whose validity and reliability has repeatedly been validated (Churchill and Iacobucci, 2002).

With the exception of items related to respondents' demographic and personal characteristics, all items included within both questionnaires were measured based on *7-point Likert*. The anchors of the Likert response scales are as follows: *strongly disagree … strongly agree or not at all….very much*. Scales employed use verbal response descriptors where each respondent selects an appropriate one to denote his/her level of agreement. The types of scales were carefully selected because scale format can actually influence the resultant data (Dawes, 2008). Research on the subject typically portrays five or seven-point formats as the most common ones (e.g. Malhotra and Peterson 2006) but ten or eleven-point scales are used as well (Loken, Pirie et al., 1987). Empirical studies generally concur that reliability and validity are improved by using seven-point scales rather than coarser ones for a number of reasons. First, using coarser formats than seven-point scales reduces variance levels within responses whereas employing ten or eleven-point scales creates higher that real variance levels (Friedman and Amoo, 1999). Moreover, within multilevel research designs, using coarser than seven-point scales produces problems related with reduced estimation of correlations between variables. On the other hand, using scales with more than nine points impedes data aggregation (Beal and Dawson, 2007).

Regarding the structure of employee questionnaire, the first section requests info about general organizational issues and interfunctional relationships. The second part asks for project-level info such as the role of intrateam conditions, individual

perceptions about each participant's role, the extent to which different knowledge management strategies were employed and evaluations of different NSD outcomes. Finally, the third part includes demographic and personal info related to the working and educational background of the respondents. NSD participant's questionnaire includes, in overall, 82 items and is about four pages long (see Appendix – Questionnaire section).

In final, project managers' questionnaire included 36 items as well as items related to their demographic characteristics. Managers' questionnaire is about two and a half page long (see Appendix – Questionnaire section). The drafts of the two questionnaires were initially constructed by early 2010 and pilot-tested among groups with different characteristics. Before the final questionnaire was carried out, some pilot tests were conducted to pre-test both questionnaires, as they can prove quite beneficial in terms of reducing flaws and/or complex items (Hunt et al. 1982, Churchill, 1995). These two pilot tests were carried out in order to identify potential concerns related to questionnaire design (Zikmund, 2003). Scholars propose three different pre-testing methods; through conducting a *field survey, personal interviews or selecting an expert panel* (Hunt et al., 1982, Churchill, 1995). Regarding employees' questionnaire a field survey was chosen whereas personal interviews with both scholars and practitioners were proclaimed for pre-testing managers' questionnaire.

4.7.1 Employee questionnaire pilot-testing

In order to pre-test employee questionnaire, a convenience sampling procedure was selected. A small number of part-time and full-time students were contacted. Respondents were selected through convenience sampling which is the most commonly used for questionnaire pre-testing (Parasuraman, Grewal and Krishnan, 2004). In particular, 107 executives participating to the Marketing and Communication with New Technologies and MBA programs (both part-time graduate courses of Athens University of Economics and Business) were addressed. Finally, approximately 68 of them agreed to participate to the pre-test of employees' questionnaire (a response rate of 63.55%). After the pilot test few corrections were made into the wording, the question content and the form of the questionnaire based

on the received comments. Rigorous pre-testing can help towards identifying ambiguous or misleading questions as well as reducing inability to provide required info. In order to enhance reliability, cronbach a coefficient was examined for all scales employed, as indicated in table 9 below. Results indicate that pre-test cronbach a coefficients were above the 0.70 threshold for all scales examined, as suggested by Nunnally (1978). Responses from the pilot-test were taken into consideration and some improvements were made.

Table 9 – Pre-test Cronbach A

Variable	Cronbach a
Interfunctional Political Activity	0.781
Interfunctional Trust	0.795
Interfunctional Integration	0.933
Interfunctional Conflict	0.807
Task Conflict	0.834
Relationship Conflict	0.827
Role Ambiguity	0.729
NSD project performance	0.740
Organizational Learning	0.716
NSD Team Climate	0.804
NSD Project Learning	0.762
Codification Strategy	0.834
Personalization Strategy	0.870
Market orientation	0.718

4.7.2 Manager questionnaire pilot-testing

In order to pre-test managers' measurement instrument, personal interviews were conducted with two different groups. In overall, nine staff members of the Marketing Department and seventeen functional managers from different service companies agreed to contribute to the pilot testing of managers' questionnaire. In first, 36 functional / middle-level managers from different service firms were addressed in order to provide feedback about the issues researched. Executives were identified on the basis of their individual experience in the services marketing and

new service development field while their selection was based on their willingness to participate to this study. Finally, 17 in-depth interviews were conducted (a response rate of 47.22%). The existing literature confirms that the specific sample size is adequate for pilot testing (Krosnick and Presser, 2010). A structured interview format was used consisting of questions about the development process, roles of project participants, measures used to rate new service performance and project characteristics believed to consistently predict service innovation performance. In addition, personal interviews with 9 staff members from the Department of Marketing and Communication (Athens University of Economics and Business) were also conducted. Participants' responses from the pilot-test were analysed in order to eliminate the unnecessary/irrelevant questions and make considerable improvements (Krosnick and Presser, 2010).

An issue needing further investigation relates to their recommendations for the Internal Market Orientation (IMO) scale. In incorporating overall suggestions and recommendations, some items from the Internal Market Orientation scale were excluded from the final draft because of perceived similarities to other items (items 1,2 and 3), due to executives' lack of understanding (items 4,5 and 6) or due to radical and continuous changes in the extant legislature (item 7). In next, the items excluded from the IMO construct from the final draft of the questionnaire are reported.

Table 10 – Item Deletion

Internal Market Orientation scale – Excluded items (7)
1. Our management seeks to find out what competitors do to keep their employees satisfied
2. This company is aware of employment rates in our industry
3. Before any policy change is introduced our individual characteristics have always been considered in advance
4. The human resource related policies are applied to everyone. Individuals needs are never considered
5. If an employee in this company is faced with a serious problem, the supervisors from other departments will become aware of it in no-time
6. My supervisor is never too busy to talk with me when I need him
7. My income and the annual increases are dependent only to the Union's bargaining with the employers side

Having completed the pilot testing procedure, questionnaires were developed in an online format as the means of data collection. The original measures were developed in English, but as the respondents were Greek. Therefore, the questions were translated into Greek, in order to minimize the possibility of misunderstandings and confusions of the respondents that might have appeared due to the lack of equivalence between English and Greek versions (Krosnick and Presser, 2010). Specifically, the English versions of the questionnaire were first translated into Greek and were then back-translated so as to check the translation accuracy (Krosnick and Presser, 2010). No major inconsistencies were observed during the translation process for any of the items included in two questionnaires. After all relevant corrections were made, both questionnaires were considered adequate for the final data collection process.

4.8 Measurement Scales

This section describes the measurement scales that were employed in this study. In order to measure this study's constructs, existing scales have mainly been employed and/or adopted on the basis of two main criteria: a) high reliability and validity in prior studies b) relevance with the present research.

4.8.1 Independent Variables

Internal Market Orientation (IMO): IMO was measured using the scale reported by Gounaris (2006). In overall, 36 items were in total included in the scale after the pilot-testing process (see Appendix - Table 74). Gounaris (2006) has referred to IMO suggesting that three core dimensions comprise the notion: *Internal market intelligence generation, internal-market communications* and *response to intelligence*. The first dimension, *internal-market intelligence generation*, relates to such activities as the identification of exchanges of value for the employees (4 items), the comprehension of the labour market conditions (3 items), the recognition

of internal segments of employees with different characteristics (3 items) and targeting for the internal market (3 items). The second dimension, *internal-market communications* encompass the communication between managers and employees (4 items) and the communication between managers from different departments and hierarchical levels (4 items). Third, *responsiveness to the internal market* consists of the job description (3 items), the remuneration system (4 items), management concern with regard to the employees' needs (4 items) and training (4 items) (Gounaris, 2006). Some indicative items like 'This company emphasizes on understanding our needs', 'I spend time informing me about my tasks my objectives and to reach an agreement with me', 'When employees do something extraordinary they know that they will receive some financial bonus/reward' were included. Items were scored using a 7-point format.

Interfunctional Political Activity: The politics literature does not currently have an established measure of political behaviour in organizational settings (Hochwarter, 2003). Hence, the six-item measure tapping perceptions of political activity suggested from Treadway et al., (2005) was employed (see Appendix - Table 80). These items were 'I spend time at work politicking,' 'I use my interpersonal skills to influence people at work,' 'I let others at work know of my accomplishments,' 'I work behind the scenes to see that my work group is taken care of,' 'Active politicking is an important part of my job,' and 'I use politicking at work as a way to ensure that things get done.' Items were scored using a 7-point format.

Interfunctional conflict: The interfunctional conflict construct is based on Chimhanzi and Morgan's (2005) five-item measure (see Appendix - Table 81). It was modified accordingly so as to assess the level of interfunctional conflict between different organizational functions during NSD related interactions. Items like 'Employees feel that the goals of different departments are in harmony with each other' and 'Protecting one's department turf is considered to be a way of life' were included in this scale. Items were scored using a 7-point format.

Interfunctional trust: Interfunctional trust was measured based on the seven-item measure suggested from Rodriguez et al. (2007). This study explores the role of interfunctional trust within a NSD setting and items such as 'I trusted in the working relationship the other participants in the project' and 'Other participants were sincere

and honest with me during the project' were used. Items were scored using a 7-point format (see Appendix - Table 79).

Interfunctional Integration: The cross-functional integration scale is based on Li and Calantone's (1998) three-item measure and assesses the extent to which different organizational functions cooperate fully in generating and screening new ideas for new service, in establishing common goals and priorities for their strategies and the extent to which are adequately represented on NSD project teams (see Appendix - Table 88). Items were scored using a 7-point format.

NSD Team Climate: NSD team climate was measured with a four-item scale based on items by Joshi and Sharma (2004) and Anderson and West (1998) and refers to the working climate within the NSD team (see Appendix - Table 83).

Task conflict: The task conflict measure relies on Jehn and Mannix's (2001) three-item measure which asks respondents the extent of conflict related to ideas, the frequency of disagreements about the task of the project and the amount of conflicting views within the specific NSD project (see Appendix - Table 86).

Relationship conflict: The relationship conflict measure relies on Jehn and Mannix's (2001) three-item measure which asks respondents the extent of relationship tensions raised in the NSD project, the frequency that people get angry while working in the project and the amount of emotional conflict within the project (see Appendix - Table 87). Items were scored using a 7-point format.

Role ambiguity: The role ambiguity measure is based on the Rizzo House, and Lirtzman's (1970) six-item scale (see Appendix - Table 82). Two sample items of this scale are 'I know what my responsibilities are' and 'Explanation is clear of what has to be done'. Items were scored using a 7-point format.

Individual Market Orientation (MO): The Market Orientation construct was measured on the basis of Lam et al.'s (2010) fifteen-item scale. However, in our case 4 items of this scale were excluded in the same vein as Lam and his colleagues (2010) did, given that they were exclusively focusing on contact employees' activity. Finally, an eleven-item scale was employed (see Appendix - Table 75). This scale encompasses three dimensions named customer orientation (5 items), competitor orientation (3 items) and product orientation (3 items). Items like 'I always reconsider and develop the product and service offering of our company', 'I

frequently survey customers to find out the products and services they would like to see in the future', 'I keep a close eye on our competitors' customer retention tactics' were included in this scale.

Codification knowledge strategy: The codification knowledge strategy was measured based on the five-item scale from Storey and Kahn (2010) (see Appendix - Table 77). A codification strategy is conceptualized as the extent to which the firm adopts a ''people-to-documents'' approach to knowledge with formal procedures to document learning from past projects, rather than allowing knowledge to remain solely with the individual. Here, explicit knowledge is stored as formal processes, in reports, and in NSD manuals. A sample item is 'During NSD there are high levels of communication between different parts of the organization'. Items were scored using a 7-point format.

Personalization knowledge strategy: The personalization knowledge strategy was measured as well based on the four-item scale from Storey and Kahn (2010) (see Appendix - Table 78). A personalization strategy encompasses key processes that enable the sharing of tacit knowledge. These are team-based NSD projects, formal group meeting, team-based problem solving, intradepartmental cooperation and communication. Items like 'During NSD organizational problems are solved by interdepartmental teams' and 'During NSD there are high levels of communication between different parts of the organization' were included in this scale.

Project Innovativeness: Project innovativeness was categorized into incremental and radical innovations and measured with a single item. Such a differentiation has been frequently used in similar innovation research (Olsen and Sallis, 2006). This item was adopted from Song and Thieme (2009).

4.8.2 Dependent Variables – NSD Outcomes

Organizational Learning: This four-item organizational learning measure asks respondents whether their organizations have acquired much new and relevant knowledge, if organizational members had acquired critical capacities and skills, if organizational improvements had been influenced by the entry of new knowledge, and if their organizations were learning organizations (see Appendix - Table 84).

This scale is adopted from Aragon-Correa et al., (2007). A sample item is 'Organizational members had acquired critical capacities and skills'. Items were scored using a 7-point format.

NSD Project Learning: This NSD project learning scale is based on from Blazevic and Lievens' (2004) five-item measure which assesses the extent to which NSD participants learned during the specific NSD project (see Appendix - Table 76). Items like 'Our experience and learning in this project proved to be essential for the successful creation and completion of subsequent projects' and 'The knowledge acquired during the innovation process of this project served as an essential input for other new service developments' were included. Items were scored using a 7-point format.

NSD project performance: This construct assesses the extent to which the specific NSD project was successful and is based on performance measures provided from Storey and Kelley (2001) and Matear et al. (2004) (see Appendix - Table 85). In particular, NSD project performance was assessed in terms of cost, time schedule, goals, calculated profit, projected market share, sales goals and overall team performance. Items were scored using a 7-point format.

Resource Allocation Effectiveness: This is a newly developed scale which captures the extent to which organizational resources (info, personnel, IT equipment, time and money) were *adequately provided* for the specific NSD project (see section 4.11 for the scale development process and Appendix - Table 89).

Resource Allocation Efficiency: This is a newly developed scale which captures the extent to which organizational resources (info, personnel, IT equipment, time and money) were *efficiently used* during the specific NSD project (see section 4.11 for the scale development process and Appendix - Table 90).

4.8.3 Control Variables and Demographics

Apart from the aforementioned scales some demographic and personal info were also requested from the respondents. This type of info was common for both sampling units.

Educational background: The educational background of each respondent was measured with a single item scale asking about respondents' level of education

(primary level, secondary level, higher education degree, master degree or doctorate).

Age group: Another demographic info requested is related to the age group that respondents belong to. A single item was used including the following age groups (24-30, 31-40, 41-50, 51-60, over 60). No age group before 24 was included as it is highly unlikely that any respondents of this age group are included given certain prerequisites that have to be met (see prerequisites in the sampling frame section).

Departmental Status: Another info requested is related to the departmental status of each respondent. In particular, five different options were provided: finance and/or accounting department, Marketing and/or sales, Contact employees/ sales representatives, IT support and/or services and Human Resources.

Organizational level: Respondents from the employee sample were asked to rank themselves as senior management executives, middle-level executives or Contact employees/ sales representatives.

Working Experience: Both NSD project managers and project participants were asked to provide their level of working experience in the specific firm. Given that employees with tenure less than a year were not included in our sample (see prerequisites in the sampling frame section), the following categories were shaped; 1-3 years, 3-5 years, over 5 years.

NSD experience: Finally, respondents' experience in innovation activities was also assessed including the following categories; participation to 1-2 innovation projects; participation to 3-5 innovation projects; participation to over 6 innovation projects.

Table 11 - Overview of study's measures

Scale	Items	From
Internal Market Orientation	36	Gounaris (2006)
Market Orientation	11	Lam et al. (2010)
Interfunctional Political Activity	6	Treadway et al., (2005)
Interfunctional Trust	6	Rodriguez et al. (2007)
Interfunctional Integration	3	Li and Calantone (1998)
Interfunctional Conflict	5	Chimhanzi and Morgan (2005)
Resource Allocation Effectiveness	5	New
Resource Allocation Efficiency	5	New
Task Conflict	3	Jehn and Mannix (2001)
Relationship Conflict	3	Jehn and Mannix (2001)
Role Ambiguity	6	Rizzo et al. (1970)
NSD project performance	7	Storey and Kelley (2001); Matear et al. (2004)
Organizational Learning	4	Aragon-Corea et al. (2007)
NSD Team Climate	4	Joshi and Sharma (2004); Anderson and West (1998)
NSD Project Learning	5	Blazevic and Lievens (2004)
Codification Strategy	5	Storey and Kahn (2010)
Personalization Strategy	4	Storey and Kahn (2010)
Project Innovativeness	1	Song and Thieme (2009)

4.9 Assessing Scale Reliability and Validity

The following section describes the validity and reliability tests of the measurement instruments employed in this study. Validity and reliability are similar notions but distinctive (Bollen, 1989). *Reliability* relates to the freedom from random error and the true value (Zikmund, 2003). Whereas validity relates to what should be measured, reliability relates to how it is measured (Sekaran, 2000). Reliability tests aim at minimizing random error and bias (Yin, 1994). The extant literature suggests that the two most prominent methods of assessing construct reliability is *internal*

consistency, which reflects the coherence (or redundancy) of the components of a scale and *test-retesting* (Zikmund, 2003). This study adopts the first one, based on Nunnally and Bernstein's (1994) argumentation that "coefficient *α* usually provides a good estimate of reliability because sampling of content is usually the major source of measurement error for static constructs" (p. 252). As a result, reliability was estimated through internal consistency using Cronbach's alpha coefficient. The alpha coefficient varies from 0 to 1, and values greater than 0.60 are considered acceptable (Hair et al., 1998). In this study, all constructs' Cronbach A coefficients were greater than 0.65 and they can be considered reliable (Nunnally, 1978) (see section 4.9).

In addition, *Confirmatory Factor Analysis (CFA)* is performed for most study's scales (Anderson and Gerbing, 1988), as Cronbach alpha cannot effectively assess each construct's unidimensionality (Hair et al., 1995). CFA examines the covariance structure of a set of each construct and provides an explanation of the relationships among those variables in terms of a smaller number of unobserved latent variables called factors (Byrne, 2009), ensuring that measurement is reliable. Moreover, CFA is powerful because it provides explicit hypothesis testing for factor analytic problems and should be the much more widely used-of the two major factor analytic approaches (Gorsuch, 1983). However, using CFA requires the existence of, at least, four indicators per factor, as one remains stable within each rotated solution. Consequently, CFA cannot provide a rotated solution and estimate construct unidimensionality unless the scale examined has more than three indicators (Byrne, 2006).

Validity can be defined as the degree the survey measures what it is only supposed to measure (Alreck and Settle, 1985). *Construct validity* represents the conceptual definition of a construct. The operationalization of each construct includes content, convergent and discriminant validity (Schwab, 1980). *Convergent validity* tests whether constructs that should be related, are related whereas discriminant validity tests whether believed unrelated constructs are, in fact, unrelated or is defined as the degree to which two or more attempts to measure the same concept are in agreement (Bagozzi and Phillips, 1982). Measures of the same construct should display a large common variance. On the other hand, *discriminant validity* represents the extent to which measures of distinct concepts differ (Bagozzi

and Phillips, 1982). Measures of different constructs should share little variance. The analysis of discriminant validity may help to corroborate issues of content validity when it is suspected that some measures actually correspond to another concept. Fornell and Larcker (1981) emphasize the importance of estimating *AVE* (Average Variance Extracted) and *CR* (Construct Reliability) for assessing construct *convergent* and *discriminant validity*. Therefore, convergent validity was evaluated with an AVE and CR per factor (Holmes-Smith et al., 2005). Convergent validity is accepted when AVE is greater than 0.5 and CR greater than 0.7 (Bagozzi and Yi, 1988; Hair, Black, Babin, Anderson, and Tatham, 2006). In third, *content validity* is a qualitative type of validity where the domain of a concept is made clear and the analyst judges whether the measures fully represent that domain (Bollen, 1989). The domain of a concept is bounded by its theoretical definition, which should reflect the meanings associated with the concept in prior research and make its dimensions clear (Bollen, 1989).

4.10 Confirmatory Factor Analysis (CFA)

The psychometric properties and unidimensionality of all measures were assessed through the use of confirmatory factor analysis (CFA). In order to conduct CFAs for study's constructs, the Maximum Likelihood Estimators (MLE) method was selected which is considered appropriate for large samples (Joreskog and Sorbom, 1982) and remains the most commonly used within the marketing domain (Crosby et al., 1990). Some goodness-of-fit indices are taken into consideration so as to assess each model's overall fit (Joreskog and Sorbom, 1989). The *chi square statistic* (χ^2) tests the hypothesis that the model is consistent with the pattern of covariation among the observed variables. In the case of the chi-square statistic, smaller rather than larger values indicate a good fit. The χ^2 is very sensitive to sample size, rendering it unclear in many situations whether the statistical significance of the χ^2 statistic is due to poor fit of the model or to the size of the sample (Stevens, 1996). Although the chi-square statistic provides the best inferential test of overall model fit, its usefulness is greatly undermined by the fact

that it has been found to be related to sample size, model complexity, and non-normality (Hu and Bentler, 1999). Consequently, it is necessary to rely on other goodness of fit indices to evaluate the extent to which the relationships hypothesized in the measurement model are consistent with the sample data. Some of the alternative goodness of fit indices assess the absolute fit of a model (e.g., GFI, RMSEA) whereas some others assess its fit relative to a suitably framed comparison model (e.g., AGFI, TLI).

The good of fit index (*GFI*) is a measure of the relative amount of variances and covariances jointly accounted for by the model (Joreskog and Sorbom, 1986, p. 41). The closer the GFI is to 1.00, the better is the fit of the model to the data. The *adjusted goodness of fit statistic* (AGFI) is based on a correction for the number of degrees of freedom in a less restricted model obtained by freeing more parameters. Both the GFI and the AGFI are less sensitive to sample size than the chi square statistic. The *Tucker Lewis Index* (*TLI*) and the *Root Mean Square Error of Approximation* (*RMSEA*) are also considered as well-established fit indices. In addition the *Normed Fit Index* (NFI) is also estimated that indicates the extent to which the target model is the best possible improvement over the independence model. A disadvantage of the *NFI* is that it is affected by sample size (Bearden, Sharma, and Teel, 1982). For TLI, AGFI, GFI, NFI and CFI indices a value between 0.90 is acceptable and above 0.95 is indicative of an excellent fit of the data to the hypothesized model. On the other hand, well-fitted models have an RMSEA of 0.08 or less (Byrne, 2006).

4.10.1 Internal Market Orientation

Internal Market Orientation is measured based on Gounaris' (2006) scale. The final scale used is a second-order construct and consists of 36 items which consist of ten latent factors (Exchange value, Internal segmentation, Internal targeting, Employee-manager communication, Management concern, Aware of internal conditions, Communication with manager, Job description, Remuneration, Training) (see table 13 below). We used confirmatory factor analysis (CFA) to evaluate the dimensionality of the IMO scale (Anderson and Gerbing, 1988). We first tested the measurement model to assess how well the items corresponded to

their respective latent variables and to establish the relationship between latent constructs in this study (see Table 13). To test their multidimensional nature, a second-order measurement model was developed using AMOS 19.0 was estimated for testing the construct validity and model fit (Anderson and Gerbing, 1988). CFA fit indices are well within the suggested limits and indicate a good fit of the data to the hypothesized model (CFI = 0.932, TLI = 0.919, RMSEA = 0.047, GFI=0.933, AGFI=0.911, NFI=0.927). Confirmatory Factor Analysis results also notes that the measurement model fits the data well and that is statistically significant (p=0.000) with 192 degrees of freedom and χ^2 =256.291, producing a good model fit (see Table 12).

Table 12 – Confirmatory Factor Analysis of IMO

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.960	0.932	0.919	0.047	0.933	0.911	0.927
Model Fit: χ^2 = 256.291, DF = 192, Probability level p=0.000							

Regarding the construct validity each items' standardized loading estimates were greater than 0.5 respectively (Bagozzi and Yi, 1988) (see Appendix – Table 92). Average Variance Extracted (AVE) of each factor and of each construct ranges from 0.51 to 0.72 (see table 14) and remains greater than 0.5. In terms of internal consistency the cronbach a coefficient of the overall scale is 0.960 while all latent variables have cronbach a higher than the 0.65 threshold which is suggested as the lowest accepted bound of Cronbach a (Nunally, 1978). This evidence indicates that the scale is considered reliable and be used for further analysis (Hair et al., 2006). In next, analytical info of the CFA results of the IMO construct is provided (see table 14) whereas individual item factor loadings are displayed in Appendix (table 92). Reliability via cronbach a is also assessed for each latent factor and as table 14 suggests all cronbach a coefficients lie within the suggested limits (0.661 to 0.960). The unstandardized Latent Factor Loadings of IMO latent factors are reported in table 13.

Table 13 – Unstandardized Latent Factor Loadings of IMO

Latent factors		Estimate	S.E.	P

Training	<---	1.032	.049	***
Manager communication	<---	.984	.055	***
Employee-Manager communication	<---	.981	.043	***
Internal Segmentation	<---	1.025	.054	***
Job description	<---	1.006	.048	***
Remuneration	<---	.949	.051	***
Internal Targeting	<---	1.011	.040	***
Aware of internal conditions	<---	1.019	.047	***
Management concern	<---	.917	.045	***
Exchange value	<---	1.017	.051	***

Table 14 – Reliability of IMO Latent Factors

Cronbach A		AVE	CR
Exchange value	0.817	0.57	0.78
Internal segmentation	0.661	0.71	0.73
Internal targeting	0.844	0.58	0.83
Employee - manager communication	0.847	0.71	0.86
Management concern	0.668	0.63	0.79
Manager Communication	0.692	0.69	0.74
Job description	0.825	0.72	0.84
Remuneration	0.795	0.52	0.88
Training	0.728	0.51	0.85
Aware of internal conditions	.0.733	0.54	0.71
Overall	0.960	0.55	0.80

4.10.2 Interfunctional conflict

The interfunctional conflict construct is measured based on Chimhanzi and Morgan's (2005) five-item measure. A first order CFA was conducted for testing the

construct validity and model fit statistics. Confirmatory Factor Analysis results indicate that the model is statistically significant (p=0.000) with 5 degrees of freedom and χ^2 =33.975, producing a good model fit. CFA fit indices are well within the suggested limits and indicate a good fit of the data to the hypothesized model (CFI=0.965, TLI = 0.930, RMSEA=0.73, GFI=0.974, AGFI=0.922, NFI=0.959) (see table 15 below). These results suggest that no deletions of scale items are needed to improve model fit.

Table 15 - Confirmatory Factor Analysis of Interfunctional Conflict

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.783	0.965	0.930	0.73	0.974	0.922	0.959
Model Fit: χ^2 = 33.975, DF = 5, Probability level p=0.000							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is satisfactory (a=0.783). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.62) (Bagozzi and Yi, 1988). As a result, this scale is considered reliable and be used for further analysis (Hair et al., 2006). Table 16 provides the standardized factor loadings of the CFA analysis (see table 16 below).

Table 16 – Standardized Regression Weights of Interfunctional Conflict

Item	Estimate	S.E.	P
Employees feel that the goals of different departments are in harmony with each other	.697	-	***
Protecting one's department turf is considered to be a way of life	.501	.064	***
There is little or no interdepartmental conflict	.652	.063	***
Different departments cooperate effectively to achieve mutual goals	.807	.099	***
There is little or no tension among employees from different departments	.778	.083	***

4.10.3 Interfunctional political activity

The 'interfunctional political activity' construct is measured based on the six-item scale from Treadway et al., (2005). The final scale used is a first-order construct including six items (see table 18 below). CFA fit indices indicate a good fit of the data to the hypothesized model with the exception of the AGFI index (AGFI=0.844). CFA reveals factor loadings greater than 0.50, (Hair et al., 2006) and thus, no deletions of scale items are needed to improve model fit. In particular, it is noted that the measurement model fits the data well: χ^2 (9)=116.615, goodness-of-fit index (GFI)=0.933, adjusted goodness-of-fit index (AGFI)=0.844, Tucker–Lewis index (TLI)=0.919, confirmatory fit index (CFI)=0.948, root mean squared error of approximation (RMSEA)=0.074 and normed fit index (NFI)=0.944. All indices display a good fit of the measurement model, apart from the AGFI index which indicates a moderate fit (see table 17 below).

Table 17 - Confirmatory Factor Analysis of Interfunctional Political Activity

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.897	0.948	0.919	0.074	0.933	0.844	0.944
Model Fit: χ^2 = 116.615, DF = 9, Probability level p=.000							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as indicated by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is satisfactory (a=.897). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.71) (Bagozzi and Yi, 1988). As a result, this scale is considered reliable and be used for further analysis (Hair et al., 2006). Table 18 provides factor loadings of the CFA for the interfunctional political activity scale.

Table 18 – Standardized Regression Weights of Interfunctional Political Activity

Item	Estimate	S.E.	P
I spend time at work politicking	.840	-	***
I use my interpersonal skills to influence people at work	.854	.042	***
I let others at work know of my accomplishments	.539	.044	***

I work behind the scenes to see that my work group is taken care of	.690	.040	***
Active politicking is an important part of my job	.890	.040	***
I use politicking at work as a way to ensure that things get done	.817	.039	***

4.10.4 Role Ambiguity

The 'role ambiguity' construct is measured based on a six-item scale from Rizzo et al. (1970). The scale used is a first-order construct including six items (see table 20). The model is statistically significant (p=0.000) with 9 degrees of freedom and χ^2 =53.693, producing an excellent model fit of the data to the hypothesized model. CFA fit indices are within the suggested limits and indicate an excellent fit of the data to the hypothesized model (CFI=0.978, TLI = 0.963, RMSEA = 0.066, GFI=0.969, AGFI=0.927, NFI=0.973) (see table 19 below).

Table 19 - Confirmatory Factor Analysis of Role Ambiguity

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.910	0.978	0.963	0.066	0.969	0.927	0.973
Model Fit: χ^2 = 53.693, DF = 9, Probability level p=0.000							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as Hair et al. (2006) indicate. In terms of internal reliability the cronbach a coefficient of the overall scale is satisfactory (a=0.910). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.83) (Bagozzi and Yi, 1988). As a result, this scale is considered reliable and be used for further analysis (Hair et al., 2006). Table 20 provides the standardized regression weights of each item.

Table 20 – Standardized Regression Weights of Role Ambiguity

Item	Estimate	S.E.	P
I know exactly what is expected of me	.837	-	***
I know that I have divided my time properly	.814	.040	***

I have clear, planned goals, and objectives for my job	.807	.041	***
Explanation is clear of what has to be done	.798	.040	***
I feel certain about how much authority I have	.708	.042	***
I know what my responsibilities are	.794	.042	***

4.10.5 Individual Market Orientation (MO)

The MO construct is measured based on eleven-item scale from Lam and his colleagues (2010). The final scale used is a second-order construct including three latent factors and eleven indicators (see table 22). CFA fit indices are well within the suggested limits and indicate a good fit of the data to the hypothesized model. In particular, it is noted that the measurement model fits the data well: χ^2 (40) =207.215, goodness-of-fit index (GFI)=0.938, adjusted goodness-of-fit index (AGFI)=0.900, Tucker–Lewis index (TLI)=0.921, confirmatory fit index (CFI)=0.943, root mean squared error of approximation (RMSEA)=0.068 and normed fit index (NFI)=0.930 (see table 21 below).

Table 21 - Confirmatory Factor Analysis of individual Market Orientation

CFA	**Cronbach A**	**CFI**	**TLI**	**RMSEA**	**GFI**	**AGFI**	**NFI**
	0.918	0.943	0.921	0.068	0.938	0.900	0.930
Model Fit: χ^2 = 207.215, DF = 40, Probability level p=0.000							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is satisfactory (a=0.918). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.73) (Bagozzi and Yi, 1988) (see table 23 below). As a result, this scale is considered reliable and be used for further analysis (Hair et al., 2006). Table 22 reports the standardized regression weights of the items of the construct.

Table 22 – Standardized Regression Weights of Market orientation items

Item	Estimate	S.E.	P
Product Orientation			
I am always looking for new products and services.	.598	-	***
I always reconsider and develop the product and service offering of our company.	.739	0.64	***
I consider innovative new products and services as a key component of success.	.739	0.71	***
Competitor Orientation			
I pay close attention to competitors' activities.	.856	-	***
I keep a close eye on our competitors' customer retention tactics.	.792	0.44	***
I monitor exactly what special actions our competitors are doing.	.780	0.45	***
Customer Orientation			
I think customer preferences are a key factor to the success of my company	.704	-	***
I frequently survey customers to find out the products and services they would like to see in the future	.747	0.58	***
The goals I set for are mainly aiming at customer satisfaction	.872	0.71	***
I try to figure out what a customer's needs are.	.676	0.59	***
I have the customer's best interests in mind.	.808	0.84	***

Table 23 – MO Latent factor Reliability

Cronbach A		AVE	CR
Product Orientation	0.838	0.61	0.76
Competitor Orientation	0.852	0.72	0.71
Customer Orientation	0.733	0.79	0.80
Overall	0.918	0.73	0.78

4.10.6 NSD Team Climate

The NSD team climate construct is measured based on four-item scale from Joshi and Sharma (2004). The final scale used is a first-order construct including four items (see table 25). CFA fit indices are well within the suggested limits and indicate a good fit of the data to the hypothesized model. In particular, it is noted that the model resulted in an acceptable overall fit: χ^2 (2)=9.239 goodness-of-fit index (GFI)=0.992, adjusted goodness-of-fit index (AGFI)=0.961, Tucker–Lewis index (TLI)=0.981, confirmatory fit index (CFI)=0.994, root mean squared error of approximation (RMSEA)=0.076 and normed fit index (NFI)=0.992 (see table 24 below).

Table 24 - Confirmatory Factor Analysis of NSD Team Climate

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.865	0.994	0.981	0.076	0.992	0.961	0.992
Model Fit: χ^2 =9.239, DF = 2, Probability level p=.016							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is satisfactory (a=.0.865) (Nunally and Bernstein, 1994). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.69) (Bagozzi and Yi, 1988). As a result, this scale is considered reliable and be used for further analysis (Hair et al., 2006). Table provides standardized regression weights of each item (see table 25 below).

Table 25 – Standardized Regression Weights of NSD team climate

Item	Estimate	S.E.	P
In this project, participants were supported for developing new ideas, regardless of the eventual success/failure of these ideas	.773	-	***
In this project, there was space to experiment with new ideas	.811	0.037	***
In this project, creation and sharing of new knowledge was supported	.771	0.055	***
In this project, failures and setbacks were tolerated by	.792	0.047	***

management			

4.10.7 Codification knowledge strategy

The 'codification strategy' construct is measured based on a five-item scale from Storey and Kahn (2010). A confirmatory factor analysis (CFA) was conducted for testing the construct validity and model fit. The model is statistically significant (p=0.010) with 5 degrees of freedom and χ^2 =15.192. CFA fit indices indicate an excellent fit of the data to the hypothesized model (CFI=0.990, TLI = 0.980, RMSEA = 0.061, GFI=0.989, AGFI=0.968, NFI=0.985) (see table 26 below).

Table 26 - Confirmatory Factor Analysis of Codification strategy

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.850	0.990	0.980	0.061	0.989	0.968	0.985
Model Fit: χ^2 = 15.192, DF = 5, Probability level p=0.010							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is 0.850. Average Variance Extracted of the construct is greater than 0.5 (AVE=0.67) (Fornell and Larcker, 1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). Table 27 presents analytical info of the standardized regression weights of the items of this construct.

Table 27 – Standardized Regression Weights of codification strategy

Item	Estimate	S.E.	P
Formal procedures exist for documenting the ''lessons learned'' from completed NSD projects	.703	-	***
NSD knowledge is generally ''stored'' as new processes and routines immediately after project completion	.756	.073	***
Manuals and handbooks are used extensively to make NSD knowledge available for subsequent use on other projects	.712	.064	***

NSD knowledge generally remains ''in the heads'' of those individuals executing the activities of the NSD project	.744	.069	***
During NSD written reports are used extensively to NSD knowledge	.730	.067	***

4.10.8 Personalization knowledge strategy

The 'personalization strategy' construct is measured based on a four-item scale adopted from Storey and Kahn (2010). A first-order confirmatory factor analysis (CFA) was conducted for testing the construct validity and model fit. CFA fit indices are well within the suggested limits and indicate a very good fit of the data to the hypothesized model (CFI=0.993, TLI=0.987, RMSEA=0.034, GFI=0.994, AGFI=0.982, NFI=0.983). Confirmatory Factor Analysis results also indicate that the model is statistically significant (p<0.01) with 5 degrees of freedom and χ^2 =8.149, producing an excellent model fit (see table 28).

Table 28 – Confirmatory Factor Analysis of Personalization strategy

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.686	0.993	0.987	0.034	0.994	0.982	0.983
Model Fit: χ^2 = 8.149, DF = 5, Probability level p=0.018							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is relatively satisfactory (a=0.686) (Malhotra and Birks, 2007). Average Variance Extracted of the construct is greater than 0.5 (AVE=0.82) (Fornell and Larcker, 1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). In table 29 analytical info of the standardized regression weights of the items of this construct is presented.

Table 29 – Standardized Regression Weights of personalization strategy

Item	Estimate	S.E.	P

During NSD organizational problems are solved by interdepartmental teams	.748	-	***
During NSD there are high levels of communication between different parts of the organization	.611	.103	***
During NSD cooperation between departments is usually very high	.511	.074	***
Temporary project teams are used to manage most NSD processes	.529	.086	***

4.10.9 Organizational Learning

Organizational Learning is measured based on a four-item scale adopted from Aragon-Corea et al. (2007). A first-order confirmatory factor analysis (CFA) was conducted for testing the construct validity and model fit. Confirmatory Factor Analysis results also indicate that the model is statistically significant (p<0.05) with 2 degrees of freedom and χ^2 =4.859, producing an excellent model fit. Fit indices indicate an excellent fit of the data to the hypothesized model (CFI=0.997, TLI=0.990, RMSEA=0.051, GFI=0.996, AGFI=0.978, NFI=0.995) (see table 30).

Table 30 – Confirmatory Factor Analysis of Organizational Learning

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	.850	0.997	0.990	0.051	0.996	0.978	0.995
Model Fit: χ^2 = 4.859, DF = 2, Probability level p=0. 044							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is 0.850. Average Variance Extracted of the construct is greater than 0.5 (AVE=0.88) (Fornell and Larcker, 1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). Next, analytical info of the standardized regression weights of the items is presented below (see table 31).

Table 31 – Standardized Regression Weights of Organizational Learning

Item	Estimate	S.E.	P
The organization had acquired much	.804	-	***

new and relevant knowledge			
Organizational members had acquired critical capacities and skills	.746	.054	***
Organizational improvements had been influenced by the entry of new knowledge	.760	.047	***
My organizations is a learning organization	.760	.047	***

4.10.10 Project Learning

Project learning is measured based on a five-item scale adopted from Blazevic and Lievens (2004). A confirmatory factor analysis was conducted for testing the construct validity and model fit. The model's fit indices indicate an excellent fit of the data to the hypothesized model (CFI=0.991, TLI=0.982, RMSEA =0.069, GFI=0.987, AGFI=0.961, NFI=0.988). Confirmatory Factor Analysis results also indicate that the model is statistically significant (p<0.01) with 5 degrees of freedom and χ^2 =17.996, producing an excellent model fit (see table 32).

Table 32 – Confirmatory Factor Analysis of Project Learning

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.894	0.991	0.982	0.069	0.987	0.961	0.988
Model Fit: χ^2 = 17.996, df = 5, Probability level p=0.003							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is 0.894. Average Variance Extracted of the construct is greater than 0.5 (AVE=0.57) (Fornell and Larcker, 1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). In next, analytical info of the standardized regression weights of the items is presented below (see table 33).

Table 33 - Standardized Regression Weights of Project Learning items

Item	Estimate	S.E.	P
Our experience and learning in this project proved to be essential for the	.789	-	***

successful creation and completion of subsequent projects.			
The knowledge acquired during the innovation process of this project served as an essential input for other new service developments	.808	.050	***
The development of this new financial service created a general development expertise that eased the development and introduction of subsequent new services	.756	.049	***
The expertise of developing and launching this new financial service lead to an enhanced know-how for future innovation projects.	.795	.052	***
Through the development and launch of this new service, project members learned a lot on new financial service innovation.	.812	.050	***

4.10.11 Interfunctional Trust

Interfunctional trust is measured based on a seven-item scale adopted from Rodriguez et al. (2007). A confirmatory factor analysis was conducted for testing the construct validity and model fit. Confirmatory Factor Analysis results also indicate that the model is statistically significant (p<0.001) with 14 degrees of freedom and χ^2 == 70.818, producing an adequate model fit. Fit indices of the model also suggest a good fit of the data to the hypothesized model (CFI=0.976, TLI=0.963, RMSEA=0.077, GFI=0.968, AGFI=0.936, NFI=0.970) (see table 34 below).

Table 34 – Confirmatory Factor Analysis of Interfunctional trust

CFA	**Cronbach A**	**CFI**	**TLI**	**RMSEA**	**GFI**	**AGFI**	**NFI**
	0.917	0.976	0.963	0.077	0.968	0.936	0.970
Model Fit: χ^2 = 70.818, DF = 14, Probability level p=.000							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is 0.917. Average Variance Extracted of the construct is greater than 0.5 (AVE=0.84) (Fornell and Larcker,

1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). In next, analytical info of the standardized regression weights of the items is presented below in table 35.

Table 35 – Standardized Regression Weights of interfunctional trust

Item	Estimate	S.E.	P
I trusted in the working relationship the other participants in the project	.757	-	***
Other participants were sincere and honest with me during the project	.845	.065	***
Their actions always met my expectations	.761	.056	***
I believed the information they provided	.778	.059	***
Other participants fulfilled the promises made	.802	.056	***
Other participants were sincerely concerned about our interests	.778	.060	***
We trusted one another's' capacity to carry out its work appropriately.	.761	.064	***

4.10.12 NSD project performance

NSD project performance is measured based on a seven-item scale adopted from Storey and Kelley (2001) and Matear and his colleagues (2004). A confirmatory factor analysis was conducted for testing the construct validity and model fit. Confirmatory Factor Analysis results also indicate that the model is statistically significant (p<0.01) with 14 degrees of freedom and χ^2 =58.993, producing an adequate model fit. CFA fit indices are well within the suggested limits and indicate a good fit of the data to the hypothesized model (CFI=0.982, TLI=0.982, RMSEA=0.077, GFI=0.970, AGFI=0.939, NFI=0.976) (see table 36 below).

Table 36 - Confirmatory Factor Analysis of NSD project performance

CFA	Cronbach A	CFI	TLI	RMSEA	GFI	AGFI	NFI
	0.920	0.982	0.982	0.077	0.970	0.939	0.976
Model Fit: χ^2 = 58.993, df = 14, Probability level p=0.003							

Each item's factor loading is statistically significant and remains over the lower threshold (0.50), as suggested by Hair et al. (2006). In terms of internal reliability the cronbach a coefficient of the overall scale is 0.920. Average Variance Extracted of the construct is greater than 0.5 (AVE=0.84) (Fornell and Larcker, 1981). As a result, the scale is considered reliable and be used for further analysis (Hair et al., 2006). In next, analytical info of the standardized regression weights of the items is presented below in table 37.

Table 37 – Standardized Regression Weights of NSD project performance

Item	Estimate	S.E.	P
Adherence to cost for development	.696	-	***
Meeting assigned time schedule	.751	.078	***
Original goals achieved	.808	.087	***
Met calculated profits	.816	.076	***
Met projected market share	.818	.070	***
Met sales goals	.796	.067	***
Overall development project performance	.851	.077	***

4.9.13 Internal reliability of other study measures

Given that the rotation of CFA requires more than three items, the reliability of some scales was measured based solely on the cronbach a coefficient, (as displayed in table 38). For all scales, cronbach A coefficient is above the lower threshold (Nunally, 1978). Interfunctional integration has a Cronbach a=0.687, task conflict has a Cronbach a=0.766 and relationship conflict has Cronbach a=0.924. Based on the aforementioned evidence, there is no need for item deletion and all measures selected can be further employed for data analysis.

Table 38 – Internal reliability of study's measures

	Cronbach A
Interfunctional integration (3 items)	0.687
Task conflict (3 items)	0.766

Relationship conflict (3 items)	0.924

Having described the scales employed in the study, the following section explicitly describes the scale development process of the two new scales (resource allocation effectiveness and resource allocation efficiency) that were employed. These constructs assess the extent to which the resource allocation process during the specific NSD project was efficient and effective. Scale validation for the 'Resource Allocation Effectiveness' and the 'Resource Allocation Efficiency' constructs is also presented during the scale development process.

4.11 Scale development process

In order to develop the measurement instruments for resource allocation effectiveness and resource allocation efficiency, a multiple-stage normative process for scale development was followed, as suggested by the extant literature (McKenzie, Podsakoff and Podsakoff, 2011; Gerbing and Anderson, 1988). The first stage of the scale development and validation process involves defining the conceptual domain of the construct. As noted by several authors (Schwab 1980; Spector, 1992), this stage of scale development not only requires the identification of what the construct is intended to conceptually represent, but also a discussion of how the construct differs from other related constructs. A cross-disciplinary literature review of relevant theoretical and empirical research on the focal constructs (encompassing the areas of innovation management, new service/product development and organizational behaviour) was the initial point for construct definition and measurement item selection (Gerbing and Anderson, 1988).

Once the focal constructs have been conceptually defined, the next step in the process is to generate a set of items that fully represents the conceptual domain of the construct. These items may come from a variety of sources (Churchill, 1979; Haynes et al., 1995; Nunnally and Bernstein, 1994), including reviews of the literature, deduction from the theoretical definition of the construct, previous theoretical and empirical research on the focal construct, suggestions from experts in the field,

interviews or focus group discussions with representatives of the population(s) to which the focal construct is expected to generalize, as well as an examination of the existing measurement scales. In this context, 13 in-depth semi-structured interviews were conducted with senior and middle–level executives from service firms that have first-hand knowledge of NSD project management and are involved at different stages of the new service development process. This iterative process resulted in the identification of the six theoretically most important resources that are required within NSD, named <u>monetary resources</u>, <u>personnel</u>, <u>facilities</u>, <u>information</u>, <u>time</u>, <u>IT</u> and <u>infrastructure</u>. In next, a set of initial measurement items for multi-item scales of each construct required was developed (resource allocation effectiveness and resource allocation efficiency), acknowledging several considerations regarding the items that should be taken into account at this stage of the scale development process such as the manner in which the items are written or double-barreled items (Podsakoff et al., 2003; Tourangeau et al., 2000). After the generation of a content valid set of items, the next step is to formally specify a measurement model that captures the expected relationships between the indicators and the focal construct driven by the need to ensure that the parameters of the model are all identified (McKenzie, Podsakoff and Podsakoff, 2011; Gerbing and Anderson, 1988).

Once the measurement model has been formally specified, data need to be obtained from a sample of respondents in order to examine the psychometric properties of the scale. Another factor that is considered at this stage is the size of the sample. In exploratory factor analysis (EFA), recommendations of the minimum sample size range from 100 to 500 (Comrey and Lee 1992; Gorsuch 1983), and recommendations of the minimum ratio of the number of respondents to the number of items in the scale range from 3:1 to 10:1 (Cattell, 1978). In our case, data was collected from a sample of 93 marketing and sales executives, which is near the first criterion and well within the minimum ratio of the second criterion (i.e. the number of respondents to the number of items in each scale). Finally, the Goodness of Fit of the measurement model is assessed (CFA), the validity and reliability of the set of indicators is evaluated and any problematic indicators are eliminated (McKenzie, Podsakoff and Podsakoff, 2011).

4.11.1 Resource Allocation Effectiveness

       This scale captures the extent to which the most important organizational resources for NSD (i.e. information, personnel, IT equipment, time, facilities and money) were adequately provided for the specific NSD project. On the basis of the steps previously described, a pool of items was initially generated that fully represents the conceptual domain of the 'resource allocation effectiveness' construct.

Table 39 – Initial pool of items of the Resource Allocation Effectiveness construct

Items
Our firm's top management allocated all the **monetary** resources required to complete the specific new service development project
Our firm's top management allocated all the **personnel** required to complete the specific new service development project
Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project
Our firm's top management provided all the **information** required to complete the specific new service development project
Our firm's top management allocated all the IT **infrastructure** required to complete the specific new service development project
Our firm's top management provided the NSD participants the **facilities** required to complete the specific new service development project

       Based on the in-depth interviews conducted, item 6 *(i.e. Our firm's top management provided the NSD participants the **facilities** required to complete the specific new service development project)* was removed, as most of the executives interviewed did not consider it as an important resource needed to complete a NSD project. Having generated an initial valid set of items, in next, an exploratory factor analysis is conducted (McKenzie, Podsakoff and Podsakoff, 2011). Principal components factor analysis with the varimax rotation method was conducted to maximize variance. This analysis resulted in a single factor which is comprised of 5 items explaining about 74.068 % of the total variance in the resource allocation effectiveness construct. All items were extracted in a single factor and have factor loadings ranging from 0.834 to 0.888 (table 41).

Items	Component 1
Our firm's top management allocated all the **monetary** resources required to complete the specific new service development project	.888
Our firm's top management allocated all the **personnel** required to complete the specific new service development project	.867
Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project	.864
Our firm's top management provided all the **information** required to complete the specific new service development project	.849
Our firm's top management allocated all the IT **infrastructure** required to complete the specific new service development project	.834

Results from the CFA also indicate an adequate model fit to the data (χ^2=63.192 with 5 degrees of freedom, p<0.001, RMSEA=0.047, IFI=0.969, CFI=0.980, TLI=0.943, GFI=0.971 AGFI=0.928, NFI=0.971) In addition, as shown in Table 41, each of the hypothesized factor loadings was statistically significant at the p=0.01 level. Composite reliability is quite high (0.94), and the average extracted variance (0.70) is consistent with the recommended lower level of 0.50 for all constructs (Fornell and Larcker, 1981). Construct reliability was evaluated using Cronbach's alpha which is well within accepted limits. Cronbach's alpha internal consistency reliability estimates for the resource allocation effectiveness construct was well above Nunnally's (1978) recommended level of 0.70 (a=0.912).

Table 41 – Confirmatory Factor Analysis of Resource Allocation Effectiveness

	IFI	CFI	TLI	RMSEA
Resource Allocation Effectiveness	0.969	0.980	0.943	0.047
	GFI	**AGFI**	**NFI**	Chi-square = 63.192
	0.971	0.928	0.971	Degrees of

(5 items)				freedom = 5
	Cronbach A	**AVE**	**CR**	**Probability level**
	0.912	0.58	0.94	.000

Table 42 - Unstandardized Regression Weights of Resource Allocation Effectiveness items

Items	Estimate	S.E.	P
Our firm's top management allocated all the **monetary** resources required to complete the specific new service development project	1.000	-	***
Our firm's top management allocated all the **personnel** required to complete the specific new service development project	1.291	.063	***
Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project	1.281	.068	***
Our firm's top management provided all the **information** required to complete the specific new service development project	1.288	.064	***
Our firm's top management allocated all the IT **infrastructure** required to complete the specific new service development project	1.000	.074	***

4.11.2 Resource allocation Efficiency

The 'resource allocation efficiency' scale captures the extent to which the most important organizational resources for NSD (i.e. information, personnel, IT equipment, facilities, time and money) were *efficiently used* during the specific NSD project. Following the method previously identified, a similar pool of items was

initially generated that fully represents the conceptual domain of the 'resource allocation efficiency' construct.

Table 43 - Initial pool of items Resource allocation Efficiency

Items
Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome
Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome
Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome
Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome
Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome
Had our firm's top management provided to this NSD project less **facilities**, we would have achieved the same outcome

Based on the results from the same in-depth interviews, item 6 *(i.e. Had our firm's top management provided to this NSD project less **facilities**, we would have achieved the same outcome)* was removed, as most of the executives interviewed did not consider it as a relevant resource needed to complete a NSD project. Having generated an initial valid pool of items, in next, an exploratory factor analysis is conducted (McKenzie, Podsakoff and Podsakoff, 2011). Principal components factor analysis with the varimax rotation method was conducted to maximize variance. This analysis resulted in a single factor which is comprised of 5 items explaining approximately 67.682% of the total variance in the resource allocation efficiency construct. All items have factor loadings ranging from 0.779 to 0.859.

Table 44 – Exploratory factor analysis (EFA) of Resource Allocation Efficiency

Items	Component 1

Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome	.859
Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome	.843
Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome	.824
Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome	.807
Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome	.779

Results from the CFA also indicate an adequate model fit to the data (χ^2=65.466 with 14 degrees of freedom, p<0.001, RMSEA=0.072, CFI=0.956, TLI=0.913, GFI=0.955, AGFI=0.903, NFI=0.953, IFI=0.957). Composite reliability is acceptable (0.84), and the average extracted variance (0.59) is consistent with the recommended level of 0.50 for all constructs (Fornell and Larcker, 1981). Construct reliability was evaluated using Cronbach's alpha. As indicated in Table 45, Cronbach alpha internal consistency reliability (a=0.879) for the resource allocation efficiency construct was well above Nunnally's (1978) recommended level of 0.70.

Table 45– Confirmatory Factor Analysis of Resource Allocation Efficiency

	IFI	**CFI**	**TLI**	**RMSEA**
	0.957	0.956	0.913	0.072
	GFI	**AGFI**	**NFI**	**Chi-square** = 65.466
5 items	0.955	0.903	0.953	**Degrees of freedom** = 5
	Cronbach A	AVE	CR	**Probability level**

	0.879	0.59	0.64	.000

Table 46 - Unstandardized Regression Weights of Resource Allocation Efficiency

Items	Estimate	S.E.	P
Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome	1.000	-	***
Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome	1.057	.063	***
Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome	1.055	.068	***
Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome	1.058	.064	***
Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome	1.284	.074	***

Chapter 5 Data Analysis

This chapter encompasses the demographic profile of the sample as well as the statistical analyses performed for the data collected. Two main sections are developed. First, the demographic profile of each sampling unit is described. Second, hypotheses' testing of the theoretical model is performed via the HLM software so as to verify or reject the proposed relationships. In overall, a number of different statistical methods are employed such as correlation analysis, normality tests (skewness and kurtosis), frequencies, and hierarchical linear modeling to establish the reliability and the validity of the measures used upon which some useful insights for practitioners could be based.

5.1 Demographic profile of each sampling unit

This section describes the demographic profile of our two sampling units. Both questionnaires included similar demographic characteristics related to age, sex, educational background, organizational level, working experience, NSD experience and departmental status. Moreover, some firm-related info is also reported such as firm's size, firm industry sector and firm's experience in service innovation.

5.1.1 NSD participants demographic profile

Regarding employee sample, 34.43% of them belong to the 24-30 age group, 30.01% are between 31 and 40 years old while 19.88% of the respondents are within the 41 and 50 age group. Moreover, 10.86% of the respondents are between 51 and 60 whereas just 0.03% of them are over 60 (not available answers from 0.01% of the respondents). Approximately six out of ten respondents are males (62.98%) whereas females represent 37.02% of the sample. Most respondents have a higher education degree (60.58%) while 28.36% of the sample holds a master degree. It is noticeable that only 5.32% of the respondents have graduated from secondary school. It is also worth noting that 6.44% of our sample holds a Ph.D. title. Working experience in the

same position varies as 31% of the respondents have worked from one to three years whereas 30% of the sample has working experience from 3-5 year in the same position. Equally important remains that about 37% of the respondents have over five years working experience in the same position.

Table 47 - Age groups

AGE	Frequency	Relative frequency
24-30	187	34.48%
31-40	163	30.01%
41-50	108	19.88%
51-60	59	10.86%
Over 60	19	3.49%
N/A	7	1.28%
Total	543	100%

Table 48 – Gender

	Frequency	Number
Men	62.98%	342
Women	37.02%	201
Total	**100%**	**543**

Table 49 - Educational Background

EDUCATIONAL BACKGROUND	Frequency	Relative frequency
Primary	0	0.00%
Secondary	29	5.32%
Higher Education	329	60.58%
Master Degree	154	28.36%

Doctorate	35	6.44%
N/A	6	1.10%
Total	**543**	**100%**

Table 50 - Working Experience in your current position

WORKING EXPERIENCE	*Frequency*	*Relative frequency*
1-3 years	169	31.12%
3-5 years	163	30.03%
Over 5 years	203	37.38%
N/A	8	1.47%
Total	**543**	**100%**

Regarding employee experience in innovation activities, the majority of them (38.30%) have participated in less than three projects whereas 28.37% of the sample has participated in three to five development projects. A significant percentage of the respondents (approximately 27%) states that is quite experienced in NSD efforts as they have engaged to more than six NSD projects. Regarding the organizational level of our respondents most of them are middle-level executives (36.09%). However, several top management executives are also involved in the NSD process (27.21%) as well as a considerable number of sales representatives/contact employees (26.70%). Another important aspect of the demographic profile of the respondents lies on their departmental status. Most of them located in a sales/marketing department (30.75%) or are sales reps (26.71%). Several executives come from Finance/Accounting department (15.11%), IT (14.36%) and HR department (13.07%).

Table 51 - NSD Experience

NSD EXPERIENCE	*Frequency*	*Relative frequency*
1-2 NSD projects	208	38.30%
3-5 NSD projects	154	28.37%

Over 6 NSD projects	147	27.07%
N/A	34	5.26%
Total	**543**	**100%**

Table 52 –Organizational Level

ORGANIZATIONAL LEVEL	*Frequency*	*Relative frequency*
Top management	202	27.21%
Middle level executive	196	36.09%
Contact employee/ sales representative	145	26.70%
Total	**543**	**100%**

Table 53 – Employee Departmental Status

NSD PARTICIPANTS	*Frequency*	*Relative frequency*
Finance/ accounting	82	15.11%
Marketing/Sales	167	30.75%
Contact employees/ Sales representatives	145	26.71%
IT support	78	14.36%
HR	71	13.07%
Total	**543**	100%

5.1.2 Project Managers' demographic profile

In next, the organizational functions that NSD project managers belong is provided. Approximately 10.26% of the NSD managers responded appear to be CEOs while 24.78% are Operations managers. However, the majority of the NSD managers come from the Marketing or Sales Department (approximately 41%). The

reason for categorizing these two functions together lies to the fact that several service firms (i.e. B2B firms) do not have a separate marketing department but executives are involved in both activities. It is also worth noting that IT managers represent a significant percentage (13.67%) whereas CFOs seem to lead NSD less often (10.25%). In considering the age groups of managers, almost four out of ten project managers are between 31 and 40 (39.31%) while a significant percentage of managers responded is between the age of 41 and 50 (32.47%). Finally, 24.78% of managers are between 51 and 60 years old. The majority of the respondents are males (83.76%). Regarding their educational background, 56.42% of them hold a master degree while 36.75% has a higher education degree. Some of the managers are Ph.D. holders (6.83%). Their experience in development activities varies significantly. For example, 29.07% of them have involved to less than two projects, 40.17% of the respondents have participated in 3-5 NSD projects and 30.76% of the respondents are quite experienced as they have engaged to more than six NSD initiatives.

Table 54 – Project Manager Departmental Status

NSD MANAGERS	FREQUENCY	RELATIVE FREQUENCY	FREQUENCY
CEO	11	10.26%	17.94%
Operations Manager	29	24.78%	42.72%
Marketing/Sales Manager	48	41.04%	83.74%
CFO	12	10.25%	93.99%
IT manager	16	13.67%	100%
Total	116	100%	-

Table 55 – Project Manager Age Groups

AGE	Frequency	Relative frequency

24-30	5	4.27%
31-40	46	39.31%
41-50	38	32.47%
51-60	28	24.78%
Over 60	4	3.41%
N/A	-	0.0%
Total	**116**	**100%**

Table 56 - Project Manager Gender

	Frequency	*Relative frequency*
Men	98	83.76%
Women	18	15.51%
N/A	-	0.0%
Total	**116**	**100%**

Table 57 - Project Manager Educational Background

EDUCATIONAL BACKGROUND	*Frequency*	*Relative frequency*
Primary	-	0.0%
Secondary	-	0.0%
Higher Education	43	36.75%
Master Degree	65	56.42%
Doctorate	8	6.83%
N/A	-	0.0%
Total	**116**	**100%**

Table 58 - Project Manager Working Experience

WORKING EXPERIENCE	Frequency	Relative frequency
1-3 years	61	52.99%
3-5 years	41	35.05%
Over 5 years	14	11.96%
Total	116	100%

Table 59 - Project Manager NSD Experience

NSD EXPERIENCE	Frequency	Relative frequency
1-2 NSD projects	34	29.07%
3-5 NSD projects	46	40.17%
Over 6 NSD projects	36	30.76%
N/A	-	0.0%
Total	116	100%

5.1.3 Firm Characteristics

In addition, some info regarding each firm's characteristics were collected such as firm size, firm experience in NSD and type of service industry (B2B and/or B2C market). Seventy three firms out of three hundred and fifty two B2B companies contacted agreed to participate in the research (response rate of 21.02%) while 43 out of 254 business-to-customers firms agreed to participate (response rate of 16.92%). in addition, based on firm size, 26 companies out of 216 medium-sized companies contacted contributed to our research objectives (response rate of 12.03%), 46 companies out of 179 large companies contacted contributed to our research objectives (response rate of 25.69%) and 44 companies out of 211 companies with over 250 employees contacted agreed to participate (response rate of 20.8%).

Table 60 - Response rate per firm type

FIRM TYPE	FIRMS	FIRMS	RESPONSE

	CONTACTED	PARTICIPATED	RATE
B2B	352	73	21.02%
B2C	254	43	16.92%
Total	**606**	**116**	**19.30%**

Table 61 - Response rate per size of service firms

FIRM SIZE	FIRMS CONTACTED	FIRMS PARTICIPATED	RESPONSE RATE
50-100 employees	216	26	12.03%
100-250 employees	179	46	25.69%
Over 250 employees	211	44	20.85%
Overall	**606**	**116**	**19.30%**

5.2 Descriptive Statistics

Descriptive statistics are used to describe the basic features of the data in a study. This section carries out some basic descriptive analysis of the variables included within the hypothesized models and presents some types of descriptive statistics such as mean, standard deviation (SD), variance as well as skewness and kurtosis of each construct employed in the study (see table 62). The aim of this analysis is to get to a clear picture of whether any measurement errors exist and assess normality as many of the statistical methods applied require that variables are normally distributed. In this avenue, variable means range within well accepted levels, given that 7-point likert type scales were used. The lowest mean relates to Resource Allocation Efficiency (3.20) whereas the highest one is for Codification strategy (4.55). Single item means and other statistics are displayed in appendix. As standard deviations (SD) center around one it can be concluded that there is adequate

heterogeneity between answers and assures a satisfying variance within respondents' choices.

Although statistical methods include different diagnostic hypothesis tests for normality, high attention is paid to skewness and kurtosis (Kim and White, 2004). Skewness is a measure of symmetry, or more precisely, the lack of symmetry whereas kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution (Kim and White, 2004). That is, data sets with high kurtosis tend to have a distinct peak near the mean, decline rather rapidly, and have heavy tails. A variable is reasonably close to normal if its skewness and kurtosis have values between −1.0 and +1.0 (Johnson and Lowe, 1979) but scholars propose values between −2.0 and +2.0 as the lower acceptable bound so that a normally distributed variable has a symmetric distribution about its mean (Kim and White, 2004). In examining our constructs, no constructs have skewness over +/- 1 well within the suggested limits. Similarly, most constructs have kurtosis within the +/- 1 threshold apart from team climate for innovation (-1.046), relationship conflict (-1.145) and interfunctional political activity (-1.150) which still remain within the acceptable levels of kurtosis (Kim and White, 2004). The descriptive statistics of individual items are presented in Appendix (see Tables 74-90).

Table 62 – Descriptive Statistics of the study's variables

	N	Mean	S.D.	Variance	Skewness	Kurtosis
Level-2 variable						
Internal Market Orientation	116	4.36	0.88	0.790	-0.385	-.0556
Level-1 variables						
Interfunctional conflict	543	3.89	0.93	0.873	0.571	-0.927
Interfunctional trust	543	4.22	1.00	1.00	-0.516	-0.440
Interfunctional integration	543	4.24	1.10	1.12	-0.169	-0.683
Task conflict	543	3.93	0.99	0.99	-0.179	-0.493

Relationship conflict	543	3.59	1.56	2.45	0.321	-1.145
Interfunctional Political activity	543	3.76	1.16	1.80	0.412	-1.150
Role Ambiguity	543	3.47	1.11	1.11	0.659	-0.615
Personalization strategy	543	4.35	0.92	0.85	0.098	-0.732
Codification strategy	543	4.55	0.92	0.86	-0.170	-0.434
NSD Team climate	543	4.39	1.02	1.41	-0.371	-0.663
NSD project performance	543	4.26	0.95	0.92	-0.199	-0.582
Organizational learning	543	4.45	1.05	1.11	-0.144	-0.747
Project learning	543	4.50	1.13	1.29	-0.428	-0.192
Resource allocation efficiency	543	3.20	1.12	1.25	0.229	-0.933
Resource allocation effectiveness	543	4.32	1.12	1.27	-0.164	-0.871
Market Orientation	543	1.00	0.96	0.92	-0.478	-0.356

5.3 Correlations

Correlation deals with relationships among variables. The correlation coefficient is a measure of linear association between two or more variables. Values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear sense, a correlation coefficient of -1 indicates that two variables are perfectly related in a negative linear sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables. Correlation analyses cannot be interpreted as establishing cause-and-effect relationships and it can only establish the

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strength of the association between two variables (Hair, Anderson, Tatham, and Black, 1998).

Due to the highly significant nature of correlations between all scales, multicollinearity tests were performed. A key indicator for checking possible collinearity is the correlation matrix. The maximum correlation found between our independents was (0.788). When correlation coefficient matrix between constructs is examined, no correlation coefficient is above 0.90. This means that all the constructs are different and distinct (Amick and Walberg, 1975). Prior research has successfully shown that these scales predict different dependent measures and suggest that they are distinct variables representing different constructs (McFarlin and Sweeney, 1992). In addition, the Variance Inflation Factor values and the condition indices were computed, and the regression coefficient variance-decomposition matrix was used to check the impact of collinearity (see Appendix – Table 91). The Variance Inflation Factor values indicated inconsequential collinearity. No Variance Inflation Factor values exceeded the recommended cut-off value of 10 making it unnecessary to examine the regression coefficient variance-decomposition matrix (Hair, Anderson, Tatham, and Black, 1998). Based upon these tests it was concluded that multicollinearity has a limited effect on our results.

5.4 Hypotheses testing via Hierarchical Linear Modeling (HLM)

In this section the statistical analysis method employed in this study is described. Hierarchical linear modelling (HLM) is used in the analysis as the research is dealing with relationships among variables measured from different data sources (Raudenbush et al., 2004; Raudenbush, 1997). The HLM model is used over other cross-level data analysis methods, as it is designed to overcome the weaknesses of these other multilevel approaches (Hoffmann, 1997). To estimate the effects, the HLM 7 software is employed.

In order to model both within hierarchical level and between level relationships, two models need to be estimated simultaneously: one modelling relationships within each of the lower level units, and modelling how these

relationships vary between units. The NSD participants are referred to the lower-level units (Level-1) whereas NSD project managers to the higher-level units (Level-2). To model both within level and between level relationships, two models must be simultaneously estimated, by performing regression of regression. Conceptually, two-step procedure is used to cross-level investigations where the lower level model is estimated separately for each group. The Level-2 analysis of hierarchical linear model is trying to answer whether there are group level variables associated with the variation across groups. The higher-level units refer to the managers in this study.

The data was first coded using the SPSS 20 software. The both raw data files: a level-1 file and a level-2 file were sorted by the level-2 ID (i.e. employees were coded by their NSD manager ID). The variable re-specifications were also made using the SPSS software. The data therefore consists of two files from different levels: a level-1 model that represents the employees and the level-2 model that represents the managers. In order to measure the relationships between these two models, the data had to be sorted by the level-2 IDs. The managers at level-2 were all given an ID (i.e. manager 001) and the same ID was then linked to their employees on level-1, so that the level-2 ID appeared on every level-1 record. The method of sorting the employees according to their managers enabled to identify the right manager-employee relationships.

5.4.1 Centering

To clarify the meaning of the slope and intercept parameters, the slope represents the expected increase in the outcome variable for a unit increase in the predictor variable. For example, the intercept parameter represents the predicted level of organizational learning for an employee with zero trust. As the meaning of a person to have zero trust is unclear, to make the intercept more interpretable, different ways to rescale the level-1 predictors are used, called centering. Centering is an important issue regarding the analysis of cross—level data (Raudenbush and Bryk, 2002; Hofmann and Gavin, 1998). Centering describes the rescaling of the level-1 predictors and there are three options to carry through the centering (1) *raw metric approaches* where no centering takes place, (2) *grand mean centering* where the grand mean is subtracted from each individual's score on the predictor and (3)

group mean centering where the group mean is subtracted from each individual's score on the predictor. The intercept represents the expected level of the outcome for a person with an average level on the predictor when the grand mean centering method is used. In this study, consistent with extant research using HLM (Chen, Bliese, and Mathieu 2005), grand mean-centering was selected for level-2 variables whereas used group mean-centering was used for level-1 variables (Wieseke et al., 2009; Hofmann and Gavin, 1998).

5.5 HLM Models

In order to verify this study's hypotheses developed in chapter three, several hierarchical models are tested with the HLM software. In next, the models performed are analysed and certain prerequisites that should be met before conducting cross-level analyses and hypotheses testing are reported. In overall, 16 models were performed in order to test the proposed hypotheses. Because of the nested structure of our data (each NSD project manager supervises more than one employee), a hierarchical research approach is adopted (Raudenbush and Bryk, 2002) in order to analyze NSD project manager's cross-level effects on NSD team participants. HLM models consider both individual-level and managerial-level responses, acknowledging the partial interdependence of individuals within a team (Hofmann, 1997). In addition, this technique assesses both lower and higher level variance in the dependent variable, while simultaneously preserving the correct level of analysis for the independent variable. The estimation method chosen was *full maximum likelihood* because this method allowed for comparison of model fits across nested models (Raudenbush and Bryk, 2002).

5.5.1 Estimating ICC

Statistical power computations for multilevel models tend to be more complex than single-level designs because there are a number of additional factors that need to be accounted for in the computations. First, the data on the dependent variable within any given unit are not statistically independent in hierarchically

nested data. In other words, there is a relationship between the data provided by different individuals within a group. For example, employees in a work team with strong group norms are likely to behave and perceive environmental events in a similar fashion. Thus, a measure of this relationship between the data, such as the intraclass correlation, must also be taken into consideration when estimating statistical power. The intraclass correlation (ICC) is the ratio of the between group variability to the total variability (i.e., $r = t00 / [t00 + s2]$). This particular ICC can range from 0.0 to +1.0. Large values for the ICC indicate that there is a strong relationship between the data collected from individuals within the same group (i.e., greater degree of dependence) (Raudenbush and Bryk, 2002). The information provided by any given individual in the group is largely redundant with the information provided by the other individuals in the group. Only adding more groups can increase the amount of unique information under large ICC's.

Using traditional analytical methods, the ICC has a direct relationship to the degree to which the standard errors of the parameter estimates are downwardly biased (Kish, 1965). Larger ICC values indicate a greater degree of downward bias. Multilevel models eliminate the impact of the ICC on the accuracy of the parameter estimates under most circumstances. For example, Maas and Hox (2005) found that the estimated parameters and standard errors are biased when Level 2 sample sizes are small (e.g., less than 30) and the ICC's are moderate to large. These findings underscore the importance of estimating statistical power in multilevel models given that most organizational research uses Level 2 sample sizes that are less than 30 and the ICC is likely greater than 0.10. Therefore, the ICC is typically estimated using the values reported in previous research. In the rare situation when the ICC is zero, single-level power computation can be used (Raudenbush, 1997; Reise and Duan, 2003).

To provide evidence of systematic within- and between-group variance in the dependent variables, intraclass correlation coefficients (ICCs) are estimated representing the percentage of the total variance in the dependent variables that lies between teams (Raudenbush and Bryk, 2002). These statistics indicated the amount of variance that could potentially be explained by the Level-2 predictor, manager's

IMO. The ICCs for outcome variables reported in table 63 tend to be typical of those reported for data aggregation (Schneider et al., 2003).

Table 63 - Intraclass Correlation Coefficients

Variable	ICC
Interfunctional conflict	0.69
Interfunctional trust	0.72
Interfunctional integration	0.61
Task conflict	0.87
Relationship conflict	0.72
Political activity	0.58
Role Ambiguity	0.68
Personalization strategy	0.77
Codification strategy	0.70
Team climate for innovation	0.74
NSD project performance	0.59
Organizational learning	0.64
Project learning	0.84
Resource allocation efficiency	0.81
Resource allocation effectiveness	0.89
Individual Market Orientation	0.79

5.5.2 Null Models

To justify the use of higher-level predictors in our hierarchical models, several null models were tested (one null model for each outcome variable) to determine whether there was significant between-group variation in all the dependent variables. These null models are intercept-only models in which no predictors are selected for higher levels of analysis. This condition is necessary to meet because the dependent variable is hypothesized to be significantly related to both an individual level variable and manager level predictor (Raudenbush et al., 2004). This is assessed in HLM using a one-way analysis of variance. Unless there is significant between-group variance in the dependent variable, managerial level variables would not have

an opportunity to explain significant amounts of such variance. For each HLM model it was first estimated the null model with no predictors at either level-1 or level-2 in order to partition the variance into within and between-group components for each of the dependent variables (Raudenbush and Bryk, 2002). The results reveal significant between group variance for all dependent variables (see Table 64). This is assessed in HLM using a one-way analysis of variance. Unless there is significant between-group variance in the dependent variable, manager IMO would not have the opportunity to explain significant amounts of such variance. A null model with no independent variables at Level-1 or Level-2 estimates the following equations was predicted, based on the equation below:

Level-1: $DV_{ij} = \beta_{0j} + r_{ij}$ **(DV= dependent variable)**

Level-2: $\beta_{0j} = \gamma_{00} + U_{0j}$

Table 64 –Null Models of all dependent variables

Variable	Coefficient	SE	t-ratio	Approx. d.f.	p-value
Interfunctional conflict	3.88	0.07	49.882	115	<0.001
Interfunctional trust	4.21	0.082	51.039	115	<0.001
Interfunctional integration	4.25	0.09	46.042	115	<0.001
Task conflict	3.94	0.08	49.096	115	<0.001
Relationship conflict	3.61	0.13	27.689	115	<0.001
Political activity	3.74	0.11	33.070	115	<0.001
Role Ambiguity	3.49	0.09	35.584	115	<0.001
Personalization strategy	4.34	0.07	56.021	115	<0.001
Codification strategy	4.54	0.07	60.638	115	<0.001
Individual Market Orientation	4.53	0.08	52.245	115	<0.001
NSD Team climate	4.39	0.08	43.146	115	<0.001
NSD project	4.27	0.079997	53.393	115	<0.001

performance					
Organizational learning	4.45	0.086009	51.761	115	<0.001
Project learning	4.50	0.096030	46.880	115	<0.001
Resource allocation efficiency	3.20	0.093823	34.192	115	<0.001
Resource allocation effectiveness	4.30	0.096678	44.550	115	<0.001

Thus, having conducted a one way analysis of variance with random effects to investigate whether there is systematic between-group variance in all outcome variables (null model), results indicate that there was significant between-group variance for all outcome variables, as displayed in table 64 above. Then, it can be concluded that the variance to be explained in the criterion variable at Level 1 required another predictor at Level 2. In the following section, the estimation of cross-level models (two-level models) is analysed by running multiple HLM models with both level-1 and level-2 predictors.

5.5.3 HLM Models

HLM, often referred to as "multilevel modeling" is a regression-based analysis that can be defined as a two-level regression (Raudenbush and Bryk, 2002). The first level of analysis involves an identical regression analysis repeated within each group. This regression model follows the ordinary least squares regression model with as many as *p* independent variables:

Level 1 equation: $Y_{ij} = \beta_{0j} + \beta_{1j}x_{1ij} + \ldots + \beta_{pj}x_{pij} + r_{ij}$

In the above equation, subscripts *i* and *j* represent individuals and groups, respectively. The subscript, *p*, designates the number of predictors at level 1. In the case of dyads, the number of observations per group, n_j, is equal to two. In the second-level of analysis, the intercept, serve as dependent variables in another regression analysis using predictors measured at the group level. Thus, the level-two analysis is a regression that predicts the intercept or a particular slope for each group.

Under certain coding schemes, the level-2 intercept can be interpreted as a grand mean. The level-2 slopes can be interpreted as the effect of a level-2 predictor on the group average when predicting intercepts or the effect of the level-2 predictor on the relationship between a level-1 predictor and the dependent variable. There are $p + 1$ possible level-2 equations, but, for simplicity, we present only two level-2 equations, based on an analysis with only one level-1 predictor, $\square_1$:

Level-2 equations:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} + \ldots + \gamma_{0q} u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} + \ldots + \gamma_{1q} u_{1j}$$

In the equations above, there are q possible level-2 predictors and $\square\square$ represents the coefficient for the intercept or slope. γ_{00} or γ_{10} are intercepts and γ_{0q} and γ_{1q} are slopes and both are commonly referred to as "fixed effects." u_{0j} and u_{1j} are level-2 residuals. Their variances, γ_{00} and γ_{11}, which represent the variation of the intercept or slope across groups, are referred to as "random effects" and can be of principal interest to researchers.

Having briefly described how HLM equations can be formed, in next, several HLM models are performed in order to investigate the impact of NSD manager's IMO on interfunctional, team-level drivers, individual antecedents and NSD management strategies on different aspects of NSD project performance, including a single level-2 predictor (i.e. IMO) and each level-1 outcome respectively. Tables 65-68 summarize the HLM results from these models (HLM models 1-10).

To test the effect of IMO on interfunctional conflict (see model 1), an intercept-as-outcomes model is assessed and the results strongly support for hypothesis H1, as the effect of project manager's IMO is significant and negative (γ=-0.52, p<.001). To assess hypothesis H2, an intercept-as-outcomes model is ran as well (model 2). Results indicate that project manager's IMO significantly influences NSD participants' interfunctional trust (γ=0.67, p<.001), in support of hypothesis H2 (see model 2). In the same vein, results suggest that project manager's IMO significantly influences interfunctional integration (γ=0.79, p<.01), supporting in this way assumption H3 (see model 3).

Table 65 - Cross-Level Effects

Models (outcome)	Model 1 (Interfunctional Conflict)	Model 2 (Interfunctional Trust)	Model 3 (Interfunctional Integration)
Intercept (SE)	3.88** (0.06)	4.21** (0.06)	4.25** (0.06)
γ (SE)			
M_IMO	-0.52** (0.05)	0.67** (0.06)	0.79** (0.07)
Model deviance	996.03	1055.09	1147.62

To test the effect of project manager's IMO on interfunctional political activity an intercept-as-outcomes model is estimated (model 4). Results support hypothesis H4, as the impact of IMO on political activity is negative and significant (γ=-0.73, p<.001). In the same avenue, to assess hypothesis H5a, an intercept-as-outcomes model is selected (model 5). Results indicate that IMO significantly reduces participants' levels of relationship conflict (γ=-0.95, p<.001), in support of hypothesis H5a. Regarding model 6, results suggest that NSD manager's IMO has a positive effect on task conflict (γ=0.31, p<.001), *rejecting thus, hypothesis H5b* which proposed a negative effect of IMO on the levels of task conflict.

Table 66 - Cross-Level Effects

Models (outcome)	Model 4 (Interfunctional Political Activity)	Model 5a (Relationship Conflict)	Model 5b (Task Conflict)
Intercept (SE)	3.76** (0.07)	3.61** (0.10)	3.94** (0.07)
γ (SE)			
M_IMO	-0.73** (0.07)	-0.95** (0.10)	0.31** (0.07)
Model deviance	1174.70	1541.03	1196.65

In next, the effect of project manager's IMO on NSD team climate is tested (model 6). The results strongly support hypothesis H6, as IMO is positively

associated with NSD team climate (γ=0.69, p<.001). In support of hypothesis H7, results indicate that IMO is negatively related to participants' levels of role ambiguity (γ=-0.82, p<.001) (see model 7). As expected, results indicate that project manager's IMO has a positive influence on participants' individual Market Orientation levels (γ=0.72, p<.001), supporting hypothesis H8 (model 8). In examining the cross-level effect of project manager's IMO on knowledge management strategies, results suggest that IMO significantly enhances personalization strategy (γ=0.58, p<.01), verifying hypothesis H9a. Likewise, IMO significantly enhances codification strategy (γ=0.62, p<.01), verifying hypothesis H9b.

Table 67 - Cross-Level Effects

Models (outcome)	Model 6 (NSD Climate)	Model 7 (Role Ambiguity)	Model 8 (Market Orientation)
Intercept (SE)	4.35** (0.07)	3.49** (0.07)	4.53** (0.06)
γ (SE)			
M_IMO	0.69** (0.08)	-0.82** (0.06)	0.72** (0.06)
Model deviance	1129.07	912.64	886.01

Table 68 - Cross-Level Effects

Model (outcome)	Model 9 (Personalization)	Model 10 (Codification)
Intercept (SE)	4.34** (0.06)	4.54** (0.05)
γ (SE)		
M_IMO	0.58** (0.07)	0.62** (0.06)
Model deviance	1131.66	1058.84

5.6 Antecedents of NSD project performance

Having investigated the impact of IMO on different determinants of NSD project performance, in next, the impact of interfunctional, team-level, individual and knowledge management strategies on five different aspects of NSD outcomes is explored. The moderating effects of service innovativeness, industry type and conflict intensity are also examined. Five HLM models were performed in overall (models 11-15) which incorporate both level-1 and level-2 predictors, providing this way some crucial drivers of various NSD outcomes from different organizational levels of analysis.

5.6.1 Antecedents of NSD project performance

Model 11 incorporates a single level-2 predictor (i.e. IMO) and nine level-1 predictors of NSD project performance (see figure 17 below). In considering the role of IMO for NSD project performance, results indicate that IMO has a positive effect on NSD project performance ($\gamma=0.15$, $p<.01$), in support of hypothesis H10. In addition, results suggest that interfunctional trust has a positive impact on NSD project performance as well ($\gamma=0.10$, $p<.01$), in support of hypothesis H11. On the contrary, interfunctional conflict does not have a negative influence on NSD project performance ($p>.05$), rejecting hypothesis H12. Our findings indicate that interfunctional integration emerges as well as a positive driver of NSD project performance ($\gamma=0.10$, $p<.05$), verifying hypothesis H13. On the other hand, interfunctional political activity has a negative impact on NSD project performance ($\gamma=-0.17$, $p<.001$), verifying hypothesis H14.

Relationship conflict appears to have a negative effect on NSD project performance ($\gamma=-0.07$, $p<.001$), verifying hypothesis H15a whereas task conflict appears to have no significant impact on NSD project performance ($p>.05$), rejecting hypothesis H15b. In addition, results suggest that role ambiguity has a negative impact on NSD project performance ($\gamma=-0.17$, $p<.001$), in support of hypothesis H16. Results from this HLM model also suggest that the adoption of codification strategy strongly enhances NSD project performance ($\gamma=0.23$, $p<.01$), confirming hypothesis

H17a. Likewise, a personalization strategy has a strong positive impact on NSD project performance (γ=0.18, p<.001), in support of hypothesis H17b. Results also indicate that the higher the project innovativeness, the lower the effect of codification strategy on NSD project performance (γ=-0.09, p<.01), confirming hypothesis H18a. Project innovativeness has no significant moderating effect on the relationship between personalization and NSD project performance, rejecting thus hypotheses H18b. Table 69 summarizes the HLM results from HLM model 11.

Figure 17 – Antecedents of NSD project performance
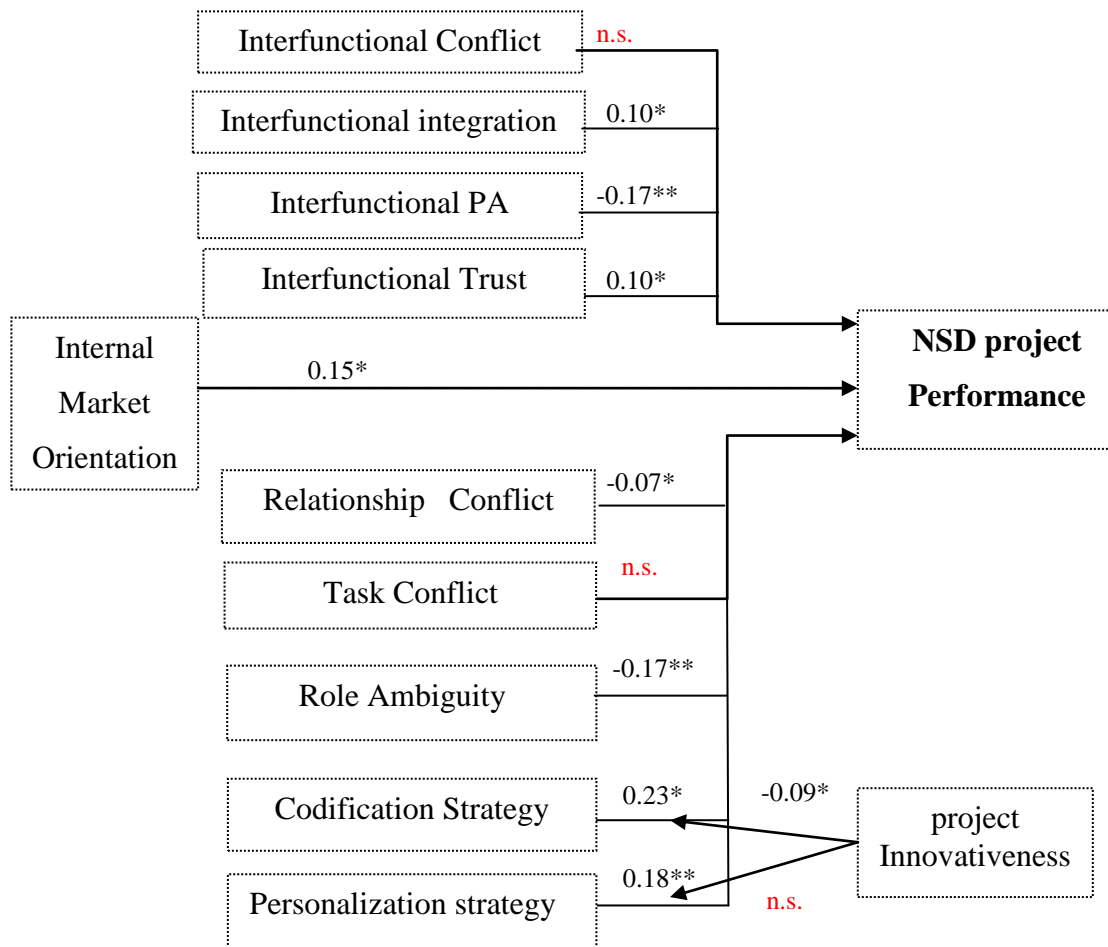
Table 69 – Antecedents of NSD project performance

Model 11 (Outcome - NSD project performance)	
Intercept (SE)	4.24** (0.42)
	γ coefficient (SE)
L2: M_IMO	0.15* (0.06)

L1: Interfunctional Integration	0.10* (0.03)
L1: Interfunctional Trust	0.10** (0.03)
L1: Interfunctional Political Activity	-0.17** (0.03)
L1: Interfunctional Conflict	-0.02 (0.04)
L1: Task Conflict	0.01 (0.02)
L1: Relationship Conflict	-0.07* (0.02)
L1: Personalization strategy	0.18** (0.09)
L1: Codification strategy	0.23* (0.08)
L1: Role ambiguity	-0.17** (0.03)
Moderating Effects	
Codification X service innovativeness	-0.09* (0.04)
Personalization X service innovativeness	0.01 (0.02)
Model Deviance	653.38

**=p<.001, *=p<.01, L2= Level-2 predictor, L1=Level-1 predictor /

5.6.2 Antecedents of NSD Project learning

Model 12 incorporates a level-2 predictor (i.e. IMO) and seven level-1 predictors of NSD project learning (see figure 18). Regarding hypothesis H19, the HLM results indicate that IMO has not a significant effect on NSD project learning (p>.05), and H19 is rejected. Findings also indicate that relationship conflict emerges as a negative driver of NSD project learning (γ=-0.13, p<.001), verifying hypothesis H20a, whereas that task conflict has a significant effect on NSD project learning (γ=0.07, p<.05), confirming hypothesis H20b. NSD team climate appears to have a strong positive impact on NSD project learning as well (γ=0.24, p<.001), verifying hypothesis H21.

Role ambiguity, as expected, has a negative impact on project learning during new service development projects (γ=-0.13, p<.05), in support of hypothesis H22. Similarly, market orientation is positively associated with NSD project learning (γ=0.17, p<.001), verifying hypothesis H23. The adoption of a codification strategy

does not appear to have a positive impact on NSD project learning (p>0.05), *rejecting hypothesis* H24a whereas the use of a personalization strategy has a positive impact on NSD project learning ($\gamma=0.32$, p<.001), confirming hypothesis H24b. On the other hand, service innovativeness has not a significant moderating effect on the relationship between any knowledge management strategy and project learning, *rejecting thus hypotheses H25a and H25b*. Table 70 reports the results from this model.

Figure 18 – Antecedents of NSD Project Learning
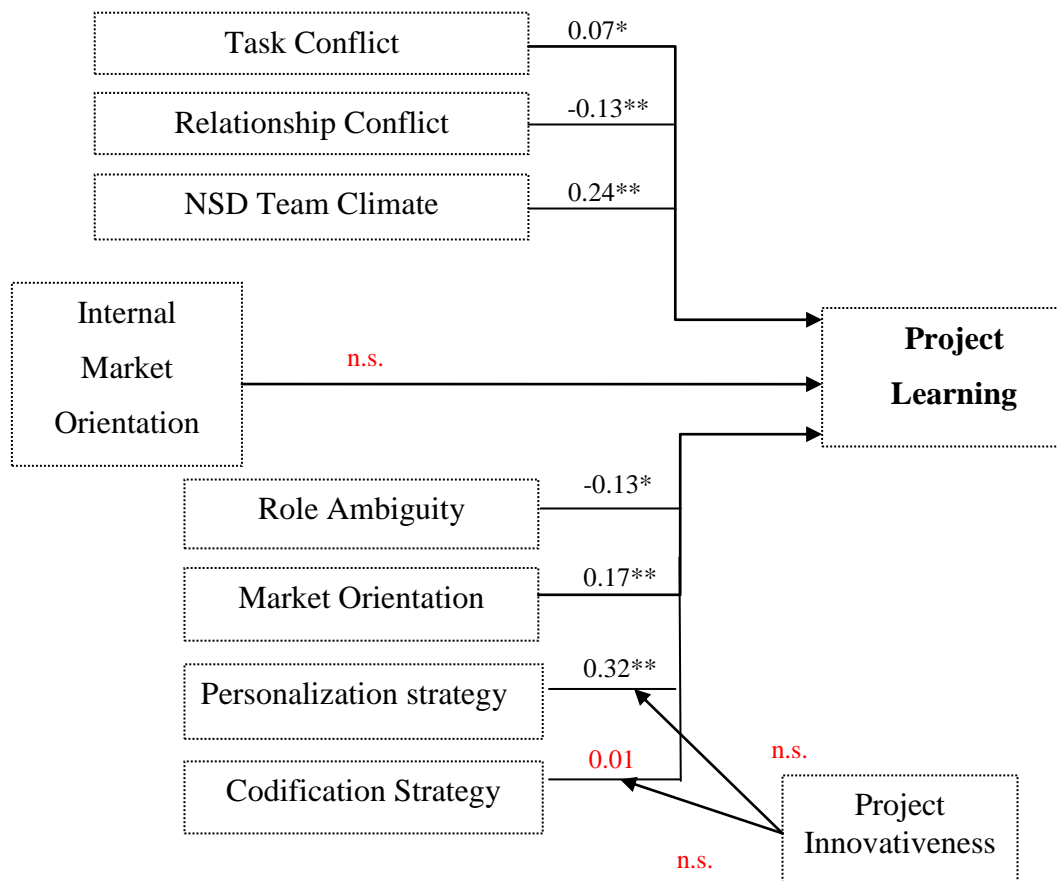
Table 70 - Antecedents of Project Learning

Model 12 (Outcome - NSD Project Learning)	
Intercept (SE)	2.74* (0.49)
	γ (SE)
L2: M_IMO	0.01 (0.07)

L1: Task conflict	0.07* (0.03)
L1: Relationship conflict	-0.13* (0.02)
L1: Role Ambiguity	-0.13* (0.04)
L1: Market Orientation	0.17** (0.04)
L1: NSD Team Climate	0.24** (0.04)
L1: Codification Strategy	0.04 (0.08)
L1: Personalization Strategy	0.32** (0.08)
Moderating Effects	
Codification X project innovativeness	-0.01 (0.04)
Personalization X project innovativeness	0.06 (0.05)
Model Deviance	752.94

**=p<.001, *=p<.01, L2= Level-2 predictor, L1=Level-1 predictor.

5.6.3 Antecedents of Organizational Learning during NSD

Model 13 incorporates a level-2 predictor (i.e. IMO) and seven level-1 predictors of organizational learning during new service development projects. Table 71 summarizes the results from this model. Regarding hypothesis H26, the HLM results indicate that adopting an IMO does not directly affect organizational learning during NSD projects (p>0.05), and thus *H26 is rejected.* On the other hand, interfunctional trust is suggested to be positively associated with organizational learning (γ=0.23, p<.001), verifying hypothesis H27. In the same vein, interfunctional conflict has not a negative impact on organizational learning during new service development efforts (p>.05), rejecting hypothesis H28. It also appears that interfunctional integration emerges as a positive stressor of organizational learning (γ=0.10, p<.01), verifying hypothesis H29. Similarly, interfunctional political activity negatively affects organizational learning during new service development efforts (γ=-0.08, p<.05), in support of hypothesis H30.

Table 71 - Antecedents of Organizational Learning

Model 13 (Outcome - Organizational Learning)	
Intercept (SE)	1.60** (0.32)

	γ (SE)
L2: M_IMO	0.07 (0.06)
L1: Interfunctional Trust	0.23** (0.04)
L1: Interfunctional Integration	0.10* (0.04)
L1: Interfunctional Political Activity	-0.08* (0.03)
L1: Interfunctional Conflict	-0.09 (0.05)
L1: Codification Strategy	0.14* (0.06)
L1: Personalization Strategy	0.32** (0.08)
L1: Market Orientation	0.23** (0.05)
Model Deviance	889.06

$**=p<.001$, $*=p<.01$, L2= Level-2 predictor, L1=Level-1 predictor.

Figure 19 – Antecedents of Organizational Learning during NSD
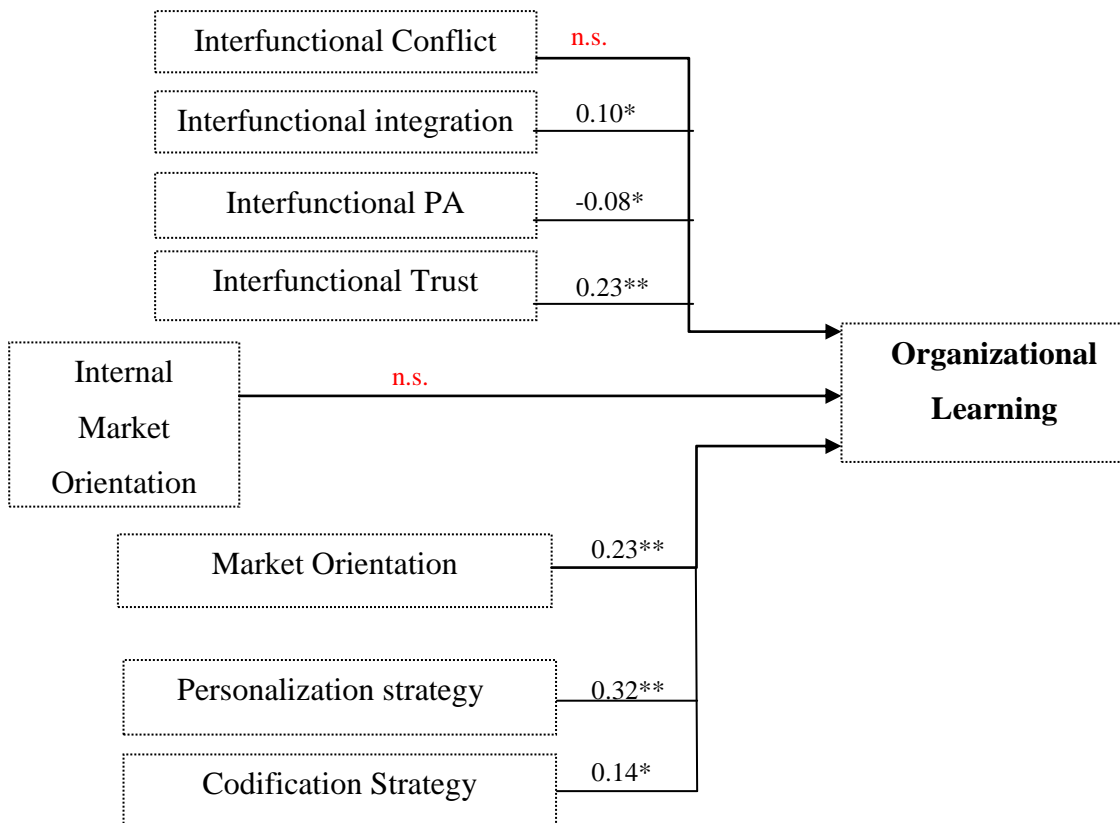
Market orientation appears to be as well a positive driver of organizational learning ($\gamma=0.23$, $p<.001$), verifying hypothesis H31. Codification strategy has a

significant impact on organizational learning during NSD (γ=0.14, p<.01), confirming thus, our initial hypothesis H32a. Personalization strategy has a significant effect on organizational learning as well (γ=0.32, p<.001), and thus H232b is confirmed (Figure 19 displays the results of model 13).

5.6.4 Antecedents of NSD Resource Allocation Effectiveness

Table 72 presents **model 14** which incorporates a level-2 predictor (i.e. IMO) and nine level-1 predictors of resource allocation effectiveness during NSD projects. The analysis indicates that IMO has a positive and significant effect on resource allocation effectiveness (γ=0.22, p<.001), and therefore H33a is verified. Similarly, interfunctional trust positively affects resource allocation effectiveness (γ=0.09, p<.05), verifying hypothesis H34a. Interfunctional conflict negatively affects resource allocation effectiveness (γ=-0.22, p<.001), verifying hypothesis H35a. Results also suggest that interfunctional integration emerges as well as a positive predictor of NSD project learning (γ=0.12, p<.001), verifying hypothesis H36a. On the contrary, interfunctional political activity has a negative impact on resource allocation effectiveness during NSD projects (γ=-0.10 p<.01), in support of hypothesis H37a. Regarding team-level antecedents of resource allocation effectiveness during NSD, higher levels of relationship conflict are negatively associated with resource allocation effectiveness (γ=-0.04, p<.05), in line with our initial hypothesis H38a. Furthermore, task conflict has a positive effect on resource allocation effectiveness during NSD (γ=0.09, p<.01), *against our initial hypothesis H39a*. NSD team climate has a positive impact on resource allocation effectiveness (γ=0.11 p<.01), confirming hypothesis *H40a*.

Table 72 - Antecedents of resource allocation effectiveness

Model 14 (Outcome - Resource Allocation Effectiveness)	
Intercept (SE)	1.30** (0.37)
	γ (SE)
L2: M_IMO	0.22** (0.06)
L1: Interfunctional Trust	0.09* (0.03)
L1: Interfunctional Conflict	-0.22** (0.04)

L1:	**Interfunctional Political Activity**	-0.10* (0.03)
L1:	**Interfunctional Integration**	0.12* (0.03)
L1:	**Task Conflict**	0.09* (0.02)
L1:	**Relationship Conflict**	-0.04* (0.02)
L1:	**NSD Team climate**	0.11* (0.04)
L1:	**Codification Strategy**	0.06 (0.11)
L1:	**Personalization Strategy**	0.47** (0.12)
Moderating Effects		
Codification X service innovativeness		-0.11 (0.07)
Personalization X service innovativeness		0.05 (0.06)
Model Deviance		661.10

Figure 20 - Antecedents of Resource allocation effectiveness
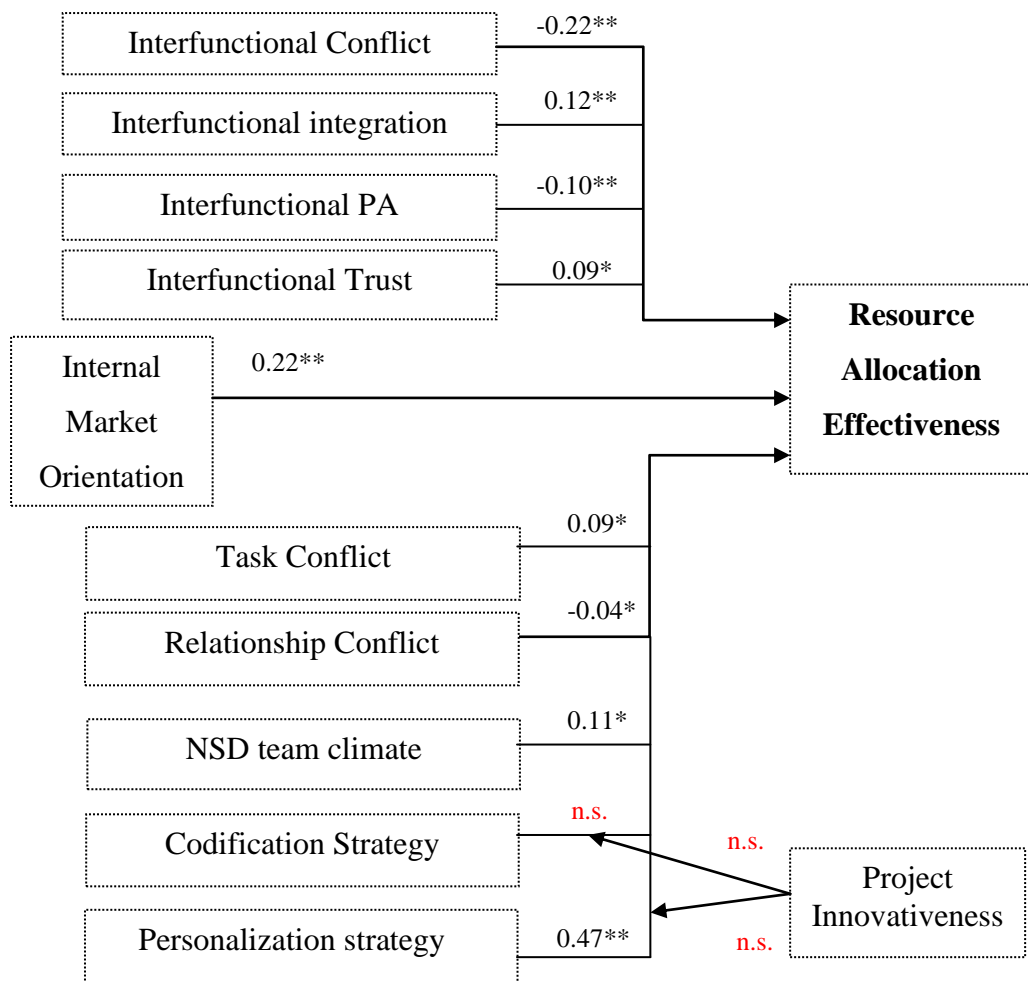
The adoption of a codification strategy does not affect resource allocation effectiveness during NSD projects (p>.05), *rejecting hypothesis H41a* whereas the use of a personalization strategy has a very strong positive effect on resource allocation effectiveness (γ=0.47, p<.001), confirming hypothesis H42a. The levels of project innovativeness do not significantly moderate the impact of personalization (p>.05) and codification strategy (p>.05) on resource allocation effectiveness during NSD projects. As a result, hypotheses H43a and H43b are rejected. Table 72 illustrates results stemming from this HLM model.

5.6.5 Antecedents of NSD Resource Allocation Efficiency

Model 15 incorporates a level-2 predictor (i.e. IMO) and nine level-1 predictors of resource allocation efficiency during NSD projects (see Figure 21). Table 73 illustrates results stemming from this model. Regarding hypothesis H33b, results indicate that IMO has a strong and significant effect on resource allocation efficiency (γ=0.38, p<.001), and thus it is verified. Interfunctional trust emerges as the strongest level-1 predictor of resource allocation efficiency during NSD projects (γ=0.33, p<.001), and thus hypothesis H34b is verified. Interfunctional conflict is not associated with resource allocation efficiency during NSD (p>0.05) and therefore hypothesis H35b is rejected. Surprisingly, interfunctional integration does not emerge as an enabler of resource allocation efficiency (p>0.05), rejecting hypothesis H36b. Interfunctional political activity has a negative strong impact on resource allocation efficiency during NSD projects (γ=-0.18, p<.001), in support of hypothesis H37b. Task conflict appears to have a positive effect on resource allocation efficiency during NSD projects (γ=0.18, p<.001) whereas relationship conflict a negative effect on efficiency (γ=-0.12, p<.01). As a result, hypotheses H38b and H39b are verified. NSD team climate appears to have a positive impact on resource allocation efficiency during NSD projects (γ=0.16, p<.01), verifying hypothesis H40b.

Table 73 - Antecedents of resource allocation efficiency

Model 15 (Resource Allocation Efficiency)	
Intercept (SE)	1.79** (0.43)
	γ (SE)
L2: M_IMO	0.38** (0.09)
L1: Interfunctional Political Activity	-0.18** (0.03)
L1: Interfunctional Conflict	-0.04 (0.05)
L1: Interfunctional Trust	0.33** (0.05)
L1: Interfunctional Integration	0.08 (0.04)
L1: Task Conflict	0.18** (0.03)
L1: Relationship Conflict	-0.12** (0.03)
L1: Codification Strategy	0.05 (0.16)
L1: Personalization Strategy	0.04 (0.14)
L1: NSD Team Climate	0.16* (0.05)
Moderating Effects	
Codification X service innovativeness	-0.07 (0.09)
Personalization X service innovativeness	0.04 (0.08)
Model Deviance	939.48

**=p<.001, *=p<.01, L2= Level-2 predictor, L1=Level-1 predictor.

On the contrary, neither the adoption of a codification strategy or the use of a personalization strategy seem to have a positive impact on resource allocation efficiency during NSD projects (both remain statistically insignificant p>.05), *rejecting hypotheses H41b and H42b respectively*. Project innovativeness has not a significant moderating effect on the relationship between any knowledge management strategy and resource allocation efficiency, *rejecting thus hypotheses H44a and H44b*. Figure 21 below displays the results of this model.

Figure 21 - Antecedents of Resource allocation efficiency
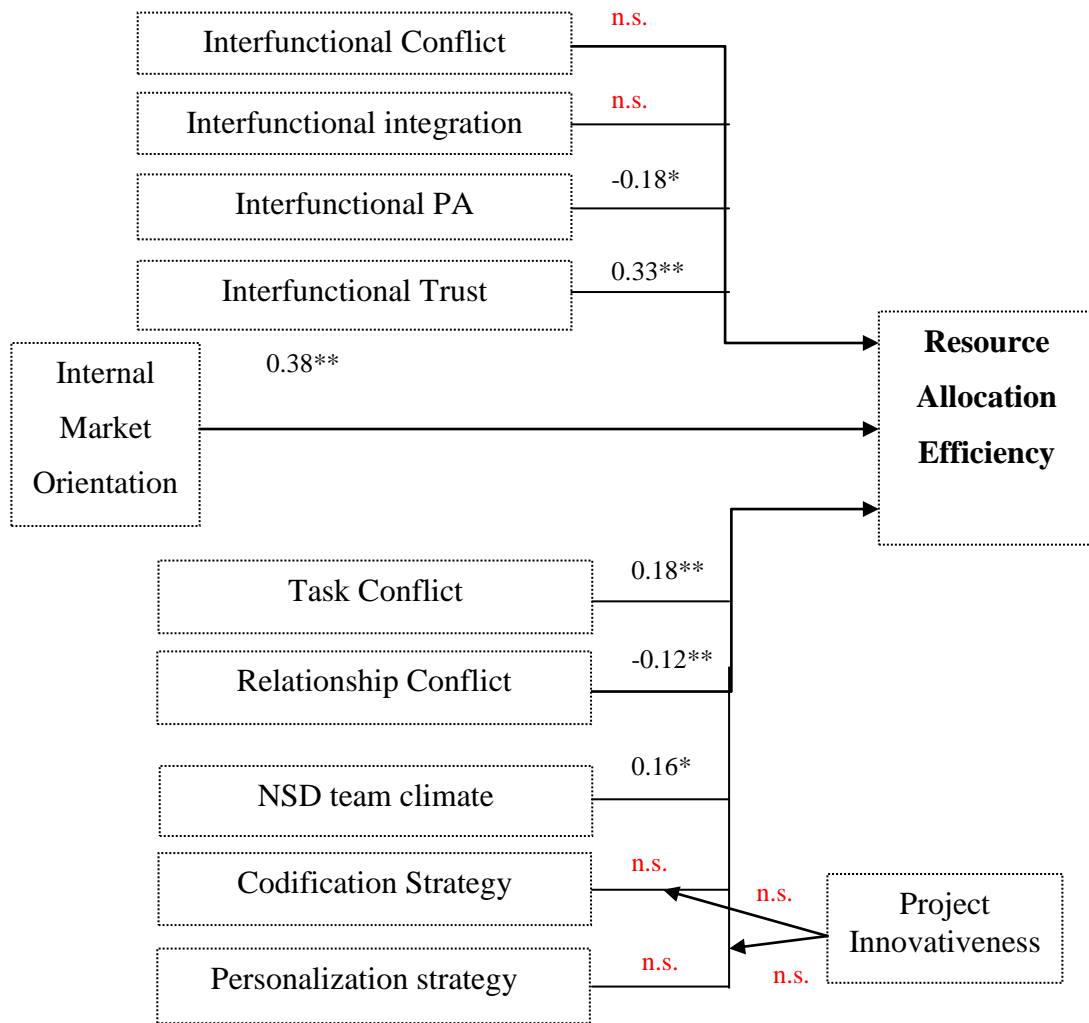
Chapter 6 - Discussion, Theoretical and Managerial Implications

The focus of this study rests on the contingent effect of internal market orientation, interfunctional relationships, team-level conditions, individual antecedents and knowledge management strategies on various new service development outcomes. A dynamic perspective of the service innovation process is introduced with the aim of identifying contextual antecedents that drive new service development project performance. In this context, NSD project manager's centrality for project performance is highlighted while the role of interfunctional relationships, team-level contingencies, individual perceptions and knowledge management strategies also proves critical. Collectively, an accurate picture of how executives can manage NSD projects in a more effective and resourceful way is delivered. On the basis of my findings, managerial focus should vary depending on the desirable outcome of the project (e.g. resource efficiency or learning). Second, the importance of adopting an internal market orientation for several aspects of NSD is illustrated. Moreover, against the traditional background which ignores the importance of integrating various levels of analysis within service innovation conceptualizations (Hitt, Beamish, Jackson, and Mathieu, 2007), the adoption of a multilevel research design provides an important shift for the extant research by stressing the multi-layered nature of the innovation process.

The following sections briefly summarize this study's findings and the theoretical contribution of this study to the service innovation area is thoroughly discussed. Some practical and theoretical implications that emerge from our analysis are also provided. Last but not least, limitations of the study are posited and some research implications are reported.

6.1 Overview of the study's findings

In reviewing the study's hypotheses, it is worth noting that most hypothesized effects were verified with some interesting findings emerging in overall. Nevertheless, some findings are unexpected and are therefore also worth considering,

rejecting some of my initial expectations. Results suggest that adopting internal market orientation can act as a suppressor of both interfunctional conflict of interfunctional political activity during NSD projects. In fact, applying an Internal Market Orientation can severely reduce the adoption of political behaviours between actors from different organizational functions. In parallel, IMO appears to act as an effective enabler of generating trust among different organizational units and of enhancing interfunctional integration during NSD projects which remain critical antecedents of success (Perks and Riihela, 2004). Collectively, internal market oriented behaviours prove important for reducing functional silos and promoting interfunctional integration across different departments during service innovation projects.

Internal market oriented behaviours also enhance the performance of NSD projects. In particular, they contribute by reducing levels of relationship conflict between NSD participants. Surprisingly, a positive effect of project manager's IMO on task conflict levels is portrayed, indicating that the project manager's behaviour has a differential effect on different types of team conflict. In other words, the embracement of IMO reduces interpersonal clashes and disagreements but also promotes constructive conflict. However, more research is required on this issue given that excessive levels of task-related conflicts could trigger other types of conflict as well (Greer et al., 2008). As expected, IMO also promotes the formation of a supportive NSD team climate. This is quite an important finding as although the importance of climate for team performance is repeatedly stressed, few insights exist indicating how managers can create and sustain a supportive and positive team climate during NSD activities (Weiss, Hoegl, and Gibbert, 2011).

The implementation of IMO within the organization also influences individual aspects of participants' performance as well. For example, IMO reduces participants' role ambiguity in development teams. To date, adopting an IMO has not been associated with any aspects of role performance, although role stressors have proved to be major determinants of individual performance, particularly under conditions of high task interdependence and stressful situations due to organizational ambiguities and conflicts with senior management and/or other functional departments (Leung et al., 2010). Within a NSD setting, reducing role ambiguity

becomes highly important as innovative solutions to non-routine problems are often required and diverse role expectations and demands from different tasks reduce one's ability to complete the assigned NSD tasks. Results also suggest that participants' market and customer focus will be enhanced; a very crucial goal especially for participants with an IT or non-marketing background, as they will acquire a more complete understanding of customer needs and wants. Furthermore, nurturing an IMO facilitates the use of both knowledge management strategies during NSD activity. Acknowledging the pivotal role of both knowledge management approaches for various NSD outcomes, internal marketing orientation emerges as an enabler of effective knowledge exchange for service development activities.

In exploring the most influential predictors of **NSD project performance**, a positive effect of interfunctional trust and interfunctional integration on NSD project performance is exhibited. Conversely, high levels of interfunctional political activity can severely affect NSD project performance. Implementing an IMO enhances directly NSD project performance. At the team-level, relationship conflict negatively influences NSD project performance whereas task conflict appears to have no significant impact on project performance. The adoption of both a personalization and a codification strategy significantly enhance NSD project performance while high project innovativeness reduces the impact of codification strategy on project performance.

NSD project learning is highly dependable on participants' market oriented behaviours. High levels of IMO are not associated with higher NSD project learning. On the contrary, relationship conflict and role ambiguity emerge as inhibitors of NSD project learning whereas task conflict appears to enhance NSD project learning. Similarly, the use of a codification strategy does not promote NSD project learning in contrast to the adoption of a personalization strategy which clearly favours project learning. Team climate is also a key determinant of NSD project learning.

Organizational learning during NSD projects can be inhibited by high levels of interfunctional political activity. Alternatively, both interfunctional integration and interfunctional trust are positively associated with organizational learning during NSD. Project manager's IMO is not directly associated with organizational learning during NSD. Nevertheless, the adoption of a codification

strategy facilitates organizational learning during NSD while the use of a personalization strategy emerges as the strongest enabler of organizational learning. Results also highlight the importance of market orientation as a key stressor of organizational learning during service innovation.

Resource allocation effectiveness during NSD is severely harmed by the existence of high levels of interfunctional conflict and less influenced by high levels of interfunctional political activity. Results reveal that IMO has a strong positive influence on resource allocation effectiveness, stressing its value for resource optimization during NSD. In the same avenue, interfunctional integration emerges as a positive driver of allocation effectiveness during NSD projects. At the team-level, NSD team climate enhances resource allocation effectiveness just like task conflict which has a positive effect on allocation effectiveness against our initial expectations. On the contrary, higher levels of relationship conflict are negatively associated with resource allocation effectiveness. The use of a personalization strategy proves in this case to be the main driver of allocating resources effectively during NSD projects. Interestingly, findings do not confirm the adoption of a codification strategy as a contributor to higher resource allocation effectiveness during NSD.

Resource allocation efficiency is primarily impaired by the existence of high levels of interfunctional political activity. Results display that IMO has a strong positive effect on the efficiency of the allocation process. The role of interfunctional trust remains pivotal for efficient allocation of resources during NSD projects, as interfunctional trust remains the strongest predictor of resource allocation efficiency during NSD. On the opposite, neither the adoption of a personalization strategy nor the use of a codification strategy enhance resource allocation efficiency during NSD projects. NSD team climate and task conflict clearly favour allocation efficiency while relationship conflict reduces allocation efficiency during NSD projects. In overall, it could be concluded that allocation efficiency during NSD is mainly driven by interfunctional relationships and team-level contingencies rather than the use of knowledge management strategies. More importantly, employing different knowledge management strategies is not effective, as internal and interfunctional dynamics dominate the allocation of resources during NSD projects.

6.2 Theoretical contribution of the thesis

The following discussion draws out some important implications that emerge from the results of this dissertation. This study acknowledging the inherently complex nature of the new service development reality has stressed the importance of several working conditions and contextual factors for the effective management of NSD projects. The concurrent impact of several antecedents of NSD project performance from multiple organizational echelons was taken into account to derive a more complete understanding of how to optimize the management of the service development projects. The proposed model has considerable potential to be applied in NSD management as it sheds light on how top-down influences shape the performance of service innovation initiatives. In this way, scholars and practitioners can gain a deeper understanding of the role of contextual dynamics of their work and what actually fosters or hinders the innovative capability of their development teams.

6.2.1 Benefits from IMO adoption during NSD

Although IMO has proved to be beneficial for contact employee performance (Tortosa et al., 2009), commitment (Caruana and Calleya, 1998) and turnover intentions (Berry and Parasuraman, 1991), other implications associated with enacting an internal marketing orientation remain largely unchallenged (Gounaris et al., 2010; Boukis et al., 2014). This study has crystallized some rather interesting consequences from its adoption from project managers involved in the development of new services.

The **first theoretical contribution** of this dissertation is that it provides strong empirical evidence indicating that *IMO adoption is directly associated with higher NSD project performance and higher levels of allocation effectiveness and efficiency during service innovation initiatives*. As just a single study has confirmed IMO as a contributor to new service development success (Sanchez-Hernandez et al., 2011), this study extends present knowledge by displaying some benefits that service organizations can reap from IMO adoption. For the first time *IMO is associated with*

some robust and measurable NSD outcomes whereas previous research primarily illustrates some behavioural consequences from IMO implementation (Caruana and Calleya, 1998; Lings and Greenley, 2009). This is a key finding in the sense that highlighting strategies and orientations which promise some non-measurable organizational benefits may discourage service companies from allocating significant amount of resources to the implementation of these strategies. *Unless some robust empirical evidence associates the adoption of any marketing strategy or cultural orientation with measurable and tangible outcomes, senior executives might remain reluctant to its implementation.* By nurturing an IMO across the organizational pyramid, it is expected that project-based activities will be more effectively completed in terms of time schedule, costs and planning, enhancing this way overall organizational effectiveness.

This study also adds significantly to the services marketing literature by directly associating managerial considerations of employees' needs and higher concern on the internal market with *the optimization of the resource allocation process during NSD*. Adopting an IMO is strongly associated with the achievement of higher resource allocation effectiveness and efficiency during service innovation projects. Although previous research has stressed the importance of maximizing resource use (Froehle and Roth, 2007), few organizational practices, philosophies or orientations have been associated with enhancing aspects of organizational efficiency (Streukens, de Ruyter, Van Hoesel and de Jong, 2010). This finding can be explained on the basis of the internal customer perspective which stresses the impact of individual actions on the 'next customer' of the organizational chain, rendering employees more eager to put the interests of the organization ahead of their individual ones or those of their own function. As a result, departmental needs can be more effectively assessed while the dissemination of market intelligence helps each functional unit to better rank its goals, reducing in this way political struggling during resource allocation decision-making. As a result, *IMO can indirectly benefit organizational performance through more effective and efficient use of organizational resources during service development efforts, freeing up valuable resources for the achievement of other strategic objectives.*

Associating this finding with the fact that resource allocation efficiency remains considerably low across the majority of NSD projects examined, it can be concluded that IMO contributes remarkably towards a more rationalized allocation of resources within NSD projects, enhancing organizational efficiency. IMO appears to have the strongest influence on resource allocation efficiency where other traditional management strategies such as codification and personalization strategy seem to be ineffective. Additionally, management's commitment to satisfying employees' needs increases, indirectly though, organizational efficiency levels, ensuring that it will not be impaired due to interfunctional animosities, clashes or conflict of interests.

Benefits from internal marketing orientation implementation can also be identified within the interfunctional context surrounding new service development projects. Acknowledging prior theoretical internal marketing conceptualizations that suggest a beneficial impact on interfunctional interaction quality (Ahmed and Rafiq, 2003), no empirical studies confirm whether its adoption can actually encourage the formation of harmonic interfunctional relationships and the effective management of the interfunctional environment. Against this background, this study suggests that IMO reduces the detrimental effect of two traditional inhibitors of innovation performance (i.e. interfunctional conflict and interfunctional political activity) while contributes to the formation of trust among different organizational functions. Acknowledging that effective strategies or managerial actions that reduce interfunctional tensions and political maneuvering during innovation efforts have yet to be identified (Vermeulen, 2004), this study is the first to suggest *specific managerial behaviours that facilitate the formation of more harmonic interdepartmental relationships within a service innovation setting*. Results are in line with prior research suggesting that trust formation is highly dependent on the delivery of higher value to the other party (Cohen and Prusak, 2001). Moving a step forward, the delivery of higher job-related value to employees on behalf of the firm's management, which is manifested through higher managerial consideration and closer attention on employees' needs, is associated with the reduction of political struggling and conflicts during service innovation efforts, although more research is required to verify such a statement. The benefits indicated at the interfunctional level

can also favour other aspects of organizational performance but such a statement needs first to be tested.

The implementation of internal marketing initiatives favours some team-level antecedents of NSD project performance as well. Against our assumption for a negative effect on both types of intragroup conflict, findings reveal a negative impact on relationship conflict but a positive one on task conflict. Simply put, IMO philosophy not only suppresses interpersonal clashes within development teams but also raises task conflict levels. In reviewing the extant research, conflicting results emerge as task conflict has a debatable role associated with both positive and negative outcomes (De Dreu and Weingart, 2003; Simons and Peterson, 2000). This is an interesting finding in the sense that *manager's IMO appears to promote intragroup task conflict*. This finding could probably be associated with the positive impact of task conflict on several NSD outcomes such as resource allocation effectiveness and efficiency. Collectively, it can be stated that task conflict is perceived more like a positive team condition rather than a detrimental one. Project manager's enhancement of task conflict levels is expected to promote team creativity and innovative performance, as previous studies indicate.

Although creating task-related disagreements often proves to be constructive in a NSD setting, excessive levels of task conflict may impair innovation performance (De Dreu, 2006). In any case, more research is required to clarify whether task conflict has an inverted U-shape during NSD activities. To the best of our knowledge, this is the first study to confirm the influence of internal marketing on the creation of a supportive NSD team climate. Despite the existence of several studies emphasizing the importance of team climate (Mathisen, Torsheim, and Einarsen, 2006), few mechanisms are identified which can promote the formation of a positive internal climate during innovation efforts (Weiss, Hoegl and Gibbert, 2011; Bertels, Kleinschmidt and Koen, 2011).

Internal market orientation can also boost individual aspects of NSD participants' performance. For example, more effective job design and individual feedback provided from employees to their supervisors about their role specifications constitute two aspects of IMO that reduce role ambiguity within NSD teams. Reducing role ambiguity within NSD is crucial as development priorities need to be

explicitly communicated to all parties involved in NSD so as to render clear the strategic importance and the expected outcomes of the project. The second benefit that stems from adopting an IMO lies on the formation of higher customer-consciousness. Among other consequences, rendering NSD participants more customer driven remains crucial as customer needs and wants represent the core value of issues addressed in order to successfully develop successful new service offerings.

The importance of IMO for both knowledge management strategies examined is confirmed. This findings advances theory in the sense that enacting IMO is a clear indicator of promoting the use of personalization and codification strategies which strengthen high-quality info exchange and use during service development projects. Apart from IMO's contribution through the establishment of effective employee-manager bidirectional communication, IMO contributes to NSD success through facilitating the use of knowledge management strategies. As expected, formalized communication can be enhanced through IMO adoption but surprisingly, informal communication is also enhanced indicating the beneficial effect of IMO on improved info exchange via informal chats and discussions during NSD projects.

From a **theoretical angle**, this study advances existing knowledge by providing another link in the IMO-organizational performance relationship which needs further consideration (Boukis and Gounaris, 2014; Boukis, 2013). Whereas most previous studies focus on behavioural consequences of IMO adoption, this dissertation extends current knowledge by illustrating the value of IMO for project performance resource optimization and learning during NSD which both indirectly contribute to overall organizational effectiveness. Moreover, IMO adoption does not appear to affect either organizational or project learning during NSD, against my initial expectations. IMO may favour NSD project learning indirectly through its beneficial impact on team climate and interfunctional relationships. Project manager's higher consideration of employees' needs and focus on their well-being is not adequate to stimulate learning which remains highly dependable on interfunctional and team-level conditions such as team climate or interfunctional integration. Perhaps employees perceive the quality of their working environment as

the most important antecedent that determines their willingness to learn rather than their supervisor's internal market orientation behaviour.

From a **methodological view**, this study *contributes to the integration of various levels of analysis within NSD research*, as using only a single level of analysis may inadequately account for many marketing research issues (Liao and Chuang, 2004; Wieseke et al., 2008). Most internal marketing studies view IMO adoption from a myopic perspective neglecting the multi-layered nature of strategy implementation process (Froehle and Roth, 2007) and the role of cross-level interactions between actors from different organizational echelons (Hitt, Beamish, Jackson, and Mathieu, 2007). *The investigation of project manager's influence on participants uncovers how their internalization of internal market orientation can enhance their contribution to NSD projects, promoting our understanding of how managerial behaviours can improve the creation of new services*. Measuring IMO at a higher level of analysis can shed light on how individual-level behavioural patterns are influenced by intra-organizational practices, as little is known about how the latter are performed and interpreted at different levels of the organizational hierarchy.

6.2.2 Enhancing NSD project performance

A **second key theoretical contribution of this thesis relates to the identification of some critical determinants of NSD project performance**. Although the importance of interfunctional relationships is acknowledged in a NPD setting (Kahn, 2011; Garcia et al., 2008), no studies within the service innovation area explore how the combined effect of interfunctional relationships, team-level interactions and knowledge management strategies determine the performance of NSD projects. First of all, project manager's adoption of IMO promotes NSD project performance, rendering the use of internal marketing practices as a key contributor to NSD success.

The importance of adopting a personalization and codification knowledge management strategy should also be noted. The adoption of a personalization approach emerges as one the most influential drivers of NSD project performance. It appears that common practices of this strategy such as direct interactions between

people and storytelling prove equally effective with communicating and exchanging knowledge via highly formalized channels. Both knowledge management strategies are considered complementary to each other as they both favour NSD project performance. Although a strong positive effect on performance is portrayed from the use of formalized channels like databases, other mechanisms such as project meetings, short conversations and direct personal experiences are appropriate for tacit and explicit during NSD. As info exchange and use constitute critical aspects of NSD success (Boerner et al., 2012), applying these two knowledge management approaches between NSD participants can clearly boost project performance. Results hold that, under different levels of innovativeness, the relative importance of codification knowledge management strategy varies. So, the higher the project innovativeness the less effective is the adoption of a codification approach. Consequently, the use of a codification strategy is strongly recommended for incremental innovation projects rather for radical ones.

The role of interfunctional relationships for NSD project performance is also vital. Whereas high levels of interfunctional trust upgrade NSD project performance, high levels of political activity prove detrimental for service development performance. High levels of political manoeuvring suppress service innovation performance, identifying its detrimental effect on service innovation performance. NSD participants' perceptions of politicking appear as the most important inhibitor of high NSD project performance, requiring more attention from project managers to deal with these issues. To the best of our knowledge, this is the first study to *reflect the importance of trust for service innovation performance*, acknowledging that the lack of high resource commitments within NSD renders mutual trust and confidence more axial to the achievement of project goals and to adequate info exchange than in a product setting (Schleimer and Shulman, 2011). As expected, high levels of interfunctional integration increase the odds of service innovation success, displaying its centrality for NSD performance. On the other hand, perceptions of interfunctional conflicts do not affect project performance. This finding suggests that participants consider the promotion of self- or departmental interests and struggle for resources as more harmful contingencies than the existence of any kind of disagreements between different functions. This is an interesting finding as several studies stress the negative

of interfunctional conflicts for innovation performance. This result can probably be attributed to the dominant role of politicking during service innovation in the sense that project members are more likely to react in a more negative way once they perceive the use of politicking from their co-workers rather when some different perceptions for working issues arise between team members.

Regarding team-level antecedents of NSD project performance, relationship conflict inhibits project performance, in line with results from studies in other contexts (Jehn, 1997; Jehn and Mannix, 2001). The detrimental effect of relationship conflict on NSD project performance reflects the negative influence that interpersonal dynamics have upon team performance. Therefore, minimizing interpersonal disagreements related to non-working issues remains a high prioritized goal for project managers. Unexpectedly, task conflict does not affect the achievement of project goals. Its impact, however, remains important for other NSD outcomes. When it comes to team dynamics during NSD, it can be concluded that interpersonal clashes rather task-related disagreements determine project performance. It is likely that due to high levels of personal animosities and conflicting priorities, NSD participants perceptions of performance is more affected than in the case where task-related issues arise. Moreover, project performance captures the extent to which goals were achieved or schedules met and, as a result, task conflict might not play such an important role for process issues associated with the completion of NSD projects.

For the very first time, a role stressor is addressed within a NSD setting. High levels of participant's role ambiguity seem to negatively affect NSD project performance. The lack of clarity about individual tasks can prove quite dysfunctional in the sense that participants devote a large amount of cognitive resources to understand their role requirements as well as their individual objectives in the specific project, increasing this way their uncertainty about the expected outcome. Finally, the use of a codification approach is more appropriate within incremental innovation projects, as its contribution decreases when it comes to radical innovation efforts. Whereas the relative importance of a personalization approach remains equally high for both radical and incremental innovations, when very disruptive innovative solutions are required the use of a codification approach should be more

limited, rendering perhaps *the use of more informal communication channels* as a more appropriate knowledge exchange strategy.

Against existing conceptualizations which rarely take into consideration various levels of analysis when exploring internal drivers of service innovation project performance (Froehle and Roth, 2007), the proposed model provides a shift in service innovation research agenda by portraying the importance of several intra-organizational conditions for NSD project performance. Project manager's adoption of IMO, the use of the personalization and codification approaches as well as the decrease of role ambiguity remain the most pragmatic prescriptions for NSD project managers in order to enhance the success of the firm's innovation efforts.

6.2.3 Enhancing NSD Project Learning

NSD project learning constitutes an important outcome of service innovation efforts (Blazevic and Lievens, 2004). This study designates some important team-level predictors that affect project participants' learning during NSD. First of all, relationship conflict emerges as a main inhibitor of project learning. This finding is of high significance given that *managerial efforts and practices aiming towards promoting employees' learning may prove inadequate under high interpersonal tensions*. Thus, project learning during service innovation remains highly dependable on personal animosities among team participants. This finding can be explained by that the fact that interpersonal negativity created by relationship conflict reduces constructive discussion and renders participants reluctant or unable to contribute ideas and effort so as to increase their performance. Relationship conflict may be particularly destructive within teams because team members' comfort in sharing ideas, challenging each other, accepting others' opinions or offering alternatives is negatively influenced (Joshi and Roh, 2007).

Task also emerges as a contributor of NSD project learning. Despite conflicting findings in the area regarding its constructive or destructive consequences, conflicts about task-related issues appear to enhance NSD project learning. This finding is quite interesting. Perhaps it can partially be explained by the overall positive role that task conflict has during innovation activities. Project

managers can stimulate participants' learning by encouraging conflicts about task-related issues during NSD interactions. The rational underlying this finding is that disagreements and different views between project members related to the new idea or how it should be conceptualized and developed enhance overall group understanding of project requirements and potential pitfalls, increasing their insights of the service innovation reality. The positive of task conflict can also be attributed to the sense of urgency and importance that is nurtured across project participants, enhancing their perception of the strategic importance of the project for their organization.

Complementarily, the formation of a positive climate appears to be the second most influential determinant of project learning during NSD. Learning from a NSD project is highly dependable on contextual conditions and not only on communication quality. Creating a favourable internal environment could clearly promote participants' learning during NSD projects. This finding advances existing knowledge in the sense that previous studies have not recognized any contingent factors that drive project learning but primarily focus on individual-level antecedents or communication-related determinants. The creation of a positive team climate should be a key priority for project managers when it comes to new service development not only for team performance but for also for enhancing participants' learning.

The success of most innovation activities is highly dependent on individual role performance (Rodrıguez-Escudero et al., 2010). In this avenue, this study acknowledges the importance of individual characteristics for project learning during NSD. In considering role ambiguity, it can be noted that *the lower the lack of understanding about job responsibilities, the lower participants' learning during the project*. This finding sets effective job description and design as an important prerequisite of project learning during service innovation and not just of team performance. Participants are likely to devote a significant amount of cognitive resources seeking role clarification during NSD meetings instead of trying to develop new ideas and understand customer wants in the new service concept. A second individual aspect that appears to facilitate project learning is higher customer focus. *Nurturing market-oriented behaviours among participants could prove highly*

beneficial for project learning within NSD teams. Although market orientation is primarily associated with gathering customer preferences and competitor intelligence (Kohli and Jaworski, 1990), it seems that this focus on acquiring customer and market intelligence increases the amount of insights and info absorbed within service innovation teams. As a result, it remains critical to intensify all participants' customer consciousness and not just contact employees' customer focus so to enhance learning outcomes. Another explanation for the strong effect of individual market orientation on project learning is that as several members of new service development projects lack adequate info about market conditions and customer needs either due to their different educational background or due to their working expertise, the manifestation of market oriented behaviours on behalf of some other members helps them to better understand the key customer goals that need to be taken into account.

The importance of knowledge management strategies is also illustrated in the case of project learning, where the use of personalization strategy is positively associated with higher project learning. Results indicate that *favouring the adoption of a personalization strategy instead of focusing on a codification strategy during NSD projects can be more beneficial for service firms*. Informal direct interactions between team participants can greatly promote the exchange of experiences and lessons learned from previous and emergent service development activities, increasing this way each participant's amount of experience gained during the specific development project. Within a service innovation context, *advancing the use of more informal communication channels is expected to improve project learning in comparison to implementing a codification strategy*. The dissemination and use of tacit knowledge, which represents the individual knowledge and insights of each employee, is confirmed as more effective than using explicit knowledge.

Surprisingly, *the adoption of a codification strategy is not associated with higher levels of participants' project learning*. Although a codification strategy has been suggested to enhance NSD stage proficiency (Storey and Kahn, 2010), it does not appear to contribute to project learning. Perhaps this finding can be attributed to the fact that a codification strategy is more successful for these companies whose business strategy requires the use of existing knowledge (Malhotra, 2004) whereas in

our case the integration of new customer insights remains an imperative for success. As highly formalized channels are mainly employed when adopting a codification approach (Storey and Hull, 2010), perhaps their relative importance in comparison to other NSD management strategies investigated remains quite low. Service innovativeness does not appear to affect the effectiveness of each knowledge management strategy, as in both radical and incremental innovations personalization strategy emerges as a major determinant of project learning.

6.2.4 Enhancing Organizational Learning during NSD projects

The contribution of each NSD project to organizational learning constitutes the third investigated outcome. Organizational learning has recently attracted some attention with academics stressing its importance for NSD (Limpibunterng and Johri, 2009; Stevens and Dimitriadis, 2005). However, research is far from heaving a complete picture of how service firms can ensure the enlargement of their organizational knowledge deriving from NSD initiatives (Stevens and Dimitriadis, 2011).

Results indicate that harmonic interfunctional relationships are a prerequisite so that wisdom deriving from service innovation activities is scattered across the organization. *What is really worth emphasizing is the role of political activity as an inhibitor of disseminating NSD experiences and wisdom* across the organization. No relevant studies provide evidence of whether intense political struggles among functional units actually impede organizational learning. Politicking among departments undermines the quality of info exchange within cross-functional teams and disorientates NSD participants from the achievement of project goals. Given that promoting departmental or individual interests at the expense of other parties is the common denominator among political behavioural patterns (Ferris et al., 2002), organizational learning is expected to faint, either due low info sharing or due to lower willingness to engage in discretionary activity which will ultimately lead to lower creative innovative performance activity. On the contrary, intense interfunctional conflicts do not seem to decrease the dissemination of insights stemming from NSD across the organization. Against my initial expectation that, conflicts among different functions would impair the dissemination of NSD

knowledge, it appears that high perceptions of interfunctional tensions do not impair participants' sharing of their NSD wisdom with co-workers from other functions. Although interfunctional conflicts have been associated with reduced innovation performance, their impact on the organization's learning process does not seem considerable. Hence, participants are not reluctant to discuss their own experiences with other organizational members due to existing animosities between their functional managers or their departments. The relatively low importance of interfunctional conflict for NSD project performance indicates that its effect on innovation outcomes might be less important than previous studies suggest.

Another important **theoretical contribution** that stems from results is that *ensuring developing high levels of trust among organizational functions is anticipated to strongly reinforce intra-organizational knowledge exchange*. Raising trust encourages participants from different functional units to share new ideas with their colleagues during NSD meetings, distributing this way their experiences and insights to other executives. The importance of this finding is heightened, as due to service intangibility, high quality and accuracy of information exchange drive service innovation success. Similarly, interfunctional cooperation seems to favour the broadening of the organizational knowledge base. As a result, if organizational learning constitutes a critical NSD outcome, more attention should be attracted to the formation of trust among departments as formal or informal knowledge exchange is heavily based on the existence of interfunctional trust.

Surprisingly, the role of IMO as an enabler of NSD organizational learning is not confirmed. This finding could possibly be explained by the fact that the manager's behavioural orientation cannot be directly associated with widening the organizational knowledge base which is primarily based on participants' post-project willingness and motivation to inform other colleagues about insights that can potentially improve their performance. It seems that internal marketing practices are not adequate to ensure higher organizational learning during NSD, perhaps due to the role of interfunctional trust as a catalyst which emerges as a key prerequisite of the expansion of the organizational knowledge base. Another explanation of these results is that knowledge exchange strategies appear to dominate NSD project's contribution to organizational knowledge.

An individual driver that appears to build up organizational learning from NSD projects is participants' market-oriented behaviour. Despite the existence of studies indicating that the market orientation–innovation relationship does exist (Grinstein, 2008; Song et al., 2009), *this study theoretically contributes as it is the first to confirm that market-oriented behaviours can actually contribute to the amount of organizational knowledge produced within NSD*. In other words, digesting the role of customer preferences, competitor intelligence, and product knowledge while integrating them into the process of service innovation, will help service organizations to widen their intelligence base. Therefore, it remains imperative to foster all participants' customer consciousness and not just contact employees' market-oriented behaviours in order to maximize learning benefits. Perhaps whereas contact employees may be more inclined to adopt market-oriented behaviours (Lings and Greenley, 2009), other NSD participants cannot fully understand project requirements in terms of customer needs either due to their educational background or due to their relative lack of sales mindedness.

Another intriguing finding from the data analysis is *the positive link between the use of knowledge management strategies and the achievement of higher organizational learning during NSD activities*. In fact, the use of a personalization approach emerges as the most important antecedent of organizational learning during NSD projects. *The diffusion of NSD experiences to other functions and organizational levels can be more successfully achieved through interpersonal interactions and socialization rather than through NSD manuals and project reports*. Implementing a codification strategy within NSD, although required, appears to have a smaller influence on the growth of the organizational knowledge base. This thought-provoking finding indicates that the use of databases, manuals and reports should be complementarily employed. One possible explanation might be that info overload in the form of unprocessed documents or unread mail often surrounding formal communication channels render project communication quite complex. It can, therefore, be concluded that *disseminating and exploiting wisdom from innovation initiatives requires a higher managerial focus on the promotion of a personalization strategy*.

6.2.5 Enhancing Resource Allocation Effectiveness during NSD

In revealing the main determinants of resource allocation effectiveness during NSD, the role of interfunctional conditions proves to be more central during the resource configuration process. An important theoretical contribution of this study lies on the identification of interfunctional trust as a key enabler of achieving effective allocation of organizational resources during NSD projects. Employees' feelings of trust help them contribute towards a more effective resource configuration decision-making. This finding can be attributed to the fact that perceived trustworthiness can suppress perceptions of mistrust attached to decisions or info brought forward by the personnel belonging to other departments. Hence, *effective info exchange or management support may often not be adequate to maximize resource allocation effectiveness without the existence of high levels of trust among team members*.

Another compelling finding is the *highly detrimental effect of both interfunctional conflict and political activity on resource allocation effectiveness during NSD*. Augmented levels of conflict between functions can severely impair the effectiveness of the resource allocation process whereas the role of political activity remains negative, but less important. High levels of conflict may prevent different NSD actors from considering other departments' resource needs and render them more inclined to protect their own turf. Participants' perceptions of unresolved conflicts or interfunctional disagreements from past interactions may prove destructive during NSD. Although the impact of political behaviours is more intense for the learning outcomes, when it comes to resource allocation, interfunctional conflict's role is upgraded and dominates the resource allocation process. Thus, *top management should pay more attention to manage unresolved conflicts and interfunctional clashes rather than focus on reducing political activity, when allocation effectiveness it at stake*. As anticipated, integrating actors from different functions also remains a highly prioritized goal in order to achieve higher resource allocation effectiveness during NSD. It can be stated that service companies that face particularly turbulent internal environments should prioritize the formation of ways to ring-fence development projects and to protect them from disruptive interfunctional influences when allocation effectiveness is a highly ranked goal.

Applying an internal marketing orientation emerges as a strong driver of resource allocation effectiveness during NSD. Not surprisingly, *by nurturing an internal customer perspective, functional executives are discouraged from putting the interests of their department ahead of those of the organization*. This finding confirms   previous evidence that highlight the role of IMO for reducing interfunctional political activity. Effective info exchange helps other functions in better ranking their goals, while internal communication systems can encourage employees to provide top management critical feedback regarding project requirements. Results clearly establish IMO as a key managerial behaviour which optimizes NSD performance and consequently organizational effectiveness. For the very first time*, implementing an IMO is associated with better resource management.*

Task conflict appears to enhance resource allocation effectiveness as well. It can be stated that disagreements about NSD tasks prove beneficial for resource allocation effectiveness, a result that could be achieved through discussions and debates that improve decision-making quality. On the other hand, relationship conflicts reduce resource allocation effectiveness during NSD projects. What is really worth commenting on is the centrality of team climate for enhancing the effectiveness of the resource allocation process. It appears that *a positive internal team climate can make the resource configuration process more effective*. Despite that interfunctional conflicts and integration are more influential determinants of effective resource allocation than team-level conditions, team climate clearly facilitates the effective allocation of resources.

The most influential determinant of resource allocation effectiveness during NSD projects remains the implementation of a personalization strategy. Higher allocation effectiveness cannot be achieved without favouring the use of a personalization strategy. Informal constructive interactions and exchange of personal experiences between NSD participants can enrich co-workers' understanding of each functions' needs and contribute to a more rationalized allocation process. *This study is the first to reveal gains from adopting a personalization strategy in terms of optimized allocation of resources during service innovation*. This is a decisive outcome, as due to service intangibility, optimizing information exchange and use

remains one of the core prerequisites of service innovation success (Lievens and Moenaert, 2000; Storey and Hull, 2010). *Interpersonal interactions and informal participants' discussions prove more constructive for allocating organizational resources in a more rationalized way than using formal reports and manuals*. On the other hand, the adoption of a codification strategy is not associated with higher levels of resource allocation effectiveness during NSD projects. Put it simply, the use of highly formalized channels of info exchange such as databases and manuals should be less used within service innovation activities. This is an unforeseen result which indicates that NSD actors are not based on documents and databases to gain understanding of project requirements but instead, on group discussions and interactions with other team members. The fact that less structured approaches of knowledge exchange appear to be more effective for resource allocation than traditional communication channels remains an issue that should be taken into consideration when designing the structure as well as considering the daily management of NSD teams. Project innovativeness does not seem to affect the impact of any knowledge management on resource allocation effectiveness. This finding indicates that the resource allocation process might not be significantly different between radical and incremental innovation projects.

6.2.6 Enhancing Resource Allocation Efficiency during NSD projects

In determining the main antecedents of resource allocation efficiency during NSD projects, *IMO adoption proves to be the most influential determinant of resource allocation efficiency during service development projects*. The implementation of an IMO is expected to improve the completion of NSD projects in terms of time, schedule etc. In addition, *the quality of interfunctional relationships appears to strongly affect allocation efficiency*. Interfunctional trust remains in this case as the key enabler of achieving efficient allocation of organizational resources during NSD. Trust is the most important contributor to achieving allocation efficiency and therefore, its formation should be a priority for project managers. Given the magnitude of its effect, shaping interfunctional trust is the most important determinant of allocation efficiency during NSD projects.

On the other hand, the detrimental effect of interfunctional political manoeuvring is also evident within the resource configuration process. Findings acknowledge the negative effect of high political manoeuvring on the efficient allocation of resources, commensurate with each functional area's resource needs. The impact of political activity is higher on resource allocation efficiency, indicating that achieving efficiency remains more fragile under conditions of high political activity. The existence of high political activity will not only further aggravate the inappropriate allocation of organizational resources but also draw away critical resources from other development projects or organizational units. It is worth noting that *resource allocation efficiency remains significantly lower than effectiveness across the majority of NSD projects examined*, a finding that underlines the importance of investigating how efficiency can be enhanced during service innovation projects. Actually, under circumstances of high resource scarcity, efficiency might prove even more critical in terms of a fairer prioritization among different organizational projects.

Surprisingly, higher levels of interfunctional conflict do not affect resource optimization in terms of efficiency. It seems that high perceptions of political activity dominate the resource allocation process and interfunctional tensions prove by far less important. Whereas in other NSD outcomes the quality of interfunctional relationships appears to be less influential than knowledge management strategies, when allocation efficiency is at stake, more attention should be paid to improve climate between different functions. An important implication that stems from these findings is that *top management support may not be adequate to maximize allocation efficiency without reducing interfunctional politicking among organizational functions.*

Team-level conditions also prove powerful when allocation efficiency remains a primary goal. Relationship conflicts between NSD participants reduce allocation efficiency, as they draw cognitive attention from task performance and direct behaviour on interpersonal disagreements, limiting thus the use of cognitive resources for task performance. In a different vein, task conflict enhances efficiency during NSD resource allocation. This is an unexpected finding as higher levels of *task-related disagreements prove constructive for the efficiency of the resource*

configuration process. Task conflicts are related to more cognitive disagreements and therefore may increase team members' tendency to scrutinize task issues and to engage in deep processing of task-relevant information. As a result, exchanging some useful insights leads NSD participants to know better actual project specifications and requirements, reducing the amount of resources required. It appears that task conflicts trigger greater information exchange and scrutiny of the task at hand, encouraging more cooperative strategic choices when it comes to resource configuration decision-making. Equally important remains the fact that NSD team climate contributes to allocation efficiency to a great extent through reassuring that all info is openly communicated and fairly evaluated and through creating a feeling of safety among NSD participants, encouraging them to adopt more cooperative approaches during allocation decisions.

In the case of resource allocation efficiency the role of knowledge management strategies appears of low importance. Contrary to our initial expectations, neither codification nor personalization strategy are associated with allocation efficiency. Hence, *interfunctional relationships and team-level conditions primarily drive allocation efficiency during NSD rather than the use of knowledge management strategies*. Interfunctional conditions play the most dominant role in resource allocation efficiency and as a result, the use of either a personalization or a codification strategy have a low influence on the efficiency of the resource allocation process. Project innovativeness does not seem to affect the impact of any knowledge management on resource allocation efficiency. This finding indicates that the resource allocation process might not be substantially different between radical and incremental innovation projects.

Practically speaking, when political struggling for resources and high conflicting priorities exist among organizational functions, NSD participants are more likely to remain aligned with departmental goals or personal interests instead of adopting a more rational approach based on hard evidence or info brought forward from other participants. Overall, when efficiency becomes the main objective more attention should be devoted to interfunctional relationships and team-level conditions rather than to the employment of knowledge management strategies.

6.2.7 Methodological contribution of the study

Academics have a long history of supporting the notion that organizational phenomena unfold within complex and dynamic systems, yet the extant research often overlooks the multilevel dynamics and behavioural nature of these social systems embedded at different organizational activities such as innovation (Hitt, Beamish, Jackson, and Mathieu, 2007). Current studies rarely consider the behavioural dynamics of the strategy implementation processes, although such differences are likely to account for much of the observed variation in the effectiveness of any strategy implementation. This study contributes from a theoretical perspective by examining the role of multiple dynamic determinants of service innovation performance (Froehle and Roth, 2007).

In exploring how top-down influences between actors from different organizational levels can actually determine different various NSD outcomes, service firms can enhance their gains from innovation activity and optimize their innovation project performance. The use of a hierarchical research design uncovers how project manager's actions and behavioural patterns can contribute to the better management of NSD projects. The findings of this study provide practitioners with a more empirically informed understanding of how individual perceptions and behavioural consequences are shaped by supervisor's behaviour, as limited evidence exists about how higher-level actions are interpreted across the organizational pyramid (Lam et al., 2010). By bridging different levels of analysis managers can more effectively capture organizational variety and accurately locate dynamic capabilities in their organization, resourcefully engaging actors from different organizational units. In conclusion, with the adoption of a multilevel research design it is intended to promote the development of a more expansive paradigm for understanding organizational systems which is based on a multilevel perspective of NSD project management.

Another methodological contribution of this dissertation to innovation literature lies on the development and empirical validation of two new scales, namely resource allocation efficiency and effectiveness. Researchers can employ both constructs in order to successfully capture the extent to which innovation projects are conducted in a resourceful way.

6.3 Managerial Implications

Having discussed some important theoretical implications that stem from this study, some practical recommendations are illustrated, which can contribute significantly to the more effective and resourceful management of NSD projects. Results have some pragmatic implications for managers and senior executives whose mission is to organize and create the appropriate conditions for innovation in service organizations.

First of all, some sound connotations relate to the adoption of the firm's strategic orientation. More managerial emphasis should be given to the adoption and cultivation of an internal marketing orientation particularly within innovation-oriented service organizations. To understand the external market, service organizations must develop a better understanding of the wants and needs of employee first. Project manager's embracement of IMO remains a high priority, as his/her behaviour accounts significantly for several aspects of NSD success. As NSD project managers remain the main linking pins between development teams and top management, they can facilitate the distribution of NSD wisdom throughout the organisation and the implementation of the most appropriate response to employees' wants and needs. Moreover, service companies should aim at constantly improving project manager's role model behaviour, given their influence on several behavioural outcomes of NSD participants.

This thesis through the emphasis on several gains stemming from IMO adoption is expected to *reduce senior executives' uncertainty to commit organizational resources for supporting internal marketing initiatives*. Contrary to previous studies mainly revealing some behavioural consequences from IMO, for the very first time, this philosophy is associated with some tangible organizational benefits. For example, linking IMO adoption with higher resource optimization constitutes another tangible benefit for service managers so as to opt for the implementation of an internal marketing initiative. In this line, internal marketing philosophy can be used by service firms to manage and control the implementation of service innovation efforts, based on a robust multilevel management approach that

has been empirically proved to enhance innovation project performance. These suggestions are based on clear evidence indicating that its implementation cannot only optimize service development project performance but can also maximize resource configuration during service development activities. However, an important issue that should be considered is the fact that project manager's internalization of IMO remains a major determinant of project performance confirming his/her pivotal role for the success of any innovation activity. As a result, *managers should ensure that project champions and boundary-spanners embrace the internal marketing values and philosophy before supervising new service development projects*. Practitioners are also inclined to employ internal marketing initiatives when effective and efficient resource configuration remains a primary objective.

Senior executives can also utilize IMO to establish more harmonic interfunctional relationships. Reducing politicking and conflicts between actors from different organizational functions remains an important goal for most companies (Ferris et al., 2002). Applying an IMO proves beneficial for interfunctional interactions during innovation efforts, as the adoption of political behaviours is mitigated while the intensity of interfunctional clashes is reduced. In addition, trust is highly likely to develop and interdepartmental integration can more easily be achieved. This overall improvement of interfunctional climate can further enhance other aspects of organizational performance, producing a positive chain effect within the organization. Nevertheless, this is a statement that cannot be confirmed based on the current findings.

Project manager's internalization of internal marketing philosophy can also deliver some team-level benefits. First, the formation of a satisfactory team climate and the reduction of conflicts caused by personal animosities, will generate a positive atmosphere among NSD participants which is a key prerequisite so that different NSD actors can exchange experiences, insights and trust info brought by other participants. More importantly, *project manager's IMO through stimulating task conflict levels of team participants can eventually enhance project learning during NSD*. Project managers that want to promote a learning orientation within their organization should apply an IMO coupled with incentives for knowledge sharing in order to reinforce individual learning and improve organizational capabilities.

Furthermore, nurturing an IMO could reduce the amount of interpersonal conflicts between NSD participants which prove to be an important inhibitor of all NSD outcomes examined.

Project managers through *the adoption of an internal marketing philosophy can diminish participants' perceptions of role ambiguity which is more amenable to managerial intervention, encouraging thus, their focus on project objectives*. As a result, fewer cognitive resources are wasted from NSD participants seeking role clarification and it is less likely that political behaviours be adopted. It is clearly indicated that NSD project manager's adoption of internal market orientation enhances participants' role clarity, as project requirements and priorities are more explicitly communicated. Furthermore*, nurturing an internal marketing philosophy can also increase individual levels of customer-focus, a skill necessary for identifying hidden customer needs and integrating them into new service offerings*. This finding is quite important for employees with no marketing/management background in order to take into consideration emerging market trends and customer insights when participate in the development of new service offerings.

Despite these beneficial effects from IMO, its major contribution to new service development is that it lays the ground for the effective implementation of two knowledge management strategies, namely personalization and codification. As the use of a personalization strategy during NSD is highly recommended, service managers can rely upon IMO to facilitate the exchange of tacit knowledge among NSD participants. This is of high importance as interfunctional political manoeuvring and interpersonal clashes may impede the dissemination of personal insights and wisdom within NSD teams. *As service firms can spend considerable time and effort bringing people together, IMO can motivate NSD participants to share both tacit and explicit knowledge, promoting interfunctional understanding and stimulating innovative ways of developing new service concepts*. Considering some inherent disadvantages of a personalization approach (i.e. loss of knowledge due to employee turnover), internal marketing practices can complementarily ensure the success of this strategy by increasing employee retention.

This study has also unravelled the importance of interfunctional relationships and interactions in influencing service innovation performance. Firms, faced with

highly turbulent internal environments, may attempt to develop some ways to ring-fence development projects and protect them from disruptive contextual influences. *However, project managers should not always strive hard for improving interfunctional relationships. Findings shed light on the importance of managing interfunctional relationships during NSD projects and particularly when resource allocation efficiency and effectiveness remain key objectives of the development process.*

On the contrary, *improving interfunctional environment seems to be less important for project performance.* Political agendas also deter the diffusion of knowledge produced within NSD across organizational functions, preventing the dissemination of customer intelligence and valuable market info. As interfunctional political activity generally harms several aspects of service innovation, top management could establish a hierarchical incentive program that bases rewards not on the accomplishments of an individual functional area but rather on the collective performance across several areas. In addition, *to mitigate the negative effects of political activity on NSD projects, top management should attempt to discourage such activity in the first place by effectively communicating that executives' initiatives that hinder other functional units, or the firm in general, will not receive attention, approval, or resources from organizational decision makers.*

The quality of interfunctional relationships emerges as the most critical driver of resource optimization. Allocating resources efficiently highly depends on creating interfunctional trust and reducing political activity whereas the use of knowledge management strategies proves inadequate. *If service firms seek for high resource efficiency during their innovation activities, improving interfunctional relationships is an imperative.* However, *service companies faced with turbulent internal environments may reduce negative contextual influences through developing trust.* The formation of trust through the delivery of higher job-related value to service employees can enhance several aspects of NSD. In particular, nurturing trust is quite crucial for organizational learning. Unless trust exists, NSD participants are less inclined to share new insights gained during the project with other colleagues or other cross-functional teams, reducing the knowledge exchange benefits for future development projects. Likewise, by integrating extensively actors from different

organizational levels and departments in the NSD process, managers are able to enhance learning and optimize the allocation of resources within service innovation projects.

A third issue that requires high consideration from practitioners is the importance of team dynamics for NSD project performance. *Fostering a supportive team climate proves very important for project learning during NSD as well as for effective efficient allocation of resources*. The behaviour of the project manager can clearly contribute towards the formation of a more positive team climate. In line with the current practice of several leading and innovative service companies (e.g. Google), firms are recommended to create more comfortable work environments in which several opportunities for debate and discussion of ideas for customer problems and service improvement among employees might emerge. The formation of a positive team climate adds significantly to the quality of the resource allocation process, as mutual understanding of other function's needs prevail over the promotion of self-interests. High levels of interpersonal tensions and disagreements inhibit several aspects of service innovation performance. *What is really remarkable is that higher turbulence in NSD teams coincides with higher levels of interfunctional political activity. It is not unlikely that politics and conflicting priorities are interrelated to more turbulent team conditions, affecting participants' behavioural patterns during NSD as well*.

Project managers should also acknowledge the importance of task conflict for the new service development process. *It appears that high levels of task conflict improve effective and efficient allocation of resources. Therefore, stimulating task disagreements is expected to prove beneficial for the resource configuration process and particularly for allocation efficiency where traditional knowledge management strategies do not seem to be effective*. In associating task conflicts with some positive NSD outcomes, project managers are encouraged to stimulate task disagreements within NSD teams in order to promote resource optimization. Furthermore, *top management should keep some task-related tension among participants when resource configuration decision-making takes place, making sure that they understand that the strategic importance of the project outcomes*. Practically speaking, high levels of task conflict lead to more desirable outcomes if NSD

participants have conflicting viewpoints, ideas and opinions. The stimulation of task conflict appears to be particularly beneficial for optimizing the resource allocation process within NSD. Moreover, the importance of task conflict is also evident for project learning. Task-related disagreements seem to promote info exchange and use resulting in higher project learning. Project managers should create some form of task conflict so that participants set in motion their cognitive abilities and better understand project objectives. Therefore, *project managers should establish a forum for discussing and debating divergent and opposing views and leverage specific competencies from different functional areas.*

Another managerial insight that stems from this study relates to the importance of nurturing a market-orientation for NSD participants. Interfunctional teams include participants with different educational backgrounds and communication styles, a fact that makes difficult to render explicit project goals and specifications. The very intangible nature of services means that time and effort are required to communicate them so that project participants can develop a shared understanding of the NSD goals and tasks as well as absorb intelligence about customer wants and needs. *Enhancing participants' customer-consciousness will increase their amount of project learning as well as their contribution to organizational knowledge.* Moreover*, given that role ambiguity is more amenable to managerial intervention, project managers should also realize their centrality for diminishing role uncertainty within NSD teams, as development projects embedded in complex contexts such as service innovation require high levels of goal clarification so as to avoid wasting time and effort during NSD meetings.*

The fourth category of managerial insights relates to the adoption of appropriate knowledge management strategies for optimizing NSD project performance. As service organizations invest considerable resources in knowledge management strategies, there is a need to establish a framework for managing knowledge assets, particularly for those associated with diffusing knowledge from NSD projects. *In order to improve NSD performance, service firms should complementarily employ a personalization strategy and a codification strategy.*

The use of a personalization strategy remains imperative so as to improve all aspects of service innovation investigated and particularly organizational learning,

project learning and resource allocation effectiveness. *If the primary objective is to increase the levels of organizational knowledge and to expand project participants' knowledge base, then adopting a personalization strategy is a one-way direction.* Despite some issues raised from the use of a personalization strategy (i.e. relying solely on informal communication channels can be problematic because it is a main source of communication errors), *a personalization knowledge management strategy is highly recommended so that service companies can successfully distribute knowledge produced during NSD projects across the organization.* Moreover, *project learning can be more resourcefully achieved through interpersonal interactions and informal discussions, as highly formalized ways of communication such as manuals and databases do not seem to be quite effective in this case.* In addition, when resource allocation effective is remains a key objective, a personalization strategy is more effective than the use of a codification strategy. Last but not least, *project managers aiming at the development of highly innovative service offerings, should also take into consideration that the adoption of a codification knowledge management is by far less beneficial for radical service innovations than for incremental ones.* This finding could be partially explained by the fact that the importance of exchanging tacit knowledge is higher in the case of radical innovations and therefore personal interactions and informal communication channels are more vital for success.

The importance of adopting a codification approach remains relatively low, when the increase of the overall organizational knowledge is at stake. Therefore, when senior executives want to ensure the dissemination of new knowledge and insights from development projects across the firm, the adoption of a codification strategy is less appropriate. On the contrary, its role is quite pivotal for high project performance. Yet, each knowledge management strategy is found to have distinct performance outcomes, and so each respective firm needs to consider what type of outcome is of most interest. In conclusion, *the importance of personal interactions and less formalized communication channels for service innovation projects appears higher than traditional document-based approaches.* What is also worth noting is *that none of these knowledge management strategies seem to be effective under conditions of high interfunctional turbulence and intense team dynamics.* It seems

that *when a significant amount of cognitive resources is devoted to promoting personal agendas or to other non-working aspects of performance then participants do not usually rely on any knowledge management strategy but instead adopt more individualistic approaches, based on maximizing self-interests which reduce resource allocation efficiency.*

6.4 Suggestions for future research

This study makes a contribution to the literature by assessing how different intra-organizational contingencies affect different NSD outcomes and by providing evidence of how IMO can enhance service firm's innovation performance. Although this study has taken a further step towards investigating the relationship between knowledge management strategies, interfunctional relationships, team-level conditions, individual antecedents and several NSD outcomes such as resource allocation effectiveness, efficiency and learning within a service innovation setting, further research is required so as to enable managers to have a complete comprehension of how to better organize and manage new service development projects.

First, what remains highly important for service firms is to identify and promote the adoption of appropriate managerial behaviours that ensure high levels of resource optimization and execution quality during their new service development efforts. Therefore, NSD studies that capture the temporal aspects of service innovation projects should also be conducted, since the ways that effective daily management can be achieved remains an issue rarely addressed by researchers. Although the role of internal market orientation for NSD is displayed, research also needs to capture a longitudinal perspective (i.e. before and after the adoption of an internal marketing orientation) in order to measure the contribution of IMO to the management of service innovation projects over time. Additional evidence is required about whether manager's individual characteristics, personality traits and behavioural orientations during NSD interactions shape other participants' performance and overall team performance. For example, the effectiveness of the

project manager's selection of a conflict management style (i.e. integrating or accommodating) during NSD interactions remains a high research priority, given that team performance and decision-making could be negatively affected when less cooperative behaviours are adopted. The role of individual managerial characteristics (i.e. supervisory ability, achievement motivation and self-actualization) should be further considered when it comes to selecting the most appropriate executive to lead a NSD project.

Another issue that requires more thorough attention relates to service organizations' need for effective daily management tools and mechanisms that can maximize gains from service innovation in terms of higher organizational knowledge and experience, resource configuration effectiveness and stage execution quality. Apart from the role of knowledge management strategies, the relative effectiveness of other mechanisms should be considered separately for various NSD stages e.g. front-end vs back-end stages. A research emphasis on the organizational prerequisites of successful employee integration and collaboration could guide companies on establishing NSD mechanisms that lead to the creation of winning new service offerings. This discussion becomes imperative when it comes to the management of different innovation types that require different mix of resources. For example, identifying the impact of various intra-organizational determinants for radical and incremental innovation performance is an area that needs further attention.

Prioritizing among various NSD outcomes e.g. enhancing project learning vs achieving allocation efficiency is also an issue that requires further investigation. As results indicated, the relative importance of various internal conditions varies on the basis of different NSD objective. For example, knowledge management strategies prove more important for learning whereas interfunctional relationships have a greater impact on the resource allocation process. Hence, it should be further investigated whether achieving multiple innovation goals is an appropriate strategy for service organizations.

This empirical study was conducted in one cultural setting (i.e. Greece). However, results from Peterson et al. (1995) reveal that managers from low-individualism countries report lower levels of individual performance than managers

from high-individualism countries. It is likely, for example, that the influence of project managers and senior executives engaged to NSD efforts is altered across different cultural environments. Therefore, to ensure generalizability of these findings beyond the domestic business environment, a replication of the results through a cross-cultural comparison is needed in countries with different cultural orientations. Looking beyond service innovation, research could examine whether these mechanisms apply to other strategic postures such a NPD or a collaborating setting.

This study lies within the pre-launch stages of new service development projects and explores the role of interfunctional, intrateam and individual antecedents of NSD outcomes. Scholars should further investigate the impact of the aforementioned intra-organizational contingencies during the commercialization stage of the NSD process. For example, the role of knowledge management strategies during the full-launch stages of service innovation may prove quite crucial, as the selection of the most appropriate launch strategies is based upon the evaluation of existing customer and market intelligence and therefore, tacit and explicit knowledge exchange is of primary importance for launch success. In this respect, scholars should test how intra-organizational contingencies associated with a more or less successful development stage determine the execution quality of the following stages and consequently the overall new service success.

Regarding some methodological suggestions for further research, after almost three decades of research in NSD, it is imperative to move toward more rigorous research methodologies, which would allow the investigation of complex relationships among variables (Papastathopoulou and Hultink, 2012). This statement is enhanced by the fact that extant research has long ignored the multi-layered nature of the innovation process embedded in firms (Froehle and Roth, 2007), with current conceptualizations rarely illustrating how cross-level interactions affect innovation efforts. This lack of bridging different levels of analysis across the organization requires further investigation so as to develop a comprehensive understanding of how interactions between various organizational echelons determine project performance.

6.5 Limitations

As with most research, the design of this study is subject to inherent limitations that restrict its generalizability but may open up opportunities for future research. First of all, this study draws evidence from specific types of service firms excluding the hotel sector, medical services and education providers due to some major differences in the way that new services are developed in these settings. Although the sample for this study is drawn from a wide range of service sectors, the applicability of these findings to other type of industries should be considered with caution. Generalizations to other service firms (e.g., small or medium size ones) should also be made with caution. The main focus was on service firms that employ cross-functional structures during NSD projects and as a result, innovation projects without any formalized structures and top management involvement were not considered.

Second, this study takes place in a single country as it encompasses firms that operate in the Greek market and over a single time period. Because of particular sociocultural characteristics, interpersonal tensions and disagreements between NSD participants might be significantly different across different types of cultures. Therefore, replicating this study in a cross-cultural context would enhance the generalizability of the findings. The possible time lag effect between the implementation of an internal marketing initiative and the achievement of more successful service innovation projects cannot be investigated. Building a database with employees' perceptions of interfunctional contingencies and contextual conditions before and after the launch of an internal marketing program could display more clearly the benefits reaped from service organizations due to IMO adoption. The contribution of collaborative partners was not taken into consideration, as the selected innovation projects included no projects with collaborative schemes. Although several service firms integrate external parties with internal stakeholders during NSD initiatives, their moderation role was not assessed given that the main goal of this study lies on the impact of intra-organizational contingencies on NSD performance. As this study's sample included medium and large service companies

with total annual revenues over 500.000 euros, smaller service firms were excluded from the sampling frame.

Another inherent limitation of this study is associated with the fact that the top level executives contacted actually indicated each project manager and team's participants to be examined, so the projects may not be representative of the firm's overall innovation performance and innovative capabilities. Although it was kindly requested that all NSD project participants participate in the study, in several cases reaching some participants proved unsuccessful due to practical difficulties (i.e. switch to another employer). More importantly, senior executives that indicated this project did not explain the researcher the criteria based on which they suggested the specific project. Another limitation that needs to be reported is the potential limited knowledge of project managers about internal marketing initiatives and organizational knowledge management. An issue that also needs to be reported is that functional representation was determined on the basis of the NSD project that was indicated by each firm and as a result, development projects with different functional actors might provide different outcomes.

Furthermore, data analysis is based on retrospective data that can be subject to hindsight bias. Hindsight bias can lead individuals to alter their recollections of the past so that they appear more congruent with the known outcomes or, alternately, to modify present judgments so they align better with what is remembered (Fischhoff, 1975). Because of a time lag between the projects' completion and the data collection stage, there might have been a recall issue in the survey questions. However, as suggested by Miller, Cardinal, and Click (1997) the use of retrospective data is acceptable if reported measures are reliable and valid. The measures used in our research demonstrated the criteria of reliability and validity. Future studies could mitigate this concern by measuring stress levels in current, instead of past, new service development projects.

Another issue that restricts the generalizability of the findings lies in the fact that the survey is project-based and mainly relies upon the declarations of individual participants on the actual conditions during the specific innovation project. Although the reliability and validity of the survey have been established following extensive pilot studies, some questions may remain slightly subjective and rely on the

knowledge of the respondent as well as on its direct or indirect involvement in the innovation activities. As the perception of the respondents may differ according to their level of involvement in the innovation process, knowing the position and responsibilities of the respondent may provide interesting information for further analysis.

From a methodological perspective, some limitations are also important to address. First of all, the research design selected investigates the impact of NSD project managers on team participants, ignoring other contextual factors such as departmental influences and other senior executives' role and contribution to the specific project. Equally important is the fact that the focal point of this study is the development or pre-launch stages of NSD whereas the relative importance of intra-organizational contingencies across different pre-launch stages is not explored. For example, some differences may exist within different stages of the fuzzy front-end stages i.e. between the idea generation and screening stage and the concept development stage.

6.6 Conclusion

The interdependence between knowledge management strategies, interfunctional relationships, team-level conditions and various NSD outcomes is too complex to be explained in only macro terms. Against previous background which often neglects social dynamics arising at higher levels of analysis and rarely provides insights about the management of daily innovation activities this study integrates aspects of both the organizational and the project environment. This approach developed is theoretically and conceptually consistent with an emerging stream of research which denotes the correlations between internal team dynamics and NSD success. This study unravels the importance of several contextual factors, intra-organizational contingencies and knowledge management strategies in influencing the performance of new service development projects.

The organisational context of innovation projects has shown to impact on several aspects of NSD project performance. Political agendas and interfunctional tensions impair learning during NSD and effective allocation of resources whereas

the formation of trust and high interfunctional cooperation can enhance team performance and allocation effectiveness. Project managers faced with highly turbulent internal environments should deal with interpersonal frictions and pay more attention to the creation of a supportive climate so as to ring-fence development project and to protect them from disruptive contextual influences. In fact, task conflict should be stimulated to promote project learning, resource allocation effectiveness and efficiency during NSD projects. Enhancing the adoption of market-oriented behaviours from different NSD actors cannot promote learning but improve the resource allocation process during NSD. This study also sheds light on the role of two knowledge management strategies, namely personalization and codification, which can contribute successfully to the development of new services. The adoption of a personalization strategy emerges as a key enabler of higher NSD project performance and learning whereas the benefits stemming from employing a codification strategy are more limited.

Overall, this study adopts a dynamic perspective of NSD project management and investigates potential drivers of NSD project performance from multiple organizational echelons, offering this way some significant strategic insights for service organizations. This study uncovers the importance of several dynamic parameters that cannot be easily specified due to the very intangible nature of service development and delivers a more clear understanding of how project managers can more effectively manage and organize NSD projects. This study also contributes through the use of a multilevel research design. This nesting arrangement adopted by this study has important implications for organizational theory and research, as bridging different levels of analysis across the organization promotes executives' understanding of how NSD actually works. Findings reveal how project manager's adoption of an IMO can sustain strategic innovation, facilitating the creation of new services.

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Appendix

Individual Item - Descriptives

Table 74 – Internal Market Orientation

Item	Mean	SD	Skewness	Kurtosis
Identifications of Exchange of Value				
This company emphasizes on understanding employee needs	4.01	1.44	-.179	-.590
At least once a year employees fill in questionnaires regarding their needs and wants from the company	3.27	1.43	-.028	-.989
I meet regularly with my subordinates so that we have the chance to say what we expect from the company	3.68	1.42	.047	-.548
Assessing employees' job satisfaction is an important task for me	3.73	1.54	.206	.586
Aware of Market Labour Conditions				
This company is informed about legal development in the labor market	3.74	1.36	.027	-.316
This company is informed about new jobs created in other industries that could attract employees from this firm	3.82	1.39	.036	-.613
This company is systematically analyzing the working conditions of employees in competition	3.65	1.40	.141	-.720
Internal Market Segmentation				
In this company employees are identified in groups based on our individual characteristics and needs	4.16	1.46	.054	-.726

All employees are treated exactly the same way. Individual needs are ignored	3.75	1.42	.148	-.593
Our individual needs are systematically assessed in this company	3.76	1.43	.302	-.470

Internal Segment Targeting

Every important decision regarding resource policies is always adapted according to individual needs	3.69	1.38	.047	-.599
Specific human resource policies are always considered for specific groups of employees with a common set of needs	3.91	1.45	.014	-.572
No action is ever taken unless its impact on specific groups of employees with common needs is evaluated	3.80	1.35	-.392	-.128

Communication between managers and employees

Before any policy change I inform my subordinates face to face in advance	4.43	1.39	-0.55	-.372
I am sincerely listening about the problems employees have doing their job	4.36	1.47	-.183	-.675
I am always concerned about personal problems I have that may affect their performance	4.34	1.33	-.472	-.265
I always spend time informing my subordinates about tasks, objectives and reach an agreement with them	4.21	1.53	-.084	-.717

Communication among managers

The supervisors in this company meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say	3.63	1.41	.115	-.625
This company encourages us to meet and discuss issues concerning our subordinates	4.20	1.46	.003	-.741

In many occasions the solution to a problem had come from a supervisor from a different department	4.09	1.36	-.136	-.588

Job Description

My job description allows me to satisfy my personal needs and goals through my work	4.45	1.41	-.122	-.325
Nothing has ever been assigned to my subordinates unless we had agreed that we could really achieve	4.13	1.53	-.218	-.828
The tasks I assign help employees to advance their career with this company	4.46	1.44	-.371	-.353
I always justify my job description and the tasks I assign to more senior levels of management	4.06	1.58	-.125	-.702

Remuneration

When an employee does something extraordinary, (s)he will receive some financial bonus/reward	3.99	1.71	-.250	-.856
Individual income and the annual increases are very closely tied to qualifications and performance	4.03	1.75	-.165	-1.044
Everyone gets an annual bonus regardless of their performance	3.28	1.66	.474	-.652
My income and the annual increases are much related to those of people with similar qualifications working in this or any other industry	3.98	1.54	-.276	-.660

Management Concern

The Senior Management of this company is really indifferent for employee problems	3.88	1.35	-.252	-.489
Nothing is too expensive for our Senior	3.99	1.44	-.052	-.710

Management if this would satisfy specific needs of specific groups of employees				
The Senior Management is really considering about our individual needs and makes policies that reflect it	3.42	1.40	.133	-.794
The Senior Management is resolved to solving our problems and giving us all required support necessary for our job	3.82	1.36	-.472	-.952
Training				
In this company, training is closely related to the individual needs of each employee	3.92	1.40	-.049	-.697
A newly hired employee will have to find his own answers to the requirements of the job	3.65	1.51	0.16	-.911
Before the implementation of a major change in service rules, we always get significant training regarding its impact on our daily activities and job description	3.95	1.41	-.023	-.644
If one is moved from one department to another, the new supervisor will personally train him/her for a pre-specified period of time	3.76	1.45	.284	-.806

Table 75 – Market Orientation

Item	Mean	SD	Skewness	kurtosis
Product Orientation				
I am always looking for new products and services.	4.64	1.31	-.407	-.071
I always reconsider and develop the product and service offering of our company.	4.69	1.19	-.039	-.226

I consider innovative new products and services as a key component of success.	4.58	1.40	-.123	-.548
Competitor Orientation				
I pay close attention to competitors' activities.	4.38	1.39	-.105	-.661
I keep a close eye on our competitors' customer retention tactics.	4.37	1.37	-.042	-.295
I monitor exactly what special actions our competitors are doing.	4.39	1.38	-.457	-.143
Customer Orientation				
I have the customer's best interests in mind.	4.34	1.42	-.523	-.158
I think customer preferences are a key factor to the success of my company	4.60	1.24	.087	-.660
I frequently survey customers to find out the products and services they would like to see in the future	4.75	1.47	-.409	-.534
The goals I set for are mainly aiming at customer satisfaction	4.92	1.27	-.355	-.264
I try to figure out what a customer's needs are.	4.23	1.38	-.108	-.533

Table 76 – Project Learning

Item	Mean	SD	Skewness	kurtosis
Our experience and learning in this project proved to be essential for the successful creation and completion of subsequent projects.	4.48	1.40	-.494	-.541
The knowledge acquired during the innovation process of this project served as an essential input for other new	4.55	1.37	-.286	-.260

service developments				
The development of this new financial service created a general development expertise that eased the development and introduction of subsequent new services	4.58	1.32	-.406	.040
The expertise of developing and launching this new financial service lead to an enhanced know-how for future innovation projects.	4.50	1.36	-.152	-.813
Through the development and launch of this new service, project members learned a lot on new financial service innovation.	4.48	1.35	-.267	-.044

Table 77 – Codification Strategy

Item	Mean	SD	Skewness	kurtosis
Formal procedures exist for documenting the ''lessons learned'' from completed NSD projects	4.26	1.19	-.119	-.197
NSD knowledge is generally ''stored'' as new processes and routines immediately after project completion	4.38	1.23	.158	-.564
Manuals and handbooks are used extensively to make NSD knowledge available for subsequent use on other projects	4.50	1.11	.340	-.570
NSD knowledge generally remains ''in the heads'' of those individuals executing the activities of the NSD project	4.19	1.17	.340	-.122
During NSD written reports are used extensively to NSD knowledge	4.47	1.14	-.251	-.133

Table 78 – Personalization Strategy

Item	Mean	SD	Skewness	kurtosis
During NSD organizational problems are solved by interdepartmental teams	4.52	.138	-.092	-1.261
During NSD there are high levels of communication between different parts of the organization	4.63	1.42	-0.84	-1.344
During NSD cooperation between departments is usually very high	4.30	1.42	.047	-1.340
Temporary project teams are used to manage most NSD processes	4.76	1.34	-.291	-1.265

Table 79 – Interfunctional Trust

Item	Mean	SD	Skewness	kurtosis
I trusted in the working relationship the other participants in the project	4.35	1.14	-.238	.490
Other participants were sincere and honest with me during the project	4.32	1.35	-.253	-.583
Their actions always met my expectations	4.10	1.16	-.206	-.056
I believed the information they provided	4.18	1.21	-.450	-.093
Other participants fulfilled the promises made	4.26	1.17	-.221	.018
Other participants were sincerely concerned about our interests	4.11	1.25	-.229	-.443
We trusted one another's' capacity to carry out its work appropriately.	4.21	1.32	-.233	-.281

Table 80 – Interfunctional Political Activity

Item	Mean	SD	Skewness	kurtosis
I spend time at work politicking	3.68	1.35	.293	-.552
I use my interpersonal skills to influence people at work	3.62	1.74	.474	-.868
I let others at work know of my accomplishments	3.57	1.77	.260	-1.000
I work behind the scenes to see that my work group is taken care of	4.46	1.57	-.156	-.808
Active politicking is an important part of my job	3.39	1.52	.601	-.276
I use politicking at work as a way to ensure that things get done.	3.98	1.49	-.064	-.644

Table 81 – Interfunctional conflict

Item	Mean	SD	Skewness	kurtosis
Employees feel that the goals of different departments are in harmony with each other	4.22	1.19	.772	-.310
Protecting one's department turf is considered to be a way of life (r)	4.29	1.12	.515	-.351
There is little or no interdepartmental conflict (r)	4.18	1.06	.896	.360
Different departments cooperate effectively to achieve mutual goals	3.45	1.58	.115	-1.125
There is little or no tension among employees from different departments (r)	3.32	1.35	.087	-.694

Table 82 – Role Ambiguity

Item	Mean	SD	Skewness	kurtosis
I know exactly what is expected of me.	4.44	1.42	-.576	-.229
I know that I have divided my time properly	4.74	1.30	-.259	-.556
I have clear, planned goals, and objectives for my job	4.51	1.33	-.374	.062
Explanation is clear of what has to be done	4.40	1.30	-.308	-.631
I feel certain about how much authority I have	4.53	1.30	-.362	-.648
I know what my responsibilities are	4.51	1.36	-.375	-.294

Table 83 – NSD Team Climate

Item	Mean	SD	Skewness	kurtosis
In this project, participants were supported for developing new ideas, regardless of the eventual success/failure of these ideas	4.37	1.10	-.211	-.287
In this project, there was space to experiment with new ideas	4.40	1.30	-.208	-.691
In this project, creation and sharing of new knowledge was supported	4.29	1.23	-.301	-.220
In this project, failures and setbacks were tolerated by management	4.05	1.51	-.162	-.855

Table 84 – Organizational Learning

Item	Mean	SD	Skewness	kurtosis
The organization had acquired much new and relevant knowledge	4.43	1.35	-0.95	-.733

Organizational members had acquired critical capacities and skills	4.50	1.36	-.152	-.813
Organizational improvements had been influenced by the entry of new knowledge	4.56	1.17	.107	-.415
My organizations is a learning organization	4.37	1.18	-.021	-.551

Table 85 – NSD project performance

Item	Mean	SD	Skewness	kurtosis
Adherence to cost for development	4.26	1.03	-.436	-.123
Meeting assigned timeschedule	4.20	1.22	-0.30	-.500
Original goals achieved	4.43	1.35	-0.95	-.733
Met calculated profits	4.35	1.18	-.021	-.551
Met projected market share	4.25	1.08	-.122	-.014
Met sales goals	4.27	1.19	-.091	-.638
Overall development project performance	4.19	1.05	-.275	.228

Table 86 – Task conflict

Item	Mean	SD	Skewness	kurtosis
There is much conflict of ideas is my work group	3.69	1.60	.247	-.874
We often have disagreements within my work group about the task of the project you are working on	3.52	1.63	.343	-.933
Often people in my work group have conflicting opinions about the project they are working on	3.57	1.80	.280	-1.124

Table 87 – Relationship conflict

Item	Mean	SD	Skewness	kurtosis
There is much relationship tension is there in my work group	3.75	1.21	.029	-.682
People often get angry while working in my group	3.93	1.28	.037	-.657
There are emotional conflicts in my work group	4.10	1.13	-.465	-.071

Table 88 – Interfunctional integration

Item	Mean	SD	Skewness	kurtosis
In this organization different departments cooperate fully in generating and screening new ideas for new products	4.48	1.32	-.251	-.508
In this organization different departments fully cooperate in establishing goals and priorities for our strategies	4.37	.144	-.205	-.939
In this organization different departments are adequately represented on project teams and other strategic activities	3.88	1.46	.258	-.957

Table 89 – Resource Allocation Effectiveness

Item	Mean	SD	Skewness	kurtosis
Our firm's top management allocated all the **monetary** resources required to complete the specific new service development project	4.29	1.27	-.059	-.300
Our firm's top management allocated all the **personnel** required to complete the specific new service development project	4.22	1.38	-0.41	-.811

Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project	4.35	1.26	-.002	-.247
Our firm's top management provided all the **information** required to complete the specific new service development project	4.30	1.34	-.219	-.765
Our firm's top management allocated all the IT **infrastucture** required to complete the specific new service development project	4.35	1.29	-.262	-.317

Table 90 – Resource Allocation Efficiency

Item	Mean	SD	Skewness	kurtosis
Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome	3.48	1.40	.047	-.885
Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome	3.05	1.29	.289	-.690
Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome	3.18	1.42	.359	-.248
Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome	3.10	1.31	.266	-.676
Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome	3.01	1.51	.440	-.609

Table 91 - Correlations

	CL	RA	MO	IC	PA	PERS	COD	OL	PL	TC	RC	NPP	RAE	RAEF	TR	CRFI
CL	1	-.759**	.714**	-.726**	-.672**	.816**	.708**	.871**	.847**	-.092*	-.695**	.841**	.761**	.583**	.761**	.609**
		.000	.000	.000	.000	.000	.000	.000	.000	.032	.000	.000	.000	.000	.000	.000
RA	-.759**	1	-.761**	.680**	.674**	-.777**	-.688**	-.782**	-.750**	-.052	.705**	-.756**	-.682**	-.503**	-.642**	-.534**
	.000		.000	.000	.000	.000	.000	.000	.000	.225	.000	.000	.000	.000	.000	.000
MO	.714**	-.761**	1	-.595**	-.584**	.705**	.634**	.727**	.685**	.090*	-.625**	.673**	.721**	.484**	.661**	.541**
	.000	.000		.000	.000	.000	.000	.000	.000	.036	.000	.000	.000	.000	.000	.000
IC	-.726**	.680**	-.595**	1	.842**	-.650**	-.581**	-.723**	-.756**	.053	.705**	-.696**	-.658**	-.390**	-.684**	-.627**
	.000	.000	.000		.000	.000	.000	.000	.000	.214	.000	.000	.000	.000	.000	.000
PA	-.672**	.674**	-.584**	.842**	1	-.634**	-.594**	-.669**	-.696**	-.118**	.661**	-.708**	-.621**	-.475**	-.685**	-.619**
	.000	.000	.000	.000		.000	.000	.000	.000	.006	.000	.000	.000	.000	.000	.000
PERS	.816**	-.777**	.705**	-.650**	-.634**	1	.824**	.821**	.780**	.003	-.648**	.788**	.764**	.496**	.656**	.589**
	.000	.000	.000	.000	.000		.000	.000	.000	.937	.000	.000	.000	.000	.000	.000
COD	.708**	-.688**	.634**	-.581**	-.594**	.824**	1	.686**	.646**	.123**	-.583**	.699**	.763**	.530**	.602**	.598**
	.000	.000	.000	.000	.000	.000		.000	.000	.004	.000	.000	.000	.000	.000	.000
OL	.871**	-.782**	.727**	-.723**	-.669**	.821**	.686**	1	.896**	-.076	-.743**	.888**	.688**	.500**	.722**	.596**
	.000	.000	.000	.000	.000	.000	.000		.000	.078	.000	.000	.000	.000	.000	.000

PL	.847[**]	-.750[**]	.685[**]	-.756[**]	-.696[**]	.780[**]	.646[**]	.896[**]	1	-.063	-.732[**]	.831[**]	.662[**]	.468[**]	.695[**]	.553[**]
	.000	.000	.000	.000	.000	.000	.000	.000		.140	.000	.000	.000	.000	.000	.000
TC	-.092[*]	-.052	.090[*]	.053	-.118[**]	.003	.123[**]	-.076	-.063	1	.193[**]	-.004	.105[*]	.299[**]	-.059	.070
	.032	.225	.036	.214	.006	.937	.004	.078	.140		.000	.922	.014	.000	.172	.101
RC	-.695[**]	.705[**]	-.625[**]	.705[**]	.661[**]	-.648[**]	-.583[**]	-.743[**]	-.732[**]	.193[**]	1	-.696[**]	-.616[**]	-.409[**]	-.687[**]	-.527[**]
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
NPP	.841[**]	-.756[**]	.673[**]	-.696[**]	-.708[**]	.788[**]	.699[**]	.888[**]	.831[**]	-.004	-.696[**]	1	.667[**]	.550[**]	.704[**]	.608[**]
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.922	.000		.000	.000	.000	.000
RAE	.761[**]	-.682[**]	.721[**]	-.658[**]	-.621[**]	.764[**]	.763[**]	.688[**]	.662[**]	.105[*]	-.616[**]	.667[**]	1	.524[**]	.699[**]	.636[**]
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.014	.000	.000		.000	.000	.000
RAEFF	.583[**]	-.503[**]	.484[**]	-.390[**]	-.□□□[**]	.496[**]	.530[**]	.500[**]	.468[**]	.299[**]	-.409[**]	.550[**]	.524[**]	1	.592[**]	.507[**]
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
TR	.761[**]	-.642[**]	.661[**]	-.684[**]	-.685[**]	.656[**]	.602[**]	.722[**]	.695[**]	-.059	-.687[**]	.704[**]	.699[**]	.592[**]	1	.679[**]
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.172	.000	.000	.000	.000		.000
CRFI	.609[**]	-.534[**]	.541[**]	-.627[**]	-.619[**]	.589[**]	.598[**]	.596[**]	.553[**]	.070	-.527[**]	.608[**]	.636[**]	.507[**]	.679[**]	1
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.101	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 92 - Confirmatory Factor Analysis for IMO

- Unstandardized Regression Weights

			Estimate
Internal segmentation	<---	IMO	1.025
Employee - manager communication	<---	IMO	.981
Management concern	<---	IMO	.917
Manager Communication	<---	IMO	.984
Remuneration	<---	IMO	.949
Internal targeting	<---	IMO	1.011
Aware of internal conditions	<---	IMO	1.019
Exchange value	<---	IMO	1.017
Job description	<---	IMO	1.006
Training	<---	IMO	
This company emphasizes on understanding our needs	<---	Exchange value	.719
At least once a year we fill in questionnaires regarding our needs and wants from the company	<---	Exchange value	.723
My supervisor sees that we all meet regularly so that we have the chance to say what we expect from the company	<---	Exchange value	.818
Assessing our job satisfaction is an important task for our supervisor	<---	Exchange value	.737
This company is informed about legal development in the labor market	<---	Exchange value	.730
This company is informed about new jobs created in other industries that could attract	<---	Aware of internal	.752

		Estimate
employees from this firm	conditions	
This company is systematically analyzing the working conditions of employees in competition <---	Aware of internal conditions	.716
In this company employees are identified in groups based on our individual characteristics and needs <---	Internal segmentation	.702
All employees are treated exactly the same way. Individual needs are ignored (r) <---	Internal segmentation	.678
Our individual needs are systematically assessed in this company <---	Internal segmentation	.777
Every important decision regarding resource policies is always adapted according to our individual needs <---	Internal targeting	.818
Specific human resource policies are always considered for specific groups of employees with a common set of needs <---	Internal targeting	.650
No action is ever taken unless its impact on specific groups of employees with common needs is evaluated <---	Internal targeting	.724
Before any policy change my supervisor informs me face to face in advance <---	Employee - manager communication	.760
My supervisor is sincerely listening about the problems I have doing my job <---	Employee - manager communication	.628
My supervisor is sincerely concerned about personal problems I have that may affect my performance <---	Employee - manager communication	.632
My supervisor spends time informing me about tasks, my objectives and to reach an <---	Employee - manager	.786

		Estimate
agreement with me	communication	
The Senior Management of this company is really indifferent for our problems (r)	<--- Management concern	.818
Nothing is too expensive for our Senior Management if this would satisfy specific needs of specific groups of employees	<--- Management concern	.763
The Senior Management is really considering about our individual needs and makes policies that reflect it	<--- Management concern	.602
The Senior Management is resolved to solving our problems and giving us all required support necessary for our job	Management concern	.600
The supervisors in this company meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say	<--- Manager Communication	.673
This company encourages our supervisors to meet and discuss among them issues concerning their subordinates	<--- Manager Communication	.765
In many occasions the solution to a problem had come from a supervisor from a different department not from my direct supervisor	<--- Manager Communication	.654
When I do something extraordinary I know that I will receive some financial bonus/reward	<--- Remuneration	.718
My income and the annual increases are very closely tied to my qualifications and my performance	<--- Remuneration	.681
Everyone gets an annual bonus regardless of their performance (r)	<--- Remuneration	.635
My income and the annual increases are much related to those of people with similar	<--- Remuneration	.664

			Estimate
qualifications working in this or any other industry			
My job description allows me to satisfy my personal needs and goals through my work	<---	Job description	.633
Nothing has ever been assigned to me unless my supervisor and I had agreed that I could really do it	<---	Job description	.660
The tasks I am assigned with help me to advance my career with this company	<---	Job description	.700
My supervisor is expected to justify my job description and the tasks I am assigned with to more senior levels of management	<---	Job description	.677
In this company, training is closely related to the individual needs of each employee. Massive training seminars are avoided when possible	<---	Training	.673
A newly hired employee will have to find his own answers to the requirements of the job. (r)	<---	Training	.637
Before the implementation of a major change in service rules. We always get significant training regarding its impact on our daily activities and job description	<---	Training	.674
If one is moved from one department to another, the new supervisor will personally train him/her for a pre-specified period of time	<---	Training	.808

Table 93 Market Orientation – Latent Factors Unstandardized Regression Weights

	Estimate
Competitor Orientation <--- MO	.857

	Estimate
Product Orientation <--- MO	.803
Customer Orientation <--- MO	.908

Item Frequency tables

Internal Market Orientation

Table 94

This company emphasizes on understanding our needs		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	3.4	3.4	3.4
	mostly disagree	10	8.6	8.6	12.1
	slightly disagree	24	20.7	20.7	32.8
	neither agree nor disagree	30	25.9	25.9	58.6
	slightly agree	26	22.4	22.4	81.0
	mostly agree	22	19.0	19.0	100.0
	Total	116	100.0	100.0	

Table 95

At least once a year we fill in questionnaires regarding our needs and wants from the company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	5	4.3	4.3	4.3
	mostly disagree	5	4.3	4.3	8.6

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly disagree	34	29.3	29.3	37.9
	neither agree nor disagree	34	29.3	29.3	67.2
	slightly agree	30	25.9	25.9	93.1
	mostly agree	6	5.2	5.2	98.3
	strongly agree	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Table 96

My supervisor sees that we all meet regularly so that we have the chance to say what we expect from the company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	16	13.8	13.8	13.8
	slightly disagree	18	15.5	15.5	29.3
	neither agree nor disagree	38	32.8	32.8	62.1
	slightly agree	34	29.3	29.3	91.4
	mostly agree	8	6.9	6.9	98.3
	strongly agree	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Table 97

Assessing our job satisfaction is an important task for our supervisor		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	3.4	3.4	3.4

		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly disagree	16	13.8	13.8	17.2
	slightly disagree	14	12.1	12.1	29.3
	neither agree nor disagree	40	34.5	34.5	63.8
	slightly agree	22	19.0	19.0	82.8
	mostly agree	16	13.8	13.8	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 98

This company is informed about new jobs created in other industries that could attract employees from this firm		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	2	1.7	1.7	3.4
	slightly disagree	28	24.1	24.1	27.6
	neither agree nor disagree	40	34.5	34.5	62.1
	slightly agree	38	32.8	32.8	94.8
	mostly agree	6	5.2	5.2	100.0
	Total	116	100.0	100.0	

Table 99

This company is informed about new jobs created in other industries that could attract employees from this firm		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	16	13.8	13.8	13.8
	slightly disagree	22	19.0	19.0	32.8
	neither agree nor disagree	28	24.1	24.1	56.9
	slightly agree	36	31.0	31.0	87.9
	mostly agree	14	12.1	12.1	100.0
	Total	116	100.0	100.0	

Table 100

This company is systematically analyzing the working conditions of employees in competition		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	5.2	5.2	5.2
	mostly disagree	12	10.3	10.3	15.5
	slightly disagree	50	43.1	43.1	58.6
	neither agree nor disagree	34	29.3	29.3	87.9
	slightly agree	14	12.1	12.1	100.0
	Total	116	100.0	100.0	

Table 101

In this company employees are identified in groups based on our individual characteristics and needs		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	6	5.2	5.2	5.2
	slightly disagree	22	19.0	19.0	24.1
	neither agree nor disagree	46	39.7	39.7	63.8
	slightly agree	28	24.1	24.1	87.9
	mostly agree	8	6.9	6.9	94.8
	strongly agree	6	5.2	5.2	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	116	100.0	100.0	

Table 102

All employees are treated exactly the same way. Individual needs are ignored (r)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	2	1.7	1.7	3.4
	slightly disagree	22	19.0	19.0	22.4
	neither agree nor disagree	30	25.9	25.9	48.3
	slightly agree	40	34.5	34.5	82.8
	mostly agree	18	15.5	15.5	98.3
	strongly agree	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Table 103

Our individual needs are systematically assessed in this company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	8	6.9	6.9	8.6
	slightly disagree	28	24.1	24.1	32.8
	neither agree nor disagree	20	17.2	17.2	50.0
	slightly agree	30	25.9	25.9	75.9

	mostly agree	20	17.2	17.2	93.1
	strongly agree	8	6.9	6.9	100.0
	Total	116	100.0	100.0	

Table 104

Every important decision regarding resource policies is always adapted according to our individual needs		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	8	6.9	6.9	8.6
	slightly disagree	20	17.2	17.2	25.9
	neither agree nor disagree	42	36.2	36.2	62.1
	slightly agree	30	25.9	25.9	87.9
	mostly agree	10	8.6	8.6	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 105

Specific human resource policies are always considered for specific groups of employees with a common set of needs		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	6	5.2	5.2	6.9

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly disagree	20	17.2	17.2	24.1
	neither agree nor disagree	42	36.2	36.2	60.3
	slightly agree	22	19.0	19.0	79.3
	mostly agree	20	17.2	17.2	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 106

No action is ever taken unless its impact on specific groups of employees with common needs is evaluated		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	8	6.9	6.9	8.6
	slightly disagree	30	25.9	25.9	34.5
	neither agree nor disagree	26	22.4	22.4	56.9
	slightly agree	42	36.2	36.2	93.1
	mostly agree	6	5.2	5.2	98.3
	strongly agree	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Table 107

Before any policy change my supervisor informs me face to face in advance	Frequency	Percent	Valid Percent	Cumulative Percent

	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	2	1.7	1.7	3.4
	slightly disagree	10	8.6	8.6	12.1
Valid	neither agree nor disagree	42	36.2	36.2	48.3
	slightly agree	28	24.1	24.1	72.4
	mostly agree	24	20.7	20.7	93.1
	Strongly agree	8	6.9	6.9	100.0
	Total	116	100.0	100.0	

Table 108

My supervisor is sincerely listening about the problems I have doing my job		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	20	17.2	17.2	20.7
	neither agree nor disagree	30	25.9	25.9	46.6
Valid	slightly agree	40	34.5	34.5	81.0
	mostly agree	14	12.1	12.1	93.1
	strongly agree	8	6.9	6.9	100.0
	Total	116	100.0	100.0	

Table 109

My supervisor is sincerely concerned about personal problems I have that may affect my performance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	6	5.2	5.2	5.2
	slightly disagree	16	13.8	13.8	19.0
	neither agree nor disagree	24	20.7	20.7	39.7
	slightly agree	38	32.8	32.8	72.4
	mostly agree	24	20.7	20.7	93.1
	strongly agree	8	6.9	6.9	100.0
	Total	116	100.0	100.0	

Table 110

My supervisor spends time informing me about tasks, my objectives and to reach an agreement with me		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	26	22.4	22.4	25.9
	neither agree nor disagree	36	31.0	31.0	56.9
	slightly agree	26	22.4	22.4	79.3
	mostly agree	14	12.1	12.1	91.4
	strongly agree	10	8.6	8.6	100.0
	Total	116	100.0	100.0	

Table 111

The Senior Management of this company is really indifferent for our problems (r)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	3.4	3.4	3.4
	mostly disagree	4	3.4	3.4	6.9
	slightly disagree	20	17.2	17.2	24.1
	neither agree nor disagree	28	24.1	24.1	48.3
	slightly agree	50	43.1	43.1	91.4
	mostly agree	6	5.2	5.2	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 112

Nothing is too expensive for our Senior Management if this would satisfy specific needs of specific groups of employees		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	6	5.2	5.2	5.2
	slightly disagree	28	24.1	24.1	29.3
	neither agree nor disagree	24	20.7	20.7	50.0
	slightly agree	38	32.8	32.8	82.8
	mostly agree	14	12.1	12.1	94.8
	strongly agree	6	5.2	5.2	100.0

	Total	116	100.0	100.0	

Table 113

The Senior Management is really considering about our individual needs and makes policies that reflect it	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	4	3.4	3.4	3.4
mostly disagree	12	10.3	10.3	13.8
slightly disagree	14	12.1	12.1	25.9
Valid neither agree nor disagree	36	31.0	31.0	56.9
slightly agree	36	31.0	31.0	87.9
mostly agree	10	8.6	8.6	96.6
strongly agree	4	3.4	3.4	100.0
Total	116	100.0	100.0	

Table 114

The supervisors in this company meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say	Frequency	Percent	Valid Percent	Cumulative Percent
mostly disagree	4	3.4	3.4	3.4
slightly disagree	38	32.8	32.8	36.2
Valid neither agree nor disagree	26	22.4	22.4	58.6
slightly agree	30	25.9	25.9	84.5

		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly agree	8	6.9	6.9	91.4
	strongly agree	10	8.6	8.6	100.0
	Total	116	100.0	100.0	

Table 115

This company encourages our supervisors to meet and discuss among them issues concerning their subordinates		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	6	5.2	5.2	5.2
	slightly disagree	12	10.3	10.3	15.5
	neither agree nor disagree	34	29.3	29.3	44.8
	slightly agree	34	29.3	29.3	74.1
	mostly agree	26	22.4	22.4	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 116

In many occasions the solution to a problem had came from a supervisor from a different department not from my direct supervisor		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	8	6.9	6.9	6.9
	slightly disagree	22	19.0	19.0	25.9
	neither agree nor disagree	32	27.6	27.6	53.4

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly agree	40	34.5	34.5	87.9
	mostly agree	8	6.9	6.9	94.8
	strongly agree	6	5.2	5.2	100.0
	Total	116	100.0	100.0	

Table 117

My job description allows me to satisfy my personal needs and goals through my work		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	14	12.1	12.1	15.5
	neither agree nor disagree	32	27.6	27.6	43.1
	slightly agree	30	25.9	25.9	69.0
	mostly agree	24	20.7	20.7	89.7
	strongly agree	12	10.3	10.3	100.0
	Total	116	100.0	100.0	

Table 118

Nothing has ever been assigned to me unless my supervisor and I had agreed that I could really do it		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	10	8.6	8.6	10.3
	slightly disagree	12	10.3	10.3	20.7

neither agree nor disagree	22	19.0	19.0	39.7
slightly agree	38	32.8	32.8	72.4
mostly agree	30	25.9	25.9	98.3
strongly agree	2	1.7	1.7	100.0
Total	116	100.0	100.0	

Table 119

The tasks I am assigned with help me to advance my career with this company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	10	8.6	8.6	12.1
	neither agree nor disagree	36	31.0	31.0	43.1
	slightly agree	48	41.4	41.4	84.5
	mostly agree	12	10.3	10.3	94.8
	strongly agree	6	5.2	5.2	100.0
	Total	116	100.0	100.0	

Table 120

My supervisor is expected to justify my job description and the tasks I am assigned with to more senior levels of management		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7

	Frequency	Percent	Valid Percent	Cumulative Percent
mostly disagree	6	5.2	5.2	6.9
slightly disagree	22	19.0	19.0	25.9
neither agree nor disagree	32	27.6	27.6	53.4
slightly agree	28	24.1	24.1	77.6
mostly agree	20	17.2	17.2	94.8
strongly agree	6	5.2	5.2	100.0
Total	116	100.0	100.0	

Table 121

When I do something extraordinary I know that I will receive some financial bonus/reward	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	1.7	1.7	1.7
mostly disagree	8	6.9	6.9	8.6
slightly disagree	12	10.3	10.3	19.0
neither agree nor disagree	32	27.6	27.6	46.6
slightly agree	38	32.8	32.8	79.3
mostly agree	20	17.2	17.2	96.6
strongly agree	4	3.4	3.4	100.0
Total	116	100.0	100.0	

Table 122

My income and the annual increases are very closely tied to my qualifications and my performance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	20	17.2	17.2	20.7
	neither agree nor disagree	34	29.3	29.3	50.0
	slightly agree	38	32.8	32.8	82.8
	mostly agree	16	13.8	13.8	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 123

Everyone gets an annual bonus regardless of their performance (r)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	6	5.2	5.2	6.9
	slightly disagree	6	5.2	5.2	12.1
	neither agree nor disagree	52	44.8	44.8	56.9
	slightly agree	32	27.6	27.6	84.5
	mostly agree	10	8.6	8.6	93.1
	strongly agree	8	6.9	6.9	100.0
	Total	116	100.0	100.0	

Table 124

My income and the annual increases are much related to those of people with similar qualifications working in this or any other industry		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	8	6.9	6.9	8.6
	slightly disagree	16	13.8	13.8	22.4
	neither agree nor disagree	30	25.9	25.9	48.3
	slightly agree	44	37.9	37.9	86.2
	mostly agree	12	10.3	10.3	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 125

In this company, training is closely related to the individual needs of each employee. Massive training seminars are avoided when possible		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	8	6.9	6.9	6.9
	slightly disagree	18	15.5	15.5	22.4
	neither agree nor disagree	26	22.4	22.4	44.8
	slightly agree	38	32.8	32.8	77.6

	Frequency	Percent	Valid Percent	Cumulative Percent
mostly agree	24	20.7	20.7	98.3
strongly agree	2	1.7	1.7	100.0
Total	116	100.0	100.0	

Table 126

A newly hired employee will have to find his own answers to the requirements of the job. (r)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	1.7	1.7	1.7
	mostly disagree	8	6.9	6.9	8.6
	slightly disagree	16	13.8	13.8	22.4
	neither agree nor disagree	44	37.9	37.9	60.3
	slightly agree	22	19.0	19.0	79.3
	mostly agree	20	17.2	17.2	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Table 127

Before the implementation of a major change in service rules, we always get significant training regarding its impact on our daily activities and job description		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	24	20.7	20.7	24.1

	neither agree nor disagree	22	19.0	19.0	43.1
	slightly agree	52	44.8	44.8	87.9
	mostly agree	12	10.3	10.3	98.3
	strongly agree	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Table 128

If one is moved from one department to another, the new supervisor will personally train him/her for a pre-specified period of time		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	4	3.4	3.4	3.4
	slightly disagree	22	19.0	19.0	22.4
	neither agree nor disagree	32	27.6	27.6	50.0
	slightly agree	40	34.5	34.5	84.5
	mostly agree	14	12.1	12.1	96.6
	strongly agree	4	3.4	3.4	100.0
	Total	116	100.0	100.0	

Codification strategy

Table 129

Formal procedures exist for documenting the ''lessons learned'' from completed NSD projects		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	32	5.9	5.9	7.0
	slightly disagree	95	17.5	17.5	24.5
	neither agree nor disagree	188	34.6	34.6	59.1
	slightly agree	136	25.0	25.0	84.2
	mostly agree	76	14.0	14.0	98.2
	strongly agree	10	1.8	1.8	100.0
	Total	543	100.0	100.0	

Table 130

Manuals and handbooks are used extensively to make NSD knowledge available for subsequent use on other projects		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	28	5.2	5.2	5.2
	slightly disagree	112	20.6	20.6	25.8
	neither agree nor disagree	161	29.7	29.7	55.4
	slightly agree	138	25.4	25.4	80.8
	mostly agree	78	14.4	14.4	95.2
	strongly agree	26	4.8	4.8	100.0

Total	543	100.0	100.0	

Table 131

NSD knowledge is generally ''stored'' as new processes and routines immediately after project completion		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	6	1.1	1.1	1.1
	slightly disagree	88	16.2	16.2	17.3
	neither agree nor disagree	219	40.3	40.3	57.6
	slightly agree	110	20.3	20.3	77.9
	mostly agree	100	18.4	18.4	96.3
	strongly agree	20	3.7	3.7	100.0
	Total	543	100.0	100.0	

Table 132

NSD knowledge generally remains ''in the heads'' of those individuals executing the activities of the NSD project		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	32	5.9	5.9	5.9
	slightly disagree	126	23.2	23.2	29.1
	neither agree nor disagree	181	33.3	33.3	62.4
	slightly agree	140	25.8	25.8	88.2
	mostly agree	40	7.4	7.4	95.6
	strongly agree	24	4.4	4.4	100.0

	Total	543	100.0	100.0	

Table 133

During NSD written reports are used extensively to NSD knowledge		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	36	6.6	6.6	6.6
	slightly disagree	58	10.7	10.7	17.3
	neither agree nor disagree	172	31.7	31.7	49.0
	slightly agree	185	34.1	34.1	83.1
	mostly agree	78	14.4	14.4	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Personalization strategy

Table 134

During NSD organizational problems are solved by interdepartmental teams		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	38	7.0	7.0	7.0
	slightly disagree	95	17.5	17.5	24.5
	neither agree nor disagree	188	34.6	34.6	59.1
	mostly agree	212	39.0	39.0	98.2
	strongly agree	10	1.8	1.8	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	543	100.0	100.0	

Table 135

During NSD there are high levels of communication between different parts of the organization		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	28	5.2	5.2	5.2
	slightly disagree	112	20.6	20.6	25.8
	neither agree nor disagree	161	29.7	29.7	55.4
	mostly agree	216	39.8	39.8	95.2
	strongly agree	26	4.8	4.8	100.0
	Total	543	100.0	100.0	

Table 136

Temporary project teams are used to manage most NSD processes		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	55	10.1	10.1	10.1
	slightly disagree	124	22.8	22.8	33.0
	neither agree nor disagree	167	30.8	30.8	63.7
	mostly agree	193	35.5	35.5	99.3
	strongly agree	4	.7	.7	100.0
	Total	543	100.0	100.0	

Table 137

During NSD cooperation between departments is usually very high		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	22	4.1	4.1	4.1
	slightly disagree	84	15.5	15.5	19.5
	neither agree nor disagree	172	31.7	31.7	51.2
	mostly agree	252	46.4	46.4	97.6
	strongly agree	13	2.4	2.4	100.0
	Total	543	100.0	100.0	

NSD climate items

Table 138

In this project, participants were supported for developing new ideas, regardless of the eventual success/failure of these ideas		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	22	4.1	4.1	4.4
	slightly disagree	100	18.4	18.4	22.8
	neither agree nor disagree	150	27.6	27.6	50.5
	slightly agree	195	35.9	35.9	86.4
	mostly agree	66	12.2	12.2	98.5
	strongly agree	8	1.5	1.5	100.0

	Total	543	100.0	100.0	

Table 139

In this project, there was space to experiment with new ideas		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	56	10.3	10.3	10.3
	slightly disagree	80	14.7	14.7	25.0
	neither agree nor disagree	131	24.1	24.1	49.2
	slightly agree	162	29.8	29.8	79.0
	mostly agree	96	17.7	17.7	96.7
	strongly agree	18	3.3	3.3	100.0
	Total	543	100.0	100.0	

Table 140

In this project, creation and sharing of new knowledge was supported		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	48	8.8	8.8	9.9
	slightly disagree	73	13.4	13.4	23.4
	neither agree nor disagree	164	30.2	30.2	53.6
	slightly agree	170	31.3	31.3	84.9
	mostly agree	70	12.9	12.9	97.8
	strongly agree	12	2.2	2.2	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	543	100.0	100.0	

Table 141

In this project, failures and setbacks were tolerated by management		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	22	4.1	4.1	4.1
	mostly disagree	84	15.5	15.5	19.5
	slightly disagree	98	18.0	18.0	37.6
	neither agree nor disagree	90	16.6	16.6	54.1
	slightly agree	160	29.5	29.5	83.6
	mostly agree	70	12.9	12.9	96.5
	strongly agree	19	3.5	3.5	100.0
	Total	543	100.0	100.0	

Project learning

Table 142

Our experience and learning in this project proved to be essential for the successful creation and completion of subsequent projects.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	54	9.9	9.9	11.8
	slightly disagree	62	11.4	11.4	23.2

		Frequency	Percent	Valid Percent	Cumulative Percent
	neither agree nor disagree	122	22.5	22.5	45.7
	slightly agree	141	26.0	26.0	71.6
	mostly agree	140	25.8	25.8	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 143

The knowledge acquired during the innovation process of this project served as an essential input for other new service developments		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly disagree	12	2.2	2.2	2.2
	mostly disagree	26	4.8	4.8	7.0
	slightly disagree	77	14.2	14.2	21.2
Valid	neither agree nor disagree	146	26.9	26.9	48.1
	slightly agree	138	25.4	25.4	73.5
	mostly agree	108	19.9	19.9	93.4
	strongly agree	36	6.6	6.6	100.0
	Total	543	100.0	100.0	

Table 144

The development of this new financial service created a general development expertise that eased the development and introduction of subsequent new services		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	14	2.6	2.6	2.6
	mostly disagree	20	3.7	3.7	6.3
	slightly disagree	61	11.2	11.2	17.5
	neither agree nor disagree	166	30.6	30.6	48.1
	slightly agree	134	24.7	24.7	72.7
	mostly agree	120	22.1	22.1	94.8
	strongly agree	28	5.2	5.2	100.0
	Total	543	100.0	100.0	

Table 145

The expertise of developing and launching this new financial service lead to an enhanced know-how for future innovation projects.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	40	7.4	7.4	7.7
	slightly disagree	102	18.8	18.8	26.5
	neither agree nor disagree	115	21.2	21.2	47.7
	slightly agree	138	25.4	25.4	73.1

mostly agree	118	21.7	21.7	94.8
strongly agree	28	5.2	5.2	100.0
Total	543	100.0	100.0	

Table 146

Through the development and launch of this new service, project members learned a lot on new financial service innovation.	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	18	3.3	3.3	3.3
mostly disagree	16	2.9	2.9	6.3
slightly disagree	74	13.6	13.6	19.9
neither agree nor disagree	189	34.8	34.8	54.7
slightly agree	104	19.2	19.2	73.8
mostly agree	112	20.6	20.6	94.5
strongly agree	30	5.5	5.5	100.0
Total	543	100.0	100.0	

<u>Role ambiguity</u>

Table 147

I know exactly what is expected of me	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	16	2.9	2.9	2.9
mostly disagree	60	11.0	11.0	14.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly disagree	42	7.7	7.7	21.7
	neither agree nor disagree	116	21.4	21.4	43.1
	slightly agree	191	35.2	35.2	78.3
	mostly agree	96	17.7	17.7	95.9
	strongly agree	22	4.1	4.1	100.0
	Total	543	100.0	100.0	

Table 148

I know that I have divided my time properly		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	4	.7	.7	1.8
	slightly disagree	114	21.0	21.0	22.8
	neither agree nor disagree	85	15.7	15.7	38.5
	slightly agree	166	30.6	30.6	69.1
	mostly agree	128	23.6	23.6	92.6
	strongly agree	40	7.4	7.4	100.0
	Total	543	100.0	100.0	

Table 149

I have clear, planned goals, and objectives for my job		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	12	2.2	2.2	2.2

	Frequency	Percent	Valid Percent	Cumulative Percent
mostly disagree	36	6.6	6.6	8.8
slightly disagree	52	9.6	9.6	18.4
neither agree nor disagree	154	28.4	28.4	46.8
slightly agree	173	31.9	31.9	78.6
mostly agree	82	15.1	15.1	93.7
strongly agree	34	6.3	6.3	100.0
Total	543	100.0	100.0	

Table 150

Explanation is clear of what has to be done	Frequency	Percent	Valid Percent	Cumulative Percent
mostly disagree	66	12.2	12.2	12.2
slightly disagree	56	10.3	10.3	22.5
neither agree nor disagree	147	27.1	27.1	49.5
Valid slightly agree	158	29.1	29.1	78.6
mostly agree	102	18.8	18.8	97.4
strongly agree	14	2.6	2.6	100.0
Total	543	100.0	100.0	

Table 151

I feel certain about how much authority I have	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	10	1.8	1.8	1.8

	mostly disagree	10	1.8	1.8	3.7
	slightly disagree	124	22.8	22.8	26.5
	neither agree nor disagree	109	20.1	20.1	46.6
	slightly agree	126	23.2	23.2	69.8
	mostly agree	156	28.7	28.7	98.5
	strongly agree	8	1.5	1.5	100.0
	Total	543	100.0	100.0	

Table 152

I know what my responsibilities are		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	38	7.0	7.0	8.8
	slightly disagree	74	13.6	13.6	22.5
	neither agree nor disagree	123	22.7	22.7	45.1
	slightly agree	168	30.9	30.9	76.1
	mostly agree	102	18.8	18.8	94.8
	strongly agree	28	5.2	5.2	100.0
	Total	543	100.0	100.0	

Task conflict

Table 153

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There is much conflict of ideas is my work group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	102	18.8	18.8	19.5
	slightly disagree	118	21.7	21.7	41.3
	neither agree nor disagree	152	28.0	28.0	69.2
	slightly agree	141	26.0	26.0	95.2
	mostly agree	20	3.7	3.7	98.9
	strongly agree	6	1.1	1.1	100.0
	Total	543	100.0	100.0	

Table 154

We often have disagreements within my work group about the task of the project you are working on		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	84	15.5	15.5	16.2
	slightly disagree	122	22.5	22.5	38.7
	neither agree nor disagree	127	23.4	23.4	62.1
	slightly agree	160	29.5	29.5	91.5
	mostly agree	34	6.3	6.3	97.8
	strongly agree	12	2.2	2.2	100.0
	Total	543	100.0	100.0	

Table 155

Often people in my work group have conflicting opinions about the project they are working on	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	12	2.2	2.2	2.2
mostly disagree	32	5.9	5.9	8.1
slightly disagree	116	21.4	21.4	29.5
neither agree nor disagree	154	28.4	28.4	57.8
slightly agree	191	35.2	35.2	93.0
mostly agree	36	6.6	6.6	99.6
strongly agree	2	.4	.4	100.0
Total	543	100.0	100.0	

Relationship conflict

Table 156

There is much relationship tension is there in my work group	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	38	7.0	7.0	7.0
mostly disagree	102	18.8	18.8	25.8
slightly disagree	142	26.2	26.2	51.9
neither agree nor disagree	84	15.5	15.5	67.4
slightly agree	85	15.7	15.7	83.1
mostly agree	72	13.3	13.3	96.3

		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly agree	20	3.7	3.7	100.0
	Total	543	100.0	100.0	

Table 157

People often get angry while working in my group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	48	8.8	8.8	8.8
	mostly disagree	124	22.8	22.8	31.7
	slightly disagree	138	25.4	25.4	57.1
	neither agree nor disagree	72	13.3	13.3	70.3
	slightly agree	68	12.5	12.5	82.9
	mostly agree	79	14.5	14.5	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 158

There are emotional conflicts in my work group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	64	11.8	11.8	11.8
	mostly disagree	140	25.8	25.8	37.6
	slightly disagree	84	15.5	15.5	53.0
	neither agree nor disagree	66	12.2	12.2	65.2
	slightly agree	88	16.2	16.2	81.4

	mostly agree	70	12.9	12.9	94.3
	strongly agree	31	5.7	5.7	100.0
	Total	543	100.0	100.0	

NSD project performance

Table 159

Adherence to cost for development		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	42	7.7	7.7	7.7
	slightly disagree	60	11.0	11.0	18.8
	neither agree nor disagree	208	38.3	38.3	57.1
	slightly agree	181	33.3	33.3	90.4
	mostly agree	52	9.6	9.6	100.0
	Total	543	100.0	100.0	

Table 160

Meeting assigned timeschedule		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	34	6.3	6.3	7.0
	slightly disagree	140	25.8	25.8	32.8
	neither agree nor disagree	117	21.5	21.5	54.3
	slightly agree	182	33.5	33.5	87.8

		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly agree	52	9.6	9.6	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 161

Original goals achieved		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	48	8.8	8.8	9.2
	slightly disagree	86	15.8	15.8	25.0
	neither agree nor disagree	151	27.8	27.8	52.9
	slightly agree	118	21.7	21.7	74.6
	mostly agree	112	20.6	20.6	95.2
	strongly agree	26	4.8	4.8	100.0
	Total	543	100.0	100.0	

Table 162

Met calculated profits		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	22	4.1	4.1	4.4
	slightly disagree	124	22.8	22.8	27.3
	neither agree nor disagree	136	25.0	25.0	52.3

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly agree	169	31.1	31.1	83.4
	mostly agree	76	14.0	14.0	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 163

Met projected market share		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly disagree	4	.7	.7	.7
	mostly disagree	24	4.4	4.4	5.2
	slightly disagree	94	17.3	17.3	22.5
Valid	neither agree nor disagree	203	37.4	37.4	59.9
	slightly agree	150	27.6	27.6	87.5
	mostly agree	62	11.4	11.4	98.9
	strongly agree	6	1.1	1.1	100.0
	Total	543	100.0	100.0	

Table 164

Overall development project performance		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly disagree	6	1.1	1.1	1.1
Valid	mostly disagree	22	4.1	4.1	5.2
	slightly disagree	106	19.5	19.5	24.7

	Frequency	Percent	Valid Percent	Cumulative Percent
neither agree nor disagree	183	33.7	33.7	58.4
slightly agree	186	34.3	34.3	92.6
mostly agree	34	6.3	6.3	98.9
strongly agree	6	1.1	1.1	100.0
Total	543	100.0	100.0	

Table 165

Met sales goals		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	34	6.3	6.3	6.6
	slightly disagree	120	22.1	22.1	28.7
	neither agree nor disagree	141	26.0	26.0	54.7
	slightly agree	160	29.5	29.5	84.2
	mostly agree	78	14.4	14.4	98.5
	strongly agree	8	1.5	1.5	100.0
	Total	543	100.0	100.0	

Organizational Learning

Table 166

The organization had acquired much new and relevant knowledge		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4

		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly disagree	48	8.8	8.8	9.2
	slightly disagree	86	15.8	15.8	25.0
	neither agree nor disagree	151	27.8	27.8	52.9
	slightly agree	118	21.7	21.7	74.6
	mostly agree	112	20.6	20.6	95.2
	strongly agree	26	4.8	4.8	100.0
	Total	543	100.0	100.0	

Table 167

Organizational members had acquired critical capacities and skills		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	40	7.4	7.4	7.7
	slightly disagree	102	18.8	18.8	26.5
	neither agree nor disagree	115	21.2	21.2	47.7
	slightly agree	138	25.4	25.4	73.1
	mostly agree	118	21.7	21.7	94.8
	strongly agree	28	5.2	5.2	100.0
	Total	543	100.0	100.0	

Table 168

Organizational improvements had been influenced by the entry of new knowledge		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	18	3.3	3.3	3.3
	slightly disagree	76	14.0	14.0	17.3
	neither agree nor disagree	183	33.7	33.7	51.0
	slightly agree	146	26.9	26.9	77.9
	mostly agree	90	16.6	16.6	94.5
	strongly agree	30	5.5	5.5	100.0
	Total	543	100.0	100.0	

Table 169

My organizations is a learning organization		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	22	4.1	4.1	4.4
	slightly disagree	124	22.8	22.8	27.3
	neither agree nor disagree	136	25.0	25.0	52.3
	slightly agree	169	31.1	31.1	83.4
	mostly agree	76	14.0	14.0	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Market Orientation

Table 170

I have the customer's best interests in mind.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	26	4.8	4.8	4.8
	mostly disagree	38	7.0	7.0	11.8
	slightly disagree	77	14.2	14.2	26.0
	neither agree nor disagree	108	19.9	19.9	45.9
	slightly agree	194	35.7	35.7	81.6
	mostly agree	78	14.4	14.4	95.9
	strongly agree	22	4.1	4.1	100.0
	Total	543	100.0	100.0	

Table 171

I think customer preferences are a key factor to the success of my company		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	54	9.9	9.9	10.7
	slightly disagree	48	8.8	8.8	19.5
	neither agree nor disagree	101	18.6	18.6	38.1
	slightly agree	158	29.1	29.1	67.2
	mostly agree	116	21.4	21.4	88.6
	strongly agree	62	11.4	11.4	100.0
	Total	543	100.0	100.0	

Table 172

I frequently survey customers to find out the products and services they would like to see in the future		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	14	2.6	2.6	3.3
	slightly disagree	52	9.6	9.6	12.9
	neither agree nor disagree	135	24.9	24.9	37.8
	slightly agree	138	25.4	25.4	63.2
	mostly agree	148	27.3	27.3	90.4
	strongly agree	52	9.6	9.6	100.0
	Total	543	100.0	100.0	

Table 173

The goals I set for are mainly aiming at customer satisfaction		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	18	3.3	3.3	3.3
	mostly disagree	22	4.1	4.1	7.4
	slightly disagree	147	27.1	27.1	34.4
	neither agree nor disagree	118	21.7	21.7	56.2
	slightly agree	124	22.8	22.8	79.0
	mostly agree	96	17.7	17.7	96.7

		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly agree	18	3.3	3.3	100.0
	Total	543	100.0	100.0	

Table 174

I try to figure out what a customer's needs are.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	18	3.3	3.3	3.3
	slightly disagree	85	15.7	15.7	19.0
	neither agree nor disagree	170	31.3	31.3	50.3
	slightly agree	128	23.6	23.6	73.8
	mostly agree	106	19.5	19.5	93.4
	strongly agree	36	6.6	6.6	100.0
	Total	543	100.0	100.0	

Table 175

I pay close attention to competitors' activities.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	66	12.2	12.2	12.5
	slightly disagree	67	12.3	12.3	24.9
	neither agree nor disagree	152	28.0	28.0	52.9
	slightly agree	134	24.7	24.7	77.5
	mostly agree	90	16.6	16.6	94.1

	strongly agree	32	5.9	5.9	100.0
	Total	543	100.0	100.0	

Table 176

I keep a close eye on our competitors' customer retention tactics.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	36	6.6	6.6	8.5
	slightly disagree	94	17.3	17.3	25.8
	neither agree nor disagree	152	28.0	28.0	53.8
	slightly agree	147	27.1	27.1	80.8
	mostly agree	64	11.8	11.8	92.6
	strongly agree	40	7.4	7.4	100.0
	Total	543	100.0	100.0	

Table 177

I monitor exactly what special actions our competitors are doing.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	22	4.1	4.1	4.1
	mostly disagree	28	5.2	5.2	9.2
	slightly disagree	80	14.7	14.7	23.9
	neither agree nor disagree	143	26.3	26.3	50.3

	slightly agree	146	26.9	26.9	77.2
	mostly agree	106	19.5	19.5	96.7
	strongly agree	18	3.3	3.3	100.0
	Total	543	100.0	100.0	

Table 178

I am always looking for new products and services.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	1.5	1.5	1.5
	mostly disagree	32	5.9	5.9	7.4
	slightly disagree	47	8.7	8.7	16.0
	neither agree nor disagree	156	28.7	28.7	44.8
	slightly agree	148	27.3	27.3	72.0
	mostly agree	120	22.1	22.1	94.1
	strongly agree	32	5.9	5.9	100.0
	Total	543	100.0	100.0	

Table 179

I always reconsider and develop the product and service offering of our company.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	.7	.7	.7
	mostly disagree	6	1.1	1.1	1.8
	slightly disagree	75	13.8	13.8	15.7

			Frequency	Percent	Valid Percent	Cumulative Percent
	neither agree nor disagree		160	29.5	29.5	45.1
	slightly agree		160	29.5	29.5	74.6
	mostly agree		100	18.4	18.4	93.0
	strongly agree		38	7.0	7.0	100.0
	Total		543	100.0	100.0	

Table 180

I consider innovative new products and services as a key component of success.	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	6	1.1	1.1	1.1
mostly disagree	34	6.3	6.3	7.4
slightly disagree	77	14.2	14.2	21.5
Valid neither agree nor disagree	150	27.6	27.6	49.2
slightly agree	124	22.8	22.8	72.0
mostly agree	102	18.8	18.8	90.8
strongly agree	50	9.2	9.2	100.0
Total	543	100.0	100.0	

Interfunctional Conflict

Table 181

Employees feel that the goals of different departments are in harmony with each other	Frequency	Percent	Valid Percent	Cumulative Percent

	mostly disagree	1	.2	.2	.2
	slightly disagree	183	33.7	33.7	33.9
	neither agree nor disagree	177	32.6	32.6	66.5
Valid	slightly agree	92	16.9	16.9	83.4
	mostly agree	59	10.9	10.9	94.3
	strongly agree	31	5.7	5.7	100.0
	Total	543	100.0	100.0	

Table 182

Protecting one's department turf is considered to be a way of life (r)		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly disagree	6	1.1	1.1	1.1
	slightly disagree	141	26.0	26.0	27.1
	neither agree nor disagree	189	34.8	34.8	61.9
Valid	slightly agree	124	22.8	22.8	84.7
	mostly agree	62	11.4	11.4	96.1
	strongly agree	21	3.9	3.9	100.0
	Total	543	100.0	100.0	

Table 183

There is little or no interdepartmental conflict (r)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mostly disagree	2	.4	.4	.4

	Frequency	Percent	Valid Percent	Cumulative Percent
slightly disagree	147	27.1	27.1	27.4
neither agree nor disagree	240	44.2	44.2	71.6
slightly agree	84	15.5	15.5	87.1
mostly agree	47	8.7	8.7	95.8
strongly agree	23	4.2	4.2	100.0
Total	543	100.0	100.0	

Table 184

Different departments cooperate effectively to achieve mutual goals		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	64	11.8	11.8	11.8
	mostly disagree	114	21.0	21.0	32.8
	slightly disagree	113	20.8	20.8	53.6
	neither agree nor disagree	89	16.4	16.4	70.0
	slightly agree	90	16.6	16.6	86.6
	mostly agree	73	13.4	13.4	100.0
	Total	543	100.0	100.0	

Table 185

There is little or no tension among employees from different departments (r)	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	54	9.9	9.9	9.9

	mostly disagree	103	19.0	19.0	28.9
	slightly disagree	142	26.2	26.2	55.1
	neither agree nor disagree	136	25.0	25.0	80.1
	slightly agree	75	13.8	13.8	93.9
	mostly agree	33	6.1	6.1	100.0
	Total	543	100.0	100.0	

Political activity

Table 186

I spend time at work politicking		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	15	2.8	2.8	2.8
	mostly disagree	97	17.9	17.9	20.6
	slightly disagree	158	29.1	29.1	49.7
	neither agree nor disagree	117	21.5	21.5	71.3
	slightly agree	101	18.6	18.6	89.9
	mostly agree	44	8.1	8.1	98.0
	strongly agree	11	2.0	2.0	100.0
	Total	543	100.0	100.0	

Table 187

I use my interpersonal skills to influence people at work	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	strongly disagree	36	6.6	6.6	6.6
	mostly disagree	152	28.0	28.0	34.6
	slightly disagree	108	19.9	19.9	54.5
	neither agree nor disagree	79	14.5	14.5	69.1
	slightly agree	70	12.9	12.9	82.0
	mostly agree	52	9.6	9.6	91.5
	strongly agree	46	8.5	8.5	100.0
	Total	543	100.0	100.0	

Table 188

I let others at work know of my accomplishments		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	70	12.9	12.9	12.9
	mostly disagree	108	19.9	19.9	32.8
	slightly disagree	114	21.0	21.0	53.8
	neither agree nor disagree	66	12.2	12.2	65.9
	slightly agree	93	17.1	17.1	83.1
	mostly agree	60	11.0	11.0	94.1
	strongly agree	32	5.9	5.9	100.0
	Total	543	100.0	100.0	

Table 189

I work behind the scenes to see that my work group is taken care of		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	66	12.2	12.2	14.0
	slightly disagree	78	14.4	14.4	28.4
	neither agree nor disagree	103	19.0	19.0	47.3
	slightly agree	142	26.2	26.2	73.5
	mostly agree	82	15.1	15.1	88.6
	strongly agree	62	11.4	11.4	100.0
	Total	543	100.0	100.0	

Table 190

Active politicking is an important part of my job		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	30	5.5	5.5	5.5
	mostly disagree	170	31.3	31.3	36.8
	slightly disagree	96	17.7	17.7	54.5
	neither agree nor disagree	129	23.8	23.8	78.3
	slightly agree	68	12.5	12.5	90.8
	mostly agree	22	4.1	4.1	94.8
	strongly agree	28	5.2	5.2	100.0
	Total	543	100.0	100.0	

Table 191

I use politicking at work as a way to ensure that things get done.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	28	5.2	5.2	5.2
	mostly disagree	68	12.5	12.5	17.7
	slightly disagree	110	20.3	20.3	37.9
	neither agree nor disagree	124	22.8	22.8	60.8
	slightly agree	127	23.4	23.4	84.2
	mostly agree	64	11.8	11.8	95.9
	strongly agree	22	4.1	4.1	100.0
	Total	543	100.0	100.0	

Interfunctional trust

Table 192

I trusted in the working relationship the other participants in the project.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	12	2.2	2.2	2.2
	mostly disagree	6	1.1	1.1	3.3
	slightly disagree	98	18.0	18.0	21.4
	neither agree nor disagree	181	33.3	33.3	54.7
	slightly agree	170	31.3	31.3	86.0
	mostly agree	62	11.4	11.4	97.4

	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 193

Other participants were sincere and honest with me during the project.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	62	11.4	11.4	12.5
	slightly disagree	73	13.4	13.4	26.0
	neither agree nor disagree	140	25.8	25.8	51.7
	slightly agree	152	28.0	28.0	79.7
	mostly agree	92	16.9	16.9	96.7
	strongly agree	18	3.3	3.3	100.0
	Total	543	100.0	100.0	

Table 194

Their actions always met my expectations.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	1.5	1.5	1.5
	mostly disagree	40	7.4	7.4	8.8
	slightly disagree	107	19.7	19.7	28.5
	neither agree nor disagree	176	32.4	32.4	61.0
	slightly agree	164	30.2	30.2	91.2

	mostly agree	40	7.4	7.4	98.5
	strongly agree	8	1.5	1.5	100.0
	Total	543	100.0	100.0	

Table 195

I believed the information they provided.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	12	2.2	2.2	2.2
	mostly disagree	47	8.7	8.7	10.9
	slightly disagree	68	12.5	12.5	23.4
	neither agree nor disagree	194	35.7	35.7	59.1
	slightly agree	148	27.3	27.3	86.4
	mostly agree	72	13.3	13.3	99.6
	strongly agree	2	.4	.4	100.0
	Total	543	100.0	100.0	

Table 196

Other participants fulfilled the promises made.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	22	4.1	4.1	5.9
	slightly disagree	101	18.6	18.6	24.5
	neither agree nor disagree	184	33.9	33.9	58.4

		Frequency	Percent	Valid Percent	Cumulative Percent
	slightly agree	146	26.9	26.9	85.3
	mostly agree	72	13.3	13.3	98.5
	strongly agree	8	1.5	1.5	100.0
	Total	543	100.0	100.0	

Table 197

Other participants were sincerely concerned about our interests.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	1.5	1.5	1.5
	mostly disagree	60	11.0	11.0	12.5
	slightly disagree	89	16.4	16.4	28.9
	neither agree nor disagree	170	31.3	31.3	60.2
	slightly agree	146	26.9	26.9	87.1
	mostly agree	64	11.8	11.8	98.9
	strongly agree	6	1.1	1.1	100.0
	Total	543	100.0	100.0	

Table 198

We trusted one another's capacity to carry out its work appropriately.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	14	2.6	2.6	2.6
	mostly disagree	49	9.0	9.0	11.6
	slightly disagree	78	14.4	14.4	26.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	neither agree nor disagree	180	33.1	33.1	59.1
	slightly agree	126	23.2	23.2	82.3
	mostly agree	82	15.1	15.1	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Interfunctional Integration

Table 199

In this organization different departments cooperate fully in generating and screening new ideas for new products.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	1.5	1.5	1.5
	mostly disagree	28	5.2	5.2	6.6
	slightly disagree	91	16.8	16.8	23.4
	neither agree nor disagree	150	27.6	27.6	51.0
	slightly agree	120	22.1	22.1	73.1
	mostly agree	128	23.6	23.6	96.7
	strongly agree	18	3.3	3.3	100.0
	Total	543	100.0	100.0	

Table 200

In this organization different departments fully cooperate in establishing goals and priorities for our strategies.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	74	13.6	13.6	14.0
	slightly disagree	79	14.5	14.5	28.5
	neither agree nor disagree	116	21.4	21.4	49.9
	slightly agree	130	23.9	23.9	73.8
	mostly agree	120	22.1	22.1	95.9
	strongly agree	22	4.1	4.1	100.0
	Total	543	100.0	100.0	

Table 201

In this organization different departments are adequately represented on project teams and other strategic activities		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	107	19.7	19.7	20.8
	slightly disagree	130	23.9	23.9	44.8
	neither agree nor disagree	120	22.1	22.1	66.9
	slightly agree	78	14.4	14.4	81.2
	mostly agree	88	16.2	16.2	97.4
	strongly agree	14	2.6	2.6	100.0

Total	543	100.0	100.0	

Resource Allocation effectiveness

Table 202

Our firm's top management allocated all the **monetary** resources required to complete the specific new service development project	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	4	.7	.7	.7
mostly disagree	36	6.6	6.6	7.4
slightly disagree	89	16.4	16.4	23.8
Valid neither agree nor disagree	156	28.7	28.7	52.5
slightly agree	160	29.5	29.5	82.0
mostly agree	70	12.9	12.9	94.8
strongly agree	28	5.2	5.2	100.0
Total	543	100.0	100.0	

Table 203

Our firm's top management allocated all the **personnel** required to complete the specific new service development project	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	4	.7	.7	.7
Valid mostly disagree	64	11.8	11.8	12.5
slightly disagree	112	20.6	20.6	33.1

		Frequency	Percent	Valid Percent	Cumulative Percent
	neither agree nor disagree	117	21.5	21.5	54.7
	slightly agree	142	26.2	26.2	80.8
	mostly agree	84	15.5	15.5	96.3
	strongly agree	20	3.7	3.7	100.0
	Total	543	100.0	100.0	

Table 204

Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	1.1	1.1	1.1
	mostly disagree	26	4.8	4.8	5.9
	slightly disagree	111	20.4	20.4	26.3
	neither agree nor disagree	146	26.9	26.9	53.2
	slightly agree	164	30.2	30.2	83.4
	mostly agree	62	11.4	11.4	94.8
	strongly agree	28	5.2	5.2	100.0
	Total	543	100.0	100.0	

Table 205

Our firm's top management provided all the **information** required to complete the specific new service development project		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.4	.4	.4
	mostly disagree	66	12.2	12.2	12.5
	slightly disagree	89	16.4	16.4	28.9
	neither agree nor disagree	112	20.6	20.6	49.5
	slightly agree	172	31.7	31.7	81.2
	mostly agree	86	15.8	15.8	97.1
	strongly agree	16	2.9	2.9	100.0
	Total	543	100.0	100.0	

Table 206

Our firm's top management allocated all the IT **infrastucture** required to complete the specific new service development project		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	1.8	1.8	1.8
	mostly disagree	30	5.5	5.5	7.4
	slightly disagree	108	19.9	20.0	27.4
	neither agree nor disagree	119	21.9	22.0	49.4
	slightly agree	178	32.8	32.9	82.3
	mostly agree	78	14.4	14.4	96.7
	strongly agree	18	3.3	3.3	100.0

Total	541	99.6	100.0	
Missing System	2	.4		
Total	543	100.0		

Resource Allocation Efficiency

Table 207

Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	46	8.5	8.5	8.5
	mostly disagree	94	17.3	17.3	25.8
	slightly disagree	155	28.5	28.5	54.3
	neither agree nor disagree	94	17.3	17.3	71.6
	slightly agree	112	20.6	20.6	92.3
	mostly agree	42	7.7	7.7	100.0
	Total	543	100.0	100.0	

Table 208

Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	54	9.9	9.9	9.9

		Frequency	Percent	Valid Percent	Cumulative Percent
	mostly disagree	169	31.1	31.1	41.1
	slightly disagree	104	19.2	19.2	60.2
	neither agree nor disagree	146	26.9	26.9	87.1
	slightly agree	50	9.2	9.2	96.3
	mostly agree	20	3.7	3.7	100.0
	Total	543	100.0	100.0	

Table 209

Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	70	12.9	12.9	12.9
	mostly disagree	114	21.0	21.0	33.9
	slightly disagree	147	27.1	27.1	61.0
	neither agree nor disagree	106	19.5	19.5	80.5
	slightly agree	88	16.2	16.2	96.7
	mostly agree	4	.7	.7	97.4
	strongly agree	14	2.6	2.6	100.0
	Total	543	100.0	100.0	

Table 210

Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	58	10.7	10.7	10.7
	mostly disagree	145	26.7	26.7	37.4
	slightly disagree	132	24.3	24.3	61.7
	neither agree nor disagree	124	22.8	22.8	84.5
	slightly agree	62	11.4	11.4	95.9
	mostly agree	22	4.1	4.1	100.0
	Total	543	100.0	100.0	

Table 211

Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	98	18.0	18.0	18.0
	mostly disagree	135	24.9	24.9	42.9
	slightly disagree	114	21.0	21.0	63.9
	neither agree nor disagree	92	16.9	16.9	80.8
	slightly agree	74	13.6	13.6	94.5
	mostly agree	22	4.1	4.1	98.5

strongly agree	8	1.5	1.5	100.0
Total	543	100.0	100.0	

Questionnaires

1. Project manager Questionnaire

The following sentences describe some organizational conditions and characteristics of your firm. Please select the extent you agree or disagree with each of the following sentences for the company you are currently working for.

	Strongly Disagree						Strongly Agree
This company emphasizes on understanding employee needs	1	2	3	4	5	6	7
At least once a year employees fill in questionnaires regarding their needs and wants from the company	1	2	3	4	5	6	7
I meet regularly with my subordinates so that we have the chance to say what we expect from the company	1	2	3	4	5	6	7
Assessing employees' job satisfaction is an important task for me	1	2	3	4	5	6	7
This company is informed about legal development in the labor market	1	2	3	4	5	6	7

This company is informed about new jobs created in other industries that could attract employees from this firm	1	2	3	4	5	6	7
This company is systematically analyzing the working conditions of employees in competition	1	2	3	4	5	6	7
In this company employees are identified in groups based on our individual characteristics and needs	1	2	3	4	5	6	7
All employees are treated exactly the same way. Individual needs are ignored	1	2	3	4	5	6	7
Our individual needs are systematically assessed in this company	1	2	3	4	5	6	7
Every important decision regarding resource policies is always adapted according to individual needs	1	2	3	4	5	6	7
Specific human resource policies are always considered for specific groups of employees with a	1	2	3	4	5	6	7

common set of needs							
No action is ever taken unless its impact on specific groups of employees with common needs is evaluated	1	2	3	4	5	6	7
Before any policy change I inform my subordinates face to face in advance	1	2	3	4	5	6	7
I am sincerely listening about the problems employees have doing their job	1	2	3	4	5	6	7
I am always concerned about personal problems I have that may affect their performance	1	2	3	4	5	6	7
I always spend time informing my subordinates about tasks, objectives and reach an agreement with them	1	2	3	4	5	6	7
The supervisors in this company meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say	1	2	3	4	5	6	7
This company encourages us to meet and discuss issues concerning our	1	2	3	4	5	6	7

subordinates							
In many occasions the solution to a problem had come from a supervisor from a different department	1	2	3	4	5	6	7
The supervisors in this company meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say	1	2	3	4	5	6	7
My job description allows me to satisfy my personal needs and goals through my work	1	2	3	4	5	6	7
Nothing has ever been assigned to my subordinates unless we had agreed that we could really achieve	1	2	3	4	5	6	7
The tasks I assign help employees to advance their career with this company	1	2	3	4	5	6	7
I always justify my job description and the tasks I assign to more senior levels of management	1	2	3	4	5	6	7
When an employee does something extraordinary, (s)he will receive some financial bonus/reward	1	2	3	4	5	6	7

Individual income and the annual increases are very closely tied to qualifications and performance	1	2	3	4	5	6	7
Everyone gets an annual bonus regardless of their performance	1	2	3	4	5	6	7
My income and the annual increases are much related to those of people with similar qualifications working in this or any other industry	1	2	3	4	5	6	7
The Senior Management of this company is really indifferent for employee problems	1	2	3	4	5	6	7
Nothing is too expensive for our Senior Management if this would satisfy specific needs of specific groups of employees	1	2	3	4	5	6	7
The Senior Management is really considering about our individual needs and makes policies that reflect it	1	2	3	4	5	6	7
The Senior Management is resolved to solving our problems and giving us	1	2	3	4	5	6	7

all required support necessary for our job							
In this company, training is closely related to the individual needs of each employee	1	2	3	4	5	6	7
A newly hired employee will have to find his own answers to the requirements of the job	1	2	3	4	5	6	7
Before the implementation of a major change in service rules, we always get significant training regarding its impact on our daily activities and job description	1	2	3	4	5	6	7
If one is moved from one department to another, the new supervisor will personally train him/her for a pre-specified period of time	1	2	3	4	5	6	7

Demographic Information

Experience in product/service development projects

1-2 NSD projects	
3-5 NSD projects	
Over 6 NSD projects	

Experience in your current position

1-3 years	
3-5 years	
Over 5 years	

Educational background

Primary	
Secondary	
Higher Education	
Master Degree	
Doctorate	

Departmental status

CEO	
Operations Manager	
Marketing/Sales Manager	
CFO	
IT manager	
Other	

Organizational Level

Top management	

Middle level executive	
Contact employee/ sales representative	

Gender

Man	
Woman	

Age group

24-30	
31-40	
41-50	
51-60	
Over 60	

Firm Information

Industry type

B2B	
B2C	

Company size

35-50 employees	
51-100 employees	
Over 100 employees	

2. Employee Questionnaire

The following sentences describe some organizational conditions and characteristics of your firm. Please select the extent you agree or disagree with each of the following sentences for the company you are currently working for.

	Strongly Disagree						Strongly Agree
I am always looking for new products and services	1	2	3	4	5	6	7
I always reconsider and develop the product and service offering of our company	1	2	3	4	5	6	7
I consider innovative new products and services as a key component of success	1	2	3	4	5	6	7
I pay close attention to competitors' salespeople's activities	1	2	3	4	5	6	7
I keep a close eye on our competitors salespeople's customer retention tactics	1	2	3	4	5	6	7
I monitor exactly what special actions our competitors are doing	1	2	3	4	5	6	7
I think customer preferences are a key factor to the success our company	1	2	3	4	5	6	7

I frequently survey customers to find out the products and services they would like to see in the future	1	2	3	4	5	6	7
The goals I have are mainly aiming at customer satisfaction	1	2	3	4	5	6	7
I try to figure out what a customer's needs are	1	2	3	4	5	6	7
I have the customer's best interests in mind	1	2	3	4	5	6	7

The following sentences describe interfunctional conditions that existed in your firm during the development project indicated from your supervisor. Please select the extent you agree or disagree with each of the following sentences for the company you are currently working for.

	Strongly Disagree						Strongly Agree
I trusted in the working relationship the other participants in the project	1	2	3	4	5	6	7
Other participants were sincere and honest with me during the project	1	2	3	4	5	6	7
Their actions always met my expectations	1	2	3	4	5	6	7
I believed the information they provided	1	2	3	4	5	6	7

Other participants fulfilled the promises made	1	2	3	4	5	6	7
Other participants were sincerely concerned about our interests	1	2	3	4	5	6	7
We trusted one another's' capacity to carry out its work appropriately	1	2	3	4	5	6	7
I spend time at work politicking	1	2	3	4	5	6	7
I use my interpersonal skills to influence people at work	1	2	3	4	5	6	7
I let others at work know of my accomplishments	1	2	3	4	5	6	7
I work behind the scenes to see that my work group is taken care of	1	2	3	4	5	6	7
Active politicking is an important part of my job	1	2	3	4	5	6	7
I use politicking at work as a way to ensure that things get done	1	2	3	4	5	6	7
Employees feel that the goals of different departments are in harmony with each other	1	2	3	4	5	6	7
Protecting one's	1	2	3	4	5	6	7

department turf is considered to be a way of life							
There is little or no interdepartmental conflict	1	2	3	4	5	6	7
Different departments cooperate effectively to achieve mutual goals	1	2	3	4	5	6	7
There is little or no tension among employees from different departments	1	2	3	4	5	6	7
In this organization different departments cooperate fully in generating and screening new ideas for new products.	1	2	3	4	5	6	7
In this organization different departments fully cooperate in establishing goals and priorities for our strategies.	1	2	3	4	5	6	7
In this organization different departments are adequately represented on project teams and other strategic activities	1	2	3	4	5	6	7

The following sentences aim to investigate different characteristics of the specific new service development process of your company. Please select the extent you agree or disagree with each of the following sentences for the company based on the project indicated by your supervisor.

	Strongly Disagree						**Strongly Agree**
Our experience and learning in this project proved to be essential for the successful creation and completion of subsequent projects.	1	2	3	4	5	6	7
The knowledge acquired during the innovation process of this project served as an essential input for other new service developments	1	2	3	4	5	6	7
The development of this new financial service created a general development expertise that eased the development and introduction of subsequent new services	1	2	3	4	5	6	7
The expertise of developing and launching this new financial service lead to an enhanced know-how for future innovation projects.	1	2	3	4	5	6	7
Through the development and launch of this new service, project members learned a lot on new financial	1	2	3	4	5	6	7

service innovation.							
The organization had acquired much new and relevant knowledge from this project	1	2	3	4	5	6	7
Organizational members had acquired critical capacities and skills from this project	1	2	3	4	5	6	7
Organizational improvements had been influenced by the entry of new knowledge from this project	1	2	3	4	5	6	7
My organization is a learning organization	1	2	3	4	5	6	7

	Strongly Disagree						**Strongly Agree**
Formal procedures exist for documenting the ''lessons learned'' from completed NSD projects	1	2	3	4	5	6	7
NSD knowledge is generally ''stored'' as new processes and routines immediately after project completion	1	2	3	4	5	6	7
Manuals and handbooks are used extensively to make NSD knowledge	1	2	3	4	5	6	7

available for subsequent use on other projects							
NSD knowledge generally remains ''in the heads'' of those individuals executing the activities of the NSD project	1	2	3	4	5	6	7
During NSD written reports are used extensively to NSD knowledge	1	2	3	4	5	6	7
During NSD organizational problems are solved by interdepartmental teams	1	2	3	4	5	6	7
During NSD there are high levels of communication between different parts of the organization	1	2	3	4	5	6	7
During NSD cooperation between departments is usually very high	1	2	3	4	5	6	7
Temporary project teams are used to manage most NSD processes	1	2	3	4	5	6	7

The following sentences aim to investigate different conditions within the development team during the specific project. Please select the extent you agree or disagree with each of the following sentences for the company based on the project indicated by your supervisor.

In this project,	**Strongly Disagree**						**Strongly Agree**
I know exactly what is expected of me	1	2	3	4	5	6	7
I know that I have divided my time properly	1	2	3	4	5	6	7
I have clear, planned goals, and objectives for my job	1	2	3	4	5	6	7
Explanation is clear of what has to be done	1	2	3	4	5	6	7
I feel certain about how much authority I have	1	2	3	4	5	6	7
I know what my responsibilities are	1	2	3	4	5	6	7
Participants were supported for developing new ideas, regardless of the eventual success/failure of these ideas	1	2	3	4	5	6	7
There was space to experiment with new ideas	1	2	3	4	5	6	7
Failures and setbacks were tolerated by management	1	2	3	4	5	6	7
Creation and sharing of new knowledge was supported	1	2	3	4	5	6	7
Our firm's top management allocated	1	2	3	4	5	6	7

all the **monetary** resources required to complete the specific new service development project							
Our firm's top management allocated all the **personnel** required to complete the specific new service development project	1	2	3	4	5	6	7
Our firm's top management provided the NSD participants an adequate amount of **time** to complete the specific new service development project	1	2	3	4	5	6	7
Our firm's top management provided all the **information** required to complete the specific new service development project	1	2	3	4	5	6	7
Our firm's top management allocated all the IT **infrastucture** required to complete the specific new service development project	1	2	3	4	5	6	7
Our firm's top management allocated all the **monetary** resources required to complete the specific	1	2	3	4	5	6	7

new service development project							
Had our firm's top management allocated to this NSD project less **monetary** resources, we would have achieved the same outcome	1	2	3	4	5	6	7
Had our firm's top management allocated to this NSD project less **personnel**, we would have achieved the same outcome	1	2	3	4	5	6	7
Had our firm's top management given to this NSD project a more strict **time schedule**, we would have achieved the same outcome	1	2	3	4	5	6	7
Had our firm's top management allocated to this NSD project less the IT **resources**, we would have achieved the same outcome	1	2	3	4	5	6	7
Had our firm's top management allocated to this NSD project less **info**, we would have achieved the same outcome	1	2	3	4	5	6	7
Had our firm's top management allocated to this NSD project less **monetary** resources,	1	2	3	4	5	6	7

we would have achieved the same outcome							
There is much conflict of ideas is my work group	1	2	3	4	5	6	7
We often have disagreements within my work group about the task of the project we are working on	1	2	3	4	5	6	7
Often people in my team had conflicting opinions about the project they are working on	1	2	3	4	5	6	7
There is much relationship tension is there in my work group	1	2	3	4	5	6	7
People often get angry while working in my group	1	2	3	4	5	6	7
There are emotional conflicts in my work group	1	2	3	4	5	6	7

The following part aims to investigate the performance of the specific project. Please select the extent you agree or disagree with each of the following sentences based on the project indicated by your supervisor.

In this project, we achieved / met	**Strongly Disagree**						**Strongly Agree**
high adherence to cost	1	2	3	4	5	6	7

for development							
assigned timeschedule	1	2	3	4	5	6	7
original goals	1	2	3	4	5	6	7
calculated profits	1	2	3	4	5	6	7
projected market share	1	2	3	4	5	6	7
sales goals	1	2	3	4	5	6	7
overall high development performance	1	2	3	4	5	6	7

Demographic Information

Experience in product/service development projects

1-2 NSD projects	
3-5 NSD projects	
Over 6 NSD projects	

Experience in your current position

1-3 years	
3-5 years	
Over 5 years	

Educational background

Primary	
Secondary	
Higher Education	
Master Degree	
Doctorate	

Your department

Finance/ accounting	
Marketing/Sales	
Contact employees/ Sales representatives	
IT support	
HR	

Organizational Level

Top management	
Middle level executive	
Contact employee/ sales representative	

Gender

Man	
Woman	

Age group

24-30	
31-40	
41-50	
51-60	
Over 60	