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Ph.D. Thesis

Strategy Making: A Gamified Causal Mapping Approach.

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Summary

This PhD dissertation explores the potential of integrating gamification with causal mapping to improve strategy making sessions. The research question asks whether gamification can improve strategy making workshops that employ Causal Mapping. The objectives include identifying participant challenges, exploring how gamification can address these challenges, and selecting gamification elements that enhance the process. This investigation addresses the low adoption rates of Causal Mapping in organizational strategy development despite its proven benefits in navigating complex, unstructured scenarios.

The study adopts an ethnographic action research design, utilizing my dual roles as a strategist and a researcher to observe and interact effectively within the research settings. The research philosophy combines phenomenology and pragmatism, reflecting a socially constructed view of strategy. The fieldwork involved action research cycles across two organizational settings: the IT department of an FMCG company in the UAE and the Dubai Center of Strathclyde Business School. These settings provided diverse contexts for testing the gamified Causal Mapping approach, facilitated by different group support systems.

The dissertation is structured into eight chapters, starting with a comprehensive literature review and progressing through detailed presentations of each research iteration. The findings from these iterations are synthesized to assess the effectiveness of gamified Causal Mapping in enhancing strategy workshops.

The study contributes to academic knowledge and practical applications in strategic management. From an academic perspective, it suggests a way to improve strategy making workshops using gamification, showcasing it on SODA, while still being applicable to other strategy making approaches. It opens possibilities for further research into integrating gamification methods and their broader application across different organizational contexts. The findings underscore the potential of gamified Causal Mapping to make strategy a more inclusive and dynamic practice, thereby democratizing the strategy process and enhancing organizational capabilities. It is a matter of future research to establish if the insights from this study also apply to strategy making sessions that use different modelling tools than causal mapping. A technical prototype is developed to illustrate the application experience.

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1. Introduction

In this introduction, I will discuss the motivation that has drawn me to embark on my PhD studies in management science and choose this topic. I will briefly present the research question and objectives. I will define the study context and target organizations. I will finally describe the flow and relevant considerations.

1.1. Study Motivation

What drew my attention to studying the overlap gamification on causal mapping was a discussion that Viktor and I had back in 2018. I was describing my woes in strategy implementation in the organization I was working in. Somehow, the topic of gamification came up. Viktor had already co-written a few papers about it (Shpakova et al., 2016, 2017; Spanellis et al., 2020), and I had just read about its potential. I wondered whether it could help address some of the implementation issues I was facing, and Viktor thought it was a good idea to study this further, marking the sprout of the PhD idea.

I have used causal mapping for a long time at work, in consulting engagements and facilitation assignments. I always enjoyed the awe it produced in sceptical participants when they saw the structure and actionable outcome the map delivered out of the messy situation of their daily lives. This awe is why I chose it as the subject to teach and utilize when I first became the local counsellor for the Making Strategy Course in Dubai MBA program in 2009.

But an endeavour such as the PhD is no small feat, and if I wanted to see it through, I realized that I needed to muster varied and enormous motivation on professional, academic, and personal levels. The professional motivation was obvious yet volatile due to the ever-changing situation at the workplace. What was constant about it was that I would augment my professional arsenal with knowledge and a time-proof and valuable degree. While helpful, the reputational improvements were insignificant and could produce stereotypical prejudice in my day job. However, they were helpful for my consulting, facilitation, and teaching side hustles.

On the academic level, a second career in academia was a tempting distant future to contemplate, one that I felt was possible, though not imminently. More important was the idea that I could contribute to improving Causal Mapping and propagate its use, at least in my direct circles and geography. One of the beauties of the approach and surrounding frameworks such as SODA is that they bring strategy to be

part of daily practice and allow mortals to glimpse through its far-reaching spectacle. The quest for democratizing strategy is indeed a worthy and sublime mission. Somehow, my position as an executive, a practitioner, a part-time facilitator and consultant, a research candidate and an interested individual gave me an edge in this endeavour.

1.2. Study Objective

Causal Mapping is a problem structuring method that has proven its capabilities in mapping out organizational strategy. While it has succeeded in complex, unstructured situations, it is yet to enjoy the widespread organization-wide adoption that corresponds to its power. This dissertation attempts to augment Causal Mapping with gamification to open the door for easier adoption and more frequent use of the modified method. In doing so, the desired outcome is that the Gamified Causal Mapping proves its capability to address chronic pains in strategy making sessions.

This study aims to understand if and how gamifying the causal mapping technique can help boost the participation of less active participants while improving the experience for participants opting to play an active role. It attempts to enrich the strategy making experience with elements that encourage regular sessions, which act as catalysts to making teams more complex as individuals and in their interactions. The research question becomes:

<i>Can gamification improve strategy-making sessions that use Causal Mapping?</i>
--

The above leads to the following Research objectives:

- Identify areas most problematic for participants in causal mapping sessions.
- Understand how gamification helps address challenges in strategy sessions.
- Select the gamification elements that can amplify the effect of different process parts.
- Visualize a gamified strategy making process revolving around the causal mapping sessions.

Answering this question and achieving the ensuing objectives are exciting for two reasons. The first relates to my personal experience. Having used the technique for a long time, I could not help wondering whether even more benefits could be extracted from it using gamification's underlying psychological principles. The second is that gamification has proven its capability to augment the practicality of processes, increasing the chances of adoption by interested individuals and organizations in different fields. It would be interesting to see if causal mapping can become a standard process.

The above question matters to both academics and practitioners. From an academic perspective, it would benefit both strategy-making in causal mapping and gamification fields. Importantly, although Strategic Options Development and Analysis (SODA) is used to showcase the contribution of this study, the contribution is not tied to SODA. Causal mapping researchers might see an opportunity to address deficiencies related to buy-in by revisiting psychological drivers and social dynamics. Some of those deficiencies are highlighted in section 2.2.1.3 relating to challenges faced in open strategy endeavors

Gamification researchers can add corporate strategizing to the list of gamified disciplines and move on to work on adding additional corporate and management activities and processes. From a practical perspective, gamification endeavours have benefited many areas, including innovation, marketing, performance management, and many others (Shpakova et al., 2017). These benefits included boosting motivation, flexibility, transparency, trust, and visualization. It is worth investigating whether these practical aspects can enhance Causal mapping capability to capture subjectivity and contradiction in a group setup, opening the door to understanding the situation and creating options for action (Eden, 2004).

1.3. Study Context

To better understand this study, one should differentiate between the underlying philosophical grounding employed to understand strategy and gamification and the research philosophy. The research philosophical position is a *combination of phenomenology and pragmatism*. There is a mutual influence between the socially constructed view of strategy and the adopted research philosophy. As a result, I could quickly act on cues detected in the research. I could also use the frameworks implemented to capture new developing perceptions. I am a strategist and a researcher running the strategy session, looking for meaningful patterns. The interaction has helped me avoid schizophrenia by allowing the two stances to work in harmony.

The research design is *Ethnographic action research*, and its *strategies, processes, and journey* follow this design. Action research as a method is not frequently seen in doctoral studies, as its multiple iterations might create time and resource challenges. Nevertheless, Viktor encouraged me to move ahead and put my background and experience as a practitioner to good use. Having access to welcoming organizations, the knowledge of engaging participants, and conducting strategy workshops that feed research allowed me to achieve good results with practical consequences and the potential to continue

the journey. Using sound and innovative research methods, I developed a software proof of concept that can become a guideline for similar implementations, an indication of the practicality of crossing research with practice.

To bring context to the studied organizations, I now present the studied organizations. The first organization (Target1) was the IT department of an FMCG company in the UAE. Target1 is traditionally structured, with a director leading each core unit (sales, supply chain and manufacturing). The support functions, such as finance, marketing, IT, Human Resources, and Quality Assurance, are each led by a director who supports the core units. While the company has different brands and locations, it functions as a centralized entity where support functions serve the whole organization. The target for the SODA exercise was the IT department. There were fourteen participants, eight physically present and six remote due to Covid restrictions. The participants were the heads of the other departments directly dealing with the IT department and key employees of the IT department. The strategy workshops were face-to-face and on Microsoft Teams (for remote participants). The GSS (StrategyFinder.pro) allowed simultaneous working in the cloud.

Target2 client organization in the second session was the Dubai Center of Strathclyde Business School. The centre is newly renovated, and the management is newly appointed. Eight participants were four staff members, two local counsellors (one is an alumnus), and two student representatives. I acted as the facilitator but still participated since I am a local counsellor and MBA alumnus. This iteration spanned three meetings. The first occurred on-premise, with only two participants logging on remotely over Zoom. The GSS used was Decision Explorer, as I did not have admin access to Strategy Finder for this session. The second SODA session resembled the setup of the first one with a few modifications. I still had a hybrid model of on-premise and remote participants. However, I used single-user mode (Ackermann & Eden, 2021), and the on-premises participants used a shared screen and posted notes to contribute. The remote participants were connecting through Zoom.

At the end of the second iteration, I added a simulated phase of software design. While developing fully functional software might have made the outcome immediately applicable, I opted to produce the design only. In doing so, I steered away from being bogged down by the time and resources required for software development while keeping the door open for different options that suit specific needs to be developed in the future.

1.4.Study Flow

The dissertation starts with a literature review covering causal mapping, its application in strategy, and a brief history of and potential for gamification (Chapter 2). This literature review is structured from the bottom up. A transitory chapter (Chapter 3) that bridges the way into the rest of the dissertation follows. It presents the evolution of the research question and how it reached its final form. The method chapter (Chapter 4) comes next. It describes the philosophical stance on strategy and gamification and the philosophical assumptions and approaches of the research.

Iteration 1 is presented in Chapter 5. It describes the first RO-AR iteration, including the standard SODA session and its surroundings in Target 1. Chapter 6 discusses the second RO-AR iteration, including the first gamification attempt. This manually gamified iteration was implemented in Target 2. At the end of chapter 6, a prototype of a software design is included to simulate the experience of an automated gamified SODA process. It provides validation interviews to get some insight into the potency of the approach. Each iteration chapter includes data analysis and synthesis, as well as the findings, outcomes, and discussions resulting from these research iterations.

Chapter 7 includes the discussions of the outcome and implications. It contrasts the different iterations laterally and presents cross-iteration notes that capture insights and patterns noticed when looking at all the iterations holistically. While each iteration includes its outcomes, discussions and references to the extant literature, chapter nine provides a cross-iteration of outcomes and further discussion.

Chapter 8 provides a conclusion and final commentary. It includes methodological reflections, research significance, limitations, and future research.

2. Literature Review

The starting point of this dissertation is to get a feel for what has been written in Causal Mapping, Strategy and Gamification. This section does not aim to offer a comprehensive review of the literature in these areas, as I am not looking for a gap in the literature. The aim is to create a conceptual framework for analysis. I start by introducing causal mapping before talking about its presence in strategy discussions. I then present some background about Group Support Systems and their utility in Strategy before concluding by reviewing some literature about Gamification in Strategy.

2.1.Causal Mapping: An introduction

As defined by Bryson et al. (2016, p.10):

A causal map is a statements-and-arrows diagram. The arrows indicate how one idea or action leads to another in a means-ends relationship. In other words, an arrow means “might cause,” “might lead to,” “might result in,” or a similar influence relationship.

This simple structure is surprisingly potent in capturing complex and qualitative ideas. All there is to a Causal Map (and to a Cognitive Map, in that matter) is a concept (a short statement expressing an opinion) and an arrow showing causality. Yet, the simple structure can help capture and model human thinking, allowing a shared understanding and coordinated action.

This section covers the concepts underlying Causal Mapping according to the map in Figure 1:

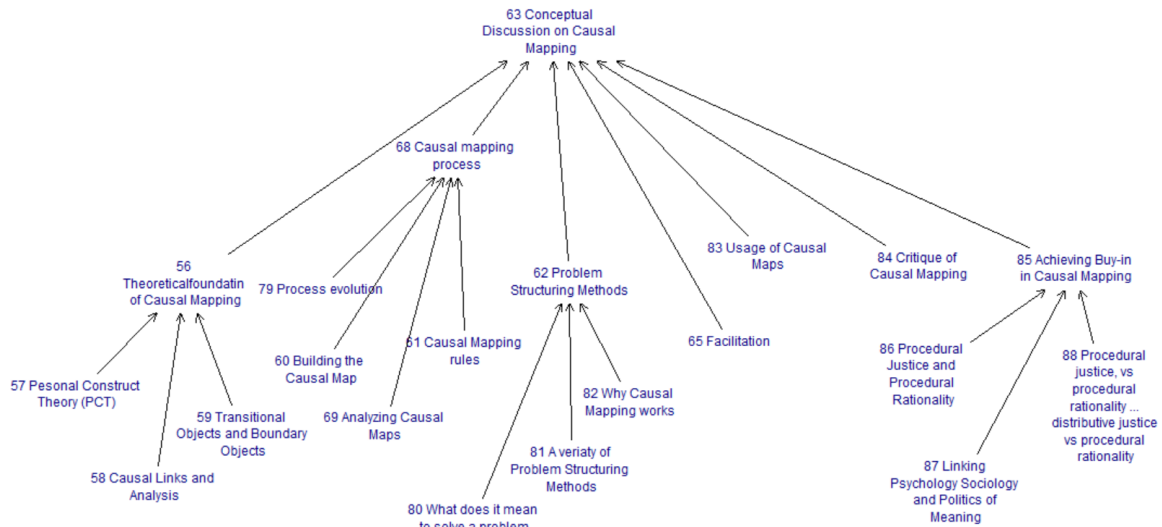


Figure 1 Literature Review Map

2.1.1. The theoretical foundation of the Causal Mapping Technique

To understand how causal mapping works, I must shed light on three theoretical concepts. The first is Kelly's Personal Construct Theory, the outcome of his clinical psychology work, describing the mind's method of building and validating knowledge and experience. The second theoretical concept is causality and the analysis of causal links. Although simple, causality adds a new dimension to the map that carries additional meaning and can be analyzed to uncover hidden ideas. The third concept is the Boundary Object, the virtual repository that holds shared outcomes and resides in the elusive mental area the participating group shares with different thinking and drivers.

2.1.1.1. Personal Construct Theory (PCT)

Causal Mapping finds its theoretical roots in George Kelly's Personal Construct Theory (PCT). Kelly's PCT was a milestone in leaping from behavioural to cognitive psychology. Behavioural psychology addresses the development, maintenance, control, and elimination of human beings' behaviours and possibly other species (Bufford, 1999). On the other hand, cognitive psychology "explores the operation of mental processes related to perceiving, attending, thinking, language, and memory, mainly through inferences from behaviour" (American Psychological Association, 2020). The leap was a big feat in the Nineteen fifties when behavioural psychology was the predominant approach to explaining human behaviour.

PCT comprises a fundamental postulate and eleven corollaries laying down a simple model of our cognition. The main cognitive building block is the 'Construct,' a mental template or pattern humans use to make sense of the world. We accumulate constructs as we navigate through life experiences. Constructs help us predict the future by comparing it to a past event. In that sense, every man behaves like a scientist to retrieve evidence to analyze the potential outcome of future decisions with his constructs' help. These constructs are unique to each person and among people (Kelly et al., 1963).

Constructs store information based on bipolar choices (good vs bad) of the outcome of a situation or an experience. Therefore, the range of options a person has when facing a similar problem is finite, and that person will choose the path that will lead to the perceived good outcome. Whether this works out for him will test the construct validity against real-life experience, strengthening it if it holds valid or pushing the individual to modify it if it does not. Some constructs may conflict when deciding how to behave in a situation. In such a case, the context dictates which ones take precedence. These constructs also define how a person acts in a social context, as they determine sociability and behaviour in a group. People with similar constructs relate well. Therefore, individuals try to understand other people's constructs as a prelude to deciding how to deal with them (Kelly et al., 1963).

Without alternatives, a person facing a situation that challenges their constructs might construe this as a personal attack. Being outside the comfort of constructs is similar to being in uncharted, scary territory. A person might face enormous challenges to accept that their constructs are not valid in the real world. It is a troubling and unbalancing experience that might even pose existential risks, where the person feels that they lost the perceived ability to predict and control his environment. As a defensive mechanism, people are inclined not to declare constructs, keep them a secret, and aggressively defend them even if they doubt them (Kelly et al., 1963).

Therefore, a researcher must understand a person's constructs to deal with a person or change his/her predisposition to accept a new idea. He will understand the drivers behind the decisions and attempt to re-engineer behaviour by modifying these constructs. If these constructs are known, people around them will learn how to interact better with the individual. Using PCT as a foundation, Kelly devised the "Repertory Grid Technique" (RPT) for clinical practice. He based it on pre-set tables. Those tables captured constructs in a predefined matrix by interviewing the subject. Although revolutionary in what it attempted to do, RPT had limited flexibility to adequately capture what was going on in mind due to the rigid nature of its tables. These tables capped the capability to capture the fluid essence of the human mind.

Furthermore, the Repertory Grid Technique proved even less practical in achieving its complicated purpose outside the clinical context. It was not suitable for mapping managerial cognition. However, the crucial first step eventually created the Causal Mapping technique (Ackermann & Eden, 2010b; Eden, 1988; Pyrko & Dörfler, 2018).

2.1.1.2. Causality and Causal Links

Presenting ideas in a map format rather than textual fashion capitalizes on the brain's comfort in dealing with graphics over text. Links between statements create a map. They connect and give clues about the relative importance of issues (Ackermann & Eden, 2001; Eden & Ackermann, 2011). Causal mapping differentiates itself from other mapping techniques using causal links instead of regular connections. Causal Links load the relationship between two statements with a causal relationship or causality. Causal links are directional links, pointing from the cause to the outcome, as per Bryson et al. (2016)

The term causation is thus used loosely but still indicates a plausible understanding of how to change some aspects of the world. Note, however, that a cause-and-effect relationship specifically maps out influence, not chronology. In a visual strategy map the statements represent potential actions that, if taken, are presumed to cause a given outcome(s). Each action informs and supports the explanation of other actions (in-arrows), and each action may be an outcome (out-arrow) of earlier actions. As a result, statements on a map can be both an action (explanation) and an outcome (consequence) (Bryson et al., 2016, p.10).

The additional meaning that causality brings to the links between concepts opens the door for meaningful analysis. The primary purpose of analyzing the map is to add objectivity. In a group setting, this objectivity is necessary to highlight key aspects of the map and move it from being owned by the individual to the group (Ackermann et al., 2014; Eden et al., 2007). Map analysis includes re-arranging the map to make sense of it, identifying and studying busy nodes as potential priorities, examining the heads and tails, finding, and analyzing loops, and synthesizing the analysis that the groups call their own and can communicate across the organization. More on this will come in later sections.

2.1.1.3. Transitional Objects and Boundary Objects

A Causal Mapping session is a team activity, and its outcome map results from the group's effort. In such a setup, Boundary and Transitional Objects play a considerable role. Both ideas describe a feature of the

resulting map that makes it suitable to be the object over which participants deliberate and reach an agreement. These two concepts contribute to why Causal Mapping works in a group setting.

A transitional object is a shared ownership object. A map is also a transitional object because it is “always in transition - acting as a ‘transitional object’ - providing a way of the group seeing and developing new options reflecting the process of emergent strategizing.” When computer software helps build the map, it acts as a catalyst that facilitates the creation of the transitional object without being a pre-requisite (Eden & Ackermann, 2018, p.1150). Simply put, the map is a jointly-owned object that is fluid and hospitable to continuous evolution.

Bryson et al. (2014) demonstrated the meaning of maps as transitional objects in the case study they presented in their book. As groups deliberate, debate, and negotiate, many ideas are modified, added, or regrouped. The causality of links is questioned and verified. The initial map is in continuous change, reflecting the evolution of the group’s shared understanding of the situation. This transitional object allows participants to change their minds incrementally and quickly, revealing new aspects of the conversation, the essence of transition. Group members do not feel pressured to respond emotionally to other people’s views (Ackermann & Eden, 2010b). Ackermann and Eden (2010d, p.32) state that “... the initial purpose of the merged map is to change the minds of each member of the client group, without their feelings compromised.” Pyrko and Dörfler (2018) stress that a causal map becomes a transitional object only when it becomes independent of the individual who created it and, as such, allows him/her to change their mind voluntarily and objectively.

The term transitional object is often used synonymously with Boundary Object, even though they are not identical. The term boundary refers to the fact that the boundary object sits at the periphery of the perspective and cognition of each different individual. There is a certain level of agreement about the ideas presented on the map by all people concerned, and can be in a continuously changing state (Dörfler, 2019). “A Boundary Object is intended by its creators to be a tool for facilitating a conversation that spans the boundaries that separate perspectives, constituencies, and turf present in a group struggling with a tough decision.” It enables the eventual arrival of the group to adopt the map as the fruit of their joint effort (Richardson & Andersen, 2010, p.316). When different people’s ideas are successfully and seamlessly amalgamated, they gain plausibility (Bryson et al., 2014).

The Causal Map, being a boundary object, helps the group to keep seeing the big picture and not get lost in the details without losing visibility of how the outcome came about. This view ensures the continued

existence of a sense of shared ownership. Additionally, both the concepts of transitional and boundary objects enhance the quality of the joint result, as they support the dynamic for changing minds for the better, which will help to reach consensus (Dörfler, 2019; Richardson & Andersen, 2019). The terms boundary, transitional and facilitative carry similar and complementary meanings. Therefore, they will be used synonymously.

2.1.2. Problem Structuring Methods

Causal Mapping belongs to the family of Problem Structuring Methods (PSM). These techniques attempt to formulate complicated or ‘wicked’ problems in a way that allows agreement on an agreed definition of the problem as a first step to solving it. In this section, problem-structuring concepts are presented. Causal Mapping, as one such technique, will be compared to other methods such as Theory of Change, System Thinking and Mapping, Balanced Scorecard Strategy Mapping, Outcome Mapping, Concept mapping, and Mind mapping, highlighting the advantages that it has over them. I will then shed some light on the evolution of causal mapping.

2.1.2.1. What does it mean to solve a problem?

When problems are straightforward, a team can brainstorm, discuss, decide, and implement. Attempting this approach for complex issues does not work, as the implementation will break since the solutions produced are pseudo-solutions, which are “ideas that sound good at the time but are ridiculous in retrospect” (Kaner & Lind, 2007, p.193). Pseudo-solutions are only feel-good solutions that do not solve any problem but only provide closure. They come about hastily without the group going through the ‘groan zone,’ the most challenging but essential part of finding a solution. It bridges divergent positions to converging answers (ibid.).

Problem Structuring Methods (PSM) are needed to make sense of messy or wicked situations, which are characterized by a lack of structure, “multiple actors, multiple perspectives, conflicting interests, [essential] intangibles and [critical] uncertainty” (Ackermann, 2024; Mingers & Rosenhead, 2004; Velez-Castiblanco et al., 2018, p.854). PSMs are problem modelling methodologies. They “enable participants to clarify their predicament, converge on a potentially actionable mutual problem or issue within it, and agree on commitments that will at least partially resolve it” (Mingers & Rosenhead, 2004, p.531).

In the context of organizations, these wicked problems are finished with rather than solved, as it is rare that one solution is ideal for all stakeholders affected. The finishing could have many meanings. Making sense of the problem after structuring it is one; presenting potential options to solve it and deciding on a way forward is another. The finishing could also mean dissolving problems through reaching “a change in an individual’s intentions, change in the relationship between a person’s value system and their belief system, change in the salience of particular values for construing the situation, downward change in expectations.” It might also refer to replacing dissatisfaction with the lack of clarity with satisfaction with clarity. Finishing the problem is robust if it dissipates unknown worry and anxiety and transforms a complex “mess” into a system of interacting tractable problems. Therefore, the successful finishing of the challenge highly depends on properly forming the problem construction and definition at the early stages (Eden, 2020, p.8).

To capture the complexity, a good PSM allows several alternatives to co-exist. It is understandable to actors with no specialized expertise or training. It operates iteratively to capture and elaborate on the discussions and identify and adopt improvements (Mingers & Rosenhead, 2004). Not only do they accommodate conflicting views, but they also even embrace them without collapsing or over-simplifying the details of the conflict. These PSMs also encourage the active participation of stakeholders in the modelling process, sometimes with the help of facilitation. PSMs expect and are capable of handling a certain level of uncertainty and lack of data with the aim of exploration, learning, and gaining commitment from participants (Mingers, 2011), making them handy tools in qualitative analysis (Kogetsidis, 2024). Causal Mapping, a Problem Structuring Method (PSM), found ample application in the strategy field, as strategy checks all these boxes. More on that later.

2.1.2.2. A variety of Problem Structuring Methods

Causal Mapping is neither the first nor the only method to use a map to logically capture human thinking and perception. A group of problem structuring methods called logic models - in their two variations, forward and backward modelling - also involve concepts and arrows that help anticipate a chain of events. However, unlike Causal Mapping, the links in most other logical models are not causal, depriving it of one crucial dimension (causality) and limiting its utility as a prediction tool for what might work and what can be changed (Bryson et al., 2014).

Bryson et al. (2014) present a high-level overview of other modelling approaches that are out there. Table 1 shows an abridged list:

Table 1 Causal Mapping Vs Other PSM's

Problem Structuring Method	How it works	How this PSM compares to Causal Mapping
Theory of change	Addresses the complexities and confusions arising from a significant organisational change. It combines the building blocks for change in a graphic representation of the change process.	The modelling is done at a high level and does not go into details or actions required to complete the change. Causal mapping allows deep-diving into specific actions.
System Thinking and Mapping	Causal maps that focus mainly on feedback loops as a sort of process control	A specialized technique that requires extensive expertise and is primarily limited to process and workflow formulation. Causal Mapping can be generalized to different situations and learned easily.
Balanced Scorecard Strategy Mapping	Templates of typical connections that link strategic objectives across levels and functions, popular in the strategy implementation domain	Stifles creativity, as it pigeon-holes action into four pre-defined categories. Causal Mapping is not restrictive to preset templates.
Outcome Mapping	Built on changing the way people relate to each other and the environment is a practical way to achieve development. The map captures direct links between desired change outcomes in people's behaviour, relationships, or actions.	The technique falls short of capturing indirect links. Causal mapping captures links in direct and indirect domains.
Concept mapping	Organize knowledge in a specific area.	Links are not causal; thus, no rules govern the nature of the linking, making it difficult to perform any analysis compared to Causal Maps
Mind mapping	Used for brainstorming, sometimes uses pictures rather than words.	It ignores the causal relationship between concepts. It builds around a

		single central idea, and unlike causal maps, which are polycentric, they cannot be expanded to focus on multiple ideas. It has a limited ability to capture complicated models. Mind maps fall short when creating a strategy.
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Eden and Ackermann (2006) highlight the merits of focusing on the similarities between many of the above methods. One such merit is combining the best of multiple worlds to adapt the method to the situation. Similarities include focusing on the map, a transitional object that can be analyzed and intended to facilitate discussion and analysis for future guidance. Also, these methods tend to increase the productivity of the group and processes used, thanks to the enhanced contribution of different members. The facilitation process is a third similarity that contributes to the above two.

2.1.2.3. Causal Mapping evolution

Before diving into the specifics of causal mapping, explaining briefly how the method was developed is useful. The predecessor to Causal Mapping is Cognitive Mapping, which depicts mapping a person's cognition of and thinking about an issue or a problem using a node-and-arrow diagram. The primary source of input for a cognitive map is interviewing the subject (Eden, 2004). It is "... the general task of mapping a person's thinking within the field of psychological research on perception... it is a formal modelling technique with rules for its development" (Ackermann & Eden, 2010d, p.26). During his interventions with clients, Eden discovered that cognitive mapping provided the apparatus to capture the richness of complex situations that are the norm in organizational life. He also remarked on the tool's ability to act as a negotiation enabler. It also gives the added benefit of building interest and reserving time from managers' busy schedules today (Eden, 1988). The outcome preserves the richness of data, as it keeps the exact words and notes of the participants, which are expanded and validated by the experts (Shaw et al., 2006). As per Ackermann and Eden (2010d), the term cognitive mapping was first used by Tolman in 1948.

Like Causal Maps, a Cognitive Map's arrows denote the nodes' causal relationship. Therefore, Eden does not emphasize the difference between cognitive maps and Causal Maps, except when the latter is the

outcome of the effort of a group of people (Eden, 2004). To him, Causal Maps, whether derived from aggregated individual cognitive maps or the outcome of a group mapping out session, are considered facilitative objects that allow participants to change their minds without embarrassment (Eden, 1988). It also provides a rough analysis of the concepts and their links, which brings objectivity to the subjectivity of the information dump that comes from people's brains. To that end, "Causal mapping offers a structured approach to qualitative coding" (Pyrko & Dörfler, 2018, p.1), and adding a sense of justice and fairness to the mix, as the priorities coming out from the analysis are a definitive outcome of every person's work (Ackermann & Eden, 2001).

Other researchers emphasize the difference between Causal and Cognitive mapping. To them, Causal Maps facilitative abilities outperform Cognitive Maps, as an individual's cognitive map is still their own. A cognitive map is less forgiving when changing one's mind. It addresses the main shortcoming that interviewees, the primary input of cognitive maps, suffer from. Interviewees might not be objectively responding to questions. Politics, impression management, and script following can influence their contribution (Brown et al., 2008). From a practical perspective, Causal mapping is a more encompassing concept. It covers the thinking of a single person (similar to what cognitive mapping sets out to do) or the combined thinking of a group of people. It combines the wisdom, knowledge, and experience of different people. To achieve this, one can combine multiple maps or run a mapping session with a group of participants. The result would be an aggregated team Causal Map (Eden, 1988). Bryson et al. (2014) refer to Causal Mapping as Visual Mapping since it uses visuals to capture the model. If used to create a group-accepted strategy, they refer to the outcome as 'Visual Strategy.' This dissertation adopts Eden's view in using Causal Mapping to refer to and capture the meaning of Causal, Cognitive, and Visual mapping.

In the early days of the process, it relied on interviewing individual participants to build individual maps that would later be put together as one group's Causal Map. Merging individual maps into a collective Map was done by identifying congregating labels, which act as common semantic nodes. The merging proved to be a daunting task, and researchers innovated four methods: congregate maps, shared maps, group maps, and oval maps (Tegarden & Sheetz, 2003). This process proved too time-consuming and complicated, especially for larger Maps. Therefore, Causal Mapping in a group context with the simultaneous involvement of all team members came into the picture. While this approach saved time, it presented new challenges. One challenge was the negative psychological impact that group dynamics had. The other adverse effect was that a group setting put too much focus on the past outcomes of past

decisions and presented bleak outlooks for the organisation's future based on participants' worst nightmares. From there, the process changed to 'changing minds' through 'cognitive and social negotiation.' It emphasized the social process of strategy making and the role of managers in selling their interpretation of the future. Thus, the process was revamped based on the recognition of the importance of cognitive and social negotiation (Eden & Ackermann, 2018).

2.1.3. Causal Mapping: The Process

Now that a theoretical background is there, I can study how the method evolved, the construction of causal maps, what rules govern this process, and how to analyze the map and deduce information useful to the group.

2.1.3.1. Building the Causal Map

Before deep diving into the intricacies of the Causal Mapping process, I will present a summarized outline of the Causal Mapping technique to help build the process in the reader's mind. The first step is surfacing issues. Participants immerse themselves in this first step, which is depicted by Eden and Ackermann and modelled in Figure 2 below:

[Participants are] invited to express their views of the important strategic issues facing the organization by writing these onto oval-shaped cards and spreading them around a large wall and subsequently adjusting their position to reflect thematic clusters. These thematic clusters were temporary as they were subsequently adjusted to reflect causality as participants made judgments about how these strategic issues interacted with one another. This resulted in the creation of a group causal map where new clusters emerged from the network of links [...] The group map-enabled managers to continuously surface and refine issues, structure them through the links reflecting means-ends causality and then refine the emerging map (Eden & Ackermann, 2018, p.1149).

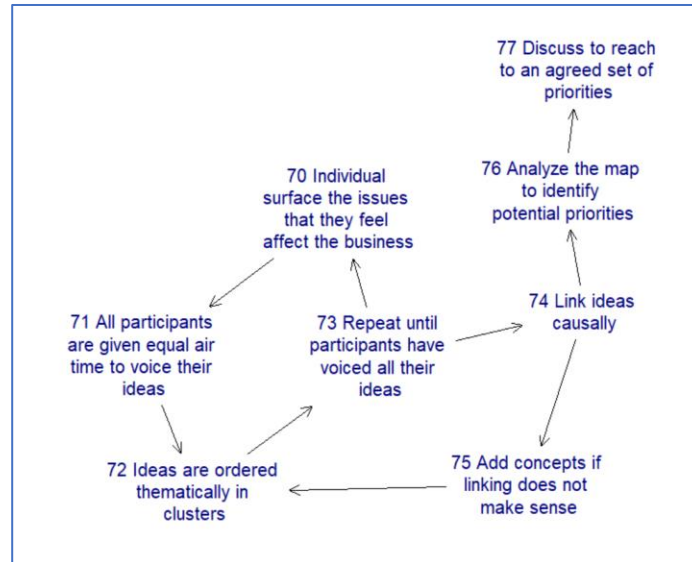


Figure 2 Causal Mapping Process

From Figure 2 above, it is evident that causality plays a significant role in the technique. It captures the group's interpretation of the organization's challenges while maintaining the individual's sensemaking features built on the Personal Construct Theory (Eden & Ackermann, 2018). The links capture and manage the situation's complexity without reducing it, giving structure to the map. When the map is analyzed, the information embedded in these links allows for identifying priority issues by identifying busy ones (Eden & Ackermann, 2011). Participants can learn not only the problems but how they affect one another. Understanding the inter-issue dependency helps mitigate the risk that any chosen strategy the group envisages might have unanticipated adverse effects on the organization, leading to a coherent approach (Shaw et al., 2006).

Upon completing the initial round of divergent idea-collection and initial linking, discussions among the group follow. Each concept and link are analyzed. When linking does not make sense, participants can add new ideas to capture the missing detail of the linkage so that no connection remains ambiguous. Redundant linking is removed. Non-connected concepts (orphans) must be reviewed to see if and where they link. The outcome is that each idea represents an action that is driven and informed by another action causing it. Developing this mesh of causality is an interactive exercise that engages the whole group until they feel they have captured the issues and how they causally relate to each other. Depending on how satisfied the group is with the details, the process can continue to explore more information to achieve further granularity regarding specific actions.

The group asks itself what to do to accomplish these strategies; a recursive technique called ‘laddering down.’ It leads to uncovering particular action items and the underlying assumptions about the world. These assumptions can have a devastating impact on strategy formulation and implementation and on getting along if they are not validated and aligned (Bryson et al., 2014; Eden & Ackermann, 2018). Powerful social dynamics (discussed later) are at play in the process. The process is flexible and is not dependent on a pre-set plan. The items to be addressed are whatever the participants choose, and these can change on the go, which is a massive advantage over other problem-structuring methods. Each organization can discuss its most critical issues (Shaw et al., 2006).

2.1.3.2. Analyzing Causal Maps

In an ideal causal mapping session, the interaction starts using a divergent approach, in which many ideas are generated. The discussion flows freely, and the group seeks different points of view while suspending judgment and feedback from other participants. It then moves to convergent thinking, where ideas are sorted into categories summarized into crucial issues, and participants come into agreement and exercise judgment (Kaner & Lind, 2007). The group will identify their action priorities in moving from the divergent state to the convergent state. However, this move can only happen if the researchers uncover objectively and mutually agreed findings from the map. Analysis of causal maps helps achieve this.

The first analysis question is whether the map has enough concepts to move to the analysis phase. While the answer to this might be contextual and dependent on different factors, one metric is the links-to-concepts ratio. Some scholars suggest 1.15 to 1.2 to be reasonable but allow for as high as 1:1.4 if the map is complex. Simple maps would have smaller ratios. Ratios outside the above range should trigger whether there is insufficient or redundant linking (Ackermann et al., 2014; Eden et al., 2007).

As the picture becomes large and messy (representing the realities in the organization), clustering is a helpful tidying-up tool. It helps manage complexity by ordering surfaced issues by topic and encourages the further elaboration of a theme by uncovering additional topics that will complete each cluster. It also paves the way for further analysis. Care should be taken not to allow clustering based on function, as this would break the group’s harmony, causing each owner to defend their department. Instead, this should be done across processes or strategies (Eden & Ackermann, 2011; Shaw et al., 2006).

Using causal logic, placing general, more strategic outcomes at the top and actions and operational issues further down adds hierarchy to the map. This is done by rearranging the map to have most causal arrows pointing upwards. The resulting shape would be a teardrop, with heads (concepts at the top with no outgoing arrows) representing organizational goals. Beneath the goals are issues and strategies, and beneath them are options for action. This bottom layer of tails (concepts with no incoming arrows) of the cluster constitutes the potential action items, further analysis of which can kick-start implementing the plan (Bryson et al., 2014; Eden & Ackermann, 2011). Clusters also help identify and add missing concepts and links. Re-doing the cluster might be necessary during these steps, as it helps reorder the map to extract more shared meaning. Inter-cluster nodes command special attention, affecting numerous clusters and pointing to potential practical action areas (Eden et al., 2007).

Next, the analysis looks inside a cluster to identify potential action areas. A common way to identify possible priorities and strategies is to identify busy statements. Identifying important ideas by analyzing the map's structure (rather than content) seems counter-intuitive. However, it is helpful since the group agreed upon the causal links, and causal links analysis identifies busy nodes. Therefore, structural analysis derives from content, and analyzing it to identify priorities works well because it is, in fact, a review of the content (Bryson et al., 2014). One business analysis tool, Domain analysis, measures how busy a node is in its local (directly connected) context. Another one, Centrality analysis, measures how 'busy' a concept is, considering successive layers of the surrounding concepts with diminishing weight (Eden et al., 2007). The outcome of this analysis is a potential set of priorities that the group can deliberate over and reach a consensus on which ones to pursue and which to drop. Some applications of causal mapping suggest voting on priorities (Ackermann & Eden, 2020). Such an approach jeopardizes the consensus from which causal mapping draws its political feasibility, more on which to follow. Regardless of what the map says, the final verdict on what is important is the group's consensus.

Bryson et al. (2014) remark that priorities can develop naturally and be readily noticeable in a properly organised map. Therefore, the group does not need to forcefully push for an agreement on them. In situations when agreement on priority might be challenging to achieve, disputing parties are encouraged to add ideas to the map explaining why they feel this way. The essence of causal mapping in a group setting is agreeing on these priorities. Without this agreement, these issues are mere suggestions that would fade away due to conflict over what gets done. Bryson et al. suggest that three to five non-conflicting agreed priorities coming out of a session might be an optimal number for effective action. Wind tunnelling these priorities is a recommended procedure that refers to performing

sensitivity tests against environmental changes to ensure that they are rugged and can withstand scepticism and resistance. Bryson et al. suggest assigning implementation responsibilities to team members to increase the chances of successful implementation.

Other analysis tools include studying the number of heads and tails. Fewer heads indicate idealized thinking, where everything leads to an ideal outcome. A larger number of heads suggests the diversity and possible conflict between outcomes, indicating more complexity. If low, the ratio of tails to the total number of nodes indicates flatness, which might suggest that the map lacks proper elaboration and requires further laddering down (starting from a tail and asking how to achieve it). The shape of the map is another analysis subject, where a flat form suggests shallowness but possibly an abundance of available options. In contrast, a thin, tall structure means a detailed argument but might be short on choices. A vertically oriented map is focused on a limited number of topics and might be missing out on other areas of concern. The shape of the resulting map is usually an outcome of the mix of participants and their specialization (Ackermann et al., 2014; Eden et al., 2007).

Another essential point to be analyzed is the existence of loops and identifying their significance. The concept of loops (both virtuous and vicious) has enjoyed a lot of attention in action research as they present a dynamic feature of the map (growth, decline, or feedback control). Bryson et al. (2014) refer to loops as circular causality. Therefore, they can change without further management involvement (Eden & Ackermann, 2011; Eden et al., 1992, 2007). Whenever they exist in a cognitive map, Eden considers loops as fundamental structures, where the components making them up are of the same hierarchy and importance (Eden, 2004).

As with every business idea, effectively presenting the Causal Mapping exercise's outcome is very important. It becomes more significant as the map outcome can be messy and complicated. Even the people who created it might find remembering all the details after the session challenging. The challenge is more significant for people who did not attend the session. Statements of Strategic Intent (SSI) are textual translations of the Causal Map drafted by the group once they reach a mutually agreed map and a mutually agreed set of priorities (Eden & Ackermann, 2011). Bryson et al. (2014) warn against delaying the production of the SSI. Ideally, SSIs have to be written during or right after the session to avoid having the participants lose touch with the workshop's outcome. SSIs could be textual (a single sheet of paper), tables or photographs. The SSI should include the exact wording of the participants to relate to it and feel ownership. Table 2 summarizes the most common map analysis tools.

Table 2 Most common causal map analysis tools (Adopted from Bryson et al. (2014))

Aspect	Analysis	Outcome
Topic	Cluster	Simplifying the map by segregating it into topics
Shape	Tear Drop	Goals are on top, potential priorities are in the middle and assumptions, and actions are tails.
	Loops	Virtuous and Vicious self-enforcing formations that are worth identifying as they represent an opportunity to preserve and grow something meaningful for the company or a threat that if a situation is not contained, it will escalate out of control
Busi-ness	Domain (Direct)	The busiest nodes based on the number of directly surrounding nodes
	Central (Indirect)	The busiest nodes based on the number and weight of all surrounding nodes (direct and indirect)
Visual	Number of heads and tails	Signifies whether enough options are generated, the depth of analysis and other indicators
	Prominent priority	Spotting and agreeing on the priority issues visually
Map-to-text conversion	Statement of Strategic Intent	A statement where agreed priorities are understandable to those who did not attend the workshop

At the end of the session, success is achieved if Matters of Concern (those matters that push their owners to defend, evaluate, align or justify opposition) turn into Matters of Authority (legitimized Matters of Concern at the account of others). The group arrives at this conversion by voicing and collectively negotiating Matters of Concern, followed by transporting and materializing Matters of Concern through texts, ending with recognizing Matters of Concern as legitimate (i.e., authorized and authored) (Vásquez et al., 2018).

2.1.3.3. Causal Mapping Best Practices

Now that map formation and analysis have been covered, I will discuss best practices. Bryson et al. state the value they see out of Causal Mapping as follows:

“It is a way of replacing what can happen in groups [...] with what should happen in groups. [...] mapping helps people speak and be heard; produce lots of ideas and understand how they fit together; make use of causal reasoning; and clarify ultimately what they want to do in terms of mission, goals, strategies, and actions [...] mapping, therefore, joins process and content in such a way that good ideas worth implementing are found, and the agreements and commitments needed to implement them are reached. The result is living strategic plans that act as useful guides to action” (Bryson et al., 2014, p.91-92).

The best practices presented in this section are essential to achieve the above. They first attend to proper preparation for the session. They then provide guidelines on how to run the session (engagement-related best practices) and what high-quality content should look like (content-related best practices).

Properly preparing for a Causal Mapping session enhances the chances of success. The choice of participants plays a central role. They should be able to contribute to the topic by feeding the discussion or taking responsibility for implementing the outcome. Frequently, they will be doing both. Their knowledge should be occupational and relevant rather than generic. A certain threshold of analytical (strategic) thinking is required, and they must be able to express their ideas respectfully. They need negotiation skills to combine individual ideas and knowledge to come out with combined wisdom. A well-crafted invitation to the mapping session helps get the right people on board, improving the outcome and increasing the chances of its acceptance. A standard tool such as Causal Mapping resonates well with clients and session participants. It gives the perception that there is a rigorously devised methodology at work, instilling confidence in both the method and the researcher (Bryson et al., 2014; Shaw et al., 2006).

At the introduction, the participants must be aligned to trust the process and accept that the outcome we seek is not theoretical but detailed enough to be actionable. Strategy becomes implementable only when the group gets that formulation and implementation are not separable. Managers must find a way

to think about the important rather than the urgent and try not to be distracted by burning fires. During the session, periodically taking photos of the messy map can help avoid missing any details. At specific points in the meeting, summarizing and giving feedback on progress will help build confidence in the process, mitigating the scepticism at the beginning of a session that might have resulted from the unstructured approach that the process follows (Bryson et al., 2014; Eden & Ackermann, 2011).

There are some content-related rules to be followed. I first talk about the structure of the contributed ideas, referred to as concepts. Each concept ideally comprises six to twelve words, representing only one issue. This word count ensures that one idea is included with enough specificity but without branching into other ideas (no connecting conjunctions such as and, so, because). Ideas should be action-oriented, meaning the statement starts with a verb, which serves two primary purposes. It is more aspirational to state areas for improvement, avoiding participants feeling attacked. It makes that discussion practical as the group generates and debates a potential list of options.

Bryson et al. (2014) suggest elaborating on possible options with the word 'rather than' to provide ample details about context and contrast. They also advise highlighting issues related to external factors (the environment) differently. These are usually at the lower level of the map and feed into the potential actions the group envisages. The justification of the links between statements should be strictly causal. Frequently clustering concepts around common themes, especially for larger maps, is very much needed to tidy up and identify missing ideas. However, clustering should follow linkage and avoid pigeon-holing based merely on themes. Themes in clustering should be the outcome, not the filter.

Engagement-related rules have to do with the interaction between participants. A critical one is ensuring that all participants get enough airtime. Techniques such as round-robin can increase the sense of participation and fair treatment, and thus engagement. Focusing on what will have the most effect evens the playing field if some participants loudly push their agenda. They dictate that no judgments are to be passed by any participants about others' contributions during the issue surfacing session. Discussing the content must be postponed, as this session phase invites divergence. Trying to reach a consensus before the group and the facilitator are satisfied that noteworthy points received enough discussion should be discouraged (Bryson et al., 2014).

Nutt's conclusion that "An idea-driven process is prone to failure, a discovery-driven process will increase the chances of success by 50%" sums up why deliberation comes at the end and that participants must trust the process. This discovery-driven process emphasizes claim validation,

implementation and direction setting and prevents taking premature action. It promotes learning (Nutt, 2002, p.xi). The resulting group map becomes a tool that helps reach consensus (Pyrko & Dörfler, 2018).

2.1.3.4. Putting the goal system together

A natural by-product of the causality of the Causal Map is a set of goals. Since organizations align their effort to achieve a specific purpose, it is worthwhile to explore goals, why they are essential and how Causal Maps can effortlessly generate a set of goals that will enjoy a high level of consensus and practicality.

Goals are “outcomes that are desirable in their own right and aspirational.” These could be facilitative (business or entity-specific) or core (generic, high-level, applicable to the sector or similar entities). Some of these goals might be for internal consumption, while others target an external audience (Bryson et al., 2014, p.73). Meta goals are another type that sits on top of other goals and can only be achieved when the goals below them on the map are completed. They are particularly crucial in a multi-organization setting (Eden & Ackermann, 2013). Goals express direction and purpose. They describe where the organization wants to be rather than what it is today. The organization will pursue any of these goals, even if other goals are not met.

Goals are also the link between mundane daily tasks and the big picture of the organization’s purpose and its future. Goals bring context to issues, opportunities, and problems. Issues gain their importance because they either support or undermine a goal. Without purpose, it is difficult to construe problems as problems, challenges that present themselves when a goal is believed to be under attack or not satisfactorily achieved. In other words, what we do is significant if it takes us closer to where we want to be. Goals show an organization why it should take time and effort to create and realise a strategy and achieve agreement on this purpose (Bryson et al., 2014; Eden & Ackermann, 2011, 2013). A goal system gives the manager the feeling that they are contributing more than just doing their jobs; they are part of the organization’s success and future vision. “Understanding the strategic direction of organizations and groups can only be derived from ascertaining a clarity of purpose, even if the defined purpose is necessarily chosen to be flexible or vague” (Eden & Ackermann, 2013, p.9).

Goals are a part of organizational setup and are expressed in many forms, such as mission, vision, objectives, and targets. Recently, scepticism has been growing around how effective this traditional way of representing goals is. To start, it is worth noting that many organizations fall into the trap of setting

aspirational goals that are either too generic or unrealistic to the extent that they cannot be implemented with the available resources or within a reasonable timeframe. Mission and vision statements frequently contain incoherencies, if not outright inconsistencies, between aspiration and reality. This inconsistency is exposed by reverse engineering; one of those statements, put into a causal map, exposes flawed causal logic. Even in a balanced scorecard setup, where everything is highly defined, it is assumed but not proven that different goals are coherent (Eden & Ackermann, 2013). In some instances, organizations have to deal with conflicting goals that result from adding forced goals (coming from outside the decision-making unit) or ignoring time horizon considerations (a goal today might have it is opposite become desirable in the future). Even if the set of goals is coherent and clear, people tend to lose their way between direction and the perception of direction, between doing the right things and doing things right. They appear to act intentionally and visibly at times, highlighting their move's 'strategic' aspect. Sometimes, this action achieves its purpose; other times, it is not and is construed as misguided and 'for show.' In reality, many organizations' activities happen in a usual, unreflective way, either out of habit or out of addressing an urgency, in the act of 'mindless coping.' The combination of both (habit and addressing urgency) makes it emergent strategizing (Eden & Ackermann, 2011).

Therefore, the first question is: given that too much weight is put on published goals that are either unrealistic, incoherent, or unfollowed, how do we uncover the actual direction of the organization? A starting point is to explore the behaviour of managers based on the issues they are handling. This approach sheds light on the beliefs and aspirations that surface as managers act, either directly or indirectly, articulating the real goals. "In other words, the real purpose of organizations is often demonstrated as much through what managers do as what is in statements of purpose." Therefore, we need to pay attention to everyday life and the organisation's purpose (Eden & Ackermann, 2013, p.11).

Literature has taken different paths regarding whether deliberate actions and espoused goals are better than making decisions on the go. Most conclusions concede that the two approaches can co-exist. Confusion appears when senior management talks about espoused goals while acting on the move to contradict those goals. Assuming that declared goals drive the organization and that all actions point in that direction is a dangerous assumption. This confusion can be captured and clarified by using causal mapping in a group setting to surface both sets of goals (declared and actual), producing one emergent goal system. Though it looks like a hierarchy of statements, a goal system is more of a network. It consists of interconnected goals that lead to each other in a structured manner, "a pattern of goals

consisting of multiple and interlinked goals rather than a single goal or a simple sequence of goals,” including goals emerging from different entities. The group then jointly decides whether to adopt it as is or modify it to be more widely accepted. Focusing on practicality, Ackermann and Eden suggested replacing Vision, Mission, and values with a statement of strategic intent and a framework for action built on the goal system (Bryson et al., 2016; Bryson et al., 2014; Eden & Ackermann, 2011, p.110-111; 2013).

Causal mapping can be instrumental in capturing the goal system that reflects the complete picture of deliberate and reflexive action. It helps the participants compare and combine the goals of the emergent strategy (what is happening on the ground) versus those declared or espoused by the organization (an official plan which might not represent reality or actions taken on the ground) (Eden & Ackermann, 2018). Like any problem definition, defining and building organisational goals into an interlinked meaningful system requires attention to the political tensions between stakeholders. A consensus is needed if any goal is to stand the chance of being accepted and pursued. Building the complete picture of goals is instrumental in giving sufficient decision-making guidance (Eden & Ackermann, 2011, 2013). Having a goal system ensures that different goals are consistent and not contradictory. The goal system is likely to be messy as it represents the messiness of the organization. Fighting the temptation to put goals in a neat hierarchy is essential to avoid oversimplifying the organization, which might lead to missing the whole picture (Eden & Ackermann, 2013).

To capture the goal system, the group examines the top part of the map after putting it in a teardrop shape (most arrows pointing up). At the top, concepts mostly have links going into them and nothing out of them. The process follows vertical idea expansion towards the future; if the group does what it has suggested on the map, what would the future be? Following the causality line of thinking, stopping at each concept, and asking the question ‘So what,’ the map will start encompassing objectives and goals, a process referred to as ‘laddering up.’ It helps the group arrive at a joint grasp of why they do what they intend to do. Once the group feels comfortable that the resulting map captures their collective thinking, they can start working together to decide priorities. If done correctly, they will reveal emergent goals that the company’s current system of values and actions holds with high regard and towards which the company is autonomously driving if they follow the prescribed action plan. Some goals might be duplicates, so it is possible to merge them as long as the essence of neither is lost. A final goal system that combines the goals of every teardrop is created, which is the strategy statement’s foundation (Bryson et al., 2014; Eden & Ackermann, 2018).

A final note about goals: some might argue that goals must be SMART (Specific, Measurable, Achievable, Realistic, and Time-bound) to be meaningful. However, at the current rate of change, unpredictability, and problems, it is conceivable to have loose and flexible goals. Nevertheless, they have to provide a framework for action. A KPI (Key Performance Indicator) serves as an indicator of success. KPI can be both qualitative and quantitative. These can be developed over time after the initial session (Eden & Ackermann, 2013).

Another common use for causal mapping is the detection and management of competencies. As this is not central to the topic of this research, interested readers can read more about it in appendix 9.1.1. It is now time to explore the role software plays in causal mapping.

2.1.4. Usage of Software in Causal Mapping

The use of Software is not necessary for Causal Mapping. Ideas and links can be captured using a handwritten technique called Oval Mapping. However, as the maps grow, capturing the complexity and performing analysis is much more efficient and effective using Software. The software allows viewing, moving, editing, copying, and elaborating immaculately and efficiently. The analysis tools are readily available and give immediate results that can be captured separately. The outcome is instant and precise. It also makes storing and sharing the data for later use easier, substantially improving manual post-it notes or a flip chart. Until recently, the most prominent software with a large arsenal of analysis tools has been Decision Explorer (Pyrko & Dörfler, 2018; Shaw et al., 2006).

Decision Explorer belongs to a family of software called Visual Interactive Modelling (VIM), which combines “user-friendly interactive interfaces, computer-generated visual displays of model status and mathematical or symbolic models of problems or processes into systems to aid decision making” (Bell, 1991, p.274). A concept that is very similar to VIM is decision support systems (DSS). It depicts the use of computers to “assist managers in their decision processes in semi-structured tasks, support rather than replace managerial judgment and improve the effectiveness of decision making rather than its efficiency”(Bell, 1991, p.275).

With the development of computer networks and the Internet, Group Decision Support Systems (GDSS) or Group Support Systems (GSS) appeared. These take the DSS concept and distribute it over multiple computers in the same or different physical locations. “A [Group Support System] GSS is a suite of

collaborative software tools that can be used to focus and structure a team's deliberation while reducing cognitive costs of communication and information access and minimizing distraction among teams working collaboratively toward a goal." GSS runs on separate computers connected to a central system or the web, allowing individuals or small groups to simultaneously contribute to the overall model. The outcome of each contribution is immediately visible on the screen (Robert et al., 2003, p.32). Lewis adds more details. He defines it as "Software, hardware, and language components and procedures that support a group of people engaged in a decision-related meeting [...] aims to improve the process of group decision making by removing communication barriers, providing techniques for structuring decision analysis, and systematically directing the pattern, timing, or content of discussion [...] a computer-based information system used to support intellectual collaborative work" (Lewis, 2010, p.252-253). Examples of GSS are Group Systems™, Decision Explorer (when used collaboratively), and MeetingWorks (de Vreede et al., 2006).

Huber defined GSS as "a set of software, hardware and language components, and procedures that support a group of people in a decision-related meeting." It serves the purpose of supporting group work by enhancing process, content, and communication (Ackermann & Eden, 2020, p.2).

Ackermann et al. (2005, p.308) define Group Support System (GSS) as "interactive computer-based environments that support the work of teams by improving communication, by structuring and focusing problem-solving efforts, and by establishing and maintaining alignment between personal and group goals." This definition is too restrictive. After that, they refined it to be "a category of software tools accompanied by facilitation techniques that aim at supporting collaboration and group productivity through such means as anonymizing the contributions, managing messy information in real-time, problem structuring, and strategy development" (Ackermann et al., 2016, p.4). This definition is the one this dissertation will adopt.

GSS is considered a socio-technical system with the following components: technology, a group of participants, and facilitation. Yearworth and White (2019) describe the technology as using cloud-based GSS for same-time, different-place cloud-based GSS. The participants are distributed over computers, one per participant, two or more participants per computer, or one computer for the whole group. Facilitation can be virtual over video conferencing in a tool such as Group Explorer, with its Chauffeur terminal or face-to-face if the participants share the same room. Ackermann and Eden (2010b) saw much potential in the GSS concept and transformed it into a cognitive negotiation tool in strategy-making sessions. Building on Fisher and Ury's "getting to yes" negotiation strategy method and cognitive

maps guided by Kelly's Personal Construct Theory, the outcome was a robust model widely used in strategy-making. Its use aims to provide meeting support or problem consultation support (Ackermann & Eden, 2010b; Ackermann et al., 2005; Yearworth & White, 2019).

Two critical features enabling GSS to perform its purpose are anonymity and direct entry into the system. These two features boost the system's ability to achieve procedural justice. This easy, anonymous, and real-time entry, followed by the map's arrangement, helps bring a flow of new options and alternative views. Participants 'hear' what others have to say without prejudice. The process encourages deep thinking about what is said, and the map is now transitional and is a boundary object being negotiated. Changing one's mind is neither tricky nor embarrassing, and thus emotions play a lesser role in the process, giving way to accepting the outcome. Using voting as a closing mechanism allows participants to anonymously express their dislike of specific options, thus enhancing political feasibility by eliminating that option (Ackermann & Eden, 2020, p.12-13). However, voting needs to be used carefully, as the aim is to achieve consensus or something as close as possible. Too much emphasis on the vote will lead to an outcome that only enjoys the majority's backing and has opposers. In general, the usage of GSS has proved to produce 50% more ideas than when not used. Additionally, users have responded positively to the effect of GSS usage and satisfaction stemming from using it (Vogel & Coombes, 2010).

Over-reliance on software has received a fair amount of criticism. Per the media richness theory, face-to-face communication provides the highest richness of information exchanges and is best suited for negotiating conflicts of interest. However, this is far from unanimously agreed, as other theories have proposed otherwise. Face-to-face interaction is accepted to offer the most value when forming trust and assessing the opponent accurately (Geiger, 2019). The key drivers to using a new piece of technology are the conviction of the users of the importance of its purposes, how easy it is to use, and how useful it is (Robert et al., 2003). While Software has helped us achieve order out of chaos in messy maps, over-reliance on it undermines the emotional and social aspects of decision-making. Micro-processes (social, behavioural and material) vital to achieving buy-in and ownership of the outcome can be easily missed (Ackermann et al., 2018). GSS must not be just another piece of software but a human agency tool to make efficient decisions (Verhulst & Rutkowski, 2018). Excessive use of computers results in lost opportunities for effective scaffolding of group decisions at a complex level. This assertion builds on the fact that emotional commitment is fundamental to Causal Mapping. A shared personal understanding of a wicked problem can develop through humorous play developed through non-verbal and bodily

performance (Burger et al., 2018). One challenge that GSS might produce is to manage this information overload of generated ideas, many of which were later shelved. The study is about converging the resulting ideas into a manageable setup that enables decision-making (Vogel & Coombes, 2010). In any case, an organisation needs to reach a balance using any material, such as software. After all, software as a socio-technical aspect, captures the interaction between material and social elements and encapsulates behavioural and social elements. It has to be tuned to the right balance to avoid jeopardizing the whole process (Orlikowski, 2007).

2.1.5. Facilitation

Before moving to strategy and the role of Causal Mapping in strategy making, the facilitator's role deserves a more in-depth inspection. This role is of enormous importance to the success of a causal mapping session. Unfortunately, it is often overlooked or even deliberately ignored. However, it is an instrumental role dictated by the nature of the messy problems that Causal Mapping attempts to solve. Excluding facilitation from Causal Mapping is equivalent to restricting the application of the process to easy problems, defeating the purpose of Causal Mapping.

A standard definition of the facilitator is "A helpful intervener ... strive[ing] to improve group dynamics and decision making or provide a learning environment to help participants gain confidence of an interpersonal nature to help them transform the patterns of communication is one way to look at that role" (Yearworth & White, 2017, p.4). The definition focuses less on the person and his/her skills but on understanding the functions and processes undertaken by this role (Yearworth & White, 2017).

The literature carries opposing notions on the facilitator's duty. Most literature agrees that the responsibilities include attending to the process and structure of the intervention. Still, there is disagreement about whether getting involved in the content is part of his/her duties. Phillips and Phillips (1993, p.533) propose that the role contributes "to process and structure, not content." To carry out his duties, a facilitator attempts to understand the group's emotional life, made of the tension experienced by each participant as he struggles between what is suitable for the group and what is ideal for the individual. "The facilitator's job is to support everyone in doing their best thinking." That happens through encouraging full participation mutual understanding, promoting inclusive solutions and cultivating shared responsibility (Kaner & Lind, 2007, p.32). "Without thoughtful facilitation, they often simply get washed over by politeness or worry about the consequences of raising them" (Bryson et al., 2014, p.102).

The counter-argument states that it is unrealistic to assume that the facilitator can completely detach from the content deliberated in the session. Content is an inseparable part of the session and requires some moderating level. This approach sees that one of the most important contributions of the facilitator is to maintain equality among participants, regardless of rank or political clout. Quiet and not-so-quiet have to be guaranteed equal “time, energy and impartiality” (Shaw et al., 2006, p.13). The facilitator has to attend to the content, the process, make ‘on the hoof’ analysis judgments, and understand the behaviour patterns of participants (Pyrko, Eden, & Ackermann, 2017). The author of this dissertation shares this opinion.

The role of the facilitator does not come without its challenges. In either case, the facilitator should understand verbal and non-verbal communication, attend to relationships between participants and be aware of his/her feelings. All of this is to maintain task orientation (Phillips & Phillips, 1993). Problems can arise if the role of the facilitator is not understood. The facilitator and the client must start on a sound footing. Trust must be part of the character and competence of the facilitator. Facilitators should not claim to understand the situation altogether, as this is considered naive. The facilitator should ask questions, even superficial ones, to help understand the pain (Eden, 2020). The facilitator should avoid giving feedback on content, which undermines the group’s ability to do its evaluation. Instead, he should reinforce and build confidence about the process or redirect the questions to the group. The facilitator should only intervene to bring the group back to work in the here and now by “pacing the task, directing, handing back in changed form, reflecting, questioning and summarizing” (Phillips & Phillips, 1993, p.545).

Many GDSS vendors and experts recommend having two facilitators, one with the operational background to guide the discussion and manage the process and another (sometimes referred to as the chauffeur) who is technically capable of running the GDSS hardware and software, including the entry and management of data. The need for one or both of the facilitators depends on the complexity of the problem and the level of experience of the team is working together and in using such setup and tool (Lewis, 2010).

A trend advocated by the vast proliferation of GSS suggests that expert facilitators might no longer be needed. The role can be replaced by a technologically-enabled, participant-led group support process that includes a trained subject matter expert and the right software (Yearworth & White, 2017).

However, despite the numerous developments in understanding decision-making and technological breakthroughs, it is surprising that the facilitator’s role is still as indispensable as ever. Procedural justice

requires the presence of a facilitator. Additionally, the participants' intuition, creativity, opinion, and input are still the most critical components. Therefore, GDSS should support the facilitator rather than replace the function (Dörfler, 2019).

2.1.6. Why and Where Causal Maps work

Causal Mapping has proven effective in getting different people to agree on the way forward and come up with a jointly agreed resolution. It achieves this through structuring and moulding the group's collaborative thinking by capturing chains of arguments from different participants in a graphical model, considered the first practical step to solving any complex issue (Ackermann & Eden, 2001). The outcome of a Causal Mapping session is a set of agreed and actionable items. One of the reasons that this method is different from other mapping or problem structuring techniques is that it has the tools to iron out scepticism and objection during the discussions embedded in it. In a successful engagement (or intervention), that significant outcome is ready at the end of the session without needing follow-ups or after-session modulation. The model that comes out is a participant-validated model that does not require re-validation. The group is ready to jump from formulation to implementation. Add specialized software to the mix, and the Causal Mapping technique becomes even more effective and efficient (Shaw et al., 2006). It becomes a process where hearts and minds are working together (Bryson et al., 2014).

A distinguishing benefit of causal mapping is that it allows for the management of complexity, in contrast with other modelling tools that simplify complexity to manage and apply a pre-set model. Once the issues are linked, it becomes possible to see which are the busiest. These issues hold the highest potential to create a positive outcome if addressed (Eden & Ackermann, 2011).

When looking at a map, participants will have the time to pause and think without feeling pressured to respond to direct communication. Therefore, they can avoid impulsive responses to others' statements, which enhances the mutual listening of individuals (Eden & Ackermann, 2011). Other than coercion, it is probably the only way to have strategic change happen voluntarily by changing people's thinking and actions (Eden et al., 2011). Causal Mapping can also produce a workable strategy without using business jargon, which can deliver results in a few hours (Eden & Ackermann, 2011).

As a result, Causal mapping provides the capacity to capture group wisdom, knowledge, and experience, which is not always explicit. Often, it is tacit and disguised, even for its bearer. It allows everybody to

speak, thus generating excitement. It stimulates people to think smarter and builds commitment to action as they see their contribution in the context of others' statements. The visual outcome highlights the causal sequence, helping people think about how different parts of the content affect each other (Bryson et al., 2014).

A positive by-product is that Causal Mapping has demonstrated itself as a helpful interviewing tool due to the flexibility of the additional dimension concepts and causal links provide (Ackermann & Eden, 2001). In an interview-capturing setup, causal mapping offers a structured, systematic, and flexible enough approach to record material, leading to thematic categorization and analysis of topics. Additionally, due to its visual attributes, Causal Mapping allows easy and immediate feedback and correction by the interviewee. Its analysis tools are the best for analysing interviews, as they capture inter-dependencies, feedback loops, and causal relations (Pyrko & Dörfler, 2018).

The use of causal mapping for strategy and strategy-making endeavours is most prominent in the literature. The field of Strategy usually encompasses the supporting areas of managing stakeholders, capturing organizational purpose, uncovering competencies and distinctive competencies, and "formulating structured forums for productive strategic work with management teams" (Pyrko & Dörfler, 2018, p.12). Causal mapping is proving to be beneficial in these fields because it can enable the articulation of substantial input (in the form of statements) and their linkage. The outcome is that people "can know what to do in an area (issue) of concern, how to do it, and why, since each chain of arrows indicates the causes and consequences of an idea or action" (Bryson et al., 2016, p.10). The visual aspect of the map leads to an outcome that resembles the structure of strategy with its values, mission, goals, policies, actions, and underlying assumptions. It then paves the way for deliberation and negotiation on what deserves the highest priority to receive immediate attention (Bryson et al., 2016; Bryson et al., 2014).

Strategy is not the only application of Causal Mapping. The technique works well where the information needed to tackle a complex issue is scattered in different people's minds, whose psychologies play a significant role in how cooperative and committed they might be. Two families of usage are prominent. The first is mapping out the future for coordinated action, while the second concerns conflict resolution and reconciliatory action. The first family of usage revolves around collecting and concatenating different people's views to address issues, agree on a future state or goals, identify tools and strengths at the group's disposal and analyze the human factor and its potential impact on the group's plans. In the literature reviewed, causal mapping for coordinated action is where most of the applications are. As

previously discussed, not only does Causal Mapping encourage strategic conversation, but it also triggers it and sees it to completion. This conversation revolves around what we want to do, why we want to do it, and how (Eden & Ackermann, 2011) . An example of this family is the Strategic Options Development and Analysis (SODA) method, whose primary usage is to detect emergent strategies through structuring problems to support strategic problem-solving (Eden & Ackermann, 2018). Additionally, cognitive mapping in the form of SODA or Journey can help to develop policy options that achieve strategies in the public sector (Eden et al., 2007).

Causal Mapping is a powerful tool for mapping and finding patterns of competencies that constitute distinctive patterns crucial for the survival and prosperity of the organization (Eden & Ackermann, 2000). In this context, Eden and Ackermann differentiated between assets (things that the organization has), competencies (something that the organization can manage to do well), and outcomes (results of successful deployment of assets and competencies). More recently, Damart and Adam-Ledunois (2019) used causal mapping to map different cognitive styles of a decision-making group to position members based on their integrative ability and thus analyse human capital as an asset. With this approach, they hoped to enrich the decision-making process and bring members' different styles into consciousness to make the best use of it. The caveat they highlighted was that awareness of different cognitive types is neither definitive nor guaranteed cooperation. However, such an approach might have the advantage of better engineering the participation of groups to improve the results on an operational level and thus empower the other usages of causal mapping.

Another application suggested by Pyrko et al. is an adaptation of causal mapping to promote Communities of Practice (CoP). They defined CoP as “groups of people who ‘think together’ regularly [...]to cope with everyday real-life problems or to improve themselves as practitioners” (Pyrko, Eden, Dörfler, et al., 2017; p.1967). They suggest starting with open questions about matters of concern for the CoP. The approach clusters the resulting connected concepts around the structural elements of CoP (mutual engagement, joint enterprise, shared repertoire) before the analysis and convergence to reach a commonly accepted outcome can happen (Pyrko, Eden, Dörfler, et al., 2017). Bryson et al. (2016) showed that it could help collaborating organizations identify the benefits of collaboration, how to achieve it, and devise a list of desired goals.

Of the conflict resolution family of applications, Ackermann et al. (2016) have demonstrated a computer-supported Group Support System (GSS) in multi-organizational conflict resolution. Traditional means might fail to address collaboration issues between organizations with conflicting objectives. In

this application, statements were tagged as accusatory, conciliatory, or admission. The ambiguity of who contributed different opinions helped achieve a favourable outcome. Ackermann and Eden have also targeted arbitration, litigation, contractual issues, and disputes as a new setting in which Causal Mapping is beneficial as part of a broader GSS approach. GSS's ability to "improve the process of group decision making by removing common communication barriers, providing techniques for structuring decisions and systematically directing pattern, timing and content of the discussion" (Ackermann & Eden, 2005, p.356) is what makes this match work. GSS, when applied to Causal Mapping, allows the generation of alternate points of view simultaneously and anonymously. The resulting map can be analyzed and discussed to develop a shared understanding.

Causal Mapping, with the help of software such as a GSS system, can facilitate risk management and understand the outcome of the interaction between stakeholders, including managing both the risks and impact that each stakeholder poses and the opportunity. This approach has been tried by Ackermann et al. on highly complex projects (Ackermann et al., 2014). Pyrko and Dörfler (2018) add risk management networks, messy problem structuring, and project management to the above mix of Causal Mapping potential uses. Causal mapping has a specific application in analyzing failed projects, as shedding light on the causality that led to the failure can identify root causes and the parties that might have led to this outcome. The possibility of running disparately with individual stakeholders and then combining them in one map allows for the fact that not a single person understands the whole reason behind the disruption and delay of projects. The premise of this approach is that truth is fragmented and scattered among different project managers (Ackermann & Eden, 2005).

Sitting on the edge between the two families of application is the possibility of experimenting with new concepts and ideas in the controlled lab of Causal Mapping before introducing them into a real-life setting. Management or otherwise can throw in initiatives that can be evaluated on their merit by the group of experts without the risk of political influence (Shaw et al., 2006), giving the advantage of identifying potential problems before the live implementation of this new idea. Causal mapping has also proven to be a handy tool in consulting and research when a complementing but potentially contradicting input from a team needs to be captured and analyzed (Bryson et al., 2014).

2.1.7. Critique of Causal Mapping

To complete the literature review of Causal Mapping, I will shed some light on the negative feedback and criticism it has received. These either relate to shortcomings of the approach itself or the improper

implementation of recommended practices. Some researchers criticized Causal Mapping for attempting to capture people's cognition and for treating organizational change as data processing on the account that this is too grand a feat (Hadjimichael, 2017). This method cannot capture the whole construct system of a person, nor does it claim to do that. Pyrko and Dörfler have confirmed what Eden (1992) and others have highlighted: that this method captures relevant constructs for the problem on hand and is practical and efficient in doing so. As for the data processing accusation, the causal mapping analysis provides guidance rather than a definitive response (Pyrko & Dörfler, 2018).

Others have criticized the approach because it focuses more on the people's agreement than the problem at hand, which might result in approving disastrous solutions if they gain the group's acceptance. If recommended practices are not followed, Lewin notes that attendees can quickly feel the pressure to conform, which reduces creativity (Lewis, 2010). When the established social order surrounding sensitive issues is vividly present in the attendees' thinking, they want to avoid rocking the boat and risking repercussions or treading into uncharted territory. This phenomenon is referred to as 'Group Think.' Eden (1988, p.8) quotes Janis (1972), who defines groupthink as "a psychological drive for consensus at any cost that suppresses dissent and appraisal of alternatives in cohesive decision-making groups." Too much conventional convergent thinking might indicate a lack of creativity (Ackermann et al., 2014). Even worse, there is a danger that the group negotiates a strategy that nobody wants, and nobody knows the others didn't strive for, a situation known as the "Abilene Paradox." As a remedy, consensus should take precedence, be it on existing or on fresh alternatives (Eden & Ackermann, 2001, 2011). Addressing these issues is one of the main functions of a facilitator, who should be alert when such situations start forming and exercise the known techniques that would stir the group away from them.

Additionally, attempting to capture human thinking constructs in an interview setting might be more time-consuming for the interviewer and interviewee than other mapping methods. It will need proper knowledge of its techniques (Pyrko & Dörfler, 2018). Again, the facilitator's knowledge and experience are essential to ensure the process is efficient, engaging for the interviewee and producing meaningful output.

2.1.8. Achieving Buy-in in Causal Mapping

Any decision-making session's primary purpose is 'achieving a politically feasible outcome.' Political feasibility is the measure of the practicality of the outcome (more on that in later sections). It is

achieved through the socially-driven process of Causal Mapping. Figure 3 clarifies that it all starts with achieving procedural justice, making participants feel secure to contribute their knowledge.

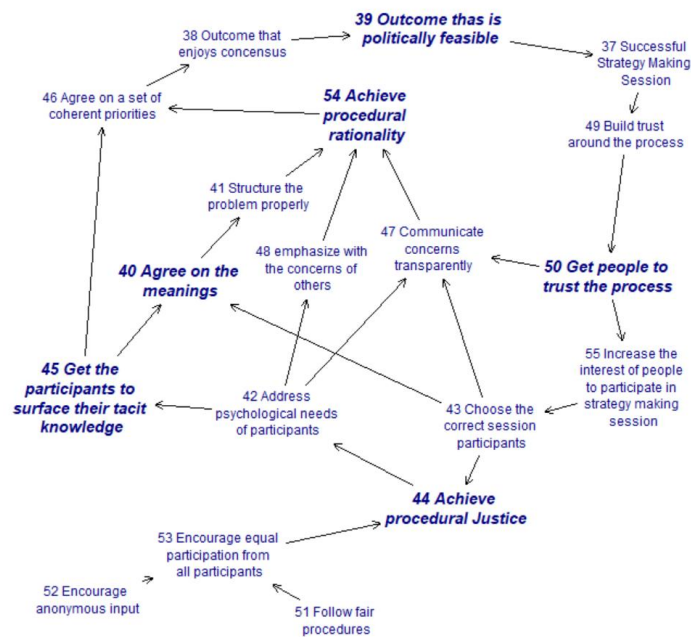


Figure 3- Politically feasible outcome

The accumulated knowledge will enlighten the discussion and dispel any confusion about the essence of the problem, significantly increasing the chances of having a procedurally rational outcome and enjoying the group's consensus. The map is cyclical; success breeds success. As the process becomes more refined, the right participants are more willing to join, having seen the practical, political, and social positive outcomes. In this section, I will explore the above steps that lead to this virtuous loop.

2.1.8.1. Procedural Justice

The focus of justice has shifted from being on the fairness of the outcome (distributive fairness) to the fairness of the procedure (procedural justice) or in addition to it. Distributive fairness (deciding who gets what) is usually biased and subjective. Participants typically refer to procedural justice rather than distributive fairness. The concept of procedural justice evolved from a legal context to a focus on a formal decision-making setting before focusing on the interpersonal aspects of procedures. In social

interactions, people treat each other politely, rudely, respectfully, or with hostility when discussing how to address a problem or resolve a conflict. How people treat each other during this activity will impact the outcome. "People still rated a procedure to be more fair if they had a voice, even if they knew that what they said had little or no influence on the decisions made"(Tyler & Blader, 2003, p.351). People regard how they are treated as a reflection of their status or recognition. Psychological dynamics underlying justice need to be understood to make sense of the impact of these interpersonal dynamics (Tyler & Blader, 2003).

Procedural justice "is the extent to which the dynamics of the decision process are judged to be fair" (Kim & Mauborgne, 1998, p 325). "Procedural justice refers to the 'social-psychological consequences of procedural variation, with particular emphasis given to the procedural effects of fairness judgments.'" As a consequence of this definition, people's reaction (favourably or otherwise) to decisions is a consequence of whether they perceive the procedures used to generate them to be just or not (Kim & Mauborgne, 2007, p.126).

The origins of procedural justice are in the work of Thibaut and Walker, where the central contention was that "people care a great deal about the procedures by which decisions are arrived at and will react strongly to the presence or absence of fairness in these processes"(Kim & Mauborgne, 1998, p.325). The concept started and found its origins in legal circles but quickly saw a prominent place in psychology, particularly social psychology, with the organizational context receiving the most attention. The merger of justice with the study of process created the field of procedural justice (Thibaut & Walker, 1975). Many researchers have done work to extend this concept to diverse areas such as educational, interpersonal, and political disciplines (Kim & Mauborgne, 2007).

Why is it important

Tyler and Blader (2003) formulated the group engagement model to understand the psychology underlying procedural justice and its works. This model examines the group's attitudes, values, and cooperative behaviour, namely all aspects of the relationship between individual and group. It postulates that identity judgments (assessing one's status and values) play a significant role in the group's values, attitudes, and cooperative behaviour. Identity judgment is affected by resource judgment (who gets what and whether this is a fair distribution) and procedural judgment. The model theorizes that the effects coming from procedural fairness have a much more profound positive impact on identity judgment and result in intrinsic motivation to act favourably. "Procedures are important because they shape people's social identity within groups, and social identity, in turn, influences

attitudes, values, and behaviours” (Tyler & Blader, 2003, p.349). Therefore, an intrinsically motivated individual(s) who received positive feedback from the group to create and grow their identity will discretionally cooperate with the group. The most vital type of positive feedback is fair treatment through procedural fairness. It shapes people’s “definitions of themselves and their feelings of well-being and self-worth [...] people are most strongly influenced by one aspect of the policies and practices of their group the fairness of the group’s procedures. This argument builds on the pervasive finding that procedural justice judgments have a strong and widespread influence on people’s thoughts, feelings, and behaviours in group contexts” (Tyler & Blader, 2003, p.353-355). Motivation from resource distribution has less impact, as it only motivates a person extrinsically and in response to a stimulus. In the absence of the stimulus, the response ceases. A person’s relationship with a group is based on exchanging resources and materials. Thus, the willingness to cooperate depends on assessing what the individual will get out of this cooperation.

Further study of motivation reveals that it signifies being moved to do something. It is a required quality that a person would want in himself/herself and in others around him/her to get things done and done right. Motivation not only varies in amount but also in type. It varies based on the conditions and the person. Deci and Ryan’s Self Determination Theory states that motivation (and ensuing behaviour) is linked to assessing how much autonomy (self-initiation and regulation) he has, how much control he can exert, and how achievable the task is. Based on these factors, motivation fluctuates between being intrinsic and extrinsic. Intrinsic motivation is associated with doing something because it is inherently interesting or enjoyable (Deci & Ryan, 1985; Ryan & Deci, 2000).

In contrast, extrinsic motivation is when the reward (or avoidance of punishment) is external to the task. Motivation is task-related, as a person can be motivated for a particular job but not another. As might be expected, intrinsic motivation is the desired type if it can be achieved, as it takes less energy to mobilize people and delivers better results. It is more evident in the outcome, which is of higher quality and creativity in intrinsic motivation. Yet, further studies into extrinsic motivation showed that it is essential in situations where intrinsic motivation is unachievable, such as when the tasks are challenging, enjoyable, or interesting. If adequately managed, extrinsic can deliver a good outcome, as it encompasses different levels of motivation that vary in strength. Surprisingly, adding an external reward to intrinsic motivation kills it and converts it into entirely extrinsic (Deci & Ryan, 1985; Ryan & Deci, 2000).

Cognitive Evaluation Theory, a subset of SDT, states that “interpersonal events and structures (e.g., rewards, communications, feedback) that conduce toward feelings of competence during action can enhance intrinsic motivation for that action because they allow satisfaction of the basic psychological need for competence. Accordingly, for example, optimal challenges, effectance promoting feedback, and freedom from demeaning evaluations are all predicted to facilitate intrinsic motivation”(Ryan & Deci, 2000, p.58). However, competence will not enhance intrinsic motivation without a feeling of autonomy. Intrinsic motivation will only occur for interesting activities to participants (think about attendees who are not engaged as difficult to motivate). In short, to achieve intrinsic motivation, feelings of competence at the task, autonomy (ability to self-initiate and self-regulate) and relatedness (how interesting the task is) must exist (Ryan & Deci, 2000).

External regulation is when a person feels that all control lies outside themselves. Extrinsically motivated people show less effort, less initiative, more anxiety, tend to blame others and circumstances for failure and do not cope well with failure. However, not all extrinsic motivation is equal. A second sub-theory, Organismic Integration Theory (OIT), was introduced. It details the different forms of extrinsic motivation and the contextual factors that either promote or hinder autonomy based on the person’s belief of the outcome’s value. The question becomes: in the absence of intrinsic motivation, how do we motivate participants to value and self-regulate activities, without external pressure, to carry them on their own? The theory stipulates that autonomy moves on a scale that starts with amotivation, or feeling helpless and lacks intentionality and cause. The person feels incompetent or incapable of achieving the desired result (Ryan & Deci, 2000).

The next level is external regulations, where the person displays signs of autonomy, but the drivers are external to him. The next level is where self-esteem comes into play, pushing the person to introject the outcome. Yet the action is still externally driven. If the person determines the task is essential, he/she is at the next level: identification. The last of the extrinsic motivation steps is integrated regulation. The regulation or driver is internalized. It is still short of intrinsic motivation in that the reward remains external and separate from the task, but both are volitional and valued by the self. The more the motivation moves towards intrinsic, the more the attitudes of greater enjoyment, more exertion of effort, positive coping styles, interest, enjoyment, greater engagement, better performance, better psychological well-being, and better felt competence demonstrate themselves. Figure 4 below shows the move from extrinsic to intrinsic motivation (Ryan & Deci, 2000).

The question then becomes how to in-build enjoyment and reward in the activity. One way is to build relatedness. “...providing a sense of belongingness and connectedness to the persons, group, or culture disseminating a goal, or what in SDT we call a sense of relatedness”. A second way is to offer the proper challenge that gives people a sense of competence. The third critical element is autonomy support, resulting in integrated self-regulation. Gamification, as will be later seen, could be used to remove the sense of external regulation and increase the feeling of autonomy to move in the right direction on the spectrum and achieve a sense of competence, relatedness and autonomy (Ryan & Deci, 2000, p.64).

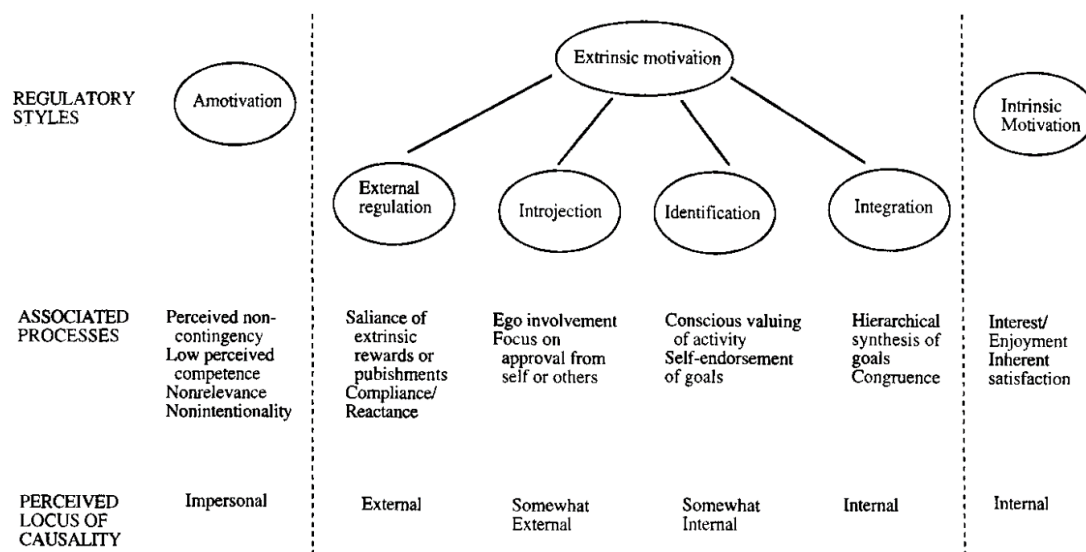


Figure 4 Different types of motivation (Ryan & Deci, 2000)

Returning to procedural justice, it is worth noting that it positively impacts the association with the group. This association is a two-way street. It shapes people’s social identity within groups, as the individual’s identity thrives on the positive feedback it gets from the group. This social identity influences attitudes, values, and behaviours. On the other hand, the group builds on the identity of its members. Research has shown that this positive feedback loop of “identification, pride, and respect are [positively] connected to feelings of self-esteem and self-worth” (Tyler & Blader, 2003, p.356). Thus, people identify with the group, feel proud of the group’s status and feel the respect they get within the group.

Procedural justice is a precursor to trust, which is a pre-requisite for voluntary cooperation at all levels, including that of the community as a whole (sportsmanship, civic duty,...) (Kim & Mauborgne, 1998).

Commitment is related to intrinsic motivation; thus, procedural justice plays a significant role in achieving commitment. Kim and Mauborgne (2007, p.125-126) concluded that “the procedural justice of the global strategy generation process indeed affects commitment, trust, and social harmony as well as outcome satisfaction in subsidiary top management, and hence provides a potentially powerful but, as yet, unexplored avenue for mobilizing the multinational’s global network of subsidiaries.” This view undermines the approach that purely attends to the outcome’s content and ignores how it came about. The content has always enjoyed full attention, but ignorance of procedural justice could be detrimental to any successful content. Outcomes reached with procedural justice are characterized by the quality of decision-making and interpersonal treatment (Tyler & Blader, 2003).

Another outcome is building, accumulating, guarding, and propagating knowledge. Collective knowledge building in an organization, while a goal for every organization, can only be achieved when individuals voluntarily cooperate. It cannot be supervised, nor forced out of people. “when people feel their strategic decision-making processes are fair, they display a high level of voluntary cooperation based on their attitudes of trust and commitment ...Conversely, when people feel that the processes are unfair, they refuse to cooperate by hoarding ideas and dragging their feet in conceiving and executing strategic decisions” (Kim & Mauborgne, 1998, p.323-324). Voluntary cooperation refers to individuals exerting effort, energy and initiative to the best of their abilities for the organisation's benefit, therefore prioritizing the organisation's objective over those of their own in an atmosphere of trust and commitment. Voluntary cooperation is a must for the effective execution of strategic decisions. It also has a favourable implication on knowledge diffusion and team performance (Kim & Mauborgne, 1998).

[How to achieve procedural justice](#)

Organizations increasingly rely on cooperation, collaboration, commitment, trust, and social harmony to do their work (especially in a loosely controlled environment). Decentralization is also becoming more common. In such a setup, procedural justice can efficiently mobilize an organization’s resources (Kim & Mauborgne, 2007). Procedural justice “relates to the way that decisions are made and [the way] people are treated during the decision making to the sense of fairness they feel, which in turn encourages cooperation, trust and engagement with the group’s goal” (Eden & Ackermann, 2011, p.20). Three components seem most prominent in securing procedural justice in a business setting. The first is engagement, which denotes getting input from individuals on decisions and allowing them to challenge other people’s ideas and assumptions. The second is an explanation, which means ensuring that everybody understands why final decisions were made and specific thoughts or opinions were

overridden. The final one is the clarity of expectations, where people know what is expected of them and what the rules are. These three components only work collectively (Kim & Mauborgne, 1998).

Facilitation plays a significant role in achieving procedural justice. “A degree of fuzziness [of who owns the input] provides the setting within which face-saving can occur.” Facilitation helps maintain input ambiguity and avoids attributing issues to participants. It is one of the essential procedures that feed the association with the group, making it easy for participants to change their minds freely. As the map builds, its ownership belongs to the whole group, and the association is created (Eden & Ackermann, 2011, p.24). Facilitation plays an instrumental role, and dual facilitation is highly encouraged. It refers to having two facilitators in a session using electronic combined with human facilitation. One facilitator will attend to the electronic capture of content while the other attends to the interaction. Procedural justice is inherently presented in dually facilitated workshops, as it enables the consistent application of procedures across people and time. It makes the process free from bias. It ensures accurate information is collected; it has a mechanism to correct flawed or incorrect decisions (through iteration). It conforms to prevailing ethics or morals and considers stakeholders' opinions (Kaur & Carreras, 2019).

One side-effect of Procedural justice is that it can reduce efficiency and speed in decision-making. However, this pitfall is more than compensated for by the commitment and ownership of trusting and associating with the group (Kim & Mauborgne, 2007). Procedural justice provides identity security by merging the individual with the group. Closely associating with the group is a two-edged sword, as negative feedback from the group can damage the individual's identity, especially the most vulnerable. Another implication of procedural justice is the confusion between pride and respect. Foolish pride might lead to a version of loyalty that is uniformity of behaviour and conformity to the group. The individual's main concentration would be the group's outside image, failing to understand the impact of such a dynamic of creativity, commitment, and buy-in. A potential outcome is the phenomenon of groupthink (Janis, 1972). A better alternative to this is the feeling of respect, where somebody feels valued for the value he brings and not for naive loyalty. Being respected drives intrinsic motivation and sustained voluntary behaviour (Tyler & Blader, 2003). Procedural justice is not to be confused with democratising decision-making (Eden & Ackermann, 2011). Part-taking in decision-making is not one of the components, and procedural justice should not be confused with participative management, aka democracy (Kim & Mauborgne, 1998).

2.1.8.2. Linking psychology, sociology, and politics of meaning

It can be understood from the above that agreed outcomes that enjoy the commitment of key stakeholders, including those implementing them, are the characteristics of a successful decision-making session. To achieve that, the two primary outcomes that must be accepted are defining the problem (politics of meaning) and the coherent set of solutions (priorities). Meaning, while valuable, is also a prerequisite to agreed priorities, making it doubly important. Successfully reaching one or both of those outcomes requires a proper understanding of the psychology of participants and the socio-politics that come out of their interaction.

When people get together, socio-political tensions deriving from the struggle for position and power occur. There is sometimes an over-emphasis on dodging those tensions of the group rather than getting the tasks done. If a problem is to be addressed, the stress is high to get a solution, which might cause jumping to conclusions before adequately defining the problem. It can also result in solutions being offered without ownership and out of contact with the real world. In such solutions, some participants might resort to social loafing or sit back and watch, knowing that the outcome has no owner and they will not be required to implement it (Lewis, 2010).

As a remedy, Bryson et al. (2014) highlight the link between the outcome and the social, political and psychological aspects of the stakeholders that will formulate and implement that outcome. They stress that if these considerations are not accounted for, the product will be nothing more than good intentions. On the other hand, if these considerations are attended to, then commitment will naturally follow. Since a critical outcome of any strategy-making activity is creating commitment in stakeholders, the process of making strategy is as necessary as, if not more important than, the content and the analysis that led to it. Proper analysis will enrich the discussion; however, commitment is built on consensus and not compromise. This process is the secret recipe to muster these political, social, and psychological commitments. There are clear links between the method used for decision-making and its perceived justice and the commitment witnessed to the implementation of strategy, which again shows that the perception of how well the process went directly contributes to commitment. It is a cyclical situation that needs attention (Eden & Ackermann, 2011).

The starting point towards commitment is the definition of the problem. Seldom do issues present themselves as well-constructed and ready to be solved. In the beginning, the group must convert a problematic situation, characterized as puzzling, troubling and uncertain, to a structured problem to

start working on, which is not easy. It is referred to as problem setting. Weick defines it as selecting what to treat as the problem by setting boundaries and enforcing coherence, enabling practitioners to identify what is wrong with it and how to address it (Weick, 1995).

This process relies on the continuous interplay between tacit and explicit knowledge and between individual and group knowledge. Surfacing issues is a process of externalizing group tacit (intuitive) knowledge by narrating it. That narration lets people understand what they mean since tacit knowledge is intuitive and does not carry intention or meaning. It then becomes the group's explicit (rational) knowledge. This knowledge is then received explicitly by individuals, becoming their own. Through internalization, it becomes an individual's tacit knowledge, which, over time and using the process of socialization, becomes tacit knowledge of the whole group. It is a cycle (Wierzbicki, 2010). The process is cathartic, as it starts from where every individual is, thus allowing them to express what is on their minds at this moment (Ackermann & Eden, 2010c).

Meaning is not entirely shared between employees in a work situation. However, coordinated understanding has to be developed to get things done in a concerted action. In other words, this understanding is "sufficiently mutually reinforcing narratives of their and others' task-related actions" that allow collegial behaviour. What can be shared are actions, activities, conversations, and everyday tasks (Brown et al., 2008, p.1056). The management team's value resides in the fact that each can bring a different perspective on the situation and the priorities. Pyrko et al. (2017) introduce the concept of thinking together, based on Polanyi's idea of indwelling. It is the state of shared constructs based on real-life situations where tacit knowledge is shared. The implicit component lies deep in a human being but is not easily extractable; thus, the saying 'we know more than we can tell.' This idea overlaps with the concept of the boundary object, which plays a vital role at this stage, as it acts as a politically accepted concept in the politics of meaning. GDSS allows the formation of an understanding that belongs to the group, regardless of who contributed. The options generated belonged to the group, as did the strategic plan. The options chosen are those that enjoy the consensual agreement of all participants (Ackermann & Eden, 2010c; Eden & Ackermann, 2011). GSS does not promote equality of contribution. However, the level of dominance that some might exert in regular meetings is no longer available in GSS sessions. Each statement is treated with respect and only considered in terms of its content (Ackermann & Eden, 2010b). The causal map is neither technology nor social; it is a combination of both that are so intertwined that they become one. This is what is referred to as socio-materiality (Orlikowski, 2007).

Problem-solving can be understood to be organizational change in this context. It is influenced by how issues are presented, the definition of their significance, how they are explored in developing a shared understanding of them and how a settlement is negotiated (Eden, 1992a). To achieve this change of context, the four core values of participatory decision-making are:

- full participation (participants not shying away from saying what's on their minds)
- mutual understanding (acknowledgement that there are different valid points of view)
- inclusive solution (solutions built on the collective wisdom of group members)
- shared responsibility (the group owns the outcome and takes responsibility for its implementation) (Kaner & Lind, 2007).

However, the above does not indicate that procedural justice is the ultimate decider of whether a decision-making session is successful. The rationality of the outcome plays a massive role in whether it gets implemented or not, as it is difficult to find anybody enthusiastic to implement nonsensical measures. Simon (1976, p.131) uses the term 'substantive rationality' to refer to the economic term of rationality, whereas procedural rationality refers to rationality from a psychological perspective. A behaviour is substantively rational "when it is appropriate to the achievement of given goals within limits imposed by given conditions and constraints." Therefore, substantive rationality is determined with respect to goals. "Behavior is procedurally rational when it is the outcome of appropriate deliberation. Its procedural rationality depends on the process that generated it." Eden concludes that the balance between process and content is essential. Both procedural just and procedural rationality are equally needed. He denoted this balance by equation $P \times C$ (Process X Content) to signify the tension between organizational development, versus content development. Focusing on one but not the other does not return a good result. The substantive knowledge of the facilitator could be added to the mix, making the equation $PXCXS$ (Process X Content X Substantive Knowledge of Facilitator)(Eden, 2020).

2.2.Causal Mapping in Strategy

Eden and Ackermann (2018) remark that Causal Mapping has the necessary ingredients to play a prominent role in many areas of strategy making. The first of these ingredients is its ability to detect emergent strategies through sense-making. The second is that it enables negotiations, issue selling and the map as a transitional object. The third is its capability to manage complexity through tools that analyze the structure. Before presenting a literature review on Causal Mapping in strategy, the concepts of Strategy, strategic planning (the process to produce Strategy), and strategic management (the context

that oversees its implementation) are presented. The demarcation between formulation and implementation and their interaction is discussed by studying Strategy as Practice.

2.2.1. What is Strategy

Literature is rife with definitions of strategy (Kühl, 2023). The purpose here is not to capture all of them but instead choose the ones most relevant to the context. In management sciences, Strategy has swung between two extreme definitions. The first is a structured, purposeful approach, which sees it as a consciously conceived plan to achieve specific goals. It is a process of planning, adaptive in nature, incremental, disjoint, and reactive. At the other extreme, it is a reactively agile exercise, “a pattern in a stream of significant decision” entrepreneurial, bold, with big steps by influential strategy makers. The outcome of both definitions is a decision to commit resources (Mintzberg, 1972, p.90). In between, there are many variations.

Mintzberg and Lampel (1999) identified ten schools of strategy in two categories: prescriptive and descriptive. The prescriptive takes a rational approach towards dictating a preset, template-driven form that strategy should take. They include three schools: design, planning, and positioning schools, all three adopting an objective, positivist view. On the other hand, the descriptive category is more modest in its claims and describes the world ‘as it is.’ It reports actual proceedings relating to strategy. It encompasses the entrepreneurial, cognitive, learning, power, cultural, environmental, and configuration. These schools have different origins and contexts but share a subjective stance, adopting a range of interpretivist to pragmatic philosophies (more on those philosophic stances in the methodological approach). While the prescriptive approaches still have devout followers, they have found their critics in the works of people from different philosophical schools. The most vocal of those was Mintzberg, who used the elephant metaphor (people defining strategy based on which portion of it they are analyzing) to indicate that academics are not seeing the whole picture. He stated that this approach is causing damage to practitioners (Lloyd, 1992).

Bryson et al. define strategy as “a pattern of purposes, policies, programs, projects, actions, decisions, or resource allocations that define what an organization is, what it does, and why it does it” (Bryson et al., 2014, p.60). An alternate view of Strategy is as a “Coherent set of discrete actions by managers and others in the organization in support of a system of goals, where a self-sustaining critical mass supports these actions, or momentum, of opinion in the organization” (Eden & Ackermann, 2011, p.111). This last

definition implies that paying attention to the social dimension of strategy development will make it more effective, classifying it as a social rather than an analytical process (Eden, 1992b).

The definition of strategy has always been a contentious issue. Most definitions stay clear from including any discussion of level, function, time frame, or guarantee for success, limiting the potential practicality of the definition (Bryson et al., 2014). Ackermann and Eden (2011, p.5) declare that “strategy is about agreeing on priorities and then implementing those priorities towards the realization of organizational purpose.” While this last definition is too brief and falls short of putting its finger on strategy, it opens the door for the contributions that Causal Mapping can give to Strategy. Therefore, this definition will be used in this thesis.

This chosen definition brings the social aspect to the forefront. The logic behind this is that since Strategy is about agreed focus, strategy making is about focusing arguments and agreement about the critical matters. This agreement must be negotiated, making it more practical and accepted, driving commitment and increasing the chances of implementation. Since strategic management is about organizational change, understanding the causality of issues and concerns is essential. The process of strategy making and strategy delivery tolerates and encourages changing minds and behaviours. It is integrated with operational decisions; therefore, implementation cannot be separated from formulation; strategic problem solving and strategic management are the same in this context (Eden & Ackermann, 2011). In the following three subsections, the strategy concept, as introduced here, is discussed from the perspective of planning vs emergence, strategy as practice, and open strategy.

2.2.1.1. Strategic Planning Vs Strategic Management

Bryson defines strategic planning as “a deliberative, disciplined approach to producing fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it” (Bryson et al., 2014, p.7-8). Strategic planning gathers, structures, analyses, and synthesises information based on its significance to develop and enable implementation strategies to achieve the organization’s desired goals. It effectively addresses vital organizational issues and produces judgments about desirable and feasible strategy elements (mission, purpose, strategies, actions, and initiatives). It also enhances organizational learning while creating an enduring public view (Bryson et al., 2014).

Eden and Ackermann present a set of rules that debunk some myths about strategic planning. They argue that the planning endeavour is not generic to all organizations but is custom-made for each

organization. The business environment is uncertain, so management must account for different potential eventualities. The content of the Strategy should focus on strategic issues and how to turn strategy into action. Since Strategy is the product of operating managers' efforts, these managers require training in strategy making and strategic analysis (Eden & Ackermann, 2001).

A strategy is the outcome of strategic planning. It has to be coherent and free from contradiction to enjoy staff buy-in. Without that buy-in, it is merely an intent for change that never sees the light. To deliver to expectations, a strategy must gain the stakeholders' support, those who formulate it and are impacted by it. Engaging influential and interested stakeholders to get their buy-in requires correct planning around participation, stakeholder management, and achieving political feasibility. "An energetic and committed management team can manage and control their world." These concepts will be discussed shortly. With the support of key stakeholders, the strategic discussion will facilitate considering the organization's alternative futures, linking strategy-making with organizational change and strategy-making for organizational learning, team development and strategy delivery (Eden & Ackermann, 2001, p.14; 2011).

Strategic management is concerned with implementing the agreement (strategy) of where to direct resources such as cash, energy, effort, and emotion (Eden & Ackermann, 2011). It is a proactive process that aims to change different aspects of the organization, such as stakeholders, context, or environment. It is about stretching the organization to leverage its unique, distinctive competencies to meet its strategic aspirations. Strategic management is futuristic. It attempts to shape the organization's future by understanding the past and building on it while developing the capabilities necessary for long-term flexibility and strategic opportunism. This adaptive model contrasts with the traditional model of making and sticking to long-term plans (Eden & Ackermann, 2000). It highlights shortcomings in the conventional top-down strategy model. Top management strives to reach a rationally sound strategy but is often shocked by the implementation realities on the ground. In such situations, the implementation is usually lacking, and frustration is mounting. Conversely, a participative model secures the buy-in of people who will deliver once they have voiced their knowledge. It is respected and taken into consideration (Eden & Ackermann, 2011). In a traditional model, information flows one way from top to bottom. In a participative model, there is circular, continuous feedback between strategic planning and management. This leads to a more relevant strategy that carries implementation-specific ideas and evolves with the organisation's and environment changes. The participative model is the focus of strategy as practice and is discussed in the next section.

2.2.1.2. Strategy as Practice

Kaner and Lind (2007) discuss the theoretical decision point, which separates thinking and ideas from the action and doing stage. At that point, agreed priorities become officially authorized realities, and no objections are allowed. However, this is not what happens in real life, as people are usually unsure whether a decision is final or not and what to do next. One of the biggest challenges facing the traditional approach to strategy is that it is not operational and actionable enough. It only includes high-level goals and non-specific directional guidelines. It is not specific enough to be used practically in overcoming issues faced. It is also sensitive to changes in assumptions. Expectedly, top executives have singled out strategy implementation to be at the top of their list of reasons for poor organizational performance. Another study showed that senior executives report “that they often achieve about 40% less than they expect in the returns on their strategy” (Hitt et al., 2016, p.2).

Many scholars have pointed out the difficulty of separating strategy formulation from implementation in most practical situations. One definition of Strategy is a ‘means to achieve the organizational purpose,’ highlighting how challenging it is to separate formulation from execution (Bryson et al., 2014).

Mintzberg and Waters (1985) highlight that a clear distinction between formulation and implementation can only exist in a purely deliberate strategy, which is not usually feasible. Strategy as practice stems from the realization that Strategy is associated with action or what people do. A strategy is a form of performative knowledge, meaning that articulating and communicating it moves it to the knowledge repository and starts the thinking process about its implementation. Transforming it from a matter of concern (worry) to a matter of knowledge (realization) and matters of authority (agreement and accepted social order) begins with articulating it (Vásquez et al., 2018). Perceived failures of strategic activities are linked to the strategy's inability to affect how people think and act, leading to the conclusion that the strategy did not achieve political feasibility (Eden & Ackermann, 2011). Mintzberg and Waters (1985) remark that strategic control is an oxymoron, similar to a researcher searching for patterns that confirm his theory. The remedy to this is to operationalize (include operational issues in strategy making) these implementational issues so that they become concrete and can be further developed (Eden & Ackermann, 2014).

Strategy as Practice (SaP) refers to when a strategy emerges from the thinking, conversations, and negotiated agreements within groups, i.e., what people regularly do (Eden & Ackermann, 2011). “SaP has concentrated on micro studies of what goes on in organizations as managers strategize” (Eden & Ackermann, 2014, p.2). Strategy-making is both enabled and limited by organizational and societal

practices in place. Practice refers to “accepted ways of doing things, embodied and materially mediated, that are shared between actors and routinized over time.” SaP has introduced sociological theories into strategy-making and expanded the concept of performance beyond economic concepts (Vaara & Whittington, 2012, p.2).

Causal Mapping in Strategy Making checks all the boxes in creating an implementable, robust strategy. A Causal Map manifests the inseparability of formulation and execution of the strategy of SaP. The map is flexible, encompassing goals, strategies, action items vertically, and environmental conditions. People with different functional responsibilities in the organization work on the map; a target for a participant might be a strategy or an action item for others. As Eden and Ackermann (2018, p.1151) note:

The presentation of the map as a means-ends hierarchy revealed that what one person regarded as an issue of strategic significance was sometimes seen by others as operational. Separating operations from strategy was considered to be unhelpful to strategizing: managers not only explored the ‘what’ of strategy making but also the ‘why and how,’ the means-ends agreements; as such, they could not usefully separate these two aspects of operations and strategy in managing the future of the organization.

A manifestation of SaP is that the Causal Map contains the tactical action items, the strategies they serve, and the goal system that strategy aims to deliver. The lower part of the map signifies the implementation part, which is referred to as strategic programming or project management. It is the ‘How’ part. The arrows from the ‘How’ point to the plan (the What). The top part of the map is the ‘Why’ or the goals (Bryson et al., 2014; Eden & Ackermann, 2018). In this discussion, it is essential to note that the practice referred to in SaP is “knowledgeable practice” that carries tacit knowledge within it (Rouleau & Cloutier, 2022). One of the by-products of causal mapping is to unveil this tacit knowledge.

SaP dictates that middle managers are critical in strategic planning and execution. They act as interpreters and sellers of the formulated strategy, ensuring that the marching orders are implemented as intended. Whether these middle managers take it seriously, personally and passionately, or playfully with detachment and scepticism, the impact of their approach will be substantial to the organisation's success (Vaara & Whittington, 2012). Therefore, executing the strategy starts with assigning ownership to each priority, preferably to senior managers, with KPIs and budgets attached. A standard review process is a must to show seriousness, and the resulting progress is to be published in a motivating effort. The group has to consider environmental conditions to increase the chances of success (Bryson et al., 2014). The process is iterative and is done regularly, as good and lasting organizational change is incrementally built on small wins rather than a single big win (Eden & Ackermann, 2011).

2.2.1.3. Open Strategy

Open strategy builds on the foundation of strategy as practice. It is a strategic approach that invites wide participation in decision-making by actively engaging a broad range of internal and external stakeholders through transparent, collaborative processes to co-create and continuously refine an organization's strategy (Hautz et al., 2017; Whittington, 2019). As such, the concept of open strategy links well with the making strategy idea. It was first eluded to by Whittington (2006), who argued for a "practice turn" in strategy research, where strategy emerges from the everyday interactions and practices of strategists, rather than being solely a top-down process. Jarzabkowski et al. (2007) stated that this emergent strategy is dynamically and socially co-created by multiple actors through their everyday practices, thus involving a broader range of stakeholders in strategy-making. These stakeholders use strategic tools and artifacts that serve as "boundary objects" that enable collaboration across different groups (Jarzabkowski & Paul Spee, 2009).

Since the focus of Strategy-as-Practice is the practice itself and the stakeholders that take part in the process, it follows logically that strategic decisions are socially constructed. Therefore, understanding strategy requires paying attention to how groups interact, communicate and negotiate meaning (Vaara & Whittington, 2012). In fact, open strategy can be defined by its key dimensions; transparency, inclusiveness and external engagement (Hautz et al., 2017) and the central use of IT/IS systems (Tavakoli et al., 2017).

Despite the vast advances in strategy research and practice that open strategy brings, it also brings the risk of diluting decision-making authority if not properly implemented, thus losing its value. On the other extreme, improper implementation could lead to decision-making remaining largely centralized, a situation referred to as "pseudo-participation" (Dobusch & Kapeller, 2018; Hautz et al., 2017). Therefore, the success of open strategy heavily depends on the ability of organizations to overcome superficial inclusiveness and truly integrate diverse inputs into meaningful strategic outcome. The need then arises for a careful, context-sensitive design of open strategy processes to address the inherent dilemmas of power, ownership and participation. The literature included in Table 3 below, explores challenges that face open strategy such as insufficient buy-in, one-way decision-making, and hierarchical constraints. These challenge hamper effective strategy creation.

Table 3 Challenges facing open strategy

Source	Potential Problems	Consequence
(Hautz et al., 2017)	Open strategy can fail to generate real stakeholder buy-in if participants feel that their contributions lack tangible influence	Cynicism can occur among participants who feel that their input is collected just for show, impacting their future participation
(Dobusch & Kapeller, 2018)	There is a challenge in aligning a wider range of stakeholders	Participant fatigue and frustration, eroding buy-in
(Tavakoli et al., 2017)	Not aligning participants perceptions can diminish the final outcome	When participants feel that their concerns are ignored, they disengage.
(Aten & Thomas, 2016)	Crowdsourcing strategic input often struggles to convert online engagement into genuine commitment, since participants do not always identify with the finalized plan	Without a clear process to integrate and credit participant contributions, and without follow up on how these ideas shape implementation, participants might not act when required.
(Whittington, 2019)	Even when employing open strategy, entrenched hierarchies and legacy practices can limit ownership of initiatives	This will constrain the participatory process, resulting in muting or sidelining some voices, which will reduce the likelihood that strategic initiatives be embraced and acted upon.

2.2.2. Expanding the use of Causal Mapping through Action Research

I have thus far presented a theoretical background to Causal Mapping, shown how to use the technique, and highlighted its strong points. I also presented strategy, strategic planning, management, and strategy as practice. The next step is to explore the process that has enabled the development of Causal Mapping into Strategy and the continuous evolution of the resulting method.

From a research categorization perspective, causal mapping is a Soft Operational Research Method or Soft-OR. Soft-OR is OR that does not stem from structured mathematical techniques. Some people argue that Soft OR is not operational research. Yet, it has proven to hold the solution to many messy or wicked problems where the group needs to make out of situations with “a range of stakeholders with potentially conflicting values or interests, a lack of reliable data, disagreement about the nature of the “problem” and yet the need for agreement and commitment from stakeholders.” It is instrumental when success requires a degree of agreement between stakeholders implementing the outcome, who might have conflicting interests (Mingers, 2011, p.730).

Causal mapping can produce implementable, highly effective strategies, sometimes called strategy mapping. It helps stakeholders understand challenges and develop mission goals, strategies, and actions (Bryson et al., 2014). Causal Mapping can be potent in addressing messy or wicked problems. The more struggle there is to reach agreement among the participants in causal mapping, the more the negotiated agreement is owned by the whole group (Bryson et al., 2016).

As a problem-structuring method, causal mapping creates a valuable situation for the organization and the researcher. Organizations can benefit from committed action that is agreed upon based on the detected emergent strategy while the researcher gets access to research data. Reaping the benefits of Causal Mapping is an outcome of Action Research (Shaw et al., 2006). Strategic Options Development and Analysis (SODA) is the incremental output of rounds of action research. To understand well, one must understand the concept of action research and how it works. This section will review some of the literature about Action Research, particularly Research-Oriented Action Research. It will show that this discipline is rigorous and can produce useful methods. Section 9.1.2 includes additional material about action research for the interested reader.

2.2.2.1. The Nature of Action Research

Eden and Huxham (2006, p.388) define the term Action Research as: "... a range of approaches involving interventions in organizations that have the purpose of bringing about practical transformation and advancing knowledge [...] with [the participation of] members of the organization over matters that are of genuine concern to them and over which they intend to take action." As per Eden and Ackermann (2014, p.4), Action Research "emphasizes an engagement with managers: knowledge produced in the context of an application. The research involves addressing the issues of managers rather than research hypotheses."

Action Research aims to bridge the gap between theory and practice. It is most suitable when studying a phenomenon in its natural setting and brings more value than a lab environment. It is also popular when there is an emphasis on the how and the why or when there is a lack of previous studies or deep theoretical understanding. It is beneficial to develop methods and techniques to handle practical situations (de Vreede & Dickson, 2000). Eden and Ackerman (2018) build on Action Research's potential to use theory to produce a method that the senior management team finds useful in strategy making. When applied to this setting, Action Research starts from the existing theories, creates and implements the methodology, and enriches the original argument with additions derived from a real-life situation. It is a fundamental approach to understanding the relationship between theory and practice and achieving rigour and relevance simultaneously in a setting where qualitative data is the norm. It is also beneficial where there is no or minimal quantitative data. "Theory grows and changes by shifting theory development from 'pure research' to practice-based research, not as if either were wrong, but so that when brought together, they enrich one another" (Eden & Ackermann, 2018, p. 1146).

Action Research is circular. It follows a 'fine-grained methodology' that cycles between the two separate worlds of practice and theory. In the realm of the theoretical, it operationalizes an idea/ theory/ notion through an explicitly stated/ designed method. In the field of action, it applies the routine and reflects to understand the use and impact of that routine. It then goes back to the world of theory to explore and look for theory to explain outcomes to develop the method further and redesign for the next application (Eden & Ackermann, 2018; Hunziker & Blankenagel, 2024). Eden and Ackermann demonstrated the use of theory to action and action to theory through three iterations spanning decades. In developing their strategy mapping-out method, Action Research started focusing on the design of the intervention, which led to reflection on the method used before developing a new theory and applying it again in the design of a further action intervention. When augmented by the extant pre-understanding, this loop was

incremental and produced a new theory that is more potent than the previous existing theory (Eden & Ackermann, 2014). It benefits from propositional knowledge, participants' abstract information, and experiential knowledge or tacit knowledge gained from lived experiences. Combining both types of knowledge leads to actionable knowledge, the kind of knowledge that has potential benefit to the organization and research value (Saunders, 2019). The door is still open for further improvement using the same method. After all, most action research tends to be longitudinal (Hunziker & Blankenagel, 2024).

Action Research has received more than its fair share of criticism, especially from hard believers in the scientific method. The main argument is that interventions are usually one-time and lack repeatability and rigour. The visible impact of the facilitator (researcher) on the outcome of the experiments exacerbated this point. However, it is essential to note that Action Research as a methodology for researching organizational practice differs from other types of activities in an organization. It aims to capture the organisation's real-life complexities, it delivers a different type of rigour, which relates to collecting and analyzing the data rather than explaining it. If it maintains a high standard of good quality research, Eden and Huxham regard action research as good science and of high practical value, despite the criticism that it receives (Eden & Huxham, 2006).

2.2.2.2. Research-Oriented Action Research

Eden and Huxham focus on a particular variant of action research, which aims to study organizational processes and practices in an involved manner instead of using the fly-on-the-wall approach advocated by other action research approaches. This variant builds on the premise of facilitation and facilitators as the catalyst for a significant change rather than consultancy and a prescriptive approach. It addresses matters of genuine concern to the participants and over which the organization intends to take action rather than what the consultant sees as necessary. In short, this research is facilitated action-oriented, and its *raison d'être* is to have research output. Therefore, its name is Research-Oriented Action Research, RO-AR for short (Eden & Huxham, 2006).

A key characteristic of RO-AR is that it defers serious reflection on the proceedings and the initial conceptualization until much later in the process. Both practitioners and researchers are encouraged to commit to setting aside and temporarily suppressing their pre-understanding of the situation. "This

decreases the likelihood of the researcher's theoretical stance closing off new and alternative ways of understanding the data and extending theory. Besides, suppressing pre-understanding encourages generating a holistic and complex body of theory, concepts, and experience. By contrast, being explicit about pre-understanding tends to result in a neatly bounded and 'chunked' list of biases that inevitably, even unintentionally, takes on the form of separable theoretical constructs" (Eden & Huxham, 2006, p.395).

In contrast with other approaches, RO-AR advocates trusting the process and completing the practical side of the cycle before arriving at any outcomes, impressions, or reactions. Pre-understanding and different perceptions are only welcome once the theoretical conceptualization of collected ideas commences, but not before. Like other Action Research, RO-AR builds on Lewin's recognition that the researcher is visible, and his visibility in the experiment will impact its outcome (Eden & Huxham, 2006).

Adopting RO-AR is acknowledging that there is a lot to be learned about an organization from the thinking and behaviour of senior managers (Eden & Ackermann, 2014). Eden and Huxham (2006, p.396) noted that "Interventions in organizations provide ideal opportunities for loose experimentation in the sense that they provide opportunities to try out complex and inter-linked conceptual frameworks that cannot be pulled apart from [the] controlled evaluation of individual constructs." Data collected during RO-AR comes from different sources such as interviews, one-on-one or otherwise, informal conversations with groups of managers, views of support staff, and the formal intervention sessions. This variety of data collected emphasizes the importance of checking for validity. "Reliable data relating to organizational life is predominantly qualitative, situational, and is collected opportunistically." To achieve that, Eden and Ackermann suggest having two facilitators capture and validate data through discussion (Eden & Ackermann, 2014, p.6).

2.2.3. Visual Strategy, SODA and Journey

Now that the method of applying causal mapping to strategy has been explored, it is time to examine the outcome. These strategies deploy Causal Mapping in planning and implementing strategy-making.

Of the different types of problem structuring and mapping techniques, Pyrko and Dörfler (2018) regard Eden and Ackermann's approach to Causal mapping as the preferred one because of its sophistication for managing qualitative information without compromising richness. Therefore, this paper will focus on this method and its evolution from Cognitive to Causal Mapping from the angle of strategy making,

where Eden and Ackerman concentrated on developing SODA (Strategic Option Design and Analysis) and later JOURNEY. JOURNEY, which stands for Jointly Understanding, Reflecting, and Negotiating Strategy, is the SODA's successor. As its name suggests, it focuses on the importance of the process and negotiation in defining the problem and agreeing on actions to include in the strategy that comes out of the process (the journey). It equates the journey in importance to the outcome itself (Ackermann & Eden, 2010d; Shaw et al., 2006). This section will also focus on the means of evolution from the manual approach, using Post-it and sticky paper, to a Group Support System (GSS), which uses remotely linked computer devices, with or without moderation with a central computer.

2.2.3.1. Visual Strategy: The marrying of Strategy with Causal Mapping

As previously discussed, strategy formulation and implementation are inseparable, except in the most structured situations. The visual aspect of Causal Mapping and its strength in the strategic arena (aka Visual Strategy Making or ViSM for short) builds and reinforces this principle. One of the central premises of ViSM is that “[t]here should be a strong connection between strategy and operations, or else the strategy is relatively useless.” ViSM focuses on “coherence and consistency between what people say (rhetoric), what they decide (choices), what they are willing to pay for (budget), what they do (actions), and the desirable consequences of those actions in terms of mission and goals, as well as any likely undesirable or untoward consequences that need to be managed.” As a result, causal mapping becomes a valuable and efficient tool to craft strategy and manage its implementation and change, possibly entailing organizational change related to interacting with the environment or changing parts of the surroundings. In other words, the Causal Map graphically represents the basis for action and pursuant change (Bryson et al., 2014, p.4; Eden & Ackermann, 2011). Ackermann and Eden (2011) identify their book's aim as addressing the challenge of “how to build a robust strategy that people want to implement” p.1., done in 3 to 8 hours.

Like typical Causal Mapping, Visual Strategy Making is a causal mapping process built by linking statements with arrows that indicate causality (A might cause or result in B). This approach allows for articulating many ideas (issues) of concern and their interconnection. The outcome would tell what to do, how to do it, and why, as the arrows highlight a linked argument indicating the cause and consequence of an idea or action (Bryson et al., 2014). As strategy-as-practice (expansion of strategy use to knowledge processes and cognition fields) becomes more prevalent, visually interacting (embodied

interactions captured visually) with the strategy tools used has been shown to benefit the outcome (Paroutis et al., 2015).

Visual strategy mapping relies on group process facilitation, practical reasoning through dialogue and deliberation, negotiation, and visual representation of statements linked by arrows to show the causality and interrelatedness of participants' arguments. The process helps participants "see what each other is saying, understand each other's views, develop a common language, and ideally, through dialogue and deliberation reach common agreement and commitment to mission, goals, and strategies. Often, the group mapping is computer-assisted" (Bryson et al., 2016, p.9).

2.2.3.2. Strategic Options Development and Analysis (SODA)

"Strategic options development and analysis (SODA) is a general problem identification method that uses cognitive mapping as a modelling device for eliciting and recording individuals' views of a problem situation. The merged individual cognitive maps (or a joint map developed within a workshop session) provide the framework for group discussions, and a facilitator guides participants towards a commitment to a portfolio of actions" (Mingers & Rosenhead, 2004, p.532). The Strategic Options Development and Analysis (SODA) process helps a group gain a shared understanding of the situation they face before they formulate and reach an agreement on action. It is likely to produce more creative, implementable solutions, as it covers a broader view of the issues at hand and considers the social aspects of the problem (Eden & Ackermann, 2001; Hodges, 2023).

SODA combines cognitive and causal mapping techniques that embed the process of negotiation and team facilitation to enable handling messy problems. At its heart lies operational research with model building and content and structure analysis (Eden, 1988). SODA is a soft-OR problem structuring method (PSM) that has witnessed prominent use alongside the Strategic Choice Approach (SCA) and Soft System Methodology (SSM). It has been developed using multiple iterations of RO-AR (Eden & Ackermann, 2018). SODA focuses on four components: the individual (studies through cognitive psychology), the nature of the organization (the negotiated order), consulting practice (facilitation), and technology (visually interactive model). "SODA has its foundation in working with 'multiple perspectives' to more fully understand a situation." Experience gathering is done scientifically by attending to organizational behaviour, judgment, and decision-making (Eden & Ackermann, 2001, p.139). It provides consultants with a set of skills. These skills augment a framework for designing problem-solving interventions, techniques, and tools to help clients work on wicked problems. The facilitator brings two skills to the

mix: one to manage and adequately administer the procedural side of the technique and the other to construct and analyze the content model (interconnected issues and prioritized options) (Ackermann & Eden, 2010d).

2.2.3.3. SODA to detect emergent strategy

“The SODA approach has its foundation in ‘subjectivism.’ Each client group member is held to have his or her personal subjective view of the ‘real’ problem.” Their collective wisdom and experience produce decisions about which the group feels confident. This approach focuses on the individual and not the organization, as the organization is a collection of individuals (Ackermann & Eden, 2010c, p.23). Since SODA is the outcome of action research, it is a strategizing tool that is more practical and usable than available strategy theories, as it focuses on the actionable. Causal Mapping and GSS detect emergent strategy, which has become a pragmatic strategy tool for further theory development (Eden & Ackermann, 2014).

As organizations do not act randomly, any path they follow is a strategic path, either planned or reactively meddling through. Organizations work strategically at all times, even without knowing it (Eden & Ackermann, 2000). Strategy can be intended or unintended, planned a priori, or evolved. However, it is not acknowledged as such until a series of consistent choices are made, operationalizing the concept of Strategy (Mintzberg, 1972). A pattern detected in a stream of decisions is a deliberate strategy; the series of actions that happened without choices or despite them is an emergent strategy (Mintzberg, 1978; Mintzberg & Waters, 1985). “It is important to remember that emergent strategy means not chaos, but, in essence, unintended order” (Mintzberg & Waters, 1985, p.271). “How issues are resolved and the impact of these resolutions on the strategic future of the organization is called emergent strategizing.” It will reflect what managers aim to avoid and what they seek and see as opportunities (Eden & Ackermann, 2011, p.42). It arises based on how managers address high importance issues that they face as they muddle through to solve strategic issues daily, rather than through a defined planning process. It is a process, not a form of strategy built on negotiating priorities and options in a cognitive and social context (Eden & Ackermann, 2018).

While issues surfacing and laddering-up in a SODA session, emergent strategy and emergent goals get exposed. “The method was allowing emergent strategizing to be represented as a process that was getting close to detecting theories-in-action rather than espoused theories.” As emergent strategies materialised during the discussions, an intended strategy was formed based on evolving agreements.

The process produced an agreed strategy based on the one observed developing. The social process that resulted in this agreed outcome has transformed it into an accepted deliberate strategy and, thus, a “Deliberate emergent strategy.” This concept diluted the boundaries between operations and strategy (Eden & Ackermann, 2014; 2018, p.1150).

The causally linked map built by managers of a specific organization reveals the uniqueness of the challenges that face that organization. This uniqueness stems from the history, skills, focus, and situation that the organization has that the causal mapping has brought to the forefront. Causal mapping can be a method to understand the meaning and to create a shared definition (Eden & Ackermann, 2011). Managers regarded the detected emergent strategy as more intelligent and robust since it contained their profound experiences, specialized knowledge, and expertise related to specific assignments. Furthermore, they thought it was safer and less likely to lead to undesirable results. Accepting emergent strategizing that emerges through negotiating a transitional object allows the group to shift their focus to the future rather than stick to the past (Eden & Ackermann, 2018).

The emergent strategy allows management to act before all inputs are entirely comprehended and studied, and the course is corrected along the way. This correction happens when central management surrenders decisions to those closest to, and will perform the action. They also show that the organization is willing to learn, which is very useful when the environment is too unstable, complex, or hard to defy. Partially deliberate strategies, such as an umbrella or process, can also work. However, they require a more deterministic environment for managers to give direction when the situation is mainly understood, or stable enough to predict. Deliberate strategy and other forms are articulated at the top. They trickle down to confine the concept of strategic learning, as managers will become focused on implementing the strategy and blind to queues from the environment or outcomes and feedback (Mintzberg & Waters, 1985).

SODA adopts the ‘strategy as practice’ (SAP) approach, where strategy is conceived, documented, implemented and modified during day-to-day business (Eden & Ackermann, 2011). Further examination reveals that SODA follows Mintzberg and Water’s (1985) learning school on emergent strategy, which is revealed when the team starts looking at what they are doing and why. SAP and Learning School see strategizing more as a path correction and enhancement than creating and planning from scratch. They see that discussing strategy without the implementation element is no more than brainstorming. They both target a situation considered to be suitable for the organization. This goal is a moving target and evolves with time, environment, team capabilities and previous accomplishments. For both, priorities

and goals are emergent, and they stand if no more valid and relevant interpretation has emerged to negate or supersede them. Both SAP and the Learning School are pragmatic. They can accept well-defined priorities and goals as temporary and susceptible to being overridden. SODA is like that, as well.

2.2.4. Political feasibility

Organizational politics is a controversial topic. Eden(2020) has found that people who seek personal gain and enhance their careers bring corporate life politics into existence. However, politics that matter for good decision-making arise from advocating what managers think is best for the company, resulting in multiple perspectives. Terms such as “right” perspective, “issue selling,” and “claims on the future” jump into existence. Politics are necessary, as their absence in decision-making risks narrow-mindedness and ‘group-think.’

Political feasibility means the ability of a decision support system to favourably and effectively influence the organization’s future. It is a measure of the practicality of the outcome solution and to what extent it can be applied. Without political feasibility, such a support system may malfunction or become ineffective. From a social perspective, political feasibility refers to the order in a decision-making situation that has been arrived at through delicate negotiation to get a practical outcome. Political feasibility is usually present when the proceedings of a decision-making session make sense by following causal logic (Procedural Justice) and when they have procedural rationality by following appropriate processes (Eden, 1992a). However, regardless of how rational a decision is and how much justice was present in reaching this decision, unless it influences the organization’s future in the way it is intended to (politically feasible), it is ineffective (Eden, 2020).

Practitioners who engage in a decision-making session and expect to carry out the resulting action usually gauge suggested actions’ political feasibility as early as the initial problem structuring phase. Managers do not separate problem statements from the solution's practicality, which needs to be considered. However, reaching political feasibility should not be oversimplified as a step-by-step process. It might be possible to delay the option choice stage until after the analysis and construction parts are complete, as there will be more clarity and thus better chances to succeed (Eden, 1992a, 2020).

Kilgour and Hipel (2010, p.203) define a strategic conflict as “an interaction involving two or more independent decision-makers (DMs), each of whom makes choices that together determine how the

state of the system evolves, and each of whom has preferences over the eventual state or resolution.” They also pointed out that despite conflicts, there is usually a decision-making hierarchy in a strategy-making exercise. The ultimate referee who gets his way is organizational well-being, although the balance of power and the politics of meaning will often blur this reference (Ching, 2023). Political feasibility comes to good use in the field of strategy. Since strategy is a tool of power, changing strategy entails a shift of power from specific stakeholders to others. As any significant change in organizations will have winners and losers, the political feasibility concept becomes prominent. Enough consensus needs to be built to ensure that any strategy can receive coordinated effort to have a chance to succeed and create change. It is understandable, given that consensus is needed, as each power agent will have a different assessment of the effect of strategy change and will act according to that understanding. This understanding is the source of politics in the organization. Surfacing an individual’s understanding to reach a unified group understanding can create consensus on an action that would give strategy its desired political feasibility (Eden & Ackermann, 2011).

Building on the above, political feasibility is better served by a better-managed process during which the team achieves consensus and emotional and cognitive commitment to action. As an outcome, people feel confident to act rather than wait for the “right answer.” Therefore, the success of a strategy session - similar to what the SODA approach promotes – is not measured by the rationality of the outcome but by the energy and commitment that the result enjoys (Ackermann & Eden, 2010d). “It is this emphasis on developing strategy that will change organizations rather than by analysis that gathers dust in the bottom drawers of the senior managers” (Eden & Ackermann, 2001, p.121).

Another critical issue that plays a vital role in political feasibility is the pace and impact of change. A distinction is made between socially negotiated order, which denotes the change that is the outcome of an intervention to determine what is best for the organization, and negotiated social order, which indicates the established order of relationships in the organization. For an outcome to be politically feasible, it has to be balanced between both. If the change is too radical, it will be perceived as too revolutionary and can be easily attacked and sabotaged by those opposing it. On the other hand, a change that barely qualifies as one raises the risk of stagnation and falling into dynamics such as ‘group think’ (Janis 1972). The outcome of such little change might be too much of a compromise that nobody wants, an effect known as the ‘Abilene Paradox.’ The ideal balance drives towards organizational change as an incremental process of small wins. Participants are interested in the substance of the outcome and in maintaining their existing relationships (Eden, 1992a). Bryson et al. (2014) advise checking for political

feasibility by doing an acid test of the resulting strategy document against how the key stakeholders are expected to perceive it.

Political feasibility has historically suffered from too much concentration on its substantive (rational) aspect and ignorance of its social part. Recently, with the help of GDSS, “addressing political feasibility [has become] not only concerned with managing the process of strategic change but also with carrying out a change that creates coordinated and cooperative action”(Eden & Ackermann, 2001, p.122). It is where social and psychological negotiation comes into play as fundamental elements.

2.3.Group Support System in Strategy

So far, we have covered software-powered causal mapping and strategy principles. Developed through the workings of RO-AR, these principles resulted in the SODA method. It is now time to take a more in-depth look at how GSS plays a critical role in SODA and the future application of RO-AR to improve it.

2.3.1. Benefits of GSS

Group Decision Support Systems describe the systems (software and social process) supporting groups in making sense of complicated situations to solve problems. These could use computers, be facilitator-driven, or both (Eden, 1992a). GSS has been used to provide anonymity, increase group productivity, and provide a more significant potential for collaborative work and visual interaction modelling. On top of that, it is a negotiation facilitation tool. GSS allows the ability to monitor each participant's participation level over time, thus shedding light on the dynamics of cognition and how it changes, how participants contribute, make sense of different contributions and reach an agreement (Ackermann & Eden, 2010b). Let's take a more in-depth look at some benefits provided by GSS.

2.3.1.1. Instilling efficiency, collaboration, and commitment

GSS makes task-oriented meetings more efficient and effective. It addresses the issues the current environment is increasingly witnessing, such as management structures flattening, workers getting more autonomy and problems becoming more complex. No single person has all the information to solve these problems, and new stakeholders are demanding and need to get involved. A group of people has to work in a group to solve these problems (Lewis, 2010).

GDSS's value stems from its ability to encourage creativity, instill emotional commitment and attend to the political feasibility of the outcome. "Commitment to solutions developed using GDSS is increased because of their ability to manage the negotiation and develop coordination and cooperation concerning the practicalities of implementation," in addition to the benefit of increased participation in the process (Eden, 1992a, p.200).

In a coherent group setting, synergies appear where the group's contribution is greater than the sum of the contributions of individuals. GDSS is instrumental in enhancing the meeting outcome and improving the meeting process itself. The engagement, user satisfaction, meeting effectiveness, meeting efficiency, and decision quality were better in a GDSS environment than in a manual setup. The meeting process, equality of participation, parallel production, anonymity, structure, and group size are better served and, thus, are better for GDSS-supported meetings (Lewis, 2010).

GDSS can benefit strategic planning sessions by productively and collaboratively bringing multiple perspectives, individual wisdom, and relevant data from a group to the surface. GSS can be a useful scenario planning tool, as it helps surface triggers and builds the sequence chain for any event. It also supports stakeholder analysis and management. It can also assist in converting the chosen strategy into a practical application through allocating resources. The allocation of resources depends on analyzing how much positive impact each chosen Strategy can have on the organizational goals (Eden & Ackermann, 2001). DeVreede and Dickson (2000) explore the benefits of GSS for collaborative business engineering, which they define as the combined transformation involving adapting business processes and redesigning information technology to support these processes.

Immediate feedback is possible in such sessions and benefits the quality of the resulting model. Unlike interviews, the facilitator is not bound by secrecy. Anonymously entered data can even receive feedback without exposing the contributor. The final report the facilitator produces summarizes the workshop and highlights the following steps as valuable input for the organization. The information is two-way when this activity is part of Research-Oriented Action Research (RO-AR). Clients get feedback in the session and the final report, and the researcher gets input from the client and participants on "how to improve the facilitation and the workshop process" (Shaw et al., 2006, p.10).

2.3.1.2. Production of new knowledge

The GSS process shows that it still can work even if not all the facts are available. Furthermore, the participants are part of producing knowledge themselves (Eden & Ackermann, 2018). While Causal mapping or Journey making builds on professional knowledge, GSS triggers creativity and new knowledge production (Shaw et al., 2006). The modelling process synthesizes the presented ideas and creates a new way of seeing data, since meaning changes due to new ideas and their linkage. The outcome is new knowledge (Eden, 1992a).

“The ability to learn faster than your competitors may be your only sustainable competitive advantage,” signifying the importance of becoming a learning organization, and causal learning might be one of the most effective tools to achieve this. The new knowledge will belong to the collective, not the select few (Eden & Ackermann, 2011, p.29). GSS also provides a powerful organizational memory tool (Ackermann & Eden, 2001). As the map becomes more complicated (despite simplifying it with clustering), it will represent a strategic change model that can act as a roadmap to navigate contradicting strategies (Bryson et al., 2014).

2.3.1.3. Anonymity and equality of contribution

Typically, groups rely on leaders and experts. The person in charge is responsible for defining goals, setting priorities, and achieving them—participants who might be more experienced at the sit back, analyze, and give an opinion. Furthermore, the person in charge ensures that the whole process works. On the contrary, in causal mapping sessions, for any agreement to be sustainable, it needs everybody’s support. So, everybody takes responsibility to ensure they are happy with the suggested solution and recognize that they own the outcome. The process is owned and enforced by all. The participants take responsibility for content and process (Kaner & Lind, 2007). The fuzziness provided by using natural language allows participants the leniency to change their minds without losing face and sometimes without feeling that they are doing just that (Eden & Ackermann, 2011).

GSS uses distributed computerized systems to enter data in the model. The resulting anonymity encourages participants to address challenging or sensitive issues, especially in the presence of superiors or other participants who might become defensive. Anonymity leads to equality of contribution, as the group will evaluate each idea not on who said it but on its merit. On the other hand, GSS can capture who contributed which ideas to avoid misuse by an individual who tries to overwhelm

the map with input about a single argument. The facilitator can warn the group that one participant has contributed to these views (Shaw et al., 2006).

2.3.1.4. GDSS as a trigger for creativity and in-depth analysis

The synergy of ideas from the group will open options, a form of group creativity. This creativity will help address the conflict discovered and elaborated by the group. Creativity also manifests at a group level, as members will have turned ideas and alternatives around in their brains before standing behind them (Eden, 1992a). Two impediments to creativity need to be avoided: the first is premature criticism, and the second is early closure (Ackermann & Eden, 2010b).

In typical corporate conditions, people quickly jump to conclusions or expect the most senior person to tell them what to do. People hope others get it immediately. The focus is on speed, not innovation or sustainability, which does not work in complex situations. In a participatory setting, solutions are not compromises but work for all concerned. New options were discovered, which were not obvious but emerged during the group's ongoing discussion. The members themselves become more able to integrate their input with that of others, leading to innovative thinking (Kaner & Lind, 2007).

Typically, the smartest, clearest, or loudest voice gets the most air time. Little attention is given to shy people or crude ideas. Few people do all the talking and repeat themselves, resulting in reduced quantity and quality of participation. Self-expression is constrained, and no risks are taken when voicing opinions. It is all about persuading others with one's ideas and refuting the others' ideas, even though it becomes apparent that it is not working. No effort is made to understand the deeper reasons behind what people say what they say. The outcome is that people stop listening to each other and brace themselves to respond to the expected fire back. On the contrary, GSS supports and enables participatory groups to move beyond pre-existing ideas and accept divergent, nascent or raw views. People take risks and encourage others to follow suit. They listen to understand the underlying reasons and to identify a good idea when they hear one. People ask questions. There are ups and downs (tense and relaxed periods), but people continue to listen. They might change their mind when they find better ideas than theirs. The outcome is that people find out they want to achieve a mutual goal (Kaner & Lind, 2007).

2.3.2. Negotiation in GSS

“Soft negotiations, as shown above, require subtle shifts in meanings through the presence of equivocality, allowing thinking to shift gradually and agreements reached” (Ackermann & Eden, 2020, p.21). Based on their specific roles, strategy-making participants come with different perspectives. A successful conclusion for a strategy-making session requires reaching a certain level of consensus. Since negotiation is an attempt at changing individuals' cognition, GSS can play a vital role as it can facilitate shifting participants' cognitive/psychological processes (Ackermann & Eden, 2010b).

In a strategy-making session, edging closer to the agreement means shifting from a high level of individuality towards cognitive alignment with multiple perspectives brought to the table by other participants. The purpose is to reach a collective view permitting agreement and action to follow. “A good strategy meeting might enable each member of the team to be able to elucidate their different perspectives, to listen carefully to the perspectives of others, to shift their position, and to be able to reach an agreement that does not do too much violence to their position.” It is not guaranteed that a complete collective consensus will ensue. However, a level of understanding achieved will allow a higher degree of coordinated action, as participants would be less surprised by the behaviour and actions of other participants due to their new understanding. GSS's ability to enrich negotiation is apparent as views change without penalty and within a reasonable time to reconcile the difference, reaching a higher awareness. It mitigates the risk of conflict arising from a misunderstanding (Ackermann & Eden, 2010b, p.297).

Soft negotiation comes into play at this point. It is where the emphasis is on reaching an agreement and changing thinking. It revolves around creatively creating new options that result from combining existing ideas from multiple people rather than fighting over old ones. These new options would have the backing and ownership of all participants, supported by procedural justice and institutional justice. Thus, soft negotiation contributes to decision-making. Moreover, given that group decision support systems (GDSS) are designed to “improve the process of group decision making by removing common communication barriers, providing techniques for structuring decisions and systematically directing pattern, timing and content of the discussion” (DeSanctis and Gallupe, 1987, p. 598) then there appears to be a natural fit when these group support systems encompass ways of facilitating negotiation that attend to soft elements” (Ackermann & Eden, 2010c, p.286).

With the Either/Or mindset, one group will win, and the others will lose. Having a Both/And attitude means that an inclusive solution is what the group is after, which will lead to a sustainable, implementable agreement (Kaner & Lind, 2007). Eden (1992a) adopted Ury and Fisher's constructive negotiation approach, which focuses on the interest behind the stated positions of the adversaries rather than attacking the position itself. The elaboration of positions before reaching convergence is of paramount importance. Any chosen GDSS must support this type of negotiation to build a model that can take the participants closer to a consensus within the time allocated to the strategy-making session.

Negotiation aims to achieve alignment. "Alignment does not mean that the detailed construal of the problem(s) is identical or even similar, but rather that there is some agreement about what to see and what not to see." It is crucial for the possibility of coordination and cooperation. It is measured by the extent to which the participants form their views alongside others instead of developing independent ways; the extent participants link their opinions to others rather than elaborating on their beliefs, and the extent of the development of isolated clusters. Typically, alignment is very low at the start of the session. Once initial ideas are exhausted, contribution starts to focus on the collective work on the screen, and thus alignment kicks in, as many of these are contributions made by others. The ultimate measure of alignment is whether the group can develop a consensual agreement about action rather than claiming false alignment to stop further debate (Ackermann & Eden, 2010b, p.300).

A few techniques can act as a catalyst or a stalling negotiation. Presenting case studies helps trigger creativity in participants. In cases where groups become over-excited, the facilitator can help them be rigorous in fine-tuning their thinking. The convergent thinking needed to do this applies inclusive principles while using creative reframing (paradigm shift) and strengthening good ideas (critical reasoning). The facilitator must push the group to seek an inclusive solution until they find one. The facilitator has to be careful that he/she does not become a participant by avoiding giving them the resolution. Creative reframing is counter-intuitive and unnatural. Furthermore, it does not happen spontaneously. A facilitator can lead the group towards it through structured thinking or an informal approach. Some techniques might be asking whether there is a better way being one approach, asking what is unchangeable, using keywords, reversing assumptions, removing constraints, recentering the cause and catastrophizing (Kaner & Lind, 2007).

Role-playing is another useful negotiation technique. While categorizing participants cannot be wholly accurate and seems to be an oversimplification of the real world, it helps prepare the facilitator for typical characters and behaviours he might encounter and put forward the language needed to address

issues in the workshop. As an outcome, the facilitator can manage the group better. Such roles can include opposing profiles, such as those who build key themes versus those with scattered contributions—path-breakers as opposed to those taking their time to engage. Other personas are official leaders who are enthusiastic contributors and defenders of existing positions. So, a facilitator has to notice the above and encourage the rest of the team to participate to avoid losing buy-in (Pyrko, Eden, & Ackermann, 2017). More information can be found about the process of negotiation in section 9.1.3.

2.3.3. GSS in SODA

The following section describes the details of using a GSS in SODA.

2.3.3.1. Number and selection of participants

The choice of how many and who to invite to a strategy-making session is sensitive. If there are too many, the process becomes too difficult to manage since group dynamics can go out of control, and validation to reach an agreement becomes too difficult. The breadth of shared ideas is lost if there are too few attendees. An increase in the number of participants will likely result in more perspectives, expertise, and a higher organisational commitment due to the group size. However, it might affect the efficiency and time to achieve the results. The selected participants should cover the right expertise and correctly represent critical groups. Inviting both affiliates and opponents/ sceptics of ideas is essential, as the latter's exclusion will cost the process its impartiality and deny some groups their representation. In such a case, the resulting action becomes less feasible and more challenging to implement. The group's constitution determines the proper realization of procedural rationality. When a group is diversified, it can offer multiple perspectives and deliberation of opposition. It can also pave the way for creativity through synthesis and synergy and expertly evaluate emerging options. Once done, the members' buy-in is obtainable. Having a sponsor to the process and the group -usually a high-ranking employee- gives the rest of the group confidence that the outcome of the exercise is sanctioned by top management and thus implementable (Eden, 1992a; Pyrko & Dörfler, 2018; Shaw et al., 2006).

2.3.3.2. Methods of capturing participants' input

Capturing input from participants is crucial for the success of the process. It causes participation to become more balanced. It also creates group memory and learning, where the groups understand, appreciate, and remember different aspects of the problem. Group memory helps people feel valued, extends the limits of the human brain, and enlivens the discussion (Kaner & Lind, 2007). The traditional way of gathering input from participants was to shout out ideas in turn. However, this has caused some ideas not to be adequately voiced due to interruptions or the fear of being negatively evaluated. Such a situation leads to the potential of early convergence to solutions without exploring non-conforming options, leading to groupthink. A remedy to this is collecting ideas a priori, where participants write their thoughts beforehand, allowing simultaneous knowledge sharing, some level of anonymity, and broadening the solution space to accept all perspectives. Computers used to collect input a priori automate and improve the process, bringing complete anonymity (Shaw et al., 2006).

A typical input collection setup GSS has two participants paired with a laptop to allow them to bounce off ideas before releasing them to the joint screen, inviting creativity and facilitating negotiation. This setup builds confidence in the input and trust in the team (Shaw et al., 2006). Another arrangement is one participant per laptop, or the whole group shares one laptop. In the latter case, a content facilitator captures the ideas floated by people, potentially in a round-robin fashion, to ensure equal air time for everybody.

Capturing input in this manner allows RO-AR to collect input to enhance the method. Using log analysis, Pyrko et al. devised a way to analyze participants' contributions over time. As the log captures every interaction with the system as a function of time, researchers can model the thinking development of participants, an excellent supplement to the actual data of the maps. This data might be considered metadata. It will give authorship, details of preferencing, timing and rate of contribution and summaries of contributions (Pyrko et al., 2016).

2.3.4. Potential Pitfalls of GSS

In some cases, there might be pressure to deliver an outcome, any outcome, out of a GSS session, pushing the facilitator and the group members to jump to the conclusion, endangering the foundation of what makes the process work in the first place. The correct application should seek an agreed answer, even if it takes longer (Shaw et al., 2006).

Eden and Ackermann (2011) warn against too implicit priority judgment criteria, making it difficult for the group to agree on priority. The requirements can be made explicit by determining which goals are at risk when issues remain unaddressed and which have a higher priority. This identification reveals the emergent goals system, covering both inward-facing and external opportunities and threats. One common pitfall is focusing too much on internal goals and ignoring external ones. Common tools to avoid this include SWOT, PESTEL, or Porter 5 forces.

Issues raised by participants can be unreliable or imprecise. The facilitator must step in to probe the contributor for clarity on meaning. Not doing that will cost the resulting strategy its focus. It is necessary to pay attention to the agreement on the exact definition of an option, who owns its fulfilment, and the timelines compared to the consensus when agreeing on options. Explicit and approved closing remarks that include ownership and schedules are worth spending some time on to ensure that the highest outcome on the time and effort spent in the session is achieved (Ackermann & Eden, 2010c; Eden & Ackermann, 2011).

Despite their proven capabilities to enhance collaboration, GSS has not been widely deployed in organizations. The biggest issue facing GSS is the lack of access to skilled facilitation. Building in-house facilitation is cost-prohibitive and might subject the neutrality of the process to political pressures. Keeping it external jeopardizes the continuity. Each organization must figure out how to set up the process to best use it. Another related pitfall is that some users are confused about what the GSS system should do since it can be feature-rich and highly configurable. This pitfall usually happens due to the non-availability of facilitation and support (Robert et al., 2003). Eden has pointed out that “GDSS is usually too tedious and not enough fun, that it lacks humour” (Dörfler, 2019). It is up to the facilitator, the sponsor, and the group members to derive meaning that can trigger intrinsic motivation and overcome the tediousness of the system. If participants perceive their group to be cohesive and feel optimistic about using the GSS, they are more likely to enjoy the process and deliver effective decisions (Schwarz & Schwarz, 2007).

2.3.5. Augmenting Facilitation with Collaboration Engineering

For GSS activity to become self-sustaining, the tasks chosen should be of high value and high-frequency occurrence in the management radar. However, such tasks might not be that common or cannot be serviced by a general-purpose facilitator, making the frequent running of the process unfeasible or challenging. While GSS as a means of collaboration cannot work without a facilitator and a supporting

process, some studies and efforts have been put into having experienced facilitators design a process using collaboration process engineering to run using ThinkLets. Practitioners are trained to run workshops using these Thinklets. This use might fill the gap if designed well. These practitioners do not need to learn the group dynamics; they only need to know the specific process portion of the GSS and nothing else (de Vreede et al., 2006; Robert et al., 2003).

Collaboration engineering is “the development of repeatable collaborative processes that are conducted by practitioners themselves” (Robert et al., 2003, p.32). It is “an approach to designing collaborative work practices for high-value recurring tasks, and deploying those designs for practitioners to execute for themselves without ongoing support from professional facilitators” (de Vreede et al., 2019, p.2). It advocates the transformation of GSS facilitation from art into a science (Lewis, 2010). Collaboration engineering offers process and/or technology support to create value for the organization without professional facilitators. It makes the return on investment of resources used in the design and the return on investment for training high. Thus, momentum might be created in the organization, making it unlikely to abandon the practice. Kolfshoten et al. (2010) mentioned case studies where a practitioner equipped with the right collaboration engineering tools performed as a professional facilitator. It created savings on the cost of an experienced facilitator and allowed the ease of recurrence and better reaping of GSS benefits. Collaboration engineering can avoid collaboration issues such as free-riding, dominance, groupthink and inefficiency (de Vreede et al., 2019).

The usual process in collaboration engineering is for a master facilitator and a collaboration engineer to design, document, and then transfer (through training) a collaborative work practice. The receiver of this knowledge is domain expert practitioners who are not facilitation experts (Kolfshoten et al., 2010). Robert et al. (2003, p.46) speak of ThinkLet as “the smallest unit of intellectual capital required to create one repeatable, predictable pattern of collaboration among people working toward a goal.” More about collaboration engineering is found in section 9.1.4.

Ackermann et al. (2010) presented scripts for GDSS that they consider to parallel the concepts of ThinkLets. These scripts produced an agreement on the boundaries of the problem in a session of less than 1 hour. Another script produced dynamic linking quickly. A third script allowed the zooming between micro and macro levels of aggregation.

Doing away with the direct involvement of facilitators has not gone unchallenged. Dörfler adopts the GDSS success criteria as Eden suggested three decades ago. These criteria are controlled experiments, comparing results to the conceptual foundation, and asking the users for feedback. These require close involvement of the facilitator (Dörfler, 2019). In a multi-organizational setup, collaboration engineering is characterized by its lack of history, conflicting goals, complex politics and power, multiple roles and uncertainty of who the client is, undermining its usefulness and usability (Ackermann et al., 2005).

2.4. Gamification in Strategy

Both scholars and practitioners recognize gamification as a potential game-changer in organizational life. It is gaining legitimacy as a management tool in different fields and is redeeming itself from being considered as just another management fad (Assis & Freitas, 2023; Shpakova et al., 2017).

2.4.1. What is gamification?

The definition of the term “gamification” has evolved over the years since its recent introduction less than two decades ago. Table 4 summarizes the most prominent of these definitions.

Table 4 The most prominent definitions of gamification

Source	Definition
(Pelling, 2011), cited in (Shpakova et al., 2017, p. 145)	“Applying game-like accelerated user interface design to make electronic transactions both enjoyable and fast.”
(Zichermann & Cunningham, 2011, p. xiv, p. XIV)	“The process of game-thinking and game mechanics to engage users and solve problems.”
(Deterding et al., 2011, p.1)	“The use of game design elements in non-game contexts.”
(Werbach & Hunter, 2012, p. 26)	“The use of game elements and game-design techniques in non-game contexts.”
(Huotari & Hamari, 2012, p.19)	“A process of enhancing a service with affordances for gameful experiences in order to support the user’s overall value creation.”
(Werbach, 2014, p.266)	“The process of making activities more game-like.”
(Shpakova et al., 2017, p.145)	“Gamification – the process of making activities in non-game contexts more game-like.”

(Landers et al., 2018, p. 3)	Adding “game elements to change a process that already exists to change how that process influences people.”
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A review of the above definitions shows that there is an agreement that gamification is a process with the desired outcome. Some of these definitions focus on the process itself (more game-like), while others focus on the desired outcome (engage users, solve problems, value creation). Shpakova et al. (2019) highlighted gamification's circular nature when discussing its use in innovation. In their paper, Shpakova et al. pointed out that gamified output is an innovative outcome. At the same time, a gamified process can be a catalytic spark for innovation in organizations. Deterding (2018) took this even further by declaring that anything digitally tracked is a gamification project in waiting. He bases this statement on the assertion that gamification lives in the digital world. Some might consider such a statement to be an over-generalization.

Indeed, Deterding's (2018) last statement might lead to the over-usage of the term, as it ignores the gamification field's psychological depth. Novices might want to experiment with unsuccessful implementations, casting further doubt on its potential (Burke, 2014). Not long ago, IB Bogost, a known critic, labelled gamification as “Exploitationware” (Werbach & Hunter, 2012). Landers (2019) introduced “Management Gamification” to refine the application when used to improve organizations. This application contradicts “rhetoric gamification” (aka. fake gamification), a marketing gag that unjustifiably and superficially adds game elements to any process. Building on the decades-long rivalry between the choice architecture rhetoric (humans as rational actors) and the humanistic design rhetoric (humans as growth-oriented beings seeking psychological fulfilment) (Deterding, 2018), it can be concluded that the approach the game designer follows will decide the difference between fake gamification and management gamification.

The practical aspect of gamification is found in the terms “Game mechanics,” “game-like,” and “gameful experience” in the above definitions. “Components,” “mechanics,” “dynamics,” and “aesthetics” are some terms used to depict the tools used by gamification designers to bring gamification to life. However, different meanings and classifications have been loaded into these terms by various authors (Blohm & Leimeister, 2013; Deterding, 2012; Shpakova et al., 2017; Werbach & Hunter, 2012; Zichermann & Cunningham, 2011). The definition of game elements presented by Werbach and Hunter (2012) is preferred. It best shows the elements as distinctive, standalone objects without losing the

hierarchy among them. As a result, gamification designers can choose an element that best fits the design purpose. These elements are defined as shown in Table 5 below:

Table 5 Common Gamification Elements (Werbach & Hunter, 2012)

Game Element	Examples	Implication
Components	Achievements, Avatar, Badges, Boss fight, Collections, Combat, Content unlocking, Gifting, Leaderboard, Levels, Points, Quests, Social Graphs, Teams, Virtual Goods	Objects in a specific form, leading to the achievement of mechanic or dynamic
Mechanics	Challenges, Chances, Competition, Cooperation, Feedback, Resource Acquisition, Rewards, Transactions, Turns, Win states.	The process to drive the action forward and generate engagement. Allows the achievement of one or more dynamic element
Dynamics	Constraints, Emotions, Narrative, Progression, Relationships	Big picture elements such as an employee development program or an innovative culture

Putting these elements together in a meaningful and creative way to influence human behaviour in the desired manner is termed “game thinking” or “game-design thinking” (Werbach & Hunter, 2012).

Initially, gamification focused on computer science and human/computer interfaces. However, its multi-disciplinary potential has been proven over the past few years (O'Donnell et al., 2017). Using Gamification as a process improvement tool enhances innovation, knowledge management, and other organizational routines (Shpakova et al., 2018). So far, the fields that have received the highest number of publications have been education and human resources (Landers, 2019). Organizational learning is another potent field (Khodabandelou et al., 2023). Yet, the potential for gamification in the organization is broad (Sharma et al., 2024).

2.4.2. Gamification Frameworks

I have categorized the frameworks that I reviewed into three categories based on the mode of operation. The first category employs a design and systems perspective and emphasizes the systematic design of gamified experiences. It considers the elements of game mechanics, dynamics, and aesthetics to create cohesive and engaging environments. The focus is on the holistic interplay of different game components to generate meaningful experiences. The second category employs behavior and reinforcement mechanisms to drive specific user behaviors through external incentives. The third is the motivational psychology-based frameworks, which aim to satisfy intrinsic motivation that contributes to long-term user engagement.

This classification is neither strict nor exclusive, as some frameworks are spread across multiple classifications. It is, however, useful to facilitate the choice of framework for this study. Table 6 summarizes and categorizes the frameworks studied.

Table 6 Gamification Frameworks

Category	Framework	Comments
Design and Systems Perspective	MDA Framework(Tekinbas & Zimmerman, 2003)	Spoke of mechanics, dynamics and aesthetics early on.
	Gamification Design Lenses (Marczewski, 2018a)	Examples of such lenses are motivation, progression, reward, narrative and social influence lenses.
Behavior and Reinforcement Mechanisms	6D Framework (Werbach, 2014)	A structured approach that includes delineating target behavior, describing players, devising activity loops, including fun, and developing tools.
	SAPS Framework (Zichermann & Cunningham, 2011)	Status, Access, Power and Stuff as extrinsic motivators.
	The theory of gamified learning (Landers, 2015)	Also fits in motivational psychology-based frameworks, as it employs both intrinsic and extrinsic motivation.

	Four Key Principles (Burke, 2014)	These include Inspiration, Motivation, Fun, and Engagement.
Motivational Psychology-Based Frameworks	User Types Hexad (Marczewski, 2015)	Classified users into 6 types using both intrinsic and extrinsic motivation.
	RAMP Model (Marczewski, 2015)	Builds directly on SDT.
	Motivational model (Yee, 2007)	Categorized players motivation into Achievement, Social, and Immersion factors.
	Octalysis Framework (Chou, 2019b)	Chosen framework. Aggregates components from all the different frameworks. To be discussed later.

Starting with the first category, Tekinbas and Zimmerman (2003) MDA (Mechanics, Dynamics, Aesthetics) framework set the path for future gamification implementation approaches. Deterding et al. (2011), while not suggesting a framework for gamification, continued discussing the components. They spoke of the distinction between elements, mechanics and dynamics and how these could work together to deliver a game-ful design. Their work empowered those intending to use gamification with the necessary vocabulary. Marczewski's Game Design Lenses (Marczewski, 2018a) provided another framework that intended to help gamification designers evaluate and refine their gamified systems from different perspectives. Each lens provides a specific angle to assess a gamification design's effectiveness. Examples of these lenses are motivation lens, progression lens, reward lens, narrative lens and social influence lens.

The second category includes Werbach and Hunter (2012) 6D framework. A structured step-by-step approach for implementing gamification, it suggests starting with delineating target behaviors, before describing players, devising activity loops, [do] not forgetting the fun, and deploying the appropriate tools. The roots of this approach are found in behavioral psychology. Zichermann and Cunningham (2011) SAPS framework (Status, Access, Power and Stuff), Burke's (2014) Four Key Principles (Inspiration, Motivation, Fun, and Engagement) and examples of frameworks that belong to the same category. Landers's (2015) Theory of Gamified Learning offered an alternative framework that distinguishes between game mechanics (the elements of a gamified experience) and game attributes (the

psychological impact of those mechanics). Landers paid a lot of attention to the psychological foundations and thus sat on the fence between categories two and three.

Of the third category, Yee's motivational model (2007) categorized players' motivations into Achievement, Social, and Immersion factors. Yee's model helped understand how different intrinsic motivational factors can be gamified in non-game contexts. Marczewski (2015) took this contextual approach further by providing practical insights and models for applying gamification in different contexts. His user type Hexad uses intrinsic and extrinsic motivation to classify users into six types. By doing that, he introduced gamification customization to different users. He also introduced the RAMP model (Relatedness, Autonomy, Mastery and Purpose), Game Design Lenses, as well as other relevant tools as part of his Gamification Design Framework (Marczewski, 2015, 2018a). Octalysis framework (Chou, 2019a) synthesizes elements from various gamification theories, psychological principles, and motivational models. It builds on the foundational ideas of earlier researchers, and combines them into a coherent, versatile whole, thus giving access to multiple frameworks in an organized fashion.

2.4.3. Establishing the link between gamification and strategy making

Having explored some of the challenges facing strategy adoption and the potential that gamification can hold to alter behavior, I think that a mutually beneficial link can be established. Such link would hopefully lead to improved buy-in and commitment to strategy workshops' outcomes and eventually increase the propensity of participants to start taking action.

It is worth noting that interpersonal and cognitive interpretations of the situation strongly influence the fate of the strategy (Noble, 1999). Inhibitors are rooted in the individual and group behavioural aspects of the team formulating or executing strategy. This idea has been promoted by Shpakova et al. (2018). Since one of the gamification's primary purposes is to use game-thinking to instigate a behaviour change (Burke, 2014; Shpakova et al., 2016), it is logical to apply it to remedy issues that affect strategic problems.

Landers' (2019) framework carries good possibilities to unleash the potential of gamification onto individual and behavioural issues. Building on Hamari et al.'s framework to measure the effectiveness of gamification (Hamari et al., 2014), he developed an application context designed for the educational field that still applies to management since both target behaviours change in humans. It starts with identifying which behavioural changes are needed, defining the underlying psychological changes

necessary to bring these changes, and then choosing the correct game elements most likely to cause those psychological changes. As a result of the above and other initiatives, Ingvarsson et al. (2023) presented a study that showed the potential of gamification in engaging and motivating stakeholders in projects.

However, it is vital to note that gamification aims to motivate people to achieve their own goals, not the company's (Burke, 2014). Therefore, the next question is one of alignment between personal and company goals. For gamification to address this alignment question, it has to be designed in a humanistic manner and built based on psychology and ethics rather than only acting as “information and incentive dispensers” (Deterding, 2018, p.5). The gap between the two lies in intrinsic versus extrinsic motivation, presented in the Self-Determination Theory (SDT) (Deci & Ryan, 1985; Ryan & Deci, 2000). While a deep dive into behavioural psychology, leading the state to help get individuals to act collaboratively, is needed, it is beyond this paper’s scope.

It is worthwhile to study the benefits gamification can bring to causal mapping, given the important role that the latter has played in strategic management. The chances of success are high since causal mapping is directed towards employees and aims to change behaviour, develop skills, and derive innovation (Burke, 2014). As White argues, causal mapping and operational research require an aesthetic perspective, a process of knowing and understanding through empathy and the senses in understanding interventions. White defines aesthetics as a sensory experience, a type of knowledge into sensation and feeling to produce felt meaning, connectedness, and being moved. Many views have come to agree that aesthetics and content can affect decision-making in organisations (White, 2006). Gamification can act as the required aesthetic. Gamifying causal mapping will create models that “... a group can play with together, enabling them to create knowledge as well as use it” (Eden, 1992a, p.199).

Now that some of the relevant literature has been reviewed, I am ready to move on with describing my journey. In the coming chapters, I will present my methodological approach, the different iterations that ensued, the outcome, discussion, and conclusions. However, a refocusing chapter (Chapter 3) can sharpen the research question and lay solid foundations for the rest of the dissertation.

3. Problem Formulation

As per the literature I reviewed, the effects of gamification on causal mapping have not been studied in any form. As the research progressed, I was still trying to figure out what I was looking at. The answers that the literature and the research gave me were answering different questions than the ones I had in mind, a feature of an exploratory study. Below, I explain how my research question (RQ) evolved into its final form; it was a research journey in its own right.

When I first set out on this PhD journey, I set out to make SODA more accepted as a tool to implement strategy and not only formulate it. The RQ presented in my proposal revolved around using causal mapping to address the dilemma of botched strategy implementation and how gamification can help in that field. As I progressed in my study, my ontological considerations suggested that formulation and implementation are inseparable (Mintzberg & Waters, 1985). This led me down a different path. If formulation and implementation are but two sides to the same coin, how can I make this coin more effective through gamification? In other words, can gamification help the making strategy workshop produce a more implementation-friendly strategy formulation? The question then became, what gives one strategy better prospects than another in implementation and deliver more impactful results? This question brought many options and seemed impossible to answer without qualifications. A superior strategy implementation could be attributed to superior content, hospitable organization, accommodating environmental conditions, mere luck, a more committed team, or even more comfortable chairs, to name a few. My ontological inclinations directed my focus towards the team formulating and implementing strategy, searching for answers in the individuals' mindset and demeanour. As I discuss later, I lean towards the subjective nature of strategy which is socially constructed.

Capabilities, psychological and sociological factors come to mind when analyzing people. Without undermining their importance, I considered capabilities as individual-related and subject-specific and, therefore, not part of the discussion to create a usable framework. This again altered the RQ to become "Can gamification improve the engagement of participants in strategy-making sessions and ensure their commitment to the process and the resulting strategy?" This question seemed to be more usable and delivered a more effective process if successfully answered.

As the research progressed and I became familiar with different psychological and sociological drivers noted in the gamification literature (Burke, 2014; Chou, 2014, 2019b; Spanellis et al., 2020), focusing my

attention only towards engagement started to look restrictive and limited. Is engagement enough? What kind of engagement? Which comes first, engagement or motivation? Will either of them last? Are they an individual or a group dynamic? How do I make them sustainable? Many other questions of the sort kept popping up, making visibility worse. Maybe I was looking at this the wrong way.

The open strategy literature helped shed more light on the challenges that led to botched strategy making efforts. While involving a wider range of participants transparently, inclusively, and with the help of IT systems is a better approach to generating an acceptable strategy, open strategy can still suffer from ownership and commitment issues. Gamification came up as a possible approach to address these issues, since I regard formulation as being inseparable from implementation,

The feedback from participants and the way it was given provided more hints. Both the content and amount of feedback were relevant. Tentatively, I theorized that more feedback indicated a higher level of engagement. Little feedback on a certain topic could suggest that this topic did not register with participants or they did not process it in an actionable way. From there, I started seeing engagement as an outcome of triggering the relevant underlying psychological drives. Gamification can be seen as an approach that builds on psychology to understand the impact it has on behavior, and to continuously come up with ways to harness its power to serve a purpose.

Since engagement is an obvious way to assess the success of the process, the question then becomes “Which parts of the process registered the highest engagement of participants, and which did not fare as well? Can gamification be used to improve areas where the original process worked well while improving areas where it fared poorly?” The mission seems to have transformed to come up with a gamification design framework for strategy making sessions.

With all the above possibilities and the many tangents I can find myself gliding on, Viktor and I agreed that a broader, more generic RQ that opens the door for different variations while maintaining the focus on the task at hand is needed. The final research question goes as follows:

<p><i>Can gamification improve strategy-making sessions that use Causal Mapping?</i></p>

In this last version of the RQ, causal mapping is kept as a signifier of the context, i.e. in this research I do not have the chance to use alternative modelling approaches. There is, however, nothing specific to causal mapping in the insights, therefore they should also work for alternative types of strategy making

workshops. This, however, will need to be investigated in further research – it is unclear if using causal mapping impacts the insights from this study. This is also partly what makes the current study an exploratory one, I am trying to figure out if gamification can help improve strategy making workshops and this involves working with a particular modelling approach (SODA) and particular modelling method. However, the purpose is not to provide a set of techniques that work and a recipe for using them but a better understanding of the problem with some tentative showcases of what may work.

Dissecting the above question yields the following research objectives:

- Identify areas most problematic for participants in causal mapping sessions.
- Understand how gamification helps address challenges in strategy sessions.
- Select the gamification elements that can amplify the effect of different process parts.
- Visualize a gamified strategy making process revolving around the causal mapping sessions.

Based on the gap identified in the strategy (open strategy in particular) literature revolving around stakeholders' alignment, commitment, engagement and mobilization (see Section 2.2.1.3), this study aims to understand *if* and *how* gamifying the causal mapping technique may help boost the participation of less active participants, while improving the experience for participants playing an active role. It attempts to enrich the strategy making experience with elements that encourage regular sessions, which act as catalysts to making teams more complex as individuals and in their interactions. Implementation is still mentioned in the dissertation despite the fact that findings solely refer to the formulation phase, specifically to the strategy making workshops. This is due to strategy formulation and implementation being inseparable.

The next chapter covers the methodological considerations of this study and the underlying philosophical stance.

4. Methodological approach

To further refine the above questions, I first explore the ontological and epistemological assumptions of the studied fields (strategy and gamification) to bring a common understanding of concepts and practices and continue in the pursuit of improved SODA. These assumptions will not be complete without discussing the researcher's values and beliefs, as these impact the reliability and credibility of the outcome. I then present the research philosophical position that I take, which is made up of a *combination of phenomenology and pragmatism*. *Ethnographic action research* is the chosen research design, and its *strategies, processes* and *journey* are presented next. This is followed by a brief discussion of *abduction* as my chosen inference approach. Data collection, including sources, collection methods and tools comes next, before moving into the data analysis part. This chapter concludes with noteworthy methodological considerations.

4.1. Philosophical Grounding

There is little agreement about what strategy is (a process, a position, or a prescription, among other standard definitions). There is also contention on whether its boundaries stop at formulating the marching orders for the troops, or they include implementation and follow-up. Notably, the struggle to reach an agreed definition of strategy is a symptom of the disagreement on its essence. As will be shown, this struggle is philosophical on ontological and epistemological levels.

Mintzberg and Lampel (1999) identified ten schools of strategy in two categories: *prescriptive* and *descriptive*. The prescriptive takes a rational approach towards dictating what reality should look like and includes three schools: design, planning, and positioning. On the other hand, the descriptive category is more modest in its claims and describes the world 'as it is.' It encompasses the entrepreneurial, cognitive, learning, power, cultural, environmental, and configuration. Historically, the design school came first. It led the way for the prescriptive schools to dominate (Ansoff, 1965). In the 1970s, descriptive approaches, mainly in the learning school, posed a challenge (Mintzberg, 1990). It is not the purpose of this research to explore these schools in detail. Instead, this section presents the analysis of the dominant philosophical approaches in studying strategy formulation, covering the ontological and epistemological stances. It covers the work of positivists such as Igor Ansoff and Michael Porter on one extreme and that of interpretivists such as Henry Mintzberg on the other. It will also cover the critical realist perspective, before presenting my philosophical stance.

4.1.1. Ontological positioning

As shown above, the myriads of opinions of what strategy is and how to do it are the outcome of a few different thought schools concerned with the study and the research of strategy. These schools cover a broad range of underlying beliefs. Presenting them in the following paragraphs will set the stage for presenting my philosophical stance.

The design school takes a positivist position in perceiving the existence of a unique truth that comes pre-packaged with a user-guide, referred to as *strategic planning*. It is a ritual in which planners present the CEO with analysis and prescribed solutions to the situation at hand. Such positivist thought sees strategy as a rational method of formation, equivalent to putting together the puzzle pieces for that organisation's only possible correct perspective. Design school proponents perceive strategy as a choice from a prescribed list of options that matches internal competencies with threats and opportunities. The marching orders are then handed down to the troops, who are to implement them without being required to exert deep thought (Mintzberg & Lampel, 1999).

Over time, this extreme position softened a little bit. Porter accepted that strategy could be learned over time but argued that companies could stumble on the right Strategy according to the positional school he promoted (Porter et al., 2002). This position is based on the industrial institution approach and ignores the volatile environment and rapidly changing industry definitions. Ansoff (1991) argued that not all prescriptive schools have the same rigid approach towards making strategy. Still, Porter (2002) views the field as normative with a descriptive flavour. He argues for the existence of the right Strategy and that the mission is to find it. Prahalad and Hamel (2007) argued that the definition of industries is in continuous flux and is vulnerable to modern life turmoil. They proposed that a purely analytical approach might not be the best solution, although their initial grounding is still in the positivist prescriptive position. They declared that while the traditional design school proposition is no longer relevant to managers, strategic planning cannot be done away with, as the organization still needs 'brains' to plan its direction.

Others avoided addressing what strategy is in favour of answering what strategy looks like and how to detect it. One such view is the Rapid Adaptation approach (Hayward & Brooker, 2018). It stated that while a correct direction exists, it is difficult to identify until it shows itself through a significant unfamiliar situation. Only then can the team get insight into the situation's reality and the right path. Others referred to a situation when the old understanding dissolves and gives way to a new one mainly

due to a change in the environment (*ibid.*). It triggers strategy by crisis and accepts an experimental model that advocates learning, a rational method to adaptively deal with the crisis. This is a critical realist approach, which still shares the same positivist ontological stance. All prescriptive schools agree that the creation and custody of strategy sit at the helm of the organization.

If we accept that strategy is knowable, either by a conscious effort to uncover it or stumbling on a sign that will indicate it, then attempting to devise a repeatable approach to capture it is the next logical step. The more objective the philosophy of a strategic thinking school is, the more focused it will be on producing models, formulae, best practices, and frameworks. Porter and other promoters of analytical schools opted for frameworks that capture the richness of phenomena with the least number of dimensions (Porter et al., 2002). Grove developed a three-stage framework based on adaptation that includes identifying the adaptive crisis's arrival, deliberating how to respond, and implementing the response (Grove, 1999; Hayward & Brooker, 2018). They generally advocated abstractly formulating strategy away from daily activities before attempting to implement it, separating formation from implementation and detaching thinking from acting. Once fully ready, the Strategy had to be explicitly communicated first in a top-down rational approach (Mintzberg, 1990).

The classical positivist approach has found its critics in the works of people from different philosophical schools. The most vocal of those was Mintzberg, who stated that this approach is causing damage to practitioners. He used the elephant metaphor (people defining strategy based on which portion of it they are analyzing) to indicate that academics are not seeing the whole picture (Lloyd, 1992). He took an interpretivist approach by stating that strategy cannot result from a formal planning process but cumulatively learned and/or actively thought of on the go. It is best embodied as a thinking process and thus is created and continues to live in people's minds. He argued that strategic management is not a factual science and cannot be rationalized, as we do not know all the facts. It follows a social constructionist approach in realizing that there is no single unique truth, but an agreed description of a situation. Mintzberg (Lloyd, 1992; 1990; Mintzberg & Lampel, 1999) argued that planning only works around the process of strategy making and not the content that it produces. In his view, planning adds efficiency and effectiveness, giving managers an intimate understanding of what is happening on the ground. Middle management is the community of experts who should create and oversee strategy implementation, while planners only facilitate and enable the process (Lloyd, 1992; Mintzberg, 2017).

The descriptive school proponents steered away from developing or adopting models. Mintzberg stipulated that Planners feed into and out of the process and stimulate managers to produce ideas and

implications of decisions (Lloyd, 1992; Mintzberg, 1991). It is not a planning process, as planning requires sufficient knowledge. Descriptive proponents do not subscribe to the possibility of such knowledge. It is a snapshot-capturing system, with each new picture updating or modifying the previous collective perception. Ideas bubble up, championed by middle management with top management support, and the outcome is a learning organization without abstracting themselves from their daily lives (ibid.). Mintzberg accommodated giving room for analytical, deliberate planning and emergent learning based on synthesis to co-exist, prioritizing the learning aspect (Ansoff, 1991). In his view, keeping Strategy implicit is a much better approach since explicit strategy promotes inflexibility, while a need for change might arise at any time (Lloyd, 1992).

While competing schools have promoted their approach's merits, I find that they neglected to highlight the 'fine print of assumptions' that, if negated, lead to limitations. Prescriptive schools describe how the world "ought to be" and thus have a managed approach to knowledge growth. It is clear, consistent, and more comfortable communicating, but it is sterile in thinking and application. Descriptive schools show the world "as-is" and prefer natural growth with occasional grafting. Stripping the different positions down to the basics, I believe that polarization results from opposing beliefs. The prescriptive school assumed an objective absolute reality. On such an assumption, they build their approach that the future is knowable and can be planned and figured out. On the other end of the spectrum, the interpretivists see reality as a relative, subjective concept, taking everybody's opinion as equally valid. It is socially constructed; therefore, they believe in acting intuitively upon unpredictable events (Lloyd, 1992).

My position towards this eternal debate is that attempting to own the single correct answer of what strategy is and how to learn it is a presumptuous proposition. While I do not go to the interpretivist extreme, I take a subjective approach in observing reality as socially constructed and strategy as a relative, time-bound concept. At the same time, I believe that people accumulate tacit knowledge that can express itself in useful intuition (Dörfler & Ackermann, 2012; Dörfler & Stierand, 2017; Polanyi, 1983), therefore continuously voicing more valid and useful opinions. This stance can be positioned as Critical Interpretivism (Dörfler, 2023). The view that "Strategy formation is judgmental designing, intuitive visioning, and emergent learning" (Mintzberg & Lampel, 1999, p.4) represents my belief of what strategy is. I accept that it can be different things to different people and can take one school's characteristics over the other. I regard such a view as fuller, richer with details, and allowing more experimentation and innovation. It can, however, result in confusion and disagreement on a direction.

An interesting reconciliatory approach between the opposing philosophical points of view is what Mintzberg and Lampel (1999) highlighted when they spoke about crossing multiple schools to produce new schools. They found that crossing different schools with the learning school generates eclectic alternatives that are more potent than prescriptive or descriptive approaches alone. Ackoff reiterated this initiative in his invitation to adopt a holistic approach (cited by McGrath, 2019). This approach is finding proponents. Reeves et al. (2012) found that amongst the plethora of strategic schools and methods, a 'strategy palette' can help companies choose what fits and when. They note that since strategy, in essence, aims to solve problems, then what a Strategy is and how to learn it, formulate it, and implement it depends on the situation.

To put these useful perspectives to fruition, I adopt a pragmatist philosophical stance (more about pragmatism in the following section), which, instead of choosing a firm ontological position, allows the choice of ontological conviction to follow what the situation requires. It is my conviction that strategy is situational and is whatever has the collective buy-in of the key stakeholders that formulate and implement it. Therefore, I am not confined to either end of the ontological spectrum of strategy. I also accept the pragmatist maxim in deriving the meaning of strategy from its use. In that context, I accept reality as rich and based on the practical consequences of ideas (Saunders, 2019). It is in continuous flux but can stabilize and consolidate at times. It includes analyzing, negotiating, and programming without ignoring the environment. It can take different flavours at different phases of a company's life: entrepreneurial initially, learning under dynamic conditions, or predictive when the situation is stable. In my opinion, strategy manifests itself according to the environment and the company's situation. This approach does not negate the usefulness of other approaches. Utilizing contextually relevant models and tools adds richness and informs the strategy-making process. However, the grafting of other schools needs to be done pragmatically according to the situation at hand and the purpose in mind (Reeves et al., 2012). Such a pragmatic philosophy is convenient and valuable as it supports the intended purpose (Saunders, 2019). Dörfler (2023) suggests that pragmatism can find a paradigmatic home in critical interpretivism; I appreciate and lean towards this possibility, but critical interpretivism needs to be elaborated further before this can be established.

The definition of strategy as "agreeing on priorities and then implementing those priorities towards the realization of organizational purpose" (Eden & Ackermann, 2011, p.5) follows the same line of thought, as the priorities are the outcome of social interaction in a socially constructed reality. The interaction among the group is individually perceived but collectively conceived. SODA is a manifestation of this

pragmatism. It is where social construction of strategic priorities takes place, while following loose guidelines for efficiency. It is a framework which helps participants produce options and see them through completion by breaking down the agreed priorities to a level where the course of action is clear. It extends to the implementation realm, as strategy does not separate conceptualization from execution. What one group would subscribe to is different to another group's beliefs. The same group would subscribe to different priorities under different circumstances. In my opinion, such inconsistency has little consequence, as what really matters is that the set of priorities is agreed upon as the best path to achieve the organization's purpose at that point in time. I also believe that this knowledge is always partial and incomplete.

From my perspective, this constant evolution negates any positivist or critical realist perception of an ultimate truth. Structures such as vision, mission, or statement of strategic intent are needed only as temporary elements to explore, explain and design action. Such structures are time-bound, created when needed, remain for the duration they do not stifle the fluidity of Strategy as Practice (Eden & Ackermann, 2011), and can be done away with once they serve their purpose. Therefore, it is common to find loose vision or mission statements in organizations. However, keeping a structure for too long might fool people into thinking that this structure is real, stable, constant (leading to the illusion of the ultimate, objective truth), and representing external reality, which is a dangerous rigidity that might have a negative impact on the organization.

As far as gamification is concerned, there is a choice to be made. It can be objectively viewed as a set of techniques that, when applied correctly, produce good results. It can also be regarded as an outcome of human-focused design, where people's perception of reality dictates the use. As a relatively new field, my ontological stance on gamification is a pragmatist one, as it is a practical process mainly known through its applications' consequences (Saunders, 2019). When studying it, I accept its ambiguity and the subjectivity that comes with it. I see it as an effort of continuous improvement that redefines the truth based on its implications (Elkjaer & Simpson, 2011; Kelemen & Rumens, 2008).

4.1.2. Epistemological positioning

The way we study strategy is also a significant contention point and has its spectrum. It builds on the ontological stance taken but is not entirely determined by it. The design school sees Strategy research as scientifically observable and measurable. They see themselves observing managers through a consciously controlled thought process using pre-packaged models and frameworks. They adopt

objective assumptions in seeing strategic planning subject to law-like generalizations that are to be used for future strategy making. They search for 'facts' through controlled experimentation and find them through observable and measurable phenomena. As a result, they offer causal explanations that fit a pre-studied pattern (Saunders, 2019).

On the other hand, interpretivists focus more on narrative, perceptions and interpretations of people involved in strategy-making. They consider such input as valid within the studied context. They adopt descriptive schools of strategic study. They assume subjectivity in accepting the relativism of studying the lived world and that different people can have different points of view. When put together, these opinions construct a snap shot of perceived reality (Saunders, 2019).

Critical realists claim that they can exploit both facts and narratives. They offer a paradigm to produce richer and more reliable outcomes. In their opinion, this provides a broader knowledge tradition to deal with world complexities since different research approaches focus on different aspects of reality. In that sense, critical realists accept the social construction of reality, which can then be studied as an independent objective entity with legitimate existence. They consider that such an entity can be studied in terms of facts. Such an approach allows them to combine a relativist epistemological position similar to interpretivism but simultaneously pretend that the world is objective, like positivists do (Mingers, 2001).

I adopt the position that strategy can only be partially learned through studying the social construction done by whoever participates in the process. Therefore, I think strategy is best understood by interpreting the lived experience of the individuals and the group as a whole, indicating that a phenomenological approach is suitable to capture the essence of strategy for this study. Furthermore, phenomenology is ideal for this study, as it analyzes lived experience in its natural context. I also take the pragmatist approach, which states that useful knowledge is practical knowledge. When studying strategy, useful and relevant information and practices that help solve problems now or in the future are acceptable knowledge (Saunders, 2019).

In addition, I admire the pragmatist approach to usefulness as an outcome of credibility and potential. Knowledge is what credibly advances the cause and opens doors for action. Pragmatists see that reaching truth is practical rather than theoretical, and knowledge and meaning are intertwined with human action and consequence. The notion of knowledge to pragmatists is anti-foundational: they are interested in what works and why and aim to solve problems with the available data at the time. People

know what they do, what they intend to do, or want to do individually and in a group. Knowledge is an individual, but more importantly, a group sport as well, focusing on the pluralist reality. In addition, pragmatists refer to experience, inquiry, habit, and transaction. As a result, there are multiple interpretations of the world, but some are more valid than others based on their practicality and acceptance. Successful and unsuccessful actions constitute valuable knowledge (Elkjaer & Simpson, 2011; Kelemen & Rumens, 2008).

In this approach, it is crucial to understand my multiple roles as facilitator, participant, and researcher. This is referred to as sociality in the pragmatist literature, signifying the ability to be more than one thing at once (Simpson & Hond, 2021). Keeping these three personas separate is an impossible feat. I am a participant observer, entering the scene with the dual purpose of participating in ongoing activities and observing the situation's actions, actors and physical aspects (Spradley, 1980). Also, I must ensure that my preconceptions and prejudices do not pollute the outcome. In that effort, bracketing (Dörfler & Stierand, 2020; Tufford & Newman, 2012) is very useful. Rather than suspending preconceptions and assumptions before they are fully materialized, bracketing advocates utilizing reflexive conversations to make these preconceptions and assumptions explicit and using them as sources of insight. This reflexivity allows phenomenological studies to make the best of the researcher's insider-ness.

My research project studies SODA (Strategic Options Development and Analysis) and uses it as a technique development method, as depicted by Eden and Ackermann (2001; 2018). It is my conviction that our knowledge of strategy can only be partial, relative, and subjective. It is the outcome of an iterative process that results in learning and process improvement on the go. I believe that what to learn and how to use it can take the colour of the most suitable school for the situation. I think that the suitable approach to studying strategy is to wait until all the elements of the situation are brought forward and put together to form a decipherable picture.

As far as gamification is concerned, I believe in its potential if built on a sound psychological base. It is studied through studying its practical impact on the actions of the people who use it. This is a pragmatist stance. I do not think it is a one-size-fit-all tool, where superficially adding gamification elements can be based on prescribed causal relationships. I believe that understanding gaps and opportunities in processes and working to fill them with elements that address the core drives of people is done through observation, induction, and experimentation. The intended outcome for the researcher is to observe how these elements are designed in relation to the company's business goals. Therefore, I believe that

gamification has to be studied in association with sociological and psychological elements that form its foundation. I think that studying it in isolation is futile.

When studying gamification, two useful personas help unveil the effort and the impact. Those are the *gamifier* (the person or persons studying the process and designing the gamified experience) and the *gamifyee* (the consumer of the gamified process). Gamification can be studied by studying the effort of the gamifier and by studying the experience of the gamifyee, as per Figure 5 below. For the gamifier, it is an effort to engage users to derive more value from the process and achieve business goals. It pushes the user to take the desired action by giving continuous feedback in a relatively short time (making path correction easier) and rewarding them with incentives until a win-state that serves that business goal is achieved. A good gamifier is interested in the outcomes that gamification brings. These could be quantitative or qualitative. Examples are increased sales, better customer engagement, and reported ease of use. From this perspective, gamification is known by the needs it fills and the gaps it bridges. It is a set of suggestions based on what could work rather than a factual remedial action.

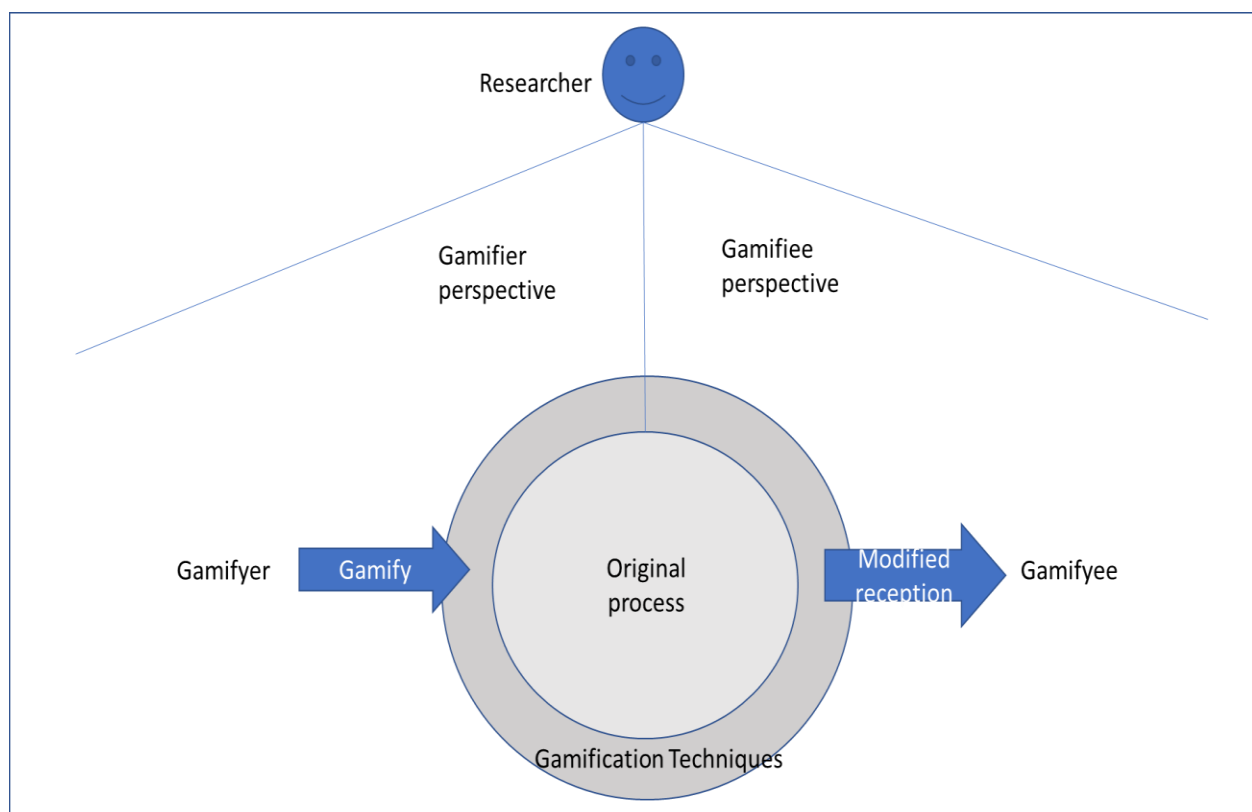


Figure 5 Gamifier / Gamifyee different perspectives on gamification

The gamifier who sets out to improve an existing process by implementing logical guidelines and fixing the path on the move follows a pragmatic, interpretivist approach. This is aligned with the adopted phenomenological approach. While insights collected from the gamification exercise could be useful in different settings, generalizability is not the target of this research, as organizational realities are what their owners believe them to be. In essence, this is an abductive approach to theory development. Alternatively, the insights can be used as directional guidelines rather than implementable recommendations. In this RO-AR study, the insights are used to modify the implementation and the gamifier's assumptions.

From the user or gamifyee point of view, gamification is the personalized lived experience which includes noticing the techniques (consciously or subconsciously), engaging with them, experiencing the psychological impact that they trigger and taking (or not taking) the desired action until the win state is achieved. For a gamifyee, it is a subjective concept whose meaning differs based on the person, her knowledge, state of mind and the environment. It is described by the emotion it evokes in the person, such as fun, engaging, boring, silly, interesting, and so on. Gamification boosts and amplifies that lived experience and the emotions that SODA leaves in the participants. This goes both ways. Successful implementation of gamification comes close to intrinsic motivation (Deci & Ryan, 1985) and optimal experience (Csikszentmihalyi, 2008) through improving the sense of autonomy, capability and social relatedness. On the other hand, a botched implementation will lead to participants feeling patronized and further alienated.

In this case, what is considered legitimate knowledge are the feelings, impressions, level of engagement, level of commitment and level of completion of the desired tasks. While some of these might be quantifiable, most of them are not. We should look for optimal experience and flow during and following a SODA session. A rare phenomenon, flow is not a guarantee of success. Optimal experience is a scale rather than a binary value. The ultimate experience would be when participants are constantly in flow, which is impossible. A more modest goal is less entropy in the sessions and in the participants' minds, which is an improvement. We need to aim for lower entropy, not minimal entropy, as this level of psychic control feels good and leaves a good taste in participants' mouths that they would want more of it. Consequently, moving further in that general direction is sought after in future engagements. This way, the significance of the participants' experience would have increased (Csikszentmihalyi, 2008, 2014).

4.1.3. Reflexivity

Reflexivity is a continuous, intentional, and systematic self-introspection that allows researchers to be self-conscious of their assumptions and prejudices regarding the topic they are working on. It is about a researcher being open-minded to different ideas and noticing their noticing (Hibbert et al., 2014).

Looking inwards, I see two areas of interest. The first is to do with my views about the topic on hand. The other is related to the method I follow in this research.

Being critically reflexive about the topic helped me avoid over-generalization or over-simplification by quickly drawing a line between thought and perceived reality. Dörfler et al. (2018) take this further by considering the ability to accept uncertainty as a much-needed skill in research. This skill entails being comfortable with uncertainties, mysteries, and a lack of consistency in findings and doubts without craving for a solid factual foundation. Accepting the consistent existence of this uncertainty in research will eventually lead me to take it as a given and no longer be bothered by it. I accept Dörfler et al. position that this research indeterminacy is crucial to capture potential fresh ideas and avoid jumping to conclusions early. In effect, the later a conclusion is arrived at, the better.

My preconceptions, pre-understandings and intuitions in this field are numerous. They are the culprits in pushing me to jump to conclusions too early. I have been involved in causal mapping for over a decade. I have been exploring gamification over the past couple of years. I believe in the utility of emergent strategizing and advocate learning and correcting the path on the move. I believe continuous discussions followed by working on agreed priorities ensure that a motivated team understands what is happening.

Regarding the research method, I experienced the concept of intuitive way-finding in research design (Bas & Dörfler, 2021) first hand. The concept helped me find my peace with research indirection. I became accustomed to figuring out what to do as I progressed, not before starting. I recognized a completed effort as it took shape and not before. This approach creates flexibility, enabling creativity and overcoming boundaries. As the research unfolded, this allowed me to experiment, figure out what worked and what did not, and pivot accordingly. As Bas and Dörfler (ibid) indicated, the final version of the research question did not reveal itself until very late in the process. To me, this is counter-intuitively astonishing.

4.2. Research philosophical position: Phenomenology + Pragmatism

As it has been established from examining the ontological and epistemological position of my research, it will feature aspects of phenomenology and pragmatism, since I focus on the lived experience of phenomena in their natural contexts, not in artificial settings. In what follows, I describe in detail my chosen position of Transpositional Cognitive Approach to phenomenology, and subsequently my pragmatist mindset. The combination opens the door for designing future actions based on the lived experience of the participants. In this section, I examine these two approaches more closely and explore how they can work together.

4.2.1. Phenomenology: Transpositional Cognitive Approach

Husserl founded the phenomenological movement as the study of experience and consciousness, which was a significant departure from the positivist mindset that was prevalent at the time. Heidegger took it further by explicitly linking being and consciousness (Dörfler & Stierand, 2021). Schutz contributed significantly by introducing the discipline of social phenomenology through morphing phenomenology and Weber's sociological research (Schutz, 2011; Van Manen, 2014). As per Schutz (1970), humans try to define their position in this world when interacting with each other. Unknown to us, our knowledge is partial and confined to our narrow perspectives. We assume that this reality is always shared by everybody, and we have devised expressions and formulations to use in it. Such reality, the *Lebenswelt* (our life-world), represents the social world structured by the individuals in their attempt to comprehend the world around us using their own cognition and cognitive pre-structures contributed by other people.

My view of reality resonates with Schutz's social phenomenology. I believe that participants, the facilitator, and the researchers who study the process of making strategy construct a shared reality. Being an insider to the organizations where strategy is studied adds credibility and reduces disruption to the natural occurrence of the phenomena being studied, i.e., making strategy. I am interested in the lived experience of my participants while they are making strategy and how this lived experience differs based on whether it is gamified or not.

Within this phenomenological framing, from an epistemological point of view, an interpretivist philosophical stance is adopted. Such understanding enables the extraction of individual and collective interpretation of what strategy is, how it is formulated, and how useful and implementable it is

(Saunders, 2019). While I regard strategy as socially constructed, this research does not subscribe to an extreme version of Social Constructionism. However, I acknowledge that there are factors at play, such as the environment, the culture, and the people themselves (Berger, 1991) and that people's actions are affected by the actions of others (Schutz, 1970). The participants construct their reality in the strategy-making session, albeit not in total isolation from other factors, similar to the principles suggested by critical interpretivism (Dörfler, 2023).

I adopt the Trans-Positional Cognition approach (TPCA) to phenomenology, as depicted in Olekanma et al. (2022). It synthesizes the best of descriptive and interpretive phenomenology into a single method. Descriptive phenomenology takes a literal approach towards capturing the lived experience of participants, while interpretive phenomenology accepts the values and pre-understanding of the researcher to come into the picture. TPCA resolves this axiological dilemma, as it regards descriptive phenomenology (Giorgi, 2012) and interpretive phenomenology (Manen, 2016) as two phases in one process. It brings simplicity and practicality into phenomenology, expanding its use and usefulness, and reducing the complexity of explanation. This approach adopts 'stepping into the participants' shoes' in an empathetic sense, where the researcher attempts to think and feel like his subjects would. It is abductive in nature.

Like all phenomenological approaches, TPCA is concerned with explaining the individual's lived experience within its context. However, it does not see an enormous chasm between descriptive and interpretive phenomenology. When capturing the participants' experiences, it fills the gaps of the descriptive approach with the researcher's interpretation in a phased process. First, it uses the principles of descriptive phenomenology to analyze interviews and other qualitative material, thus enabling the emergence of themes created by participants. TPCA encourage collecting as much descriptive work from participants as possible, including asking for examples to explain their statements. Secondly, it uses the outcome of the first phase to enable the researcher to interpret these themes while reflecting on the participants' perspectives (Olekanma et al., 2022).

After each session, I empathetically engage with the participants in my capacity as a researcher, colleague, and session facilitator. In doing so, I employ bracketing (Dörfler & Stierand, 2020) to refrain from jumping to conclusions. While my preconceptions and preunderstandings might guide the interviews, I exert a conscious effort to avoid judging too soon or jumping to conclusions. Bracketing completes TPCA. It is an essential skill to master if we use this approach. While TPCA gets the researchers in the participants' shoes, bracketing ensures that we wait until a more holistic picture is

formed before coming to a conclusion. An example is Dörfler and Stierand's (ibid) approach to acknowledging preunderstandings by bringing them to the fore and using them for insight. This reduces the risk of jumping to conclusions and gives TPCA the time to achieve its objective. This time is needed to allow researchers to gain an insight into the participant's world, take an insider's perspective, and interpret things from the participant's point of view before bringing their point of view.

4.2.2. Pragmatism

An essential ingredient in my study is a pragmatist's obsession with solving real problems. It directs the approach towards the future, rather than the past or the present, giving it the potential to come up with solutions for a relative, continuously changing world. Pragmatism saw the light in the work of Charles Peirce, William James, and John Dewey in the early twentieth century. It regards that there is a reality out there that is always in the making and never quite finished. They are discriminately subjective, as it considers some interpretations to be more important and useful than others, and they believe that reality can be changed by action. It focuses on the relationship of social entities rather than on the ontology of those social entities. It assumes and accepts the indeterminacy and ambiguity of reality. In doing so, it opposes the tendency to reduce organizations to entities but acknowledges them as processes in the making, but never finalized. Pragmatism solves this dynamic of central indeterminacy by actively participating in the situation at hand (Kelemen & Rumens, 2008). The creators of pragmatism never sought to establish a new school of thought, but rather a movement in philosophy that offers an empirically grounded method to access fresh insights (Elkjaer & Simpson, 2011).

Pragmatism is a philosophical position that acknowledges life's pluralist and relational nature. It replaces ideological metaphysical traditional concepts for studying and attempting to understand the intricacies and practicalities of living in an uncertain and ever-changing world (Simpson & Hond, 2021). It sets out to reconcile objectivism and subjectivism by ignoring fundamental differences in philosophy in favour of what action they allow to solve the problem and what practical consequences they have. It shifts the focus of research strategy from ideological debate to problem solving through seeking a working solution (Saunders, 2019). Pragmatists adopt research methods that will allow them to solve practical problems efficiently. To achieve that, they will translate abstract concepts into useful practice, as ideas are only relevant if they are relevant to action. For them, "proper knowledge is knowledgeable action, and proper action is actable knowledge", and knowledge can only be changed through reason and action working together (Kelemen & Rumens, 2008, p.151).

The pragmatist approach is more than just a method or a set of tools; it is a mindset that ably deals with an empirical world by anticipating it, elaborating it, and substantiating it. One of its fathers, Charles Peirce, sums up this mindset by considering the practical effects of objects and ideas to be precisely the objects and ideas themselves (Khachab, 2013). It entails practical ideas that are versatile and rich to bring fresh insight to future research. Both practitioners and scholars can use it to navigate an unpredictable world where action is required, regardless. The approach does not believe in certainties or universal facts and prefers practical experience as a source of input in opening new possibilities. They accept that knowing is a fallible social process but is best oriented towards utilizing creativity to improve the present situation in a never ending feedback loop (Simpson & Hond, 2021).

4.2.3. The Phenomenology of practice

I find the pragmatists' perception of reality to be very relevant to the day-to-day life of organizations, particularly in studying strategy as a naturally occurring phenomenon. TPCA phenomenology resonates with the pragmatist mentality of the phenomenology of practice (Olekanma et al., 2022; Van Manen, 2014). Such an approach asks the fundamental question of what the social world means to the observer and what it means to the observed. A follow-up question is what the observed means by acting the way they do. Adopting this line of research leads me to analyze the social construction of reality to understand the sociological aspect of knowledge. This approach aims to find a solution to my research question without concerning itself too much with the ontological nature of the studied phenomena but focusing on acquiring practical knowledge to solve problems (Berger, 1991). The dynamism stemming from this approach captures the richness of the different entities at play in an organization. The approach easily deals with ambiguity and constant change in definitions, which is remarkable. There is no destination but a never-ending journey to seek survival, improvement, and prosperity. In my opinion, avoiding political correctness dilemmas is another strong point. It avoids wasting time and pushes participants into action in a bid to change reality. Building on pragmatist epistemology, I accept their knowledge identification criteria of credibility, practicality, usefulness, solving the problem, and acceptance by the group involved. I believe in constant movement to improve the status quo and figure out a continuously changing reality.

The phenomenology of practice also resonates with me as a practitioner in providing flexibility regarding philosophical positions. As a pragmatist, I accept and am willing to adopt different ways of interpreting the world and undertaking research so long that they would help me better understand the problem on

hand and produce a solution that can be tried (Saunders, 2019). I am not in the business of finding fault in people's positions. Different positions can carry value. I realize that no single perspective can fully describe the situation. I find that different perspectives can build solid arguments and durable action.

4.2.4. Ways of inference: abduction

As the research strategy used is Research-Oriented Action Research (RO-AR) combined with ethnography, every iteration has a step of knowledge production based on the outcome of the step on hand. This insight is the steppingstone for the action in the next iteration. In essence, the insight is nothing more than offering a plausible explanation of the outcome of the current step after coding and analyzing the collected data. As a pragmatist, a plausible explanation is one that allows future action. Intuition is a valid means of coming up with a convincing explanation, and the theory development approach is abductive (Saunders, 2019). Since its introduction by Peirce in 1903 (Peirce, 1998a), abduction has taken different interpretations. At a high level, Peirce considered it an art to produce explanatory logic, as it helps researchers become justified in asserting hypotheses (Chiffi & Pietarinen, 2018). Some interpretations consider abduction the first creative step in discoveries (Khachab, 2013).

Abduction seeks to provide clear explanatory hypotheses with distinguishable practical effects verified through experimentation to provide valid explanations. Peirce sees it as the first stage of the scientific method. As a result, all hypotheses are admissible if they fulfil the above criteria. This approach is the starting point of inquiry where new ideas are made, despite sometimes being considered ampliative due to the significant leap it takes from established theories (Khachab, 2013).

The link between pragmatism and abduction is powerful. Pragmatism is built on the fact that all our knowledge about the world is built through perception. Therefore, abduction is the corner stone upon which the essence of pragmatism rests. Peirce argued that "If you carefully consider the question of pragmatism, you will see that it is nothing else than the logic of abduction" (Peirce in Khachab, 2013, p.159; Peirce, 1998a, 1998b). Abduction and Pragmatism are also bound with the concept of "logical goodness," which refers to ideas or statements that fulfil their purpose in the world. Abduction and pragmatism are good if they produce clear, actionable ideas. It is necessary to highlight that goodness, by definition, is situational (Khachab, 2013).

As this research is ethnographic RO-AR built on a pragmatist and phenomenological grounding, abductive reasoning is suitable. The research collects data from real-life settings, explains this data,

redeploys this explanation to improve the process, and collects further data to validate whether it worked or not. This iterative approach confirms the benefits of the improvement and seeks new cues for further improvements. This back-and-forth cycle between theory and data will be repeated more than once. The interpretation of the collected data after each iteration induces a new theory.

Abductive research is also more relevant since strategy has been studied extensively, while gamification that applies a psychological impetus is not (Saunders, 2019). A purely inductive inference lacks the power of feedback, essential to correcting the path and stepping closer to actionable knowledge and solutions to problems. A pure deductive inference ignores the richness that comes from ethnographic observation based on actual proceedings in real-life situations. It has been argued that neither induction nor deduction can exist in isolation in such studies (Peirce, 1998a).

I will seek to establish what Bateson (1979) calls “a meta-pattern”: a pattern that connects patterns, as this is the essence of generalization in abduction. These meta-patterns enable explanation. They are found by asking questions about increments in knowledge and combining information from multiple sources to support and validate the explanation. Such combination can take various shapes and forms, including studying differences between things, looking at things using different perspectives, longitudinal studies, and using different sources of information, to name a few. In fact, “information consists of differences that make a difference” (Bateson, 1979, p.99). Studying these differences enables me to augment the existing information, which is done in a circular mental process over multiple levels of hierarchy in the data. Eventually, “The entities and variables that fill the stage at one level of discourse vanish into the background at the next-higher or -lower level”(Bateson, 1979, p.108), and I can find a circular control link between the highest and lowest level of detail.

4.3. Research Process and Components

The research is made up of two iterations. It comprises four intertwined components; the first component is two SODA sessions, the second is three sets of data collection and analysis coming from interviews and ethnographical observation, the third is two gamification rounds, and the fourth is a partial software development effort. RO-AR iteration one comprises a traditional SODA session, interviews, and the first gamification attempt. The second iteration consists of the second SODA session (Gamified-SODA or G-SODA), followed by the second set of interviews and the second gamification attempt. At the end of the second iteration, an additional step was added that comprises the software

prototype development and the last set of interviews. The whole research process spans a little over a year, starting with the first strategy session, which takes place in Dubai, UAE.

Before delving into the different iterations, a reminder about some aspects presented in the literature review chapter is helpful. In a typical SODA session, some groundwork needs to be done. This includes choosing the strategy-making unit, which comprises both higher management and middle management and is responsible for implementation. Other preparatory work includes deciding on the medium (online, face-to-face or hybrid), choosing the GDSS, arranging facilitation and designating a Chauffeur (if possible), arranging the location and communicating with the participants as early and as frequently as possible.

A typical session starts with an introduction: A short icebreaker, background about the process, the rules of engagement, the artefacts, their significance, and the importance of procedural justice. It encourages participants to trust the process. The issue surfacing follows. It can happen individually, in groups of two to three people, or as a group. The facilitator ensures that the rules are followed and monitors the situation to enable procedural justice.

Once the input phase is complete, the concepts are combined on the same page if possible. Messy maps can be clustered into smaller views. Though this might negatively affect the dynamics of interaction, properly linking concepts might be inevitable. Once the linking is complete (either in a single view or after combining the multiple clusters), the facilitator triggers the group by asking, 'How do I achieve this?' adding concepts that point to the tails of the map. These are actionable items that are eventually imported into the actions register. The group will then agree on the first set of priorities with the help of tools available in the GDSS. In the initial sessions, a goal system is generated through laddering up from the priorities and is taken to a separate view. At this point, the group is ready to write the statement of strategic intent for goals. Following the session, I ran interviews with all participants about their experiences in the session and their impressions about the quality and applicability of the content and action items produced. I try to extract information about the level of commitment that they feel towards the agreed action plan.

After this quick reminder, I will present the components in the different iterations.

4.3.1. SODA Process – Iteration 1

As previously described, one RO-AR iteration consists of a SODA process, collecting and analyzing data and building a new theory in the form of a modified SODA process. One iteration consists of the session, outcome, and implementation. It takes place over 3-6 months in most cases before it is repeated. However, it is not advisable to exceed a year. Longer iterations can result in a disconnect between strategizing and implementation, between the thinking and the doing. Sessions tend to build on top of each in two aspects. The content becomes richer in each cycle due to the trust the group builds amongst each other and in the process. Additionally, participants become more complex, having collectively developed different strategies, tried them out and expanded their knowledge with real-world feedback.

The SODA session is a group causal mapping exercise augmented with facilitation and GDSS software. In it, participants surface concerns in a fair and encouraging environment and causally link them before analyzing the map to identify emergent areas of potential importance. From there, they identify priorities. Laddering up from priorities produces goals. Laddering down from priorities produces actions. The final step of the process is to produce a communicable format of the map in the form of a statement of strategic intent and a register of actions. Other forms are also possible. The facilitator can be dedicated to this task or actively participate in the session. In either case, the facilitator's presence is essential to the success of the process. There are multiple options available for GDSS software. The choice is dictated by whether the session is face-to-face, remote, or hybrid. The complexity and breadth of the content might also dictate the choice of GDSS software, as the group might need to work in smaller teams to make faster progress.

The surroundings of the process are equally important. They are designed to deliver procedure justice that will give participants the feeling of ownership of the outcome and motivation to participate and see the outcome through to fruition. Successful implementation will bring a sense of pride and motivation to repeat the process. Such repetition increases the competence and knowledge of the group and creates a highly effective team.

The session's outcome can vary depending on the purpose the group aims to achieve. The primary outcome is a map with clearly identified priorities, goals, and actionable items. More elaboration is also common in the form of statements of strategic intents that can give textual descriptions of the priorities, goals, and other elements. An action register that captures the ensuing actions, owners, and timelines is also common and effective. The group might decide on more forms of output-capturing tools.

The implementation part is the phase between two consecutive sessions. It is the time when the group articulate and implement the agreed outcome. In many cases, some pivoting happens to address implementation obstacles, but the overarching guidelines should be the agreed goal system, and the strategy priorities agreed upon in the session. Regular meetings help oversee this phase. Project management and collaboration software can also be quite helpful.

Data is collected throughout the SODA process, as previously discussed. After collecting and analyzing data, a new form of the SODA process will be produced. It is worth mentioning that until it is tried and reviewed, this section describes a theoretical process.

4.3.2. Gamified SODA Process – Iteration 2

A gamified SODA process would include gamification elements to increase the motivation and engagement of the team members. Ideas are drawn from the weak points that the participants have identified in the first session. These are depicted in Figure 6 below.

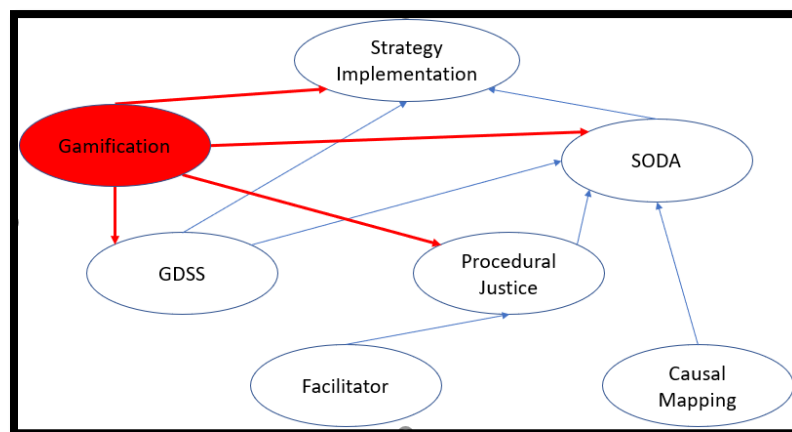


Figure 6 Areas of possible gamification

As shown above, the potential areas that would benefit from gamification are:

1. The GDSS software: While it is not obligatory, the software has become a standard part of the process. It acts as the medium for capturing ideas that participants float. It is a manifestation of the negotiation and deliberation of the group. The outcome is a file that is a product of this

software. Therefore, adding gamification elements that would increase engagement with the software and the motivation to contribute is beneficial.

2. Procedural justice: without procedural justice, there is a limited chance to achieve adoption and ownership of the outcome, thus seriously limiting the chances of successful implementation. Gamifying the rituals that foster the feeling of inclusion and respect can amplify procedural justice. However, caution must be exercised here. Gamification that triggers a competitive spirit among individuals might backfire and produce adverse effects towards procedural justice.
3. SODA session: starting from choosing the participants to producing communicable outcomes, the entire session can benefit from gamification. The procedures and surroundings of the process can be enhanced with elements that amplify their contribution.
4. Strategy implementation: This is an apparent potential beneficiary of gamification, where adding feedback, progress indicators and milestones can institutionalize the culture of ownership and ensure that the team takes the outcome to fruition. This area is beyond the scope of this study.

The second iteration starts with another SODA process. Gamified elements are embedded in the process; therefore, it is dubbed Gamified SODA or G-SODA. It is a manual process of figuring out what can be improved based on the facilitator's experience and the participants' feedback. Because it is manual, the techniques are verbal, written or illustrated in a simple manner. To set the stage right for understanding this phase, it is essential to present the framework upon which the gamification effort was established.

As gamification is built on psychology and sociology, it is imperative to understand the psychological and sociological drivers that govern how people get intrinsically and extrinsically motivated and why they act. We have already covered intrinsic motivation as detailed by the self-determination theory. The basis that this study adopts is Chou's (2014) Octalysis, depicted in Figure 7.

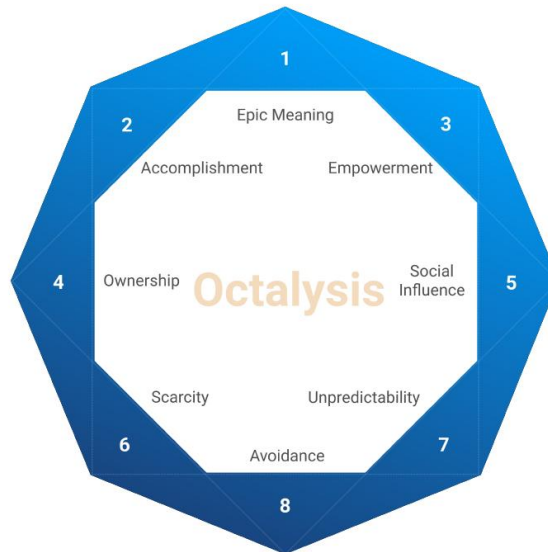


Figure 7 Octalysis Framework Chou (2014)

What this framework depicts is that people take action to address one or more of the above eight core drives. These core drives are (Chou, 2019b):

1. Epic meaning and calling: Doing something for an ulterior reason
2. Development and Accomplishment: The urge to progress and overcome challenges
3. Empowerment of creativity and feedback: The urge to practice creativity and see the outcome of that creativity
4. Ownership and possession: The motivation that comes from the feeling and urge to own things.
5. Social influence and relatedness: The drive that comes from social interaction with people in different setups
6. Scarcity and Impatience: The urge to want something because it cannot or can hardly be obtained.
7. Unpredictability and curiosity: The urge to take action to know what happens next.
8. Loss and avoidance: The urge to take action to avoid something terrible happening.

These core drives can be broken into top and bottom cores. The top three drives (Meaning, Development and Empowerment) are called 'white hat', indicating their positive motivation, as they make a person feel good about him/herself. On the other hand, the bottom three (scarcity, unpredictability and avoidance) are referred to as black hat. They are considered negative motivators, as a person feels forced to do something; thus, this action feels imposed.

The left drives are also in contrast to the ones to the right. The left ones (conveniently called the left brain) are associated with logic, calculation, and ownership and are considered extrinsic motivations. The right brain drives are associated with creativity, self-expression, and social connections. They are very similar to the components of intrinsic motivation, as stipulated in the self-determination theory.

Considering the above, the method followed in choosing what features of the complete SODA process to gamify and what gamification elements to select relies on the intersection between potential areas of development in the process, the desired actions that would need to be taken to achieve the business goals, and the participants' idiosyncrasies. Choosing the proper technique relies on deeply understanding the core drives that might motivate the desired action and how to play to that core drive. What works out of these techniques will differ from one participant type to the other.

4.3.3. Software Prototype Development

Now that I have gained an eye on what is working well and what could be improved, I intend to introduce structure, flexibility, and efficiency. At the end of iteration two, I set out to design a software prototype (or developing the idea of software) to automate G-SODA. Rather than manually or verbally insert elements, a computer application can automate the process from the early planning stages and beyond the end of the sessions. This approach has many benefits, but I will only mention three for now. The first is trying fast and moving on to better things in case of failure, allowing for a dynamic, situation-based gamification. The second is an improved user interface, accessible support, and user journey design that modern software design affords. The third is conducive to standardization, the benefits of which can be numerous but are yet to be explored in this context.

While gamification elements might differ from one situation to another depending on participants, context, and topic, I speculate that certain elements will always benefit from gamification. A software application can be suitable for capturing and standardising such elements in the SODA process. Again, at this point, this is still theoretical. Not until this is done and tested that its benefit will be proven. While the application prototype is a part of this study, developing and testing the software is not.

The most obvious gamification candidates that this prototype addresses are the parts preceding and those occurring during the session. This is because first impressions are lasting impressions. If I manage to get the participants engaged and motivated at the beginning of the process, this will increase the chances of success. This is not to undermine the importance of the implementation phase or the

potential that gamification holds for it, however, it is out of the scope of this study. Like the previous section (4.3.2), the choice of what gamification elements to include in the software relies on the intersection between the potential areas of development and the desired actions of participants, which drive business objectives. If we included this in a 2X2 grid, it would look like Figure 8 below.

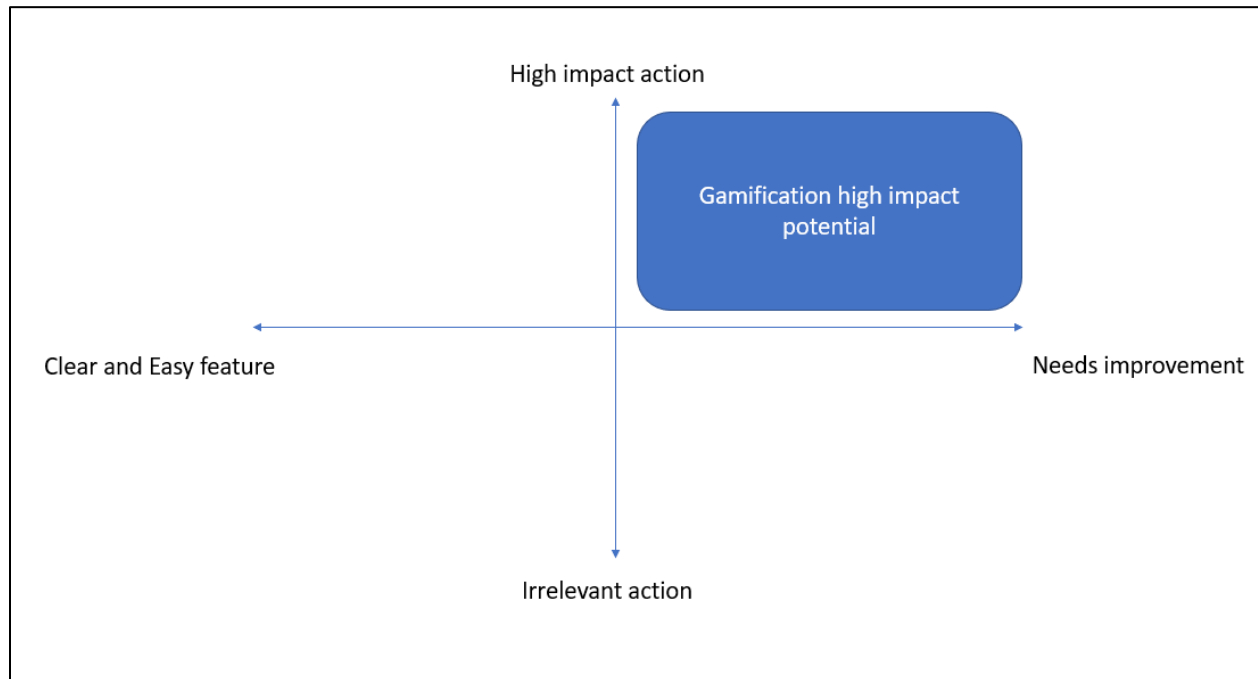


Figure 8 High Impact Gamification Features to be Included in Software Application

4.3.4. Research journey as it unfolded

The process outlined in the previous section was not the same one planned at the outset of the research. It took shape after some pivoting due to some unexpected challenges. This section describes this pivoting from planned to actual research as it unfolded. Initially, the author's employer (referred to as Target 1) was supposed to host two strategy-making sessions. The business purpose of the sessions was to create a strategy comprised of a detailed set of priorities and goals for the IT department headed by the author. The first session went ahead using the original SODA method as described by Ackermann and Eden (2001). It took place at the head office on May 27th, 2021, with a follow-up session on the 30th of May 2021. The research aimed to understand the participants' lived experiences of the process in its original format, its outcome and potential for application. It would also reveal the parts of the process where the participants were likely to fall behind or lose interest. The analysis would then investigate

why such falling behind happens and the relationship between the complexity level of the tasks and the participants' capabilities to perform such tasks.

The first set of interviews was conducted during the first two weeks of June 2021 as a result of the first session and participants' responses about what went right and what could have been done better resulted in a new SODA process, including gamification elements that enhance strong areas while improving weak ones. The guiding question in this enhancement was: Which desired behaviours would achieve the organisation's business objectives, and how can those behaviours be invoked? The choice of where to add gamification elements and which ones to add was a follow-up question. The new gamified process was dubbed G-SODA. The gamification process happened from July to November 2021.

G-SODA was to be used in the second session with Target 1, rendering the research longitudinal. This session was intended to keep the momentum of choosing and implementing priorities (an iterative SODA approach). It would assess whether the weak points that damaged flow experience were addressed, establishing the case for gamification in SODA. A fine-tuning of G-SODA would have followed in preparation for the third session with a different client. Changing clients in the third iteration would ensure that the observed impact of the process enhancements is not affected by the familiarity factor of the first group. The third session would be a break from the iterations with Target 1. Still, the experiences of people who have never used the process would shed some light on whether gamification results can be of broader interest.

However, the second session did not occur, as Target 1 unexpectedly underwent an organizational change. A few participants of the first session were no longer there when the time came to run the second session. The political dynamics among the management team were no longer hospitable for such sessions. Therefore, the second session was cancelled, and I directly moved to the third session, which took place on the 21st of December 2021, with two follow-up sessions. The client in this session was the University of Strathclyde Dubai Center (Target 2). The business objective was to agree on priorities to help the centre reach a viable commercial and academic future. The research objective was to validate that the gamified SODA improved participants' experiences and generated momentum towards implementing the agreed priorities—the second set of interviews followed in January 2022. The findings served as feedstock for the second gamification attempt, which continued until March 2022.

A new step was added to compensate for the rigor that would have come from running three iterations as initially intended. It builds on the findings from session one related to the flow destroying points and

the findings from session two on whether gamification helped solve these points. This element was to create a prototype for software that overlayed gamification techniques on top and around a GSS window (StrategyFinder or Decision Explorer). Such software would help automate and gamify the pre-session events, the SODA session, and the post-session activities, ensuring continuous follow-up and engagement. The name of the software was the same as the name of the gamified process: G-SODA, and it provided an automation element. The first version of the software prototype was completed in July 2022.

Consequently, a third set of interviews was conducted in October and November of 2022 with a select group of participants from sessions one and two. The purpose was to demonstrate the software prototype and get feedback about whether they felt the software would improve their experience before, during and after the sessions. While the study was no longer longitudinal, it qualified as RO-AR. It kept the door open for further iterations to experiment and improve the software to optimize the session for peak experience. The research timelines are shown in Figure 9 below.

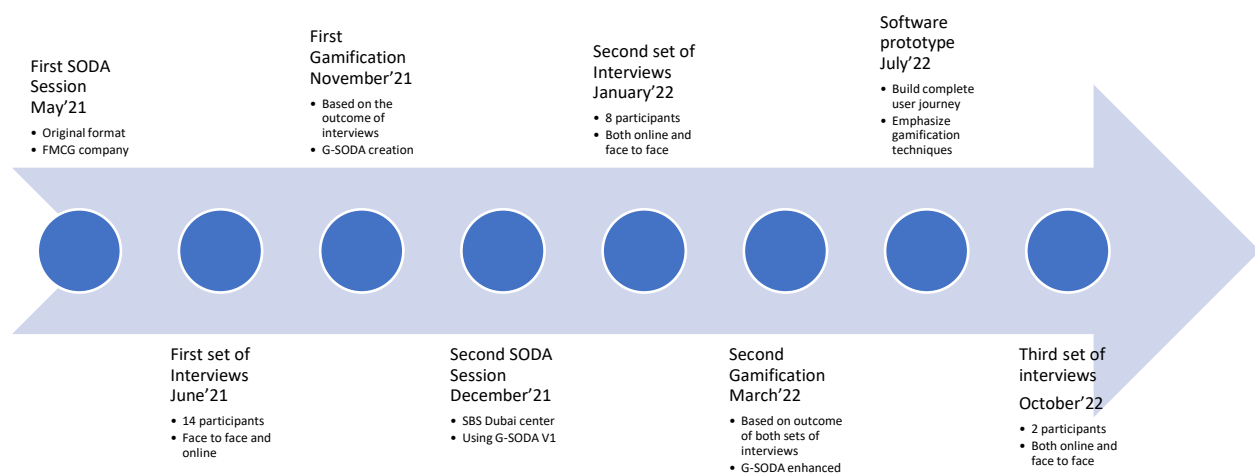


Figure 9 Research Timelines

4.4. Research design: ethnographic action research

This study combines exploratory efforts to unveil what works in studying strategy making, followed by an evaluative/explanatory effort to verify whether the implemented improvements achieved their purpose. I am not expecting to discover reality, only an understanding of how things work in the chosen context. This understanding will be valid until more useful insight is obtained. Therefore, assumptions about what strategy and gamification are and how these concepts can open the door for helpful action are helpful in this context.

This section introduces aspects of the overall research design, its strategies, and how the empirical research unfolded. It includes details about the research steps, settings, and participant data collection. The methods followed in gamifying the SODA process to create Gamified SODA (G-SODA) are covered in the following chapters. This is based on the psychological considerations presented in an earlier section and the practicality of adding such elements to the existing process without undermining its seriousness.

This study utilizes insider ethnography embedded into research-oriented action research (RO-AR). These two strategies work well together, as action research and ethnography promote observing subjects' lives firsthand. This combined approach is dubbed Ethnographic Action Research. This section starts with presenting internal ethnography and research-oriented action research (RO-AR). It then describes the steps of the intended research process before describing the journey, which details how the emergent process branched out.

4.4.1. Insider Interpretive Ethnography

“Ethnography is the work of describing culture” (Spradley, 1980, p.3). It is based on learning from people rather than studying them and is concerned with the meanings of actions and events. In the above definition, culture refers to acquired knowledge that consists of what people do, what people know, the values they follow, and what they make or use. To learn culture, you need to understand its constituents, and the most significant portion of it is tacit knowledge. It follows a cyclical model. Every ethnographic study is characterized by its place, actors, and activities (ibid).

Ethnography was developed in the eighteenth century by anthropologists to study a group's culture and social world. It entails a researcher recording the proceedings of the life of a particular group by embedding themselves amongst the group and observing and recording their activities over prolonged

periods to produce a detailed cultural account of the studied society. The researcher's presence should be minimally felt to avoid impacting the group's behaviour in its natural habitat or environment. In addition to observation, this method includes revising supplementary data, interviews and questionnaires. The goal is to get an insider idea about the culture and social world that is being studied (Charmaz, 2006; Saunders, 2019).

Of the different ethnographic flavours, interpretivist ethnography is chosen, as it is compatible with the above-discussed philosophical consideration. This method takes subjective impressions over perceived objectivity, allowing the capture of a multitude of meanings socially constructed by the different participants. Reflexivity is an integral part of this approach, and the reports typically include the researchers' and participants' points of view (Saunders, 2019).

Ethnography requires access to events that occur naturally to observe and comprehend the meaning that participants associate with these events. This could take either an internal or an external manner. Internal ethnography is where the researchers have or gain social or cultural membership of the group being studied based on previous engagement. This gives them familiarity as opposed to external ethnographers, who have limited familiarity with the setup and its actors. Each mode has its pros and cons. External challenges include gaining access, acceptability, or integration, risking agitating or triggering an adverse reaction in the participants, but offers (claimed) objectivity, added rigour, and a broader vision. Internal (or insider) ethnography addresses the shortcomings of external ethnography. Still, it comes with an elevated risk of preconceptions, preunderstandings and blindness to other perspectives, hindering its ability to observe and interpret (Giazitzoglu & Payne, 2018).

Insider ethnography has different degrees. Level one occurs when there is lived familiarity with participants based on common attributes, which suggests shared membership. Level two adds shared cultural capital and enacted routine behaviour such as artefacts and rhetoric to level one. Level two establishes further rapport, which can generate extra data. Level three adds action, initiative, and creative behaviour. Level three is where participants act most naturally in an ethnographic setting (Giazitzoglu & Payne, 2018). As I am associated with the studied organizations (working in the first and delivering courses in the second), this adds familiarity to a potentially complex situation and allows me to use my existing credibility to achieve better results. The research takes place in environments where participants are my colleagues. I am an insider in both organizations. Therefore, my presence will not cause participants to behave differently (Saunders, 2019). I have been privileged to be granted level

three insider ethnographic access, as I would take ownership of action and creatively work to address challenges.

A tricky balance is between being a participant in daily activities and being an observer, monitoring individuals and groups while they interact. The absence of such balance might draw the participants' attention to my research activities. They would become self-conscious in their activities, resulting in a change of normal behaviour. This imbalance will also impact me as I try to avoid my opinions and findings affecting how I interact with the group. Again, bracketing comes to the rescue as I bring my pre-convictions to the fore and avoid moving to conclusions as late as possible in the research process (Dörfler & Stierand, 2020).

The underlying philosophical foundation of both phenomenology and pragmatism allows me to concentrate on the actions of individuals and groups to better understand the meaning they associate with reality. I acknowledge that meaning and action are inseparable and that actions speak louder than words. This conviction also builds on pragmatist epistemology that proper knowledge is whatever can be acted upon, and action produces knowledge. This will also help identify the usefulness of information in the group. As a pragmatist ethnographer, I focus on the future and the possibilities it offers (Kelemen & Rumens, 2008). This works well with the adopted social phenomenological stance, which completes and complements this practical aspect. Relevant, meaningful, shared knowledge is produced when and where the experience happens (Olekanma et al., 2022).

4.4.2. RO-AR in Action

I opted for an action research strategy because it allows reframing of fully functional SODA models into new ones that are situationally relevant. It is also the strategy of choice for the original creators of the framework. The chosen framework method in this study is RO-AR, as developed by Eden and Huxham (2006). It has been covered in the literature review section of this research since it is the iterative method used to produce and develop SODA in its current form. Additionally, it is covered here as a chosen research strategy along with ethnography. Therefore, a few words are due to show why it is a good choice of method and how it works with ethnography within a pragmatist and phenomenological philosophical stance.

RO-AR sits nicely in the pragmatist positioning, as it promotes organization learning to produce practical outcomes through identifying issues (fact-finding), planning action, taking, and evaluating action. It is

also consistent with the phenomenological interest in the lived experience of the participants. The process followed is iterative and collaborative. It is highly informative, as participants, employees in this case, open their daily workplace and lives, allowing ethnographic research to occur. Participants' experience and propositional knowledge enrich the study and result in actionable knowledge, higher expectations, and increased knowledge of participants (Saunders, 2019). This will assist me in getting a feel for how a strategy intervention is perceived in each new iteration, including when gamification is introduced, which gives guidelines to improve the process and redeploy it. This iteration can be repeated as many times as needed.

RO-AR advocates involved researchers so long that they are reflexively aware of their preunderstandings. It pushes for action where action is needed to address problems and opportunities that are facing the group. In this case, this matter is the IT strategy for the organization in Target 1 and the prioritized plans for Target 2 in the second session. In developing the SODA method, RO-AR, combined with interpretive ethnography, has been Eden and Ackermann's research strategy of choice (Eden & Ackermann, 2018). It is also suitable in this case, as the researcher is deeply involved in both organizations on a daily basis, thus allowing the use of both RO-OA and ethnography.

Additionally, as presented in the literature review chapter, the theory coming out of RO-AR is incremental, developing through cycles of extending theory to action, reflection, advancing theory, followed by action, and so on. This perpetual cycle renders valuable knowledge even more helpful with every intervention. RO-AR requires the orderliness and reflexivity of the systematic method. It allows and incorporates the reflection on research data and emergent theoretical outcomes after each iteration. Naturally, documentation of this data is an integral part, covering both pre-understanding and methodical reflections. Therefore, any application, tool, technique, or model emerging from RO-AR has a sound theoretical basis (Eden & Huxham, 2006).

Now that the research design has been presented, I will discuss the process as it was designed before introducing the actual research journey as it emerged.

4.5.Methods of data collection

Data for this research originated from three sources. The first was the participants' accounts of their experiences before, during and after the session obtained through interviews. The second was the proceedings of the strategy-making sessions, which included a wealth of verbal, non-verbal and social

interactions, obtained through observations. The third was the content produced in the strategy-making session, and the action items that followed. This section reviews data sources and collection method, and briefly describes the tools used.

4.5.1. Data sources

The data sources used were participants' accounts, sessions' proceedings and content analysis.

4.5.1.1. Participants' accounts

As the research adopts a phenomenological approach, there is heavy reliance on the lived experience of participants as a source of data. For the first session in Target 1, the participants were first-level management in the IT department and the directors of the other departments that directly interacted with IT, a total of fourteen participants. For the second session, the participants were staff, local counsellors and students of Target 2.

The interviews were done as close as possible to the session to capture the fresh experience of these sessions. They lasted between 45 and 60 minutes. They were semi-structured, unrestricting participants' flow of ideas and emotions. More details about the interviews can be found in section 9.9.

4.5.1.2. Sessions' proceedings

Building on the ethnographic research design, the actions and the meaning of actions before, during and after the sessions are significant data sources. These include the verbal and non-verbal activities of participants, as well as the social interaction between the participants during the sessions. It can consist of the frequency and quality of contribution and their willingness to take ownership of tasks that will be implemented. This input is extracted from the sessions' recording and action registers. Another point to consider is the level of experience and the time in the organization. As an insider, this information is available to me.

4.5.1.3. Content analytics

The SODA process produced two outputs; the first was the prioritized map organized with goals on top and action items at the bottom. The second was the action register with details, owners, and timelines for implementation. This content was analyzed for the value it could bring to the organization and for its

characteristics. These characteristics include ownership of actions, timelines, level of detail, and how aspirational the output was, among other traits—more about that in the data analysis section.

4.5.2. Method for data collection

This emergent research design is naturalistic because it is conducted in the natural habitat where the studied phenomena occur. This contributes to trust and enhances participation, which gives access to an in-depth understanding of meaning held individualistically by participants (Saunders, 2019). As in any action research study, data collection and analysis alternate as the empirical part progresses. This allows path correction in data collection to fill the gaps until a helpful model is complete and all concerns are answered. From a data collection point of view, this is as close as possible to data saturation (Saunders, 2019). This section covers data collection. The analysis will be covered in a later section. The primary data collection method is ***semi-structured interviews***. The other two data sources, namely the field notes and the analytics obtained from the SODA software, were mainly useful in achieving a more nuanced understanding of the participants' accounts of their lived experiences.

Each session was followed by interviews with participants to understand their personal experiences about the process and its outcomes. These interviews were both face-to-face and over Teams meetings. They were recorded and transcribed on the spot using the Otter.ai mobile application, allowing participants to validate their words. For the sake of this study, the interviewees are considered experts, defined as those who can put their knowledge into practical use (Bogner, 2009). In that sense, the entire strategy-making team in both organizations are a set of experts. Each expert was interviewed once, except for a subset who were interviewed twice to give feedback on the gamified software developed. The total number of interviews was 26, which aligns with Saunders and Townsend's (2016) recommendations.

The interviews served multiple purposes. The first was a pragmatic, exploratory purpose, allowing participants to form an opinion on what worked and what did not. The second was to explore other perceptions and experiences of participants while it was fresh in their minds. In the last phase, interviews served an evaluative purpose, helping fine-tune the modified method and confirming the discovered trends and themes (Saunders, 2019).

Phenomenological interviewing has evolved to become a complete data collection research method. Accordingly, interviews in this study followed a two-tiered approach. First, a descriptive account was

obtained, followed by deriving meaning through analysis. This allowed me to get my head around the lived experience of an interviewee before analyzing the findings within the theoretical framework of phenomenological philosophy. To capture as much of the lived experience as possible, the questions were asked in the language and terms of the interviewee, and active listening was practiced to identify areas for clarification and probing (Bevan, 2014; Sholokhova et al., 2022).

Since ethnography is one of the chosen research strategies for this study, ethnographic interviewing as a concept is also relevant. It is a qualitative research technique that started in cultural anthropology but is finding acceptance everywhere. It is appropriate for this study, as I have a respectful, ongoing relationship with the participants, allowing the exchange of opinions and jointly exploring the meaning that participants assign to events and actions taken by them. As a result, interviewees could impact the questions asked to the extent that a co-construction of the interview (and thus the findings) took place (Hibbert et al., 2014). I was acting like a miner who digs deep to find learned cultural meaning, unlike a traveler who superficially describes what he sees (Heyl, 2007; Spradley, 1980).

To achieve a well-conducted ethnographic interview, I listened well and respectfully to develop an ethical engagement with the participants to see the topic from their perspective and to understand how this perspective came to be. I was conscious of my role in co-constructing meaning during the interview process. I focused on specific situations and action sequences, realizing that the interview is a process of discovery and can only deliver partial knowledge. Throughout the process, I considered the effects of the interview process and project outcome on the ongoing relationship and the broader social context (Heyl, 2007; King, 2004).

Interviews were semi-structured, like most phenomenological and ethnographic interviewing. The interviewing process started with developing themes through primary questions and definitions. Then, it moved to plan the details to obtain pre-knowledge before designing an interview guide of loose questions that set direction, conducting the interview, transcribing, analyzing, and looking for ways to improve before verifying and reporting the outcome (Arsel, 2017; Heyl, 2007; King, 2004). From there, I allowed the participants to guide the discussion in whatever direction they wanted in a non-judgmental manner (Charmaz, 2006; Saunders, 2019). This avoided having my baggage of preconceptions and preunderstanding guide the interview and embraced research indeterminacy and bracketing (Dörfler & Stierand, 2021). It kept me open to new directions presented by interviewees, revealing blind spots and presenting fresh perspectives. Each question and ensuing answer put preexisting ideas under scrutiny and enabled new insights. As I moved from one participant to another, I modified the questions,

themes, and flow as required in an iterative process to keep improving in every interview, an indication of the pragmatist nature of the study (Arsel, 2017).

4.5.3. Tools

A set of tools was used to facilitate the data collection and analysis. These tools collected data from session proceedings, session output, interview scripts and recordings, video recordings of sessions, data extracted from StrategyFinder and Decision Explorer and the progress of tasks. They also allowed analysis and thematic coding of the collected data. This section goes over these tools, explaining their added value to this research and their potential shortcomings.

4.5.3.1. StrategyFinder

StrategyFinder (*StrategyFinder*, 2021) is a group decision support system (GDSS). It is Internet-based, allowing distributed strategy-making workshops to take place. It enables simultaneous team collaboration while working on maps and offers enhanced features in terms of visualization. Each participant could use their computer and see their contributions and those of others in real time. On the downside, it was still in beta release at the time of the session and had shortcomings regarding strategic priority analysis. It also suffered from a few glitches. It was not readily available, and I had to solicit the support of Dr Kevin Page to use his server to run the first session.

StrategyFinder was used in the first session. It captured input from participants and allowed collaborative linking of concepts. Using different styles, priorities, goals, and action items were marked.

4.5.3.2. Decision Explorer

Decision Explorer (Banxia) was used in the second session due to challenges in obtaining access to StrategyFinder. While the tool is mature, when it comes to its available features and tools, it requires participants to gather around a large screen or a TV, and it required a Chauffeur to enter contributions and arrange the maps (Lewis, 2010). This shortcoming was compounded for remote participants. While they could see the through MS teams, it was difficult to follow the area in the map where the discussion was focused. Decision Explorer has its glitches and is not so intuitive. Nevertheless, it is one of the best tools for causal mapping.

4.5.3.3. Video Conference and Collaboration tools

Microsoft Teams (Microsoft) was used as the collaboration and video conferencing software in a hybrid setup. It allowed people attending face-to-face and remotely to discuss and share the screen displaying the map in real-time. It also allowed the recording of the proceeding and the shared screen for future analysis. Teams was also used for video conferencing and recording of interviews in remote interviews.

4.5.3.4. Otter.ai

Otter.ai (Otter.ai) is a mobile application that allows instant capture and transcription of speech. I used it in the transcription of interviews as they were happening and ran the transcript by the interviewee for confirmation. Otter.ai also allowed the capture of the voice file for future reference. The audio file is stored with the synchronized transcription.

4.5.3.5. NVivo

Nvivo software (QSR) helps organize, store and analyze qualitative data. It has been instrumental in performing thematic coding and analysis. Its features allowed the iterative revision of codes from different levels to draw patterns and generate insight that could turn into findings.

4.6. Methods of data analysis

At the end of this methods chapter, I present the different methods of analysis used in this study. This task is challenging, as it describes the journey from unstructured raw data to formulated propositions. Such a journey is not a step-by-step process but rather full of epiphanies and 'Aha' moments that only happen when enough time is spent with and around the data.

In ethnography, analysis must start early to allow the progression from descriptive to focused to selective observation (Cassell & Symon, 2004). Early discovery enables the formulation of essential questions, collecting answers and analyzing them to formulate more questions until project completion. This section describes how the coding happened, starting with descriptive codes derived from participants' accounts; the interviews were coded and my observations helped interpret the interviews. Subsequently the codes were grouped hierarchically and organized into themes.

As with collecting data, the skill to tolerate ambiguity while analyzing data is essential. It helps avoid jumping to conclusions or allowing preconceptions to sneak in (Charmaz, 2006). Dörfler and Stierand (2021) further stress this in their bracketing paper. They advise researchers to suspend prejudices and assumptions before making sense of them. To achieve that, I must explicitly practice reflexivity, acknowledging my preconceptions rather than blocking them.

As it has been noted in the previous section, the primary data of this research was the interviews through which research participants' accounts of their lived experiences has been collected. As such, the other two data, namely the field notes and the analytics obtained from the SODA software, do not appear explicitly in the data analysis, these additional data were used to help make sense of the participants' lived experiences.

4.6.1. TPCA as a method

To understand the background of the Transpositional Cognitive Approach (TPCA), I look at the two approaches it combines. The first is the one described by the phenomenologist Giorgi (2012), who accepts the socially constructed world while having positivist-leaning views. However, he assumes that people are knowledgeable agents and know what they are trying to do. They can explain their thoughts, intentions, and actions without help. Researchers capture concepts and ideas according to how people live their lives. They should avoid imposing preconceived notions, as participants' experience provides an excellent chance for discovering insight. The researchers are capable of identifying patterns in data and generating concepts. Therefore, they must consistently be descriptive of what they hear and see.

Van Manen (2016), on the other hand, sees the Giorgi and other traditional approaches to phenomenology as overly structured. This limits their usability and popularity among researchers. He introduces the term 'phenomenology of practice', simultaneously addressing professional practitioners' needs and ordinary people's daily practices. It focuses on practical aspects as a meaning-giving method rather than on the technicalities of inquiry. TPCA is a thematic analysis method that borrows the elements of a structured approach from descriptive phenomenology and the practical spirit of interpretive phenomenology. It uses simplified language and goes through 6 stages, broken down into 16 steps, as shown in the below table. This study follows the method described in Table 7 below.

Table 7 The 6 stages of TPCA (Olekanma et al., 2022)

Stages of TPCA	Steps of TPCA
<p>Stage 1: Data collection</p> <p>Suspension of 'judgements' and 'explanations' about the study phenomenon essential</p>	<p>Step 1: Use the appropriate technique to collect phenomenologically relevant data. Before data collection, observe all ethical protocol and assume the bracketing approach explained in the section <i>Bracketing in Trans-Positional Cognition Approach</i> of this paper before commencing data collection</p>
<p>Stage 2: Data transcription</p> <p>The bracketing continues</p>	<p>Step 2: Assume phenomenological attitude (bracketing approach as explained in the section <i>Bracketing in Trans-Positional Cognition Approach</i>) before commencing data transcription</p> <p>Step 3: Transcribe verbatim the audio recordings of participants' concrete experience descriptions. Ensure one is open and attentive to participants' descriptions by assuming the bracketing approach throughout the transcription process of all participants' interview recordings into study text</p> <p>Step 4: Read study text(s) generated for a sense of the whole</p>
<p>Stage 3: Text analysis</p> <p>Using the process of trans-positional cognition, the process facilitates the researcher's interpretations within context, with emergent themes mostly in the participants' community language</p>	<p>Step 5: Delineate each participant's text into units of meaning containing one idea each</p> <p>Step 6: With full awareness of the study research question and objectives, discriminate the units by highlighting those containing ideas relevant to the inquiry in each of the participants' text</p> <p>Step 7: Colour-code these units with ideas beneficial to the inquiry and group them into types around set objectives or study phenomena of interest</p> <p>Step 8: Review colour-coded units to identify and integrate units with repeated/similar ideas within each typology without altering the meaning of the integrated units. Do this for each of the participants' study text</p> <p>Step 9: After the integration of units with similar ideas in step 8, what emerges are meaningful units in each type that represent the individual participant's themes. (Steps 5-8 are repeated for each participant's text).</p> <p>Step 10: Combine all the individual participant's themes that emerged in step 9, code them into an appropriate typology. Then review all themes to identify repetitions/similar themes in each typology and integrate appropriately to eliminate repetitions. After that, convert the first-person characteristics of the themes into third-person characteristics without altering the meaning of the themes. What emerges are the study participants' themes (PT) that are wholly descriptive in nature</p> <p>Step 11: Consciously assume the bracketing mode to ensure focus, discipline and rigour during the interpretation of the study participants' themes</p> <p>Step 12: While still assuming the bracketing mode, the researcher provides interpretations by cognitively engaging with the study participants' themes through the process of trans-positional cognition, as if the researcher is a member of the participants' community experiencing the experience (i.e. 'stepping into the participants' shoes' metaphorically). This process of trans-positional cognition helps sense-making of the study participants' themes allowing the researcher to provide interpretations that characterise the participants' lived experiences. Emergent themes are mostly in the form of a 'metonymy or metaphor' or phrase couched in participants' community language. The themes that emerge are termed the 'Researcher's interpretations' of participant themes (Ri-PT) within context (d 3.2)</p> <p>Step 13: To allow for the emergence of the overarching theme or study essence while still assuming the bracketing mode, use the trans-positional cognition process to engage with and interpret the Ri-PT themes produced in step 12 at a higher level of abstraction. The theme that emerges symbolises the essence of the study phenomenon</p>
<p>Stage 4: Data display structure</p> <p>Construction of a data display structure that organises all the findings</p>	<p>Step 14: Construct a data structure that displays the three levels of themes (study participants, researcher's and study essence) to facilitate further analytical activity</p>
<p>Stage 5: Data validation</p> <p>Sending the emergent study findings (themes) to purposively selected participants for validation; this can create a feedback loop to any of the previous stages</p>	<p>Step 15: All themes in the data display structure in step 14 are sent to purposively selected participants for validation. This step ensures the validity and reliability of the study themes</p>
<p>Stage 6: Idiographic explanation</p> <p>Elucidates the researcher's interpretation themes in the form of narratives within the interpretivist tradition so to provide a narrative explaining the essence of the studied phenomenon</p>	<p>Step 16: At this stage, the researcher provides an idiographic explanation that elucidates the researcher's interpretation themes in the form of narratives within the interpretive tradition. The narrative (write-up) can be supported with quotes from participants' texts (that elucidates the social, cultural and historicity – Dasein of the study participants) and contextualised knowledge</p>

4.6.2. Thematic Analysis

To maximize the benefit extracted from TPCA, I utilized coding and code analysis guidelines as depicted by Olekanma et al. (2022), in combination with thematic analysis and Gioia's (2013a) approach to visualizing the coding (demonstrated in an example in Figure 10 below). In the below graph, Gioia graphically captures the process clearly and concisely. An advantage to utilizing this combination is that it allows the co-existence of pre-defined and emergent themes revealed as the research progresses.

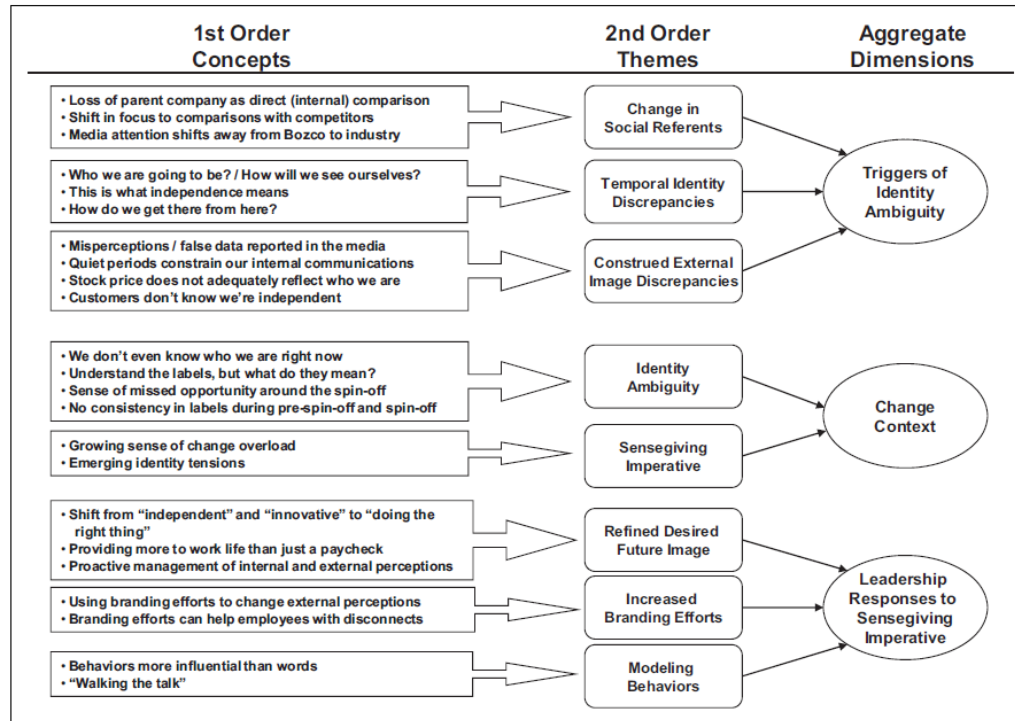


Figure 10 Visualizing thematic coding - example (Gioia et al., 2013b)

In the above graph, coding is done using a two-tiered approach. The first tier is descriptive, corresponding to descriptive phenomenology. It is entirely contributed by the participants and the primary data from the empirical realm. The second tier is interpretive, corresponding to interpretive phenomenology. The researcher contributes to aggregating and developing new thematic codes to explain the descriptive coding of the previous step. This layered approach aggregates upwards, where new emergent codes are less descriptive and more interpretive. The aggregation is repeated multiple times until the last purely interpretive level is reached. From the above, it is observed that codes seem to reside on a spectrum whose two extremes are purely descriptive and strictly interpretive.

However, formulating aggregate codes is not the end of the process. An iterative back-and-forth effort between the tiers leads to insights and fresh ideas about the meaning of data. The intermediate codes between the highest and lowest levels became less critical at an advanced stage. A negative feedback loop formed between the purely descriptive lowest layer and the purely interpretive highest layer, allowing tweaking the former to fine-tune the latter. Reaching this level requires immersion in the data collected until enough insight is extracted to produce pragmatically useful themes. Therefore, an indispensable ingredient to practical analysis is the time spent analyzing data to capture definitions of

used concepts, relationships between them, how they are organized, their hierarchy, categorization, and whether cultural meaning is associated with them (Spradley, 1980).

4.7. Methodological reflections

As an afterthought, the data collected during the first iteration was more people-oriented in that I was trying to capture participant's opinions in general about the process. I noticed that I was trying to pass judgements about why people reacted as they did. This was bracketing at work, and it helped me avoid focusing on people but on what they were saying and doing. In subsequent iterations, my way of thinking focused on process flow. I was zooming into the combination of people and how they responded to 'upgrades' to the process. Another implication of this shift is that I was looking for something without knowing what it was in the first iteration. In the second, my interest zeroed into the responses to the instigated changes, trying to establish a relationship.

Having presented the methodological approach, including the philosophical grounding and position, the research design and the methods used, it is essential to stress the relevance of research indeterminacy and the concept of way-finding (Bas & Dörfler, 2021; Dörfler et al., 2018) as central to what comes next. What unfolded diverged from the planned strategy due to practical considerations and unexpected events, embodying emergent design (Pailthorpe, 2017). The next chapter presents details of how the study unfolded.

4.8. Setting off on the research journey

In the following chapters (Chapters 5,6), I present the iterations of this research. Each iteration will start with a discussion about the features and benefits of the format of the process in its current state. This discussion aims to answer why the state of the process is the way it is and how it can assist practitioners in getting better results. Each chapter then details the SODA session that took place during this iteration. This includes planning, preparing, setting up, running, and concluding the session. It also speculates about how the implementation aspect of the strategy could unfold if it were observed. It then presents the data from the empirical research, which consists of the interviews broken down into code.

Each chapter presents its data synthesis and explains what went down and why. The good, the not-so-good and the bad, as uncovered in the synthesis, are then presented. This is followed by the findings from two perspectives. The first perspective is from the scholarly point of view, where the relation to

the existing literature about strategy, SODA process and gamification is forged. The second perspective is from the point of view of the practitioner, who only cares about the question 'so what' and how can this help me get better results out of SODA. It then paves the way to move to the next chapter.

The use of action research as a research strategy calls for this study to include an unfolding chapter for each iteration since such an approach carries a lot of details in its iterative nature. Excluding such chapters would make it very difficult for the reader to understand how the findings were reached and why specific techniques were chosen and others were not. Embedding the analysis and findings in these unfolding chapters makes it much easier for the reader to follow the evolution of the process and avoid having to go back and forth in the paper to trace the roots of the choices made.

I now move to cover the two iterations. Chapter 5 covers iteration 1, a prelude for collecting gamification targets. Chapter 6 covers iteration 2, which includes a gamified SODA and the potential for an automated version of it.

5. The SODA process as is - Iteration 1

This chapter discusses SODA deployment and how it works. It describes “Iteration 1”, including the SODA session as depicted in section 9.2, data collection, making sense of the data, synthesizing it, extracting actionable findings, and theorizing about the implementation phase. These findings help identify potential gamification areas based on both literature and practice. For additional information, the reader can refer to section 9.3 for the list of participants, 9.4.1 for the invitation format, and 9.5.1 for the session outcomes.

5.1. Study Format

The first step of this iteration was tailoring the SODA method devised by Ackermann and Eden (2001) to the first strategy-making group (Target1) mentioned in the introduction (section 1.21.3). This effort included augmenting it with the proper GSS, accommodating a hybrid (face-to-face and remote) model, and making allowance for the nature of the group and the company’s idiosyncrasies. StrategyFinder served not only as a GSS but also as a means to include the participation of remote people. The inclusion of concepts and artefacts specific to the organization, the participants and their roles assured that the process was relevant. I also included an action tracking sheet that captures and follows up on implementing the session’s strategic priorities.

The format of the strategy-making workshop started with surfacing issues that the participants were facing concerning IT. These issues could be any concern, problem, disappointment, opportunity, or threat that participants feel could affect them. These issues were then elaborated on and connected causally in preparation for consensually choosing the priorities. Based on those priorities, the emergent strategy was detected and compared to the overall direction stipulated by the organization. Different parts of the session produced action items captured and transferred to tasks. These tasks were managed using the action tracking sheet.

The room where the strategy-making workshops took place was set up informally, allowing free movement. The set up of the tables permitted collaboration. However, Covid restrictions dictated that most collaboration be done online rather than in person. Therefore, participants were encouraged to use their computers, and computer sharing was discouraged. One of the roles played by me was that of

the facilitator. I handled the room and ensured that those not present had equal airtime, although that was not always possible. Other roles included observer (researcher) as well as participant.

The session followed the format described in Section 9.2 and shown in **Error! Reference source not found..** One deviation was that while the plan stipulated a four-hour session, we needed an additional one a couple of days later to finish the process. This was due to the complexities faced during linking and the need to do offline work to clean up the map.

After administering the initial strategy-making session, step two started. It comprised data collection and analysis. Data was collected using interviews conducted with each participant. Interviews were face-to-face where possible. Otherwise, they were over Microsoft Teams. Questions are shown in Appendix 9.8.1 and the summary of interviews that have taken place is shown in 9.9. The findings were compiled and analyzed. The resulting insights would guide how and where to design a gamified process. The outcome of this iteration highlighted areas of potential augmentation of the process with gamification techniques to improve the outcome.

5.2.Participant Experiences from Iteration 1

This section captures participants' experiences from the first session. As indicated in the methods chapter, Olekanma et al. (2022) approach to thematic coding, built on the principles of TPCA and bracketing (Dörfler & Stierand, 2021), was employed. The sections below are the resulting groupings of the thematic codes shown in Figure 11, adapted from Gioia (Gioia et al., 2013a). The data is in section 9.10. I use power and proof quotes as described by Pratt(2008, 2009) and provide reasonable interpretation.

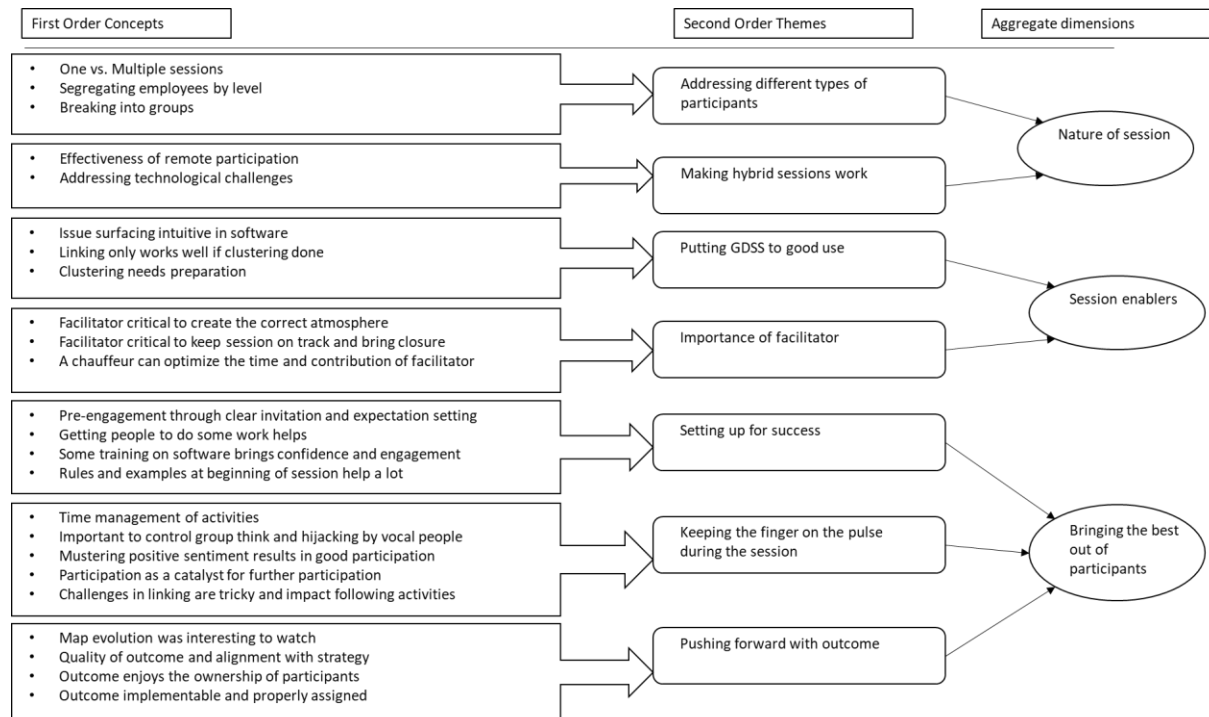


Figure 11 Thematic codes grouping

5.2.1. Nature of strategy

As I take a pragmatic approach toward strategy (refer to section 4.2.2), I wanted to understand which perception of strategy opened the door for effective action and which did not. Particularly interesting was what constituted strategy and how we formulated it. The responses from the participants were informal manifestations of the different schools of strategy. Some participants viewed strategy as setting goals and direction for the rest of the organization. AA saw it as a set of goals connected to the company's vision and objectives. AE thought, "It starts from what it is that you intend to do." CH associated it with "the long-term goal that the company is looking to achieve."

Those closer to the market saw it as a plan or a desired position in the market. In a previous job, AS used to refer to strategizing as "war rooms, when we would brainstorm potential positives or negatives what's good, what's not good, and what we want to achieve. And then it was like a session when everyone would give their evaluation of the current situation". AR thinks it is "planning for how to approach and how to solve problems, and then how to improve how to optimize operations on the short-, medium- and long-term strategy is the way of thinking, in order to improve [and] optimize." NM said:

“First, knowing yourself [...] where you stand, what you are, what you’re capable of doing... Second, understanding the ecosystem where the market or where you’re active the playing field where you’re playing. And what level of participation, you’re in the playing field [...] and knowing who’s playing with you is understanding what they’re doing better than you what you’re doing better than them, then obviously that all falls under a number of where you want to go... So, what is your vision or what is your direction you want to reach in the next two to three years of custom a strategy should not exceed maximum of three years, I feel if anybody touches everyone it was a five-year strategy for me this is a bit farfetched a three-year strategy is more than enough, I think, possibly to be achieved.”

OK said: “It’s a three to five years plan that where the company wants to be in five years based on available, let’s say cash funds from in terms of investments. Other than that, what go-to-market strategy will, where do you want to position yourself? Are you number one brand if you, let’s say, B brands? Or what? What’s your strategy positioning on the brand? And this is a summary.”

Conversely, another group took a practical stand, seeing it as a process, action, or practice. Some viewed it as happening top-down, and others in horizontal, cross-departmental fashion. AH noted that strategy is “building blocks that then define the action that the company will take along the path that you’ve chosen that you’ve decided to get a strategy is basically a series of actions, or a series of informed decisions with senior management [...] very linked to the way you actually work on a daily basis.” AR thought it was a “way of thinking, in order to improve and optimize operations, and the way we do things in a manner that is going to benefit the company, on the long term. So, strategy is kind of long-term planning.” IM pointed out that “it was more about the methodology. So, there was a very formal methodology that was used, which was very structured, and made the participants think very clearly about the overall goal of the organization.”

As the studied organization did not have a formal strategic planning process, it seems that the variance in the points of view came from the participant’s level of experience, role in the organization, and seniority. Senior people described their participation in top-level strategy formulation sessions. IM said:

“Taking senior managers are line managers below director level, which will then went all the way up to CEO in one [or] multiple sessions. These were normally a minimum of a three-day session, and then we would have an executive, follow up which would again be probably another two or three days”.

IB pointed out, “I’ve always been involved in the annual business budget setting and strategy setting.”

Less senior people felt that the overall strategy was an ambiguous process that lacked clarity about what implementors needed. Overall, less experienced participants’ positions were not conclusive. They were open to alternative ideas on how to make strategy. MM, an IT manager, pointed out:

“[Strategy] was not much transparent, no transparency before just a few words, and nobody explaining what exactly they ask from or, like, how you would explain why you’re doing things. Yes, like, you know, just some statements we don’t understand what the statements for or what is real the strategy behind this.”

5.2.2. Pre-session feedback

The pre-amble of the process was the pre-session preparation. There were mixed feelings about how well we communicated in different parts of the pre-session. When asked about the quality and clarity of the documentation shared before the session, CH thought that the documents shared were “very clear that it is about to build the strategy in the shared document as in the in the email invite,” and so did NM. He added that it was “very comprehensive, and it kept me engaged because I was a bit curious to understand more,” even though people usually disengage between the preparation and the actual session.

Other feedback suggested that expectations could be better set before the session, as the session was not exactly what they expected. CH expected a brainstorming session using a new tool to develop “statistical methods of doing strategy, which obviously was not the goal of this session, then I learned that this is coming on another session.” AS found that the session did not match her expectations and that “It was a little bit unexpected what’s going to come because of always when it comes to different kinds of strategies working sessions.” AE did not expect this much work to be involved in the session and afterwards. She noted, “Had you said that from the beginning, the number of brainstorming, things would have been less because people were thinking I don’t have time, I don’t have time, I don’t this is [going to] be a lot of work.” IM thought the time frame was unclear in the invite, as he felt the purpose was an annual strategy rather than three to six months. RM did not expect such a workshop but rather a discussion to collect ideas for me to work on. “We thought we’ll be giving you some support, and you will be taking it further. But if this was the approach Then, if this guidance was given in the meeting invitation, we could have prepared not.” YK agreed and stated that he would have prepared more had

he known the required input from participants. He felt invited to “a feedback session more of a strategy formulation.” Overall, there might have been a lack of clarity about the importance of the deliberations inside the session.

Everybody generally agreed about the importance of engagement before the session started. A few people suggested that entering concepts before the session would have saved time and helped prepare people. RM and AS noted that entering should be done one day before, but linking should be a joint activity. IM thought that such preparatory activity had the added benefit of learning “how to use the software before, and [being] comfortable [using it].” While he liked the idea of early surfacing, he realized the pros and cons of seeing other people’s ideas on the screen.

5.2.3. Session setup

The only feedback about the room setup was one suggestion: make it a half-moon setup so that people could face each other. Regarding the introductory part of the session, IM thought that “it was good that you gave examples and helped to show what it was.” However, he recommended adding more examples at the beginning of the session. AA and OK agreed. They suggested adding detailed examples of proceedings and outcomes.

AA suggested one addition to the introductory presentation. It was about pre-defining priority levels to add objectivity to the output. “It’s really [important] to have the proper definition, guys, when you put three words, what it means when you put to this what it means. So, we went to, what, two, three. It was expanding quickly. For me, I had a lack of understanding on disfigures. I was surprised that everybody were understanding.”

The choice of participants was another area of contention. Some senior people felt that the participants were not all speaking the same language and suggested that the session be broken into multiple sessions based on the level of the participants. OK explained that this could be done based on “two levels, the director level and two levels beneath them. But then this would be like 40 people in a room or 50 people in the room. And this might be a little bit unmanageable, could it be broken down by theme, for example, or by focus”. YK agreed that grouping people into focus groups could have added depth and speed to the process.

As the work had to be completed over two sessions due to being unable to finish it in the planned time, there was no consensus on doing the work in one go or splitting it over two sessions. Some viewed

breaking the session as maintaining the focus. Others thought that this split might cause lapses in information. AR liked that the output of the first session was “put in a neater, more organized views, and in a separate based on different themes or different interest groups” in the second session. CH agreed and thought it was “good work that it was combined and presented in this simpler way.” AE disagreed and said she “[doesn’t] recognize [the output] anymore. [...] it was that all of a sudden, I had to go back and actually start looking at it in detail. To understand the connection right from where you have been part of the process”, an expected side-effect of splitting the session. IM pointed out that it is a balancing act between one or multiple sessions, each with pros and cons. IM, RM, and CH suggested that the sessions be on the same day but with longer breaks to allow the cleanup of the maps, avoiding the pitfalls of splitting the session.

5.2.4. Session Feedback

During the session, most participants agreed about the adequacy of the time allocated to surfacing issues; some even thought it was too much. YK thought, “In 45 minutes, you should have a lot of ideas coming in right, and that for me, for example, in 20 minutes, I finished it because that’s it again because if you keep writing stuff, it will be repetitive.” AS struggled initially but thought, “Actually, it’s fine, it’s fine in the end.”

The exercise of surfacing issues created a positive feeling resulting from learning new perspectives about issues faced by the organization. AE confirmed, “It’s actually more fun [...], and then all of a sudden, you create something together, which is a complete different.” CH was “happy about the participation, everybody who was participating was trying to find the cause and to link the cause to the result to the reason, and then to the strategy or to the outcome.” HB emphasized the importance of a stress-free environment that accepts disagreement to jointly create a set of priorities. He stated:

“To get something valuable, you need to have a stress-free environment, [...] there should be an open place to talk and give their valuable ideas in a free mind. So, that facility is giving to the very people to put their own comments Okay, if somebody else is not aligned with that, but [...] you are getting a chance to discuss that one at the same time align all the team members and do it the correct manner.”

The shared view of the map seemed to inspire people with new ideas. OK stated, “I will try to look more into the ideas being written by my colleagues. So, the first session, I just thought maybe seven ideas

myself without looking what everyone is reading and what is that?”. Others reported checking for duplicate concepts and avoiding entering ideas with similar meanings. IB said, “As the screen became more populated, [he was] trying to navigate across the page to sort of see what other people were doing so you didn’t have lots of replication or duplication.” AS shared the same input.

Most opinions about the anonymity of contribution were that it was a good idea. CH thought it “allows anonymous participant to give their idea without feeling guilty.” One participant reported that the effort to provide anonymity of input is not essential at this level in the organization. YK stated, “I don’t think it would matter. Look, we’re not in jail. We’re all one team eventually; if I said something you’re not going to take [...] personal [...] you wanted everyone to be transparent”.

Linking the concepts was a different story. Some participants were more active than others. IB noted that during linking, “it was one of those [situations] where the most vocal people were the people in the room who again were expressing opinions and bouncing ideas off each other, you know.” MM agreed. AA and AE believe this might have led to a groupthink situation.

Some participants noticed disengagement during the linking by some members, and a few contributed more. AE thought it “went so fast because that link could also have been to something else [...] it was the two three people, the same people that was involved, right, and why you had lost the other guys because it went too fast.” NM thought that only 30% were disengaged. YK thought the process of linking was challenging because “the links were going all over the place.” Improper engagement caused people to lose interest. Most participants noticed that tagging and clustering concepts would have been more efficient before linking them. AS wondered, “...maybe we should have first flagged out [...] the major parts that we want to focus on.” AA found tagging and clustering to be a “Good move”. AR and OK even suggested making tagging and clustering a separate phase. IM suggested using “color coding and auto-tagging.” NM and YK went even further by suggesting using ‘predefined buckets.’ IM, however, warned that clustering might have side effects. He “...wasn’t totally sure that it was an advantage to have clustered. So, I think sometimes that clustering drove an interpretation of some of the ideas that may not have been met. And so, when you then start to think about how do you prioritize within those clusters and basing that prioritization on the number of links. It may have been a little bit biased by the clustering.” One suggested solution was to use the existing goals as guidance if they exist.

Some people observed that the facilitator played a more prominent role than he should have in linking due to the complexity of the map. AA noted that “it was a bit rush, you know, it was a bit traversing, so I

think, to be honest, you, you were leading too much.” NM agreed. YK thought facilitator engagement was efficient. HB found the method of having the facilitator enter the linking ideas of participants well done and efficient. “Yeah, the way you did was fine because you said a person you are doing and others are giving their comments because if you are allowing one person to do that, again, you know, some people may hesitate to give an immediate comment or something like that, this was open, and everybody equally contributing.” MM noted that “you have to control this. Otherwise, everyone will have different view and different link. I have different views, so I will link this task was different than everyone will, you will have different view from each user, then it would be very difficult for”. Although the session took more time than allocated, participants thought it was justified.

As for prioritization, some participants felt it was a bit rushed. AA felt that “at the end, I was feeling like, okay, this 10 minutes because otherwise, I will lose the people, which was right.” RM had doubts whether “it was connected properly. Because some people were silent, some people were, you know, it will be people-based, basically. So, we don’t know whether the links are correct.”

5.2.5. Feedback on remote participation

There was disagreement about the degree to which remote participation was effective and just. Some remote participants felt that remote participation was as good as a physical presence. HB noted that technology worked well, and they could hear and see clearly. AR thought it “... is actually better than being present in person”. Other participants felt otherwise. They felt technical issues, video limitations, and the inability to notice body language were debilitating. IB (participating remotely) found the information from the live session was too much at times, making it hard to keep track. He noted that the information on the screen was too small. These factors made it difficult to join the debate, to which IB commented, “I just felt, I felt remote.” Both IB and IM thought that some improvement could be made to the video technology. IB believed “a camera on the room at the same time as having a team, so whether you could have a screen in screen” would have helped. AA thought the facilitator could help bring remote participants into the discussion by “...ask[ing] specific people to participate”.

Remote people had little means to keep up with the contribution of the physically present members in linking. Some of them felt disconnected and challenged to join the debate. They indicated feeling remote. CH thought that “because of the length of this session, which was supposed to be one hour, I believe, but then it was extended to two hours [...] at certain point some of the participants lost

somehow interest in the session”. Overall, a majority felt that such sessions work best in face-to-face situations.

5.2.6. Feedback on GDSS and Facilitation

Participants thought the software did an excellent job helping surface ideas. CH thought it was “easy to use the software in idea gathering.” However, there were some issues regarding the ease of clustering, “mainly the way to present the idea there was no easy way to segregate to different ideas and display them properly, maybe in some kind so it was all manual work.” Moving concepts between views was a bit challenging, resulting in confusion and, in some cases, loss of focus. AE remarked that “things that took too long, right, that they kind of took away from that moment on that there was this energy going right. And then because it took too long, if you look around, you start losing people because they just didn’t, then their attention span was right.”

Unanimously, participants agreed that such sessions could not work without facilitation. AS expressed the group’s opinion that it is “extremely important there is someone who guides it who explains it who maybe when people are losing the dots, pushes a little bit back to have the dots connected and so many other things I think it’s crucial.” IM thought that the role was “critical [...] that exercise couldn’t have been done without somebody who had an end game in mind and could guide, the rest of the team to get to that endpoint. If you, if you just had the team trying to, trying to prioritise, we could have been there for three days.” AE expressed that I did a good job as a facilitator. “Because what you were really good at was that you there was no doubt that you were the driver... then you help us back on the road again, right, and get the focus.” CH found massive value in the facilitator’s role in “connecting the ideas together and linking them together, which I believe could not happen without having one facilitator [who] has strong knowledge of the business and good approach moving forward with the tool and software and having, having the experience in, in, in doing similar brainstorming sessions.”

NM linked the importance of the facilitator role with trust, which led to participants’ compliance with the rules. “...somebody that I know and I trust. And I know that is because it is in control of the audience and control of the will be comfortable in control of the session, because the worst thing that you could see, or you could experience is that when that person of the presenter, or the moderator is not in control of the room.” Facilitation enhanced neutrality. The need for a separate chauffeur was highlighted by AR as “somebody using the application doing the entry all, all the stuff you know, somebody to translate [...] all the chaos, and put it in into its place”.

5.2.7. Feedback about the session's outcome

Despite having a positive view about the value of the outcome, the participants had different opinions about whether the outcome aligned with the session proceeding, represented the group's thinking and was consistent with the organizational aims. CH thought the complete picture was “not very simple to see at the beginning and to prioritize, so it was a really very good session”, given the outcome. Other participants felt the results aligned with what they thought was suitable for the company and the different departments. OK thought, “From one to 10? I would say seven, eight, aligned”. CH echoed this sentiment about the outcome “definitely connects on the rest of the organization, it's actually there was only very few parts which are only IT related things related like to infrastructure which is not concern of the department, but mostly it is about... chosen based on the overall organization priorities, which will be in the same line of the company's goals and mission, vision, so each department was choosing from the different projects that were nominated. He was choosing the ones that are clearer to allow him to achieve his goals as a head of department key”.

CH pointed out that:

“At the beginning, it was not obvious; we were just looking like Alice in Wonderland, so we wanted to see where this exercise will lead because it was just ideas thrown on a white paper and then by linking them. [...] but later when we start seeing the correlation between the actions and activities, and then later goals. We saw that these are all interchange and interacting together, and you can see that one cluster can also link to another cluster and where, where you start with small actions that need to be done, you end up with a high-level activity or high-level goal that you want to achieve.”

Ultimately, he found that “it was really useful because if I jumped to the end of the sessions and the conclusion, we were able to really define the objectives.” NM agreed but stated that he “would still like to see one more step, which is basically defining clearly what the strategy is because, because I think what we derived was the, the major idea or the key ideas, and the priorities, but I haven't seen you know like the Initiate which is this this this statement of strategic intent which is the word document does not apply.”

Some participants thought alignment among participants was partial and that the output was mere validation of the ideas floated, as alignment was difficult to measure. Others thought it was too soon to tell whether there was alignment among participants before successful implementation. NM said, “But

when you come to execution, you start seeing misalignment... I don't think that I would consider alignment. I would more consider it as validation that different department had similar priorities or similar ideas."

Others thought alignment and joint ownership existed at the end. AR noted, "Everybody was agreeing on what has been done in terms of prioritizing the task and how to proceed after. So, yeah, I believe that is done correctly in the right manner". CH thought that the resulting priorities could not have been agreed upon in any other way "Because through the progress of the meeting, everybody was participating, and everybody was really putting their ideas in this, and the overall outcome of the session, came as I can say maybe a strategy for all the departments around the party. [...] everybody was happy about it, and everybody, we mean the session that followed the next session that followed where you summarize what happened, what happened in one or two sheets. So, everybody was agreeing, and then we were able to build a roadmap. I was surprised that you signed [...] 15 projects, for example, and everybody was involved, and nobody was objecting. Okay. While I'm sure if you come and sit and propose this strategy and say this, everybody will say no, no, no, this is not the way we want to do it."

IM thought that the outcome was representative of the group's thinking because "we had had a fair amount of discussion when we were doing the clustering [...] And then we were able to discuss where it belonged. So, I think from that point of view, it was very representative of what the disparate group of people was actually thinking [...] would say 70 80%, you think, okay, because you've got by, you've got everybody's mind. This is what we need." The team demonstrated alignment and ownership by accepting tasks. CH noted that "nobody objected [to] nominated to own or co-own one of these projects [the output was] presented in a way that it is tangible and on this you feel that you own that content. It is definitely in line 100% with what was presented or what was commonly agreed and discussed during this session."

The majority agreed that the outcomes were strategic. AS expressed this best by saying, "[outcome is] strategic because it helped us identify the core initiatives that we have to actually, that we have to get done in order to operate in the most efficient manner for me, that's strategy". AH, OK, and YK thought that it was tactical as far as the organization is concerned but strategic for the IT department. The participants agreed that the outcome was high quality, sufficiently implementable, and coherent with the session proceedings. CH stated, "[the session] helped us capture, like, the whole strategy, I would say, after going through the different stages". He highlighted that "all the initiative is a bigger umbrella for many actions that can be achieved. And all these projects together can lead you to the goals that you

are looking to achieve in your, in your higher risk strategy.” I think that the above is a demonstration of the significance of causality.

Few participants felt that the other forms of outcome (SSI) did not fully align with the map. RM said he “cannot correlate both the map and the file”. Others felt the group had chosen too many priorities and action items based on the available resources. AA noted, “I prefer more people working in five projects than less people working in 50 projects.” Accordingly, AA thought that the outcome might have been too much for the available resources. CH felt that projects “segregated into actions and initiatives and goals” are sufficiently implementable, a sentiment echoed by most of the group.

There was significant disagreement about whether action items should be assigned or whether we should have waited for participants to volunteer. Different positions mostly followed people’s perception of what strategy is. Those who believed that strategy was a top-down exercise wanted the assignment.

5.2.8. Opinions on how to successfully implement strategy

Some participants mentioned a few prerequisites to ensure successful implementation, or at least improving its chances of being so. Some input was about having an accountability, appreciation and trusting culture. Others highlighted commitment from the business (executive sponsorship). Having a realistic strategy that considers realities on the ground (bottom-up) and communicating it also fared high. Other practical suggestions included people development to increase competence, limit projects in progress, simplify goals to make them actionable, and track implementation relevant to goals. These issues were always present due to the organization’s turmoil, even if not declared throughout the research.

From experience, participants considered frequent changes in priorities (sometimes amounting to conflicting instructions) coupled with paying little attention to what happens on the ground or in the business environment as challenges to strategy implementation. These include paying little attention to bringing implementors on board, as little information is shared with them, increasing their competence is not a priority, and there was an endemic shortage of tracking and feedback practices to give visibility to management. Projects are sometimes handed down with little attention to the availability of implementation resources or adequate technology, rendering the objective unrealistic. Some referred to this situation as ‘low organizational maturity’.

At the end of the session, participants were hopeful that SODA could help overcome implementation obstacles by aligning company and departmental priorities. They considered the good quality outcome strategic, representative of the group's thinking, to a certain extent) jointly owned and sufficiently implementable.

Participants saw value in repeating the exercise periodically. Opinions on frequency varied between three to twelve months. I think such variance was due to the participant's involvement in project implementation (experience). Participants generally saw value in continuing where we left off, although a few advocated starting with a clean slate. A drawback and area for future research is to study what works better in such situations.

5.3.Synthesis of data

Table 8 below summarizes the feedback from participants. After coding raw data into a hierarchical thematic code, the table below presents the highest and lowest levels of coding, excluding intermediate thematic codes. The rows are the highest code level, while the columns are the second-level hierarchy. The table's content is the lowest level of code. The significance of such a table is that it demonstrates the impact of the lower levels of the overall findings and the visibility of how changes at that level can impact the overall outcome. The specific input used to build this table is presented in the following sections.

Table 8 Feedback on Session 1

Phase	Feature	What worked	What did not	Can be better
Nature of session	One vs Multiple sessions by employee level			Having a senior employees' session separate from juniors' one
	One vs Multiple sessions to maintain focus	Ensured focus was there, allowed tidying up of the map, in line with original work.	Multiple sessions created a disconnect same day with longer breaks.	Output was not recognizable anymore after tidying.
	Breaking up into groups			To get better concepts and limit the number
Preparation	Pre-engagement of participants	The overall agreement of its importance		
	Invitation clarity	The purpose is clear, intriguing content.	The level of involvement is not clear	Inadequate details in the invite (period, examples)

	Expectation setting: nature of the session		Vague expectations	Participants did not know what to expect, stopping the preparation.
	Expectation setting: the amount of work			Preparation should indicate the amount of work involved.
	Time frame		Identify the timeframe of the strategy.	
	Pre-entry of concepts		Pre-entry could have saved time.	
	Training on software			Done before coming ready to session
Session Introduction	Number of examples	Sufficient and clear content	Needed more specific examples	
	Defining priority levels			Adding objectivity to priority levels
	Room setup		Have participants face each other	
During the session	Time allocated for issue surfacing	Most said enough or more than enough		
	Feeling during the session	A positive feeling of creating together and learning other perspectives (fun)		
	Level of participation in surfacing	Very good		
	Hospitable environment	A stress-free environment that accepted disagreement		
	Shared view	Good to get ideas from others		Made people check for duplicates
	Importance of anonymity			Not very important at this level
	Room setup		Participants face each other.	
	Vocal people get the most airtime when linking.			Opinionated people in the room got the most airtime.
	Groupthink			Present during linking and prioritizing due to fear of disagreeing.
	Disengagement during linking		More engagement of people in linking	Remote people had difficulty; it went too fast, and there were vocal contributors.

	Clustering before linking		Tag and cluster before linking. Make separate phase	Clustering made the map biased. Some linking could be missed.
	Duration of linking			Two hours was too much, and people lost interest.
	The purpose of linking is not clear	The result was good	Some confusion at the beginning of the exercise	A clear strategy was missing at the end
	Facilitator's role in linking	The facilitator leading the effort was efficient. He did an excellent job of getting input and links.		Due to the complexity, the facilitator plays a more prominent role than he should.
	Linking session timing	Extra time was needed	Overran its time	
	Prioritization		Not knowing whether it was done correctly	Prioritization was rushed.
Remote participation	Effectiveness of remote	Remote participation was OK	Could improve by forcing the involvement of remote people	Not as effective as face to face
	Technology	Voice and collaboration worked well	Tracking video could have helped	The writing was too small to follow and join the debate as the map grew.
Session Outcome	Map evolution	It came from vague to clear nicely.		The map is not fully aligned with SSI.
	Map representation of group thinking	Pretty close		
	Alignment with departmental goals	Aligned with goals		
	Alignment among participants	There was alignment	Partial Validation rather than alignment	
	Significance of causality	The logic that causality brings is apparent.		
	Ownership of outcome	Joint ownership from different departments		
	Outcomes strategic enough	Output is strategic to the IT department	The outcome was tactical for the organization, strategic for IT	
	Outputs implementable	Sufficiently implementable	Too many priorities. Focus on the critical few.	
	Quality of output	High-quality output		
	Assignment of tasks	People were OK with them.		

Software	Issue surfacing	Worked very well		Moving concepts between clusters was not smooth.
	Clustering		Not very user-friendly	
	Linking	Worked well after clustering in view	Risked distorting priorities.	
Facilitation	Importance of facilitation	Critical to creating a conducive atmosphere, guiding, and bringing closure to the session		
	Facilitator importance	Linking, keeping session and participants on track, enhancing trust and neutrality		
	Need for Chauffeur		The chauffeur could have helped tidy up and allowed the facilitator to lead	

5.4. Findings: Taking this forward

The aggregate themes from the coding process above revolve around the nature of the session, its enablers and how to bring out the best in participants. In this section, I will look for relevance in the existing literature, particularly the gamification literature, and draw out potential action for practitioners to be able to run more effective SODA sessions.

5.4.1. Nature of the session

When speaking about the nature of the session, the underlying drivers have to do with the people and the medium. When considering the choice of participants, there are multiple things to consider. One perspective is that participants are, in effect, stakeholders. Stakeholder management in strategy has been extensively covered, including dynamically managing stakeholders (Eden & Ackermann, 2021) and describing their significance and characteristics (Eden et al., 2019). Therefore, when choosing those to participate, stakeholder management should be considered to ensure the political feasibility of the outcome.

The complexity happens when the stakeholders needed to participate do not constitute a coherent group. Such incoherence could be because they are either not of the same level or do not share the same views. Some might be interested in details, while others are more intrigued by the general

direction. It is possible to enhance this study by capturing the stakeholders' interest before the beginning of the session and continuing to engage and motivate them during and after the session. Gamification design literature addressed this as an issue to be managed reactively and on a best-effort basis (Bartle, 1996; Marczewski, 2018b). This study suggests starting this effort early and never dropping the ball.

Having one session vs multiple sessions is another interesting question. SODA offers enough flexibility to allow the facilitator the option to run it in one or more sessions. The decision is influenced by the particular group, the complexity of the issue and the available time (Eden, 1998). Building on this, I believe this decision must be by design rather than by going with the flow. While the first sessions with a group might go astray in terms of planning, the efficiency and effectiveness of the session are better served if the structure is designed early on. The work of Eden above suggests some considerations in this department (Eden, 2020). Gamification offers the facilitator the tools to implement and enforce the pre-selected session structure. The sound psychological and sociological drivers it employs spare the facilitator from the abruptness of hard stops during the session.

Whether to have a single session or break down the group into sub-groups for efficiency is now relevant. If the team reconvenes to share and discuss the emergent map early, it becomes a practical rather than a high-impact decision. The critical point for reconvening is during the linking and before settling on the priorities.

5.4.2. Session Enablers

A functional GDSS and a capable, empowered facilitator are essential to the session. As described in the literature review section, a GDSS allows easy, uninterrupted, participative entry to create the map. Given the complexity of the topics handled and the conflicting agendas, it plays a vital role in the process. In my experience, only straightforward problems can be addressed without software. I, therefore, think that the more intuitive, action-enticing, and accessible the software is, the better the overall process will be. Adding practicality to the above statement, I can claim that attention needs to be paid to the design of every feature of the GDSS so that the results mentioned above are achieved.

The weak areas identified in the software were mainly revolving around linking a complex map. A mixture of preparation and timely tagging and ordering can help address this. Preparation could happen by creating different views that house themes or topically related concepts. Tagging helps order

concepts into these new views for easier linking without affecting the experience gained by the facilitator and the participants. Toggling back and forth between the thematic and general views can help keep the context of importance to avoid the pitfalls of tagging described in participants' feedback.

I also think that the software is not necessarily restricted to in-session use. While I could not find anything in the literature about using the GDSS outside the time and space boundaries of the strategy-making session, I see a lot of potential to extend that usage throughout the SODA iteration. This extension, by default, covers the pre-session phase (invitation, preparation, and introduction), in-session phase (issue surfacing, linking, prioritizing and goal generation), and post-session (communication, action tracking, and follow-up).

The outcome of the first iteration has reemphasized the role of the facilitator in achieving procedural justice, bringing the group closer to procedural rationality, and ensuring that the session is on track in terms of time and achieving its desired outcome. However, I have observed that achieving such outcomes highly depends on the facilitator's experience and to what extent they are accepted as knowledgeable and impartial by the participants. Therefore, any explicit or implicit gesture to enforce this stature would greatly benefit the overall process.

While the literature that I subscribe to sees the role of the facilitator as indispensable, I think that the outcome of this iteration merits redefining the role. With the extended use of software, the role of the facilitator is, by default, extended beyond the session boundaries. It now encompasses administrative and project management tasks on top of the mediation and directive tasks. While other people can do the tasks outside of the session, I believe having the facilitator present throughout the iteration provides better continuity and builds better rapport among the strategy-making group.

I sometimes struggled to keep up with facilitating, inputting, and linking concepts on GDSS, which might have impacted my input as a participant. In such cases where the facilitator plays any additional role, such as participant or researcher, the role of Chauffeur is helpful. An experienced facilitator can handle both functions in most cases, except the most complicated ones (Lewis, 2010).

5.4.3. Bringing the best out of participants

The third aggregate dimension is bringing the best out of participants. To do that, the facilitator needs to set up the whole process for success, keep their finger on the pulse during the session, and be able to

quickly react and push forward with the outcome of the session to implementation and the following session.

Setting up the process for success entails taking care of the different aspects mentioned in the literature about SODA. That includes taking care of the procedural elements, ensuring justice, and securing buy-in (Kim & Mauborgne, 1998). However, keeping the discussion at such a high level is risky and drives subjectivity, resulting in a variable success rate and being susceptible to external elements. The cure to this, in my opinion, is to delve into the essential aspects. From the first session's feedback, getting people as ready as possible helps achieve this. Proper induction, setting the expectations right, giving training and examples and teaching participants how to use the software early on are some examples that can help the participants hit the ground running. Interestingly, I have not found any literature that advocates this pre-engagement. In my opinion, the facilitator best handles such pre-engagement early on, as this ensures continuity and helps build the community.

Keeping the finger on the pulse is about grabbing any opportunity to capture and display feedback, enabling early course correction. The first thing to start with, in my opinion, is time management. This essential skill can determine the success or failure of the event. A deliberate effort to manage time in SODA includes determining the required time for each activity. The complexity, the number and diversity of participants, and the familiarity and experience of both participants and facilitators determine the time needed. Once determined, it can help the facilitator better manage the sessions, including addressing the more difficult and time-consuming parts, such as linking. To my knowledge, there is no reference in the literature to such an aspect of the process. Yet, this is a crucial aspect that needs to be controlled.

Another set of cues to look for is group dynamics. While procedural justice techniques ensured that everybody participated, other elements were at play (Ackermann & Eden, 2020). Personality, position, and type of participation (face-to-face or remote) played a role in the level of participation, adding to the burden of the facilitator. How successful they were in handling these additional challenges would have a lasting impact on the feeling that all participants get out of the process, directly impacting its longevity (Martinovski, 2021). Simple gestures such as restricting feedback early and allowing duplicates help encourage participation and enrich content. In my experience, this levelling approach needs to be handled delicately. It involves getting opinionated, loud-voiced participants in line to respect the rules and avoid hijacking airtime. It also involves getting those introverts who are reluctant to participate and

repeatedly weigh in with their opinion. Achieving this allows subtle shifts in position and meaning, referred to as soft negotiation by Ackermann and Eden (2020).

Once this momentum is established (taming the first group without losing their interest and encouraging the second group without over-empowering them to break the rules), the next step is to channel this amplified energy towards a common goal. All this while avoiding falling into the common pitfall of groupthink (Ackermann & Eden, 2020; Janis, 1972) or the Abilene paradox (Harvey, 1988). In short, it is a matter of redistributing energy from one side of the room to the other and then redirecting it towards a commonly agreed direction.

Much has been written in the literature about managing the socio-psychological dynamic of strategy-making sessions, as described in the literature review chapter (Ackermann & Eden, 2020). Yet I believe such an effort should not be abrupt but a smooth dance inviting everybody to participate and support the endeavour. The facilitator's prowess is a must to be able to achieve this. The more experienced and respected they are, the better they can harness support from the group in managing the session. Nothing brings people on board more than some metrics they are motivated to achieve. Visual feedback embedded in the session and afterwards can help accomplish that. It is a situation where constructive participation catalyzes further constructive participation.

A point to bring up here is remote participants' ability to play an active role in the process. Yearworth and White (2019) described synchronous virtual facilitation as over cloud-based GSS and video conferencing. I have noticed that participation-encouraging techniques can engage remote participants during issue surfacing. The challenge is more significant regarding high-energy activities such as linking in a hybrid setup. Forcefully engaging the remote participants can interrupt the healthy flow of ideas of those physically present. Not intervening can result in less remote participation, eliminating their sense of ownership of the outcome and deteriorating their experience. I have not come across any literature that addresses this challenge. However, using certain gamification techniques might address this dilemma.

After the session, the participants must be encouraged and incentivized to push forward with implementing the outcome, which allows coupling strategy-making with strategy implementation. To do that, the continuity embedded in the map in the form of causality can be included as a reminder of why action is necessary and what happens because of seeing it through. The literature speaks abundantly about the map being a transitional object (Dörfler, 2019). This transitional object can be the basis for

developing other high-quality artefacts that can easily display meaning and enable follow-up. The statement of strategic intent is one of them, and the list of actions is another. The mapping out technique (Eden & Ackermann, 2011) advocates employing the best and most accepted tools to get things moving after the session.

Another interesting decision the facilitator must make is assigning task ownership. The literature touches on installing enough ownership in participants to take ownership (Bryson et al., 2014; Lewis, 2010). However, it does not touch on assigning tasks versus requesting or allowing people to volunteer to own them. I believe that this does not have to be a binary decision. It could be a continuation of the discussion, or it can even be the implementation capability. In any case, choosing the right owner carries tremendous practical implications for the success of the whole process, as unfulfilled or abandoned outcomes can undermine the operation.

5.5. Gamification pre-work

Throughout this study, the intention is to focus on the collaborative approach to gamification rather than having gamification invoke competitive feelings. Gamification enhancement is a corporate process (Spanellis et al., 2020), that must add autonomy, competence and relatedness to achieve intrinsic motivation (Ryan & Deci, 2000) for it to be sustainable. Cardador (2016) summarizes this in two elements: timely and relevant information and motivating people to take action.

To work correctly, it must achieve a flow experience to achieve enjoyment. Clear goals, progress tracking, clear and immediate feedback and a balance between challenge and capability are required for flow. People become more complex when their abilities and the challenges thrown at them increase (Csikszentmihalyi, 2008). The idea of thinking together comes into play because that is when it happens best. In other words, thinking together best works in the flow (Pyrko, Dörfler, et al., 2017). This section describes the gamification approach that is going to be applied to the original SODA process of Ackermann and Eden (2001). I refer to the output as G-SODA.

5.5.1. The chosen framework - Octalysis

After careful evaluation of the different studied frameworks, I have chosen Octalysis gamification framework (Chou, 2019a). Unlike other models that focus primarily on specific gamification mechanics or user types, the Octalysis Framework integrates core concepts from multiple gamification theories,

effectively synthesizing insights from foundational frameworks proposed by authors such as Werbach, Zichermann, Burke, and Landers. For instance, Chou's concepts of Accomplishment and Social Influence echo the principles found in Werbach's 6D (Werbach & Hunter, 2012) and Zichermann's (Zichermann & Cunningham, 2011) SAPS models. His framework also considers psychological constructs similar to those in Landers' Theory of Gamified Learning (Landers, 2015). This approach acknowledges the foundational work of other scholars while positioning the Octalysis Framework as a unifying meta-framework for understanding and applying gamification principles.

Furthermore, Octalysis fits the bill for any of the three categories. It is motivational psychology-based framework, since it focuses on drives like Epic Meaning and Calling (intrinsic purpose) and Social Influence, which tap into deeper motivations. It can be also considered a behaviour and reinforcement approach, since Chou incorporates behavioural economics and conditioning within his framework, utilizing elements like scarcity, impatience, development and accomplishment. These drives are designed to encourage specific user behaviours, thus effectively using reinforcement mechanisms. It also encompasses the design and systems perspective, emphasising how the eight core drives must work together to create a cohesive and game-like experience. Additionally, it engages both motivational needs and practical game mechanics in a versatile way, helping the designer deliver a meaningful and enjoyable experience (Chou, 2019a).

While the Octalysis Framework is often characterized as a practical model for gamification, a closer examination reveals that it is deeply rooted in well-established psychological and motivational theories, including Self-Determination Theory, Behavioral Economics, and Game Design Principles (Weber et al., 2022). By synthesizing these diverse theoretical perspectives into a single framework, Octalysis offers a meta-theoretical model that provides a comprehensive understanding of user motivation and behavior in gamified systems. This integrative approach not only aligns with but also expands upon foundational frameworks such as the MDA (Tekinbas & Zimmerman, 2003) model and Self Determination Theory (Deci & Ryan, 1985) by incorporating both intrinsic and extrinsic motivational drives.

This integrative approach provides a more comprehensive understanding of gamification's impact than frameworks that focus solely on specific aspects. The practical applicability of the Octalysis Framework does not detract from its theoretical value. Instead, it demonstrates the framework's ability to operationalize abstract psychological and motivational theories into real-world applications. It has an academic value of research that bridges theory and practice and serves as an essential link between theoretical research and practical application, advancing both academic understanding and real-world

utility. Over the past few years, the Octalysis framework has gained acceptance as a gamification framework that is both practical and effective. It has been cited in hundreds of published articles (Weber et al., 2022).

Aggregating foundational elements from well-established gamification frameworks and motivational theories (SDT, MDA Framework, Game Mechanics and Player Types) integrates intrinsic and extrinsic motivators to address both psychological and behavioral factors involved in engaging participants (Bartle, 1996; Hunicke et al., 2004; Ryan & Deci, 2000; Zichermann & Cunningham, 2011). Bundling frameworks allows for modular adaptation as well (Deterding et al., 2011). If certain drivers are less relevant in a specific organization culture, they can be downplayed or replaced by more relevant elements. This is very important in diverse activities such strategy making workshops.

Additionally, because strategy-making involves multiple stakeholders and different forms of engagement, a single framework approach might be too narrow (Hamari et al., 2014). Octalysis, by design, attempts to cover eight “Core Drivers” that encompass extrinsic, intrinsic, social and emotional motivators (Chou, 2014; Cruz et al., 2017). Octalysis, despite being originally introduced in a consultancy-oriented format, has been adopted in a range of organizational scenarios, demonstrating success in real-world context.

The Octalysis framework makes the different frameworks compatible through the introduction of its core drives. Core Drives 1 and 2 (Epic meaning and Accomplishment) align with the self-determination theory’s competence and relatedness. Core Drive 3 (Empowerment of creativity and feedback) aligns with MDA’s concept of Dynamics and Aesthetics. Core Drive 5 (Social Influence and Relatedness) resonates with Social Constructivist (Vygotskiĭ, 1978). This variety of approaches makes the Octalysis framework sufficient and robust enough to cater to multiple participants types in strategic decision-making (Werbach & Hunter, 2012).

Octalysis, as all-encompassing gamification framework, is very relevant to the studied topic since strategy workshops require active engagement, creative problem solving and consensus building. It provides tactics such as Core Drive 3 (Empowerment of Creativity and Feedback) and Core Drive 5 (Social Influence and Relatedness) that specifically target these needs. Additionally, the propensity to take action often hinges on whether the stakeholders are motivated to support the strategic initiatives. Octalysis techniques can help the participant internalize the strategic goals by incorporating motivational drivers (Alexander, 1985; Johnson, 2007).

5.5.2. Starting with why

The Octalysis framework aims to align the participants to the desired action, win-results, and eventually, the business goals of the organization (Figure 12).

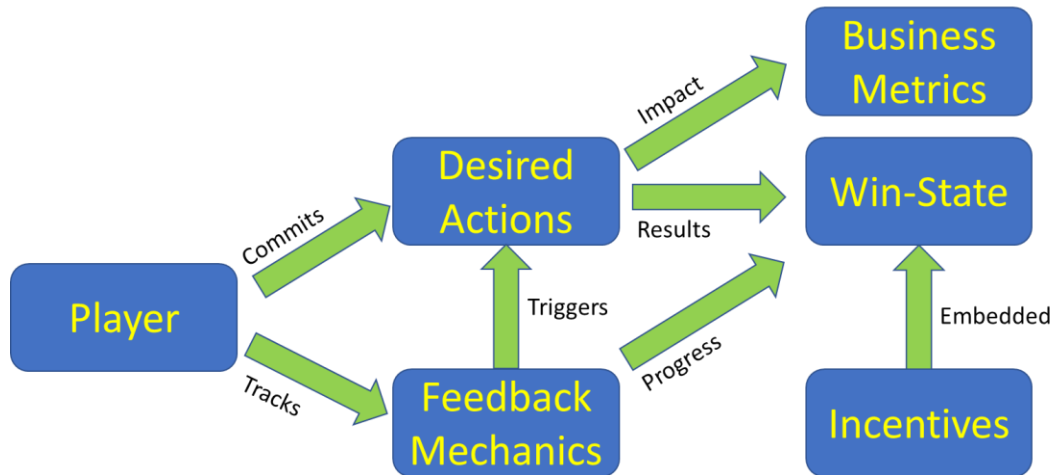


Figure 12 Gamification Strategy Dashboard - Yu-Kai Chou

This framework starts by understanding what business metrics (KPIs of objectives) gamification will help achieve. Participants are triggered to perform a desired action that will lead to a win-state that they value and the objective that the business wants. This alignment is a must. Otherwise, the result will be meaningless to the company or not engaging to the participant. In their journey to that win-state, they need feedback to track progress. Incentives provide additional motivation when the participants achieve win-states (Chou, 2019a).

A unique differentiator of Octalysis, as opposed to gamification frameworks, is that its routes are deeply embedded in the psychology of motivation. Chou (2019a) dubs these motives as core drives, implicitly and loosely defined as the psychological needs humans seek to fulfil instinctively. Different needs and drives models found in literature revolve more around the 'what' rather than the 'why' and, therefore, do not serve the purpose of this study. The Octalysis model is below.



Octalysis Gamification Design Framework core drives (Chou, 2019a)

The core drives in this model rely on the premise that an effective gamification design targets how we want the participants to feel. This feeling is what is going to trigger action. The octagonal shape and the order of the drives allow for two distinctions among them: top vs bottom drives and right vs left drives. Chou refers to the first distinction as White hat (top) vs Black hat (bottom) drives. White hat drivers leave the participants feeling powerful and good about themselves if invoked but do not inspire urgent action.

On the other hand, Black hat drives invoke urgency but does not make the participants feel good about themselves. This gamification exercise will mainly include white hat drives, avoiding black hat drives except if serving a specific and concise purpose. Right-hand drives are associated with intrinsic motivation, while left-hand drives are associated with extrinsic motivation. Although intrinsic motivation tends to last longer and have better results, they are challenging to achieve, and the user might need to be engaged through different extrinsic motivation. Therefore, this study will include techniques from both variants (Chou, 2019a).

5.5.3. Phasing gamification through levels

Octalysis has multiple levels of gamification that can bring a lot of nuances and valuable details. Level one of Octalysis involves embedding gamification techniques with no other consideration. Level two is when gamification techniques are embedded based on which stage of engagement the participant is in. Level three additionally takes into consideration the type of participants. Other levels are outside the scope of this study (Chou, 2019a). Table 9 summarizes these levels.

Table 9 A summary of the different Octalysis Levels of Gamification

Octalysis Level	Scope	Benefits
Level one	Simply embedding gamification techniques	Deploying psychological understanding to instigate desired action and achieve a business outcome
Level two	Level one + Stages of engagement	Sharpening the application of techniques to take the level of immersion of participants into consideration
Level three	Level two + Types of participants	Acknowledging the different personality types of traits of participants

In level two, there are four stages. Discovery is when the participants build up enough intrigue to opt in. Onboarding is where users learn the rules and tools of participation and start contributing. Scaffolding is when the process is completed a couple more times and becomes a regular occurrence. End-game aims to retain veteran participants and stop them from dropping out (Chou, 2019a).

Adapting these stages to SODA, they take on a specific meaning. Discovery is the time between when the participant first hears about SODA and the first session. Onboarding is from the beginning of the session to the agreement of priorities and ownership. Scaffolding is between implementing the action items of the first sessions and includes the following two or three repetitions of the whole process. Endgame is when the process becomes a standardized order of business and has its standard operating procedures. Participants in the same gamified session might be at different levels, adding the challenge of catering to both.

5.5.4. Applying the framework

The business metrics in Figure 12 (strategy dashboard) can be reduced to trackable and objectively determined key performance indicators (Chou, 2019a). In SODA, goals can vary depending on context and organizational requirements. However, the following three objectives might prove acceptable in most setups:

- Deliver 4-6 agreed on priorities out of the strategy-making session
- Achieve an ownership sentiment of more than 70% (based on exit interviews)
- Repeat the process at least twice a year

Alternatively, the metrics could be inherited from the overarching organizational goals.

Chou's gamification framework (Chou, 2019a) links the when, what, how, and why. Gamification elements are embedded in the process to trigger desired actions that the participants will perform to achieve win-states. Win-states are essential for the organization because they lead to one or more business objectives. Each desired action should lead to a win-state for which the participants value and deserve a reward. Feedback is the enabler and the motivator.

Table 10 is a subset of the findings table from the first session augmented with possible gamification techniques, the purpose they serve, and which core drive(s) they trigger. This is the basis of the gamified process in iteration two. As some methods are already inherently existent in the process, they will be further highlighted in iteration two.

Table 10 Findings from iteration 1 matched with Gamification Techniques

Issue to address	Technique to be added	Area of improvement	To touch a (desired action, feedback mechanic, incentive, Win-State)	Through Core Drive	To be included
One vs. Multiple sessions by level	Elitism	Divide participants based on level and have different sessions. Senior team will have a feeling of status	Win-State	CD1: Epic Meaning	Future
One vs. Multiple sessions to maintain focus	Progress Bar	To avoid losing track of where the process stopped in case the session is broken into two due to time constraints	Feedback Mechanic	CD2: Accomplishment	Yes
	Progress Loss	Send the message that all the effort will be lost if the follow up session is missed or is not done properly	Incentive	CD8: Loss Avoidance	Yes
Grouping people	Buddy	Provide orientation for new participants and give status to experienced ones.	Desired Action	CD5: Social Influence	Situational
Invitation clarity	Visual story telling	Use videos and graphics to convey the importance of the session.	Desired Action	CD7: Unpredictability	Future
Expectation setting: nature of session	Narrative	Highlight and reiterate the importance of the session in writing	Desired Action	CD1: Epic Meaning	Yes
Pre-entry of concepts	Headstart	Allow entry of concepts before the session starts	Desired Action	CD3: Empowerment	Maybe (might have side effect)
Training on software	Tutorial	Give a simple challenge to address using the GDSS	Desired Action	CD3: Empowerment	Future
Time allocated for issues	Count down timer	Include a count-down timer to give an indication on remaining time for surfacing	Feedback Mechanic	CD6: Scarcity	Future
Level of participation in surfacing	Real time control	Facilitator inviting contribution from participants who are less involved	Feedback Mechanic	CD3: Empowerment	Already there
Shared view	Group Quest	The map as a boundary object	Win-State	CD5: Social Influence	Already there: highlight it
Vocal people getting most airtime in linking	Round Robin/ you have the stage	Ensuring that each participant gets uncontested and equivalent airtime compared to other contestants	Desired Action	CD5: Social Influence	Already there: highlight it
Group think	Prompting	Facilitator highlighting different points of view or bringing unmentioned topics to the discussion.	Feedback Mechanic	CD3: Empowerment	Already there: highlight it
Disengagement during linking	Real time control	Continuously redraw the map to show progress and highlight next area of action.	Feedback Mechanic	CD3: Empowerment	Already there: highlight it
Clustering before linking	Real time control	Introduce an additional step to categorize the concept into one or more clusters and introduce new views based on clusters	Feedback Mechanic	CD3: Empowerment	Already there: highlight it
Duration of linking	Count down timer	Include a count-down timer to give an indication on remaining time for linking	Feedback Mechanic	CD6: Scarcity	Maybe (side effect)
Effectiveness of remote	Buddy	Have physically present participants assist remote ones in overcome challenges of remote participation	Incentive	CD5: Social Influence	Future: need to find the right medium
Map evolution	Visual story telling	Capturing snapshots of the map at different stages of the process to highlight development	Feedback Mechanic	CD2: Accomplishment	Already there
Ownership of outcome	Group collection set	Share the outcome of the session in a form that gives participants the sense that they own valuable documents.	Win-State	CD4: Ownership	Future
Outcomes strategic enough	Narrative	The statement of strategic intent is a good narrative that brings out the strategic aspect of the outcome	Win-State	CD1: Epic meaning	Already there. Highlight it.
Outputs implementable	Group quest	The group members to support each other to achieve all the items on the action list	Desired Action	CD5: Social Influence	Future
	Quest list	The group is to work together to ensure that all the items on the action list are completed	Desired Action	CD2: Accomplishment	Already there. Highlight it.
Need for Chauffeur	Badge	Introduce the position of Chauffeur and highlight this as an accomplishment of being proficient in using the software	Desired Action	CD2: Accomplishment	Yes if needed

The gamification process brings them into the fore to assess them and adjust if needed. Associating gamification techniques with psychological drives stresses my conviction that good gamification cannot be uncoupled from the underlying psychological drivers. The gamification techniques highlighted with ‘yes’ and ‘already there’ will be included in iteration 2. Those marked as future can be considered as a potential future addition. Those marked as situational or with side effects require more attention from the facilitator to avoid undesired side effects.

6. Gamified SODA Process - Iteration 2

Now that we have the first version of G-SODA, we are ready for the second iteration. The first step of the iteration is conducting a manually gamified SODA session (G-SODA). The gamification techniques are listed in Table 10 with the 'yes' comment. The second step of iteration two was the data collection, comprising the participants' interviews. This is followed by analyzing collected data to conclude improvement potential, constituting the input to the software prototype. At the end of this iteration, the gamified software prototype of SODA is developed. Again, there is another round of data collection and analysis based on which some ideas for future enhancements are formulated.

6.1. G-SODA session

The session followed a typical SODA structure of surfacing issues, linking them, developing priorities, finding the goals and listing action items. The strategy-making group was Target2, as described in the study context section in the introduction (section 1.3). The invitation sent to the participants is in section 9.4.2. Although the GSS used was decision explorer, gamification elements were embedded throughout the session, from invitation to assigning tasks and tracking their implementation based on the outcome of iteration one. However, these gamification techniques were not automated and were deployed at the facilitator's discretion.

While some of the following gamification elements were already part of the process, pointing them out highlights their importance and allows further development and improvement. Below are the techniques that were deployed. A complete list of the possible gamification techniques is shown in Table 15 List of gamification techniques.

- The *Narrative Technique* was used in the discovery portion of the session to set expectations about the nature of the session. It was also used to convey the value that the session added. These techniques aim to mobilize a sense of purpose beyond personal gains and touch the core drive of the epic meaning.
- The *loss avoidance incentive* was embedded in the invitation to promote action and to ensure participants attended all sessions to avoid being left out of the strategy-making group.
- A *progress bar* was displayed on a flip chart and in the presentation during the session to provide feedback and trigger the accomplishment drive.

- The level of participation in issues surfacing was highlighted through the number of concepts surfaced. This feature is already there. However, highlighting it through the real-time control gamification technique gives participants a feeling of empowerment.
- The shared view of the map as a transitory object resembles a group quest technique to build the map. It triggers the social influence core drive to do an excellent job in building the map.
- Refreshing the map regularly and organizing it with clustering before and during linking provides empowerment through the real-time control gamification technique.
- The evolution of the map embodies the gamification technique of visual storytelling, touching the core drive of unpredictability, which intrigues people to see what the end product would look like.
- The *round-robin* (you have the stage) technique helped attain procedural justice by guaranteeing equal airtime for participants. It is an inherent component in SODA in its original format.
- The technique of *prompting* by the facilitator to avoid groupthink gives a sense of empowerment to participants to disagree with the common opinion.
- The session's outcome in the form of a map, SSI and action plan is a very plausible story if the process goes well. Combined, they constitute a narrative that touches the epic meaning core drive.
- The list of actions coming out of the session can be viewed as the gaming technique of *Quest List*. It triggers the drive for accomplishment. It is already there in the existing process, but I believe that bringing it to the fore helps implement it.
- Another component that did not come out very strongly in the interviews is the *levelling-up* technique of moving from participant to practitioner to professional, addressing the core drive of accomplishment. It is included in this iteration.

Having described the manually gamified process of iteration two, it is time to present the participants' feedback.

6.2.Participant experience from Iteration 2

6.3.This section describes the feedback that came out of the G-SODA session (interview questions are shown in section 9.8.2, and the list of interviews is shown in section 9.9). It is ordered based on the thematic coding in section 9.9, Summary of interviews

The following interviews were conducted with the different participants. The columns refer to the length of the interview and the number of transcript pages. Empty cells indicate that no interview has taken place.

Participant	Target Organization	Iteration 1 Interview	Iteration 2 Interview	Iteration 3 Interview
Participant 1 AE	1	62 mins / 21 pages		
Participant 2 AA	1	46 mins / 13 pages		
Participant 3 CH	1	51 mins / 14 pages		
Participant 4 AS	1	32 mins / 13 pages		
Participant 5 IB	1	35 mins / 11 pages		
Participant 6 IM	1	43 mins / 12 pages		
Participant 7 OK	1	36 mins / 10 pages		
Participant 8 YK	1	52 mins / 16 pages		
Participant 9 NM	1	53 mins / 15 pages		
Participant 10 HB	1	52 mins / 21 pages		
Participant 11 MM	1	25 mins / 9 pages		
Participant 12 RM	1	36 mins / 10 pages		
Participant 13 AH	1	30 mins / 8 pages		
Participant 14 AR	1	45 mins / 12 pages		19 mins / 5 pages
Participant 15 AD	2		48 mins / 14 pages	14 mins / 4 pages
Participant 16 MS	2		59 mins / 17 pages	
Participant 17 RD	2		22 mins / 8 pages	
Participant 18 SS	2		29 mins / 8 pages	
Participant 19 WS	2		41 mins / 13 pages	
Participant 20 MMS	2		55 mins / 16 pages	
Participant 21 RH	2		44 mins / 15 pages	
Participant 22 SG	2		40 mins / 13 pages	

Thematic codes. Compiling these codes using Gioia et al. (2013a) graphical presentation of code, these thematic codes are shown below.



Figure 13 Graphical presentation of Thematic Coding

6.3.1. Nature of Strategy

As with the first iteration, the line of questioning about the nature of strategy intended to bring some context about the participants' background and experience. As the second organization was in a less dynamic field than the first one, the period of strategic planning was thought to be around five years. Additionally, the second group was closer to academia and more familiar with strategy research.

As before, numerous opinions regarded strategy as a planning activity from point A to point B. AD referred to this as "having some goals and having a plan to achieve those goals. Okay, so, so for me, yeah, it's about where do you want to get to and how are you going to get there? And that's your

strategy". MS described it as "the game Plan of converting the vision and missions a corporate or an entity have in mind to make it still converted into tangible deliverables" and that "it always starts with ... their priorities and their strategic intent". RH echoed the same sentiment. He observed that "strategy is ... a process where you set a goal and you have to find a way to reach it. So, the strategy is the process of reaching that goal through planning and working towards it. And by [...] identifying the key priorities or key pillar, pillars are driving forces that actually help you reach that goal". WS had the same sentiment but described it as a "path" that extends into implementation.

MMS took the positional school point of view of strategy as an "evaluation of where you are at right now and where you want to get to [...] what position are we in? [...] whether it's market share, pricing, whatever it is a party or business, [...] taking stock, okay, where are we and what do we want and then setting the roadmap to achieve that." RD saw strategy as a "process that you would have to execute in order to achieve kind of bigger results, whether it be the organization overall or just department departmental."

AD found herself doing a top-down and a bottom-up strategizing exercise.

"I'm looking at the university mission and the strategy 2025. And so, I've got a clear idea about where the university as a whole wants to get to, but then I was very much given almost a blank sheet of paper to say, what do you want to do with the UAE within that? So, in that sense, it felt very bottom up and, and quite empowering, I guess, in a way that you know, I know the overall, but actually, for a strategy for the UAE was a blank canvas."

MMS thought strategy "works both in both cases [top-down and bottom-up], so sometimes you know, clients already have that in place. As we did, they asked us to do the sort of the executional element". WS found that the direction the strategic planning takes depends on the nature of the target organization.

"Strategy quite often is top-down [however] when I've worked in startups [...] a top-down approach may not be as effective as a, for example, bottom up. [In] corporates, that quite often the top people in the corporates are, of course, aware of what they and the shareholder would like to achieve in the medium term, but not necessarily aware of what is really the capability in the organization. So [...] the best approach to develop a strategy is that either it's completely bottom up or the top people send high-level targets, and then the I still call it strategy. Some people call it tactics, but I call it strategy on how to actually achieve this."

MMS and RH experienced strategy done collaboratively. SG saw strategy as a learning process, where people “used to work in that coordination, so they learn also. And meanwhile, as we went ahead, we saw that, you know, those people had really improved on their skills.” It is, moreover, about “understanding what you have to do [and] prioritizing your work.” Participants agreed that strategy cannot be separated from implementation.

6.3.2. Participant types

The estimation of the level of engagement is based on the feedback of participants. At one end, some demonstrated a low level of engagement. AD noticed that they “just want(s) to come and do [their] job” and do it well. MS and SS agreed to that and saw that to be acceptable. WS noticed that it is challenging to engage somebody who is not motivated. Conversely, MS pointed out that those with career ambitions are quickly involved. SS agreed. Having just finished a leadership course, AD thought leaders have the energy and focus to be engaged and bring change. SS and MS thought more experienced people would pick on this and seize the opportunity by actively participating. MS pointed out that those who consider themselves subject matter experts will benefit most.

While some people are firmly destined to either extreme of the axis, AD pointed out that some people might be able to develop engagement and “at some point, something will click”. Therefore, even less involved people should be pushed to participate in strategy-making sessions. WS suggested that to engage people, there “needs to be something in it for me personally, or it needs to address something I am part of.” RD pointed out that highlighting the importance of the session through “perhaps brief[ing] everyone individually on how it benefits them, and how they can benefit the strategy and the benefit of the strategy” will increase the engagement.

Regarding the level of experience axis, MMS noted that the quality of the strategic output depends on the level of experience. The “lack of experience in the room [led to an outcome that] I wouldn’t take this as a solid strategy,”. She considered the gap in backgrounds and experience inefficient and “does lead to suggestions and debates and discussions that could have been curtailed that wasted a bit of time actually getting posted.”

Participants who regarded themselves as inexperienced in strategy-making found the session an opportunity for personal development. SG “thought I learned something new [...] We kind of have a strategy, but we never learn about the elements of strategy, or what I mean, I’ve never learned theory

of strategy". WS, an experienced participant, thought, "A newbie who has no experience in defining strategy would certainly already from the title [...] Should have been interested in [...] how to develop strategies, the process which you took us through, but also, of course, be of interest to a newbie." However, experienced people recognized the importance of the session and did not need as much orientation or motivation to be involved.

6.3.3. Potential outcomes of the process

While assessing a session's success is not easy, a few indications of whether the process worked exist. These include coherent content (corresponding to Procedural Rationality), positive sentiment towards content (corresponding to Procedural Justice), and Political feasibility. Participants' perceptions collected in interviews indicated how well each of the above elements fared.

Coherent content was apparent when the participants answered questions about the 'implementability' of outcomes. MMS noted that some outcomes are "very actionable with very little budget required", while others might require a prohibitive budget, undermining the process. WS echoed the sentiment. "Some of the items I think are easier than others. Anything which deals with Capital Investment, ongoing operational budget commitment and Significant expenditure in terms of expansion in terms of profit, I think will become Very interesting." Both AD and MS thought that a shared understanding of what needed to be done was achieved. SS valued that the session brought all team members up to speed as "prior to the meeting, I haven't heard about the plans."

Nevertheless, AD stated that the general sentiment was that output was a good start, but the details must be worked out. "[It] gives a good starting point. I think when [...] we sit down and actually flesh it out [...] That will be useful, but I think in of the exercise itself, I think it was good enough for what I need." MMS, SS and RD concurred. RH found the output implementable "to a certain extent." SG appreciated that "[it] was very clear in our discussions, and we are keeping some realistic items there on the realistic timelines", increasing the chances of implementability. All participants generally agreed that the outcome was considered strategy, albeit with more focus on execution.

The sentiment towards the output was positive. Everybody agreed that participants' buy-in was essential and was achieved, and that the outcome represented the group's thinking. Buy-in breed commitment, and "bought in [means] energized and motivated by the strategy", as per AD. Commitment results in owning the outcome, which is enforced by feeling the collaboration. SG said, "a

collective effort [giving] a sense of achievement is usually born when you think you are part of that process. You have also contributed, and that's where I felt because some of those ideas that were written there were also my ideas. And as a part of that group, they were our collective ideas". WS pointed out that the group now owns the collaborative work. "It's a collaborative outcome. So, I don't think any single participant will identify himself or herself between each of these outcomes. But that's okay. That's why it was a collaborative aspect." Ownership has moved from individuals to the group.

Discussing the political feasibility of resulting ideas, RH pointed out that seeing a plausible road map was essential to produce this buy-in. MS, SG and WS saw the alignment of those implementing the strategy as critical. SG noted that "somebody who makes it and somebody who implements it, so they should be on the same page". MS pointed out that it "is important all the time is to keep compass to the right direction [otherwise less engaged people will] totally disengage from us".

The group agreed it was enlightening to get exposed to other participants thinking. MS brought up a new perspective in terms of the session's benefit to gracefully address some ideas that are not feasible or accepted by surfacing them and having the group write them off. "We can confidently say, what you're proposing doesn't align, we can do it, we are not in a privilege that we will take care of every single request if it doesn't align to what we want."

6.3.4. Discovery Phase

The discovery phase covers all interactions before the start of the SODA session. Before delving into the details of this phase, I ask questions about enabling factors contributing to the success of the process and helping participants perform the desired actions. WS pointed out that "sessions could have been done outside normal working hours" to get people's undivided attention. SG suggested that the personal development aspect of the session got participants, especially the less experienced ones, enthusiastic. MMS said that learning to use the GDSS tool is a benefit that can be advertised. Some complaints were received regarding the extra time needed to complete the session and its follow-up. I speculate that the participants were generally forgiving about this unplanned extension of time and attributed it to their unfamiliarity with the process.

Regarding the initial communication, MS recognized the role that communication plays in spreading awareness about the importance of the session. However, less experienced participants engaged less. SS noted he was "not the guy [interested in] the strategies". Preparation fared high in participants'

comments about this phase. MMS suggested that I needed to research to better prepare for the session. “You should really research because nobody knows really knows where they’re at. And so, understanding what position you are at allows you to have sort of more evidence to base your suggestions,”. Participants also noted the importance of preparation to save time. RD pointed out, “Just having these ideas that didn’t connect just seemed a bit scatty, so I think, be something that would have saved a bit more time if the ideas were a bit more condensed if there was more direction towards those ideas”.

All participants agreed on the importance of communication in the discovery phase. MS even went as far as to publicize the event. The announcement and event invitation received positive feedback from the interviewees. AD said, “I thought it was clear in the email that it was important, and you were enthusiastic about it, and you expected everyone to participate. Yeah, I think so. And definitely for the other stakeholders, like the students that were involved. I think they felt quite honored in a way to be involved in such a process. So yeah, definitely.”

However, there were suggestions to improve the quality of communication. RD suggested “a bit more of a brief, and that could have easily been done just in a communicative way”, even a customized briefing, depending on the person. MS suggested that we convey that strategy is for everybody “because lots of employees might think that the strategy is for top managers is for top people only to talk about”. RH pointed out that saying that the outcome would be a “blueprint for the region [...] showed some seriousness in the project that the implementation of this strategy will help regional offices”, increasing interest. On the other hand, WS thought that “if anybody didn’t see the significance, as part of your initiative, maybe obvious initially, the initial email [...] the person wouldn’t have seen the significance anyways, in a corporate environment.”

For incentives in Discovery, telling people that the outcome will be used as a blueprint was considered by RH as an incentive, as it falls in the department of recognition. WS thought this was insufficient and that personal gains should be added as an incentive. Progressing from a participant to a practitioner and then to a professional received mixed reviews as a personal development incentive. Some found it unclear or were not bothered, while others thought it was effective. The level of ambition at work seems to impact the response.

One item of agreement among the participants was the importance of key stakeholders’ endorsement to the success of the whole process. MMS said, “I would have preferred to see someone who can make

decisions and has the authority to actually implement on the panel”, and MS said, “We want to have the support from Glasgow from the Dean himself”. RH wished that “someone from Glasgow in a certain position, the certain background was with us in the meeting”. SS and WS echoed the same sentiment. The team’s setup to include all stakeholders, even the demanding ones, was a sign of confidence. WS pointed out that “otherwise, we would have missed out on a very important perspective”. MMS pointed out that the presence of all the key stakeholders in Dubai added seriousness, but RH wished there was somebody from Glasgow participating in adding more seriousness. WS agreed.

MMS saw that one win-state was to become proficient in the tool, which was a clear achievement and a remarkable milestone. Being seen as a model centre was another win-state picked by RH and WS. Another win-state is to be invited for the follow-up sessions and become a permanent strategy-making group member. AD pointed out that some participants “felt quite honoured in a way to be involved in such a process.”

One suggested improvement was highlighting the rules of engagement at the beginning when taking ownership of the subsequent actions. AD said, “Maybe we should have said yes, you can volunteer, and everyone should volunteer for at least one. [...] It doesn’t have to be within your current job role. Okay, and we should have maybe set a context and been clear about even if you are listed as responsible, it doesn’t mean you have to do it all.”

6.3.5. Onboarding Phase

The onboarding phase was where most of the research took place. It, therefore, made up most of the data collected during this iteration. It is arranged based on the elements in the Octalysis gamification strategy shown in Figure 12 (Chou, 2019a). These elements are Desired Actions, Feedback Mechanics, Incentives and Win-state.

6.3.5.1. Desired Action

Some important enabling factors kept popping up in participants’ responses. The participants highlighted the importance of the facilitator in giving weight to everybody’s contribution and ensuring adherence to the allocated time. Some suggestions were also given to improve time efficiency and the quality of the outcome. These include properly introducing participants, breakout rooms, creative

activities, and putting away distracting gadgets. They also saw that it is vital to take measures to ensure the effectiveness of remote participants.

There were different opinions about the impact of remote participation on the contribution of remote participants. AD found physical presence “a more enjoyable process [and results in] a better bonding process”. WS and MMS, both remotely participating, thought there was room for improvement in remote technology. At times, the remote intervention was disrupting the round-robin flow. Remote participants were missing out on the important side chat in the session, as pointed out by AD, who observed, “You don’t chat in between the business”. SG thought the remote participants “might not be 100% dedicated to the work,” and AD believed that this “does add to the time, and I think if you’re all in the same room, it probably can go quicker”.

However, there was also the opinion that remote participation worked and did not have a significant distorting effect. Suggestions to improve it included putting remote people on the spot to avoid distraction. “Giving them a task so that they do something feels that they’re part of it and there is that sense of ownership” can help, according to MMS, in addition to including them in breakout rooms with physically present people.

At the outset of the session, I identified the desired actions out of the onboarding phase as having a free-flowing discussion, working creatively and autonomously, working collaboratively, and committing to the outcome and owning it. Free-flowing conversation required avoiding passing judgment and accepting all input. WS noted it invited creativity and “reduced the barrier from others who came afterwards to bring up their points. I think that was very good”. It also gave the impression that “Nothing was off the table [...] I like that”, as per MMS and confirmed by SS. AD concluded that participants were “searching deeper, and they’re searching very deep exactly, which is not a bad thing. And anything that’s said, even if they have invented it, is coming from somewhere, so it’s a value. So yeah, I thought that was really good”. Restraining judgment at the early stages of the session kept dominating people at bay and encouraged everybody to participate, as they recognized that the process was fair.

The round-robin technique proved very effective in achieving a free flow of ideas. AD found it to be “good because, as you say, it was very inclusive. Everybody got to speak frequently”. RH noted that this frequency of sharing ideas brought everybody on the same page. MS found that it allowed participants to contribute without embarrassment. RH thought it acted as an ice-breaker by “create[ing] a certain

chemistry within the group, which is very good for moving forward with that strategy". It also brought a sense of anticipation about the issues that would come up and how many would be there.

Working creatively and autonomously is the second desired action out of this session. Round-robin also acted as a trigger for creativity. Abbi thought that the group "bounced off each other and also because we kept going and kept going and sometimes you pass and think now I haven't got anything and then it will come around again and you've thought of something else. But it will by doing that. It's almost like people are tempted to invent problems". MS and SG echoed that feeling.

RD suggested defining a topic or direction for the discussion and making it task-oriented to guide ideas and save time. She thought that "to be more creative, we, you could have kind of given us more of a kind of a direction angle or maybe split up the groups into different themes. And I want to kind of focus on those different themes and then brought them together. Yeah, kind of more structure to the chaos, in the beginning, could have opened up room for creativity." While this was a singular opinion, the majority of the group saw the learning happening while bouncing different ideas. This dynamic was the trigger to creativity. WS thought that "was the effect that everybody could bring up points, and that we were discussing several of these points, multiple perspectives, I think that together then would have embedded in some people's mind".

The usage of accurate language and being specific about meaning was found to be an act of creativity. AD pointed out that benchmarking can help the flow of ideas. "I guess there's potentially some benefit in looking outside of the industry in which we're operating" instead of copying competitors. Others thought linking and prioritizing stimulate brain juices as well. RH thought that linking allowed the group to "understand and create more ideas on structuring the whatever linkage we had. Nice, especially if I want to focus on the map itself."

The third set of desired actions was related to working collaboratively. RH found that when the group "got close to the screen, and we started discussing the links, there was a lot of collaboration [...] participants were actually more engaged and linking ideas to each other and creating the structure that we saw towards the end." The agreement on the product and moving on from one stage to the next signified collaboration. However, there were some concerns about volunteering to own tasks. AD thought that "although we were allocating responsibility, somehow it didn't I didn't feel like it really drew everyone".

Toward the end of the session, the topic of committing and owning the outcome became prevalent. AD suggested that every participant should know from the beginning that they should eventually own at least one action item. She recalled, “With hindsight, maybe we should have said yes, you can volunteer, and everyone should volunteer for at least one.” To SG, volunteering signified comfort in taking responsibility and resulted in ownership. AD brought up the topic of procedural rationality and whether everybody has been acting in professional honesty. “You know, there’s one thing that, as a manager, I always question is everyone being honest? Or would it be different if I wasn’t in the room? Okay. And I don’t know the answer to that. I hope and I will progress on the basis that everyone was honest, got everything out on the table, and we move forward as per the issues that have been raised, and I’m happy with the output. But I guess there’s always that little bit of me that thinks, is there something someone hasn’t said or hasn’t been bold enough to get out there?”.

6.3.5.2. Feedback Mechanics

The feedback offered to participants was numerous and varied in different parts of the process. The map itself was a form of visual feedback. Its growth indicated progress, and the evolution of understanding and joint effort is coming to fruition. The completeness of the linking between concepts constituted feedback on the quality of work. MMS thought the GDSS tool was providing visual feedback. RH was proud of the number of ideas that were surfaced. AD indicated that this might be pushing participants to think deeper. Additional feedback suggested by WS is regarding how the group is doing time-wise due to the level of detail they get into.

The progress bar signified progress throughout the process. It gave a clear sense of achievement and advancement. Also noteworthy was the retrospective at the end of each part. AD found that it served as “a tangible reminder of what they’ve done and [...] they can refer to it or visualize it”. However, while interviewing, it did not automatically come up until I asked about it, giving the impression that it was either not noticeable or its significance was not appreciated.

The retrospective at the end of each part reminded people of the outcome of their joint effort and gave pride in what had been learned and achieved. AD suggested “sending some questions to people about [...] reflection, what have you learned from this [...] to kind of get them to assimilate in their head aside from the actual content and what they’re learning as they go”. MS suggested reiterating that each individual can and is expected to do more.

6.3.5.3. Incentives

Developmental incentives are abundant in the process, yet some participants remarked that such incentives only work for those with the ambition to develop. MMS pointed out that learning to interact with GDSS was an incentive. She asked, “How I could then use that and benefit from that tool for my own strategy”. SG found the session to be a rare chance to learn strategy.

Another incentive was recognition, whether material or moral. There was a disagreement about what these might entail. AD questioned the benefit of badges and levels, yet WS stressed the importance of material rewards. MS encouraged the facilitator to recognize participants’ strengths to make them feel good in front of their peers. RH highlighted the recognition of the group as a model group and as the creator of the blueprint for regional centres as an incentive.

6.3.5.4. Win-state

The feeling that a participant has become proficient in strategy-making and its tools is a win-state. SG said that she “joined the session [to] learn something new” and that it was a unique opportunity (scarce). There was disagreement about whether the time was enough or not to be able to achieve the desired win-state. While MS thought we needed more time, SG believed the session was not rushed, and discussions were allotted the time they deserved.

Another win-state is when the participants felt they were in an inclusive, collaborative, and creative discussion. SG noted, “Because that was a collective effort. It’s just something like, you know, a sense of achievement is usually born when you think you are part of that process. You have also contributed, and that’s where I felt because some of those ideas that were written there were also my ideas. And as a part of that group, they were our collective ideas.” This results from feeling appreciated and respected and having elements conducive to creativity, collaboration and excitement. All factors causing discomfort should be removed from the process to feel valued and respected, and participants must be treated fairly and respectfully. They need to get the feeling that their ideas are included. The participants agreed that this was the case. MMS echoed this sentiment: “I think everyone participated equally; everyone was able to contribute equally. And maybe not everybody agrees with everything on there, but everyone’s felt that something that they wanted to say was voiced”.

The participants noticed and appreciated the creative aspects of the sessions. RH noted that “you had no limit in providing ideas. They were providing ideas that are probably impossible to reach in the next

three to five years, but they're still providing those other ideas because they want to see the university at a certain level". As the discussions ensued, there was agreement that the process triggered participants' creativity. WS articulated this best. "[creativity] was the effect that everybody could bring up points, and that we were discussing several of these points, multiple perspectives, I think that together then would have embedded in some people's mind." The aspirational ideas floated led to ambition due to the ability of the process to chart a causal path from actionable steps to these ideas.

There was excitement and anticipation due to successfully generating numerous meaningful ideas. AD said, "Yes, I think there was an element of anticipation... I think people were enthusiastic. And, and definitely, now with the kind of outcomes and we can see where we're heading those, there is excitement". A feeling of growing interest, even in those not interested initially, started to brew. AD noted, "RD became more interested when she was in the process". RD said she "quite liked the parts in the session towards the end where we were fleshing out the ideas. Obviously, the ideas kind of weren't really as connected. And something just didn't seem kind of comprehensive. So, I think my favourite part was just fleshing out the ideas that were there". RH echoed, "... during the process, actually, all the ideas that were put in place from the start, and until we put it all together, there was always anticipation and ... also the vision that was being created. If I can speak about myself. Vision was created in my mind seeing all of this incremental [progress]." MS thought, "It was very exciting that we didn't feel the time. We did not feel that, you know, it's a routine too much talking."

Another win-state came from generating a meaningful and sophisticated map out of chaos. Initially, WS was worried that the map had become too messy to fix. "I believe the fact that we had so many nodes on the screen made it a bit cumbersome to actually go through the process." MS thought that "the visualizing how do we start the session and how all the links together and the spider web that will shrink all the lines and going in all together that get everyone to be overwhelmed saying, this is very complicated?". MMS thought that "when we started to clean it up and link the actual goals, there was a sense of achievement there and an ability to see where it was going." RD "felt like we progressed. From the scatti graph, or whatever it was, to something that was a bit more comprehensive." This feeling was common among the participants. RH even thought that this led to motivation in implementation "So, it was definitely giving us a sense of achievement. However, the implementation is also part of the motivation. So, you know, in the session, if I want to specify only the session itself, yes, there was a sense of achievement. There was such a motivation, the fact that we went from idea scattered around to a very structured organized linked ideas with actions specific to them." In the end, MS thought that

“the transformation from a very complicated ambiguous shape towards a clear one was something that yeah, that was that was a relief for everyone.”

AD thought that “it’s not necessarily a sense of achievement from going from messy to we’ve now. Got this strategy, but it’s the sense of kind of accomplishment in that we’ve been really thorough; we’ve considered everything. And now we’ve got to this, and we can feel confident based on what we’ve done that this is a good direction.” Therefore, getting to a prioritized plan with action items and owners is as essential as a win-state as having a tidy map. MMS even noticed that getting “a particular task assigned to them, they suppose fulfil it, complete it, right” gives ownership and is a win-state.

6.3.6. Scaffolding Phase

The scaffolding phase starts from the conclusion of the first session and includes multiple iterations of the complete process.

6.3.6.1. Desired Actions

The desired actions out of this stage are for the group to refine the agreed tasks from the session and ensure clear ownership. They must also set out to implement the agreed actions and have regular follow-up meetings and strategy sessions.

Regarding refining the task and assigning clear ownership, RD thought the task list “needs to be fleshed out a bit more, but it was a good starting point”. AD noted that “the creativity is great, and there’s some fantastic ideas, but I don’t feel it’s complete.” RH thought “it should be specific”. AD believed that “part was where there was the most creativity because people had to actually think, okay, that’s what I want to achieve. How are we going to do that? What are the ideas?”. MS thought that the owners should be working out the details. “So, I think this is very important now that that part is being filled by every single person. He should be by themselves proposing what actions need to be done because then I can see this also as a good opportunity”. He added that it helps if task owners regard themselves as “subject matter experts”. I got the sense from feedback that producing quality increases pride and self-confidence.

Regarding implementing the tasks, MMS noted that volunteering to own tasks increases the ownership and likelihood of implementation rather than having them assigned. “So, then it was suggestion they made, and they have ownership of that suggestion”. She noted that “the sense of achievement will

come from execution". Otherwise, if there is no implementation, "... it's just seen as a brainstorming session throughout," and the exercise loses its value. RH echoed the same sentiment and added that the path to implementation drawn from the map would provide narrative and flexibility to maneuver around challenges. This flexibility and adaptability when implementing strategy were also highlighted by AD when she said, "I guess as well, the pivoting aspects, so if some of the context changes, it's really important to be aware of that because if you blindly focus on implementing the strategy without keeping up to date with what's going on around you, you probably will need to tweak it. We know that with this, we're going to need to tweak it along the way."

MMS and MS pointed out that leadership cannot avoid the implementation progress. MS noted, "So this will be our responsibility Abbi and myself, that we make sure that, you know, everyone is on. And hopefully changing the mindset if that will be a challenge. Maybe decisions to be made if the resistance is quite high, and that we will need to have proper support."

There was some disagreement about whether future strategy sessions should start on a clean slate or use the findings of the previous one as a starting point. AD thought that "We start from the findings. Okay. And then, we do another kind of context scan. Is the context still the same? Has anything changed in the local environment? That would change the direction that we're going in. Have we encountered any challenges or barriers that we weren't anticipating, you know, do we need to flex what we're doing? But I think we start from where we left off." RH thought it depended on whether a significant change occurred in the organisation's goals or the environment. "So, there are two things you would start on a clean slate if something like COVID happens again—huge VUCA thing like a huge external factor that changes the whole core business model. However, you would definitely start from where you ended. Because you don't want to waste time first of all, secondly, there wasn't any huge external factor that affected the process itself. You don't need to go back and start from scratch". SS echoed the same sentiment.

Regarding the frequency of the strategy sessions, other than MMS, who thought it should happen every two years, everybody else thought every three to six months was reasonable. MMS gave that opinion due to her experience of the slow speed at which universities usually move in. MS saw that sessions would propel creativity. "Maybe some of the discussions or maybe some of the creative ideas will have a better answer that says, even though that we can do this; however, there is a better way, or there's a different way that can be done. So always have a solution for a problem rather than having a problem for solution". MS's statement implied that the frequency should be as needed based on the challenges.

6.3.6.2. Feedback Mechanics

The participants summarized feedback in scaffolding about executive sponsorship and endorsement, consistent follow-up on implementation, assessing changing situations, holding retrospective sessions, and keeping diaries.

The endorsement of critical stakeholders was seen as very important. MMS noted otherwise, “It’s just talk for the sake of talk and a lot of discussions and suggestions. Like I said, were a bit random and definitely will not fly.” RH noted that “it would have been more serious. If someone from Glasgow in a certain position, the certain background was with us in the meeting”. WS agreed. MS (a senior person) suggested “embed our actions that we own to what we have on [...] our job description as an objective. So, our job description will have competencies and objectives that are clearly stated. So, to align the actions to them, that will get our managers to actually say, granted, go ahead with it aligns with your work.”

Participants saw that the detailed task list needed to be followed up on at least once a month to ensure the assigned owners completed the tasks. RH suggested that a tracking tool “makes things much easier for the person that is doing it. First, to stay motivated and doing the task. Second, be able to track where he or she are during the process.” WS thought that MS Excel would work for now: “At this point, it was to me more the most appropriate tool because everybody knows how to use Excel; the session was not to teach technology”.

Regarding the situation assessment, AD thought that once we set out to implement, “some things have been tried and tested and failed and worked and you know, have to bear all of that in mind as well”. She also highlighted that it is ok to fill the gaps and address issues not raised after the session. “When I look at it, I think, but we’ve missed that element, or we didn’t think about that, which I think is inevitable because we’re not going to cover everything. But as a manager, when I want to then implement an action plan, there are other things that might need to be included. But I think that’s fine.”

MS highlighted reflective retrospectives after each session as essential to learning and improving. “How would I know that I learned if I’m not getting the chance to, like, you know, expose what I learned. So, I think it’s a very good opportunity because it shows that did I get it right?”. He even suggested keeping a strategy diary. AD suggested using questions for reflection. “Maybe sending some questions to people about, you know, reflection, what have you learned from this, as you know, just to kind of get them to assimilate in their head aside from the actual content and what they’re learning as they go.”

6.3.6.3. Incentives

There was speculation about whether badges would work in the scaffolding phase, with scepticism about their effectiveness. However, RH suggested certificates at the end of sessions as a reminder of the session can work, as people “would have forgot about the process. And some of the certain details, right? A certificate would definitely have helped me because when I look at it, I will be like, yes, I remember we were at this session, and there were these people there, and we discussed strategy, and you know what I mean? So, it does have its importance.” SG found that posting on social media such as LinkedIn “sort of brought out that your sense of accomplishment. So that was nice.” Again, being considered as a model centre was found to be a good incentive by RH.

6.3.6.4. Win-state

Win-state in scaffolding consisted of a thoroughly detailed and autonomous project plan, becoming a strategy practitioner, and successfully delivering projects. As this phase was not the focus of this study, suggesting improvements was speculative, and observing their impact was not possible.

Participants unanimously accepted the importance of including key stakeholders in the strategy-making exercise. MMS suggested that the action items are assigned to participants “based on their experience, so and so has experience with finance and administration then either eager if work one or two ways you put it to that they have they work on sort of organizing it based on their, you know their background and their experience.” Alternatively, you could also “switch it and actually [have people with different experiences] to have more creativity the admin person works on something that’s totally unrelated”. MS suggested that in the ordinary course of business, tasks would be assigned to owners based on responsibility, “So everyone will be working on their own, because not only it’s their field of expertise, but it will give more of a clarity when they read it. And they will have it as part of their DNA because they’re all working on, you know, getting it to transform it into an action list. So that will be a learning experience for them. And they will be embedded more than anyone else.”

MS thought that autonomy is an essential feature in the action plan and that the practicality of the outcome depends on it. He stressed that external interferences could only be “be very minimal with the case and with the situation happening globally, the presence can be very minimal, like expect the academics to be here, to you know, to be resident in a short period would not expect things to be as smooth and as fast. So that’s why we want to ensure that it is practical and also require minimal

communication with the hub. Of course, they will be aware they will be, most of the time, only I enroll, but we cannot put them responsible for something that is related to the centre. Because simply it can be very hard to achieve with what's happening in the world right now." WS even implied it is futile to work in the absence of autonomy. "I wouldn't spend my time doing these kinds of things if the area which has been discussed is not under my control."

An important win-state is the progression of participants to become strategy practitioners. MMS noted, "People don't all know each other that well. So again, maybe some people are a bit more guarded and, therefore, afraid to open up and be themselves as they need to be. But maybe more of these sessions might bring that connected together, and that will get different ideas". This is the first step. AD thought that personal development would register more as the session was repeated. People will develop a sense of achievement in progressing. MMS noted, "I think when we started to clean it up and link the actual goals, there was a sense of achievement there and an ability to see where it was going." RD felt "like we progressed. From the scanty graph, or whatever it was, to something that was a bit more comprehensive." The rest of the participants also agreed. AD concluded that "we can feel confident based on what we've done that this is a good direction."

Nevertheless, a dominant sentiment was "the sense of achievement will come from execution; I think if they actually implement otherwise, it's just seen as a brainstorming session throughout", as stated by MMS and echoed by RH. MS noted that it is essential to adopt achievable strategies for this reason. SG thought that contributing to the group was also a necessary impetus. "A sense of achievement is usually born when you think you are part of that process. You have also contributed, and that's where I fell because some of those ideas that were written there were also my ideas."

6.3.7. Endgame Phase

The long-term portion of the SODA process was not part of this study. Nevertheless, participants included some ideas in their responses to interview questions.

6.3.7.1. Desired actions

The endgame phase is the long-term progression and continuity of the SODA process. In this phase, it is desired that the group and the organization institutionalize the process, expand its scope, publicize it, and establish a process to mentor novices.

RH suggested regular meetings. "...between the facilitator and the other practitioners pulse meeting, where you get the status of each one of the tasks and what did they achieve until now? Even if it's a small phone call that they did, you know, especially that they gave a certain timeframe for each task? Like this will take me one month, this will take me three months [...] Pulse checking is very important". WS echoed the sentiment. MS took this further by suggesting embedding the follow-up in the company's Standard Operating Procedures. "So, our job description will have competencies and objectives are they're clearly stated. So, to align the actions to them, that will get our managers to actually say, granted, go ahead with it aligns with your work."

Expanding the scope could be done by inviting more people to participate based on input we get from the variables inside and outside the organization. AD called this "We do need to pivot and keep looking at the context and be aware of what is going on in the environment here". It also involves taking deeper looks at the issues on hand to make better decisions, which AD referred to as "anything that's said, even if they have invented it is, come from somewhere, so it's a value. So yeah, I thought that was really good".

6.3.7.2. Feedback Mechanics

The same feedback mechanics that are important in the scaffolding phase are also relevant in this phase. However, they must be further refined to avoid becoming boring and institutionalized to ensure continuity. These are not part of the scope of this study.

6.3.7.3. Incentives

For people who have gone through multiple iterations of SODA, feeling bored is a risk that the administrators of the process must work to avoid. They might feel stagnated after progressing from a practitioner to a professional level. One suggestion from benchmarking with gaming is the possibility of having senior strategy professionals mentor practitioners and participants, benefitting both sides. MS referred to this as "feel[ing] confident that I have something that is, no one else has, which would be an option that says, I can say that for my subject matter experts angle."

Another suggestion is to have a trophy shelf that might include certificates of participation and progression from one level to the other. AD "think[s] that's personal and a bit of a cultural thing, " so it must be tried cautiously.

6.3.7.4. Win-state

As discussed, becoming a strategy professional is a win-state by itself. Being entrusted to address ambitious and aspirational projects is another win-state. RH alluded to this when he said, “Because each one had, you had no limit in providing ideas. They were providing ideas that are probably impossible to reach in the next three to five years, but they’re still providing those other ideas because they want to see the university at a certain level.”

Another important win-state is when the process is fully institutionalized, and the strategy-related positions become permanent and sought-after roles. MS noted that it would become part of “our job description will have competencies and objectives are they’re clearly stated. So, to align the actions to them, that will get our managers to actually say, granted, go ahead with it aligns with your work.”

6.3.8. Strategy implementation obstacles

Participants found that strategy implementation can struggle most due to human-related impediments. RH suggested that cultural issues such as fear of losing power and expecting immediate success resulted in change resistance at the beginning of implementation. MMS thought that challenges come from “organizational culture, so you’ve got people who’ve been there for a very long time, and they’re unwilling to change the way they do things or see things or even open to new ideas.”

Another variety of obstacles was related to failure in communication. SG pointed out, “It might be a very well-planned strategy, but it will not work if the people below the team don’t understand”. SS pointed to unclear priorities, and RH mentioned fuzzy vision and not having a roadmap when explaining execution woes.

Leadership-related issues fared high as well. MMS noted that leadership, or the lack of it, is detrimental in execution. AD linked this to “not getting buy-in from all the stakeholders”, which eventually resulted in “70 per cent of their employees are disengaged from the strategy”, as per MS. RD thought that “unrealistic expectations without the right resources [who bought into this strategy]” was a significant issue, and so did RH.

6.4.Synthesis of data

The following Table 11 summarizes the participants’ feedback from the second session.

Table 11 Participants feedback from the second session

Phase	Feature	What worked	What did not	Can be better
Participants	X-Axis: Level of engagement	Only wanted to do the job vs those with career ambition		
	Y-Axis: Level of experience	Highly experienced vs Novice		
Benefits of the process	Coherent content (procedural rationality)	The output is implementable enough, bringing people up to speed, and a good starting point—realistic timelines. Strategic outcome.	Anything requiring funding might be a challenge. Output needs more details.	
	Positive sentiment (procedural justice)	Buy-in is achieved, which breeds commitment and ownership. Collaboration helped group ownership. The outcome represented the thinking of the group.		
	Political feasibility	Plausibility leads to buy-in. Alignment among implementors is critical. Essential to see other people's thinking.		
Discovery phase	Contributing factors		Choose a more appropriate time (outside office hours). Better timekeeping.	
		Personal development potential enthused people, including learning the tool.		
	Initial communication	A critical aspect. The initial communication was done well, clear, enthusiastic, and inclusive. Blueprint for region specifically effective.	More research about the university situation would help. Improve the narrative and brief—strategy for everyone.	Publicize event.
	Preparation		More preparation to save time.	
	Key stakeholders endorsement			Missing: It is essential to take the session seriously. Some of them could have participated.
	Team structure	Include all stakeholders, especially students, with more perspective and seriousness,		

	Feedback			Improve narrative and feedback on the preparation activities.
	Rules of engagement			I missed highlighting that ownership of action items is expected at the end.
	Retrospective			Send reflective questions.
	Incentives	Personal development (for certain players).	Levelling up received mixed reviews. Some thought it was not very clear.	
	Win-state	Becoming proficient at the tool.	Highlight more: Blueprint for the region.	Not well elaborated: Becoming a permanent member of the strategy-making group.
Onboarding	Desired action	Facilitator's importance	Proper introduction of participants (maybe ice-breaking)	
	Enablers		Breakout rooms, creativity activities	Putting away distracting gadgets.
	Improving remote participation experience		Improve technology	Put remote people on the spot to avoid distraction or give them a task—breakout rooms.
	Desired action: free-flowing discussion	Avoid judgement and accept all input. Round robin is inclusive.		
	Desired action: working creatively and autonomously	Round robin to bounce off ideas. The specific use of language.	Benchmarking	Defining a topic or direction. Making it task oriented. (Isolated idea)
	Working collaboratively	Getting around the screen enhances collaboration.	Volunteering to own tasks did not go smoothly.	
	Committing to the outcome and owning it.			Inform participants early on of ownership expectations.
	Feedback mechanics	Map as feedback	Sticking to the timetable. Total number of ideas by the group. Progress bar.	A Retrospective is needed at the end of each part and at the end.
	Incentives	GDSS knowledge	Personal development for some participants. Levels and badges limited impact.	Recognition of individual skills.

	Win-state	Becoming proficient in strategy. Feeling inclusive, collaborative and creative discussion. Feeling appreciated and respected. Creative session to come up with aspirational ideas. Excitement to generate numerous meaningful ideas, prioritized with owners and timelines. Interest in less involved people. Creating the vision, creating a meaningful and sophisticated map.		
Scaffolding	Desired action: refine task and ensure clear ownership		Better detailing of agreed ideas. It should be more specific, possibly by owners.	
	Desired action: implementation		Need more volunteering, as it increases the likelihood of implementation.	Sense of achievement from implementation. Flexibility and adaptability in implementation. Close monitoring by leaders
	Desired action: regular follow-up and strategy session		Every 3-6 months.	
	Feedback mechanics			Continuous communication. Endorsement of key stakeholders. Embed in daily tasks and SOP. Detailed tasks are to be followed up every month—continuous situation assessment. Continuous retrospective to improve the process.
	Incentives		Certificates and their collection might be worth trying—social media publication.	Badges might not work.
	Win-state		Strategy practitioner level. Successfully delivering projects. Autonomous and detailed project plan.	Key stakeholders interested. Exposure of participants to different people in the university. Autonomous group.

End-game	Desired action		Institutionalize the process, expand the scope, publicize it, and get novices mentored.	
	Feedback mechanics	Same as scaffolding		
	Incentives			Avoid the boredom of veterans. Professional level. Mentor status. Trophy shelf.
	Win-state			Strategy professional. Taking up aspirational projects.

6.5. Findings: So what?

The table above shows what an improved SODA process *should* look like. In this section, I will again examine whether the extant literature is relevant to the above-synthesized data before reflecting on their practical implications.

6.5.1. Session Parameters

The first aspect of setting the session parameters is to consider who the participants are, including the most impactful gamification elements, and adjust the session form to be most effective. A quick look at the literature gives ample reference to studying player types as part of gamification design. Many studies suggested different classifications (Bartle, 1996; Belbin, 2012; Marczewski, 2018b; Pyrko, Eden, & Ackermann, 2017). However, as participants react differently to stimuli, the gamified system will be more effective if adapted to different users (Tondello et al., 2018).

The Octalysis framework also recognizes that gamification works better if adapted to different participant (player) types (Chou, 2019a). Therefore, I tried to extract characteristics that defined the difference in reactions to the process and embedded gamification techniques. There are many ways of grouping participants. Some options include grouping them by role, function, seniority, experience, years of service, attitude, and ambition, among other possibilities. I chose two criteria to classify participants: level of ambition at work and level of experience. This choice was based on my interpretation of participants' feedback on how people differ regarding their engagement with strategy. Participant types are depicted in Figure 14:

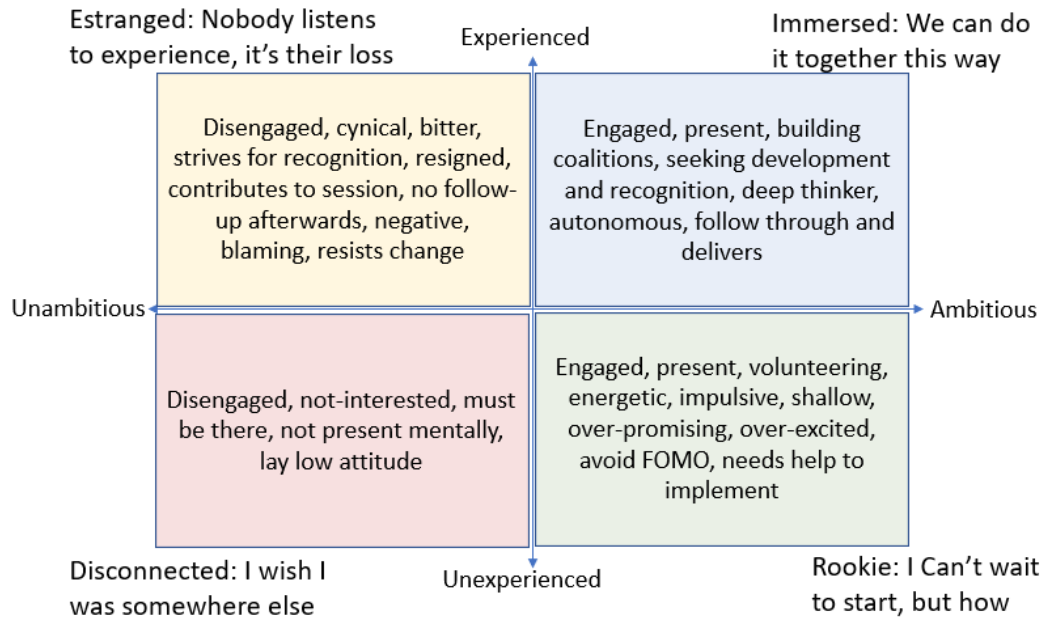


Figure 14 Participants' types

The above grid gives four types. The two extremes are blue and red. The blue is someone with experience (probably high ranking) who is engaged in their work and thus ambitious. I refer to this type as 'Immersed.' The other extreme is disengaged people who do not know what they are doing. This type is 'Disconnected'. They are floating around, avoiding being noticed. The other two states are a mix. Yellow is an experienced person who has lost hope of progress in the organization and thus has become cynical. I refer to this type as 'Estranged'. The last type is a green creature with the right attitude but lacks the experience to get things done. This type is the 'Rookie'. It is worth mentioning here that the participants interacted based on Davenport's (2005) collaboration model, i.e., interdependently, while applying their interpretation and judgement to issues faced. The above typology fits the studied institutions but might pose some generalizability restrictions on this study. However, the motives behind this mode of interaction might not be the same.

Another session parameter that deserves attention is that a successful SODA process starts much earlier than the session itself. An excellent place to start is setting goals that would identify a successful process, but that is not the only area to plan. Identifying the target of the strategic effort (department, unit, company), deciding on who to include and who to inform, the method of communication, and

laying out the process are preparation points to consider. The importance of this planning stems from the fact that producing coherent content is more feasible if the perimeters of discussion, the timeframe and the context are pre-defined.

Additionally, giving people the feeling that this is an inclusive process and their contribution is valued can start a long time before the session. The result is usually positive and can manifest itself by getting input early on, encouraging them to share ideas and highlighting the importance of contribution before, during and after sessions. The impact is that of creating anticipation in participants, in addition to triggering hearted discussions and warm feelings of camaraderie. Combined with proper preparation and the inclusion of the right people, the ground is set for political feasibility.

6.5.2. Starting Strong

The first aspect of a strong start is the effectiveness of the employed communication. To be able to start strong, proper communication with the team and the community interested in the outcome of the process is inevitable. There does not seem to be a single management or strategy reference that does not refer to the importance of communication and the detrimental impact of its absence or inferior quality. It has, however, to be enriched with contextual and meaningful snippets, which research done beforehand can immensely help with. The relevance increases if the facilitator is not an insider to the organization.

For every event and resulting effort, clear communication enriched with elements that instigate positive emotions and drive desired action needs to be sent out. This communication will be directed and toned to the identified participants based on their segment. Multiple gamification elements come in handy to sharpen the message and achieve the correct response in recipients. One positive outcome such communication can achieve is setting the narrative and building the context within which the participants operate. Such a narrative becomes more plausible if fortified with the insightful information obtained from the research, as mentioned earlier. It can potentially trigger the epic meaning core drive and instigate altruistic sentiments. Another outcome might be to encourage participants to take action to empower themselves through preparation, reading or training on the software.

Public relations can amplify the effect of this communication with different stakeholders. Managing them in a way that enables strategy is an art and a science that is covered abundantly in literature (Ackermann & Eden, 2011; Ackermann et al., 2014; Bryson & Patton, 2015; Eden et al., 2019; John et al.,

2004). Yet, I still find it to be elusive. One way of addressing this is to start from the inside out. Multiple goals can be achieved by communicating the strategy effort before and after the session and publicizing its successes. The participants will feel honoured and privileged to be part of the process and proud of their achievements afterwards. They also get exposure and a reputation that can help their careers and grant them access to previously unattainable forums. Managers and stakeholders in power will also get wind of what is happening. When this happens, they can become interested in following up and getting involved. Additionally, organizational activities become more than transactional and can take on a more long-term intentional flavour. Initiatives that attempt to repeat the process elsewhere in the organization will follow.

It is important to note that public relations are a two-edged sword that can backfire if the process is unsuccessful. It is essential to discuss how to empower the team to do a good job. One quick suggestion is to make participants' experiences convenient by properly coordinating different aspects of preparation. While this sounds trivial and unimportant, considering the right time and place to conduct activities plays a vital role. Causal Mapping (Eden & Ackermann, 2011) literature suggests that participants would appreciate the initiative as it encourages them to bring out daily challenges. Yet, neither interrupting those essential activities nor preying on free time seems a good idea. Therefore, it might be a decision best left to the group to make as it suggests both respect and inclusion in the decision. Such an initiative would trigger the core drives that control motivation. As discussed in the previous section, such an initiative can encourage and enable more stakeholders to participate, especially the influential type.

An important risk-mitigation step is setting participants' expectations that they will own at least one task at the end of the exercise. Facilitators need to set the expectation that each participant will own at least one of the outcomes and see through to completion. It is, therefore, prudent to bring this up early in the process to ensure that people are up to it and prepared. Different approaches can ensure effectiveness. Setting expectations is commonly present in the literature on facilitation (Hunter, 2009).

Now that the team is adequately informed and motivated, mobilization deserves proper consideration. For the session preparation, there are three noteworthy aspects. The first is to allow participants to learn how to use the software independently and provide support resources and advice in case of difficulties. The second is to allow users to enter some concept beforehand to get a feeling of how the process looks like, and while doing that, give a little thought about what is bothering them. The third is to enforce the learning by asking questions and providing retrospectives to this preparatory phase.

Some motivational techniques are handy in getting people to do this. One is the narrative of the importance of the activity that is about to take place. The other involves personal development, achieved through learning a new skill, such as using tools and strategy-making. The third is the social aspect of being a recognized part of a group doing exciting activities known and discussed in the community.

6.5.3. Maintain the integrity of the process

The integrity of the process is measured against the high-level goals of the process as found in the literature (Ackermann & Eden, 2001; Eden & Ackermann, 2011, 2018). These are procedural justice and procedural rationality. The existence of both leads to the political feasibility of the process and its outcomes.

The discussion of how to achieve procedural justice has been well-covered in previous chapters. Therefore, the debate at this point is intended to be practical. The facilitator has a significant role to play before the session starts and while it progresses. I have not found any reference to the pre-session role in the literature, while the latter is covered quite well. If given the freedom to act, the facilitator, having put enough thought into what works best, can choose the right environment, communication method, tasks, and surroundings to have the most significant impact. The facilitator can employ technology and other tools to train, engage, motivate, and empower participants in preparation for the session.

During the session, the importance of an impactful induction cannot be overestimated. It will fill the gap for missed understanding in the pre-session phase and reinforce the point. Examples and case studies can help break the ice and give confidence to novice users of the tools and first-time participants. This phase, empowered with the right technology, can bridge the gap between those physically attending the session and those participating remotely. Once the session starts, employing equal participation techniques such as round robin and deferred judgment has been proven to work miracles in giving the participants the feeling that they are treated fairly and with respect.

Achieving procedural rationality is a trickier fete, depending on the context and the strategy-making target. For that reason, relevant literature was tough to find. Nevertheless, putting together the information gathered from the sessions has yielded a few suggestions and techniques that could deliver a superior outcome. In some situations, breaking the group into focus groups or creating breakout

rooms is a viable strategy. While I have not tried this, I can see how it can work with many participants, when there are time constraints, or where subject matter expertise is required.

At the end of the session, I found that a few points must be appropriately addressed to improve the perception of procedural rationality significantly. Running a retrospective exercise after each part of the session provides conjunctions from one phase to the other and drives the points and the learning process. Enriching the priorities with details and the agreed actions with plans and milestones adds credibility and traces the route from where we are today to the desired goal. Suppose the session has been successful in achieving procedural justice and procedural rationality. In that case, I speculate that this will reflect more volunteering to own agreed action versus nomination by others or having to take on the task since nobody else volunteered.

6.5.4. Getting the team motivated

The above success metrics are easier to achieve if everybody in the session pulls in the same direction. Such a scenario happens when participants have intrinsic and strong extrinsic motivations.

The literature states that participants must feel autonomy, competence and relatedness to achieve intrinsic motivation (Deci & Ryan, 1985; Ryan & Deci, 2000). With that in mind, my thematic coding builds up to similar ideas revolving around the empowerment of participants, triggering a sense of community, and building a high meaning for the whole process.

When discussing empowering the participants, addressing different participants differently is relevant here. The level of experience and motivation would dictate what techniques to use. Some might find having authority to be all that is required for them to play an active role. Others might need further encouragement through group association and inclusion with established players. A third group might find being listened to and encouraged to share their ideas as the trigger that they have been waiting for.

Simultaneously, some artefacts are integral to empowerment. The map, evolving with every new idea and made more coherent and potent with every additional link, symbolizes the means to transport from ideas to action. It is the epicentre of empowerment for a middle manager buried in daily tasks. As part of the SODA process, the map is also very hospitable to creative and unconventional ideas that are not usually accepted in management discussions. Exercising creativity without fear of judgement or rejection is a solid catalyst for empowerment.

A sense of community is triggered when a well-respected management group recognises participants' skills in the overall process (especially during the implementation phase), giving them access to an echelon that was not previously accessible to them. There, they will be able to participate in regular strategy-making to reach an impact on a more significant part of the organization. A feeling of respect ensues and furthers investment and motivation into the process.

As previously discussed, narratives that can paint meaningful futures are highly impactful when they trigger altruistic motives. Epic meaning is core drive number one in the Octalysis Framework (Chou, 2019a). The literature is also rife with discussion about vision, mission, and values, which constitute versions of the rosy future of the organization. Building on the importance of such concepts and their popularity in the organization, mustering the team around the quest to create a mission and vision statement is a noble task for those invited to feel privileged. Those working on the strategy are enriching their colleagues' actions with epic meaning and social responsibility. A knowledgeable facilitator can use such a story to mobilize people and get them motivated.

It follows from the above that those who end up owning a task are doing noble work. This notion should overcome the reluctance of busy employees to take up a task on top of their daily chores. Not only are they fulfilling the high-level meaning that an elite group has found befitting for the organization, but they are also getting recognized, appreciated and accepted by this elite.

For those who have been making strategy for some time and through multiple iterations, boredom might have slipped into their hearts. Invigorating meaning that will dispel boredom can be achieved by allowing them to act as mentors for newbies. They gain recognition and status and recharge their strategy-making activities with meaning. They are building a legacy for those who will carry over the work. Another way to engage those veterans is to entrust them with high-priority or high-importance tasks. While this might constitute more work to their busy schedule, it enriches their daily lives with a worthwhile challenge.

While intrinsic motivation is preferable to extrinsic motivation in literature (Deci & Ryan, 1985; Ryan & Deci, 2000), the impact of a well-designed strong extrinsic motivation is not to be undermined. In this context, this might include triggering personal development and achievement values. The most obvious motivation is the chance to learn a rare and valuable skill in effectively using the GDSS to achieve results regarded as high-value to important people in the organization. Coupled with the process knowledge from doing SODA sessions multiple times, this knowledge enables individuals to become strategy

professionals and potentially facilitate sessions in the future. For those with aspirations to progress in the organization, this is a potential shortcut to their progress up the organizational chart.

Extrinsic motivation can also revolve around possessing certain symbolic artefacts that instill pride and fond memories. The process designer should avoid the overly competitive drive that such a possession drive triggers (Callan et al., 2015; Chou, 2019a). On the other hand, appreciation and participation certificates can give participants an elite status, physically or virtually. An effective way of harnessing the power of achievement is by introducing different strategy levels. In this study, I introduced three levels. Those were participant, practitioner and professional. A participant is a rookie completing his/her first iteration of SODA. A practitioner is now used to the process and has completed a few iterations. A professional is someone ready to facilitate their own SODA sessions.

6.5.5. Institutionalize the process

A successful process has a profound positive impact on the organization. Therefore, it is institutionalized in the organization and considered an inherent part of the culture (reference). To achieve this status, I believe that SODA needs to demonstrate it has the elements that give it continuity to make it a sustainable process. It must also be well documented as a process, its proceedings, and its outcomes.

There are numerous elements of continuity embedded in the process. The first is that it is an ongoing short to medium-term strategy-making tool that is easy to run and does not take a long time out of participants' schedules. The other is that it can start from a clean slate or build on the findings and outcomes of a previous session. The third is that it is capable of being triggered and responding to changes in the environment.

Some public relations and communication drives can go a long way to encourage this continuity. These could spread the word about upcoming events or celebrate successes coming out of SODA. In addition, setting up a forum to regularly communicate with participants serves multiple purposes. The first is that it gets feedback and retrospectives on what went well and what can be improved. It also reminds them of open tasks that need action. It gathers ideas for future activities. Lastly, it is an effective platform to celebrate process champions, give them recognition and status, and encourage others to follow suit.

SODA needs documentation to improve its usage and propagate knowledge. This documentation should be considered a value-added activity rather than an inevitable tax on time and resources. These could be the standard operating procedures (SOPs) that describe and regulate the process, the minutes of

meetings, the action registers, the completion reports, and the web and social media coverage. Such attention to documentation allows the process to be expanded to cover other parts of the organization and to include new members.

6.5.6. More Gamification Techniques

Part of the chosen gamification approach is designing the participant journey chronologically. In this framework, the participants' journey is paramount, and all elements must contribute to enhance this journey. Only gamification elements that serve a purpose should be included. An element that does not have a specific goal is a distraction and should be excluded.

Table 12 **Error! Reference source not found.** captures the potential gamification techniques that can be used to address the findings from session 2. It highlights them as being included now or in the future, potentially causing controversial results. It also specifies which participant type is the main target.

Table 12 Gamification Techniques Derived from Iteration 2

Feature	Technique to be added	To touch a	Through Core Drive	Targetting participant	Main type targetted
X-Axis: Level of engagement	Level 3 Octalysis	Desired Action		All	Yes
Y-Axis: Leve of experience	Level 3 Octalysis	Desired Action		All	Yes
Coherent content (procedural rationality)	Narrative	Win-State	CD1: Epic meaning	All	Yes
	Quest List	Desired Action	CD2: Accomplishment	All	Yes
Political feasibility	Group Quest	Desired Action	CD5: Social influence	All	Future
	Narrative	Desired Action	CD1: Epic meaning	All	Yes
Discovery/Initijal communication	Anticipation Parade	Desired Action	CD2: Accomplishment	Rookie	Yes
Discovery/Preparation	Fixed Action Reward	Incentive	CD2: Accomplishment	Disconnected	Future
Discovery/Key stakeholders endorsement	Elitism	Win-State	CD1: Epic meaning	Immersed	Yes
Discovery/Team structure	Group Quest	Incentive	CD5: Social influence	All	Yes
Discovery/Rules of engagement	Mini Quests	Desired Action	CD7: Unpredictability	Disconnected	Yes
Discovery/Retrospective	Quiz	Feedback Mechanic	CD2: Accomplishment	Estranged	Future
Discovery/Incentives	Leveling up	Win-State	CD2: Accomplishment	All	Future
Discovery/Win-state	Badge	Win-State	CD2: Accomplishment	All	Future
Onboarding/Enablers	Group Quest	Desired Action	CD5: Social influence	Rookie	Future
Onboarding/Desired action: free flowing discussion	Round Robin	Desired Action	CD5: Social influence	All	Already Available
Onboarding/Desired action: working creatively and autonomously	You have the stage	Desired Action	CD3: Empowerment	All	Already Available to be highlighted
Onboarding/Working collaboratively	Belonging	Feedback Mechanic	CD5: Social influence	All	Yes
Onboarding/Committing to outcome and owning it.	Fixed Action Reward	Incentive	CD2: Accomplishment	Rookie	Future
Onboarding/Feedback mechanics	Visual Story Telling	Feedback Mechanic	CD7: Unpredictability	All	Already Available to be highlighted
Onboarding/Incentives	Badge	Incentive	CD2: Accomplishment		Yes
Scaffolding/Desired action: refine task and ensure clear ownership	Realtime control	Desired Action	CD3: Empowerment	All	Already Available to be highlighted
Scaffolding/Desired action: implementation	Quest List	Desired Action	CD2: Accomplishment	All	
Scaffolding/Desired action: regular followup and strategy session	Speculative feedback from participants, as these steps were not conducted as part of the study.				
Scaffolding/Feedback mechanics					
Scaffolding/Incentives					
Scaffolding/Win-state					
EndGame/Desired action					
EndGame/Feedback mechanics					
EndGame/Incentives					
EndGame/Win-state					

The participants did not experience most of the scaffolding and endgame phases, so potential gamification techniques were not included in the next iteration.

6.6.Enhancing Gamification

Up till this point, gamification elements operated in an ‘analog’ mode. To automate this, a digital framework has the potential to capture these elements and make them work in unison. This section suggests an approach to this automation. I will first introduce gamification elements that will address the shortcomings highlighted by the participants in the second session and the underlying unmet core drives. I will then introduce a way to computerize the process and build a software framework that surrounds GDSS with gamification techniques (G-SODA). Finally, I will collect feedback from two participants about the potential this might have.

6.6.1. Gamification techniques and their purpose

As the framework is intended to be of use in different situations, I have compiled a list of potential gamification techniques that can fit in an automated framework. The list (Table 13) below presents a combination of gamification techniques (GT) and their purpose in G-SODA. It is based on the Octalysis strategy dashboard shown in Figure 12 (Chou, 2019a). This is by no means an exclusive list, nor is it the ultimate set of options (a more comprehensive list of gamification technique is shown in section 9.11). It merely combines the findings from the first two iterations to produce an enhanced process. I presume this set is practical and effective based on the context and limitations of the two rounds of data collection. As mentioned earlier, a facilitator might choose to deploy or omit some or all these techniques and include others based on the situation. I believe such flexibility makes the G-SODA framework more adaptive to different organizations and can address different contexts.

Table 13 List of Gamification Techniques repository resulting from both iterations

Phase	Desired Actions	Gamification Technique	Feedback Mechanics	Gamification Technique	Rewards/ Win-Result	Gamification Technique
Discovery	Reading the email thoroughly (make sure email contains all necessary elements from coding) and clicking the link	Narrative	Open the G-SODA introductory interface with a welcome message		Giveaway (user manual or interesting book).	Earned lunch
Discovery	Sending reminders in case no action taken, reading and clicking the link	Countdown timer, conformity anchor	Open the G-SODA introductory interface with a welcome message	Fomo punch	Giveaway (user manual or interesting book).	Earned lunch
Discovery	Going through the introductory videos about the upcoming session	Visual Story Telling, Glowing choice	A summary and few questions to confirm understanding and their expectation (multiple choice)		The narrative of Being taken as reference	Team trophy shelf
Discovery	Going through the tutorial of the G-SODA tool	Tutorial	A summary and few questions to confirm understanding and their expectation (multiple choice)			
Discovery	Reading the terms and conditions and pledge to take ownership		Checking the boxes of pledges	Retrospective summary, Quiz	Credentials to G-SODA to signify you are ready to join	Milestone unlock
Discovery	Do some research and thinking about issues faced		Some pointers on where and how to do research			
Discovery	Accessing G-SODA and creating their profile	Avatar	Being able to see access the screen		Personalized account (or avatar), Wallet	Points
Discovery	Enter a few concepts on the canvas	Practice run	Seeing these concepts connected		Experience points	Points
Discovery	Answer questions at the end of the task		Successfully answering all the questions	Quiz	Intimation that participant has mastered the basics	Mastering the basics
Discovery	Doing the above activities at least 24 hours before the session	Countdown timer	Personalized email to recap activities and confirm that the first phase is complete	Retrospective summary	A list of participants who will have managed to complete the session to be shared multiple times before the session	Belonging
Onboarding	Understanding the introduction of the session and issues formation	Narrative	Visuals to share the rules that include examples	Visual Story Telling	Getting a higher status	Level up to participant
Onboarding	Participants to get to know each other (short interesting introduction)	Personal reveal	Some indication of strategy group creation (naming), introducing the trophy shelf	Trophy shelf	Membership of strategy making group (visual on G-SODA)	Belonging
Onboarding	Progress through all the steps in the session	Quest (visual map)	Progress bar showing progress so far	Progress bar	Every step brings XP, the conclusion of the session levels up from participant to practitioner	Points
Onboarding	Remote participants to be fully engaged	Round Robin	Video technology to be used and video on at all time	Social prod		
Onboarding	Ensuring remote participants are included	Round Robin	Round robin to give airtime for all	Social prod		

Onboarding	Ideas flowing freely with no interruption or objection	You have the stage	Register of number of ideas, round robin to give airtime to all	Monitoring	Developing map	Pet companion
Onboarding	Autonomously work on the map and coming up with ideas		Map containing more ideas and links	Monitoring	Developing map	Pet companion
Onboarding	Ensuring key topics are addressed		Facilitator to throw in ideas in areas that have not been covered (based on discussion with principal)	Prompting		
Onboarding	Include benchmarking		Facilitator to poke the group for benchmarks	Prompting		
Onboarding	Getting the issues map complete		Progress bar showing progress so far	Progress bar	Experience points at phase end	Points, Pet companion
Onboarding	Cluster ideas based on relevance		Creating new views for each cluster		Offspring of companion	Pet companion (offsprings)
Onboarding	Ensure that causal linking is properly understood		Facilitator to give examples	Visual Story Telling		
Onboarding	Breakout to complete linking in clusters including remote people	Buddy	Map of clusters completing		Offspring of companion	Pet companion (offsprings)
Onboarding	Properly link concepts and add new ones if needed		Facilitator to roam around in breakout rooms		Offspring of companion	Pet companion (offsprings)
Onboarding	Bring all clusters back in one map		Map developed and linked	Progress bar	Experience points at phase end	Points, Pet companion
Onboarding	Identifying potential priorities		Set of potential priorities in different styles			
Onboarding	Agreeing on 4-6 priorities		Agreed set of priorities, Progress bar showing progress so far	Quest list	Experience points at phase end, Group set of priorities	Virtual rewards, Points
Onboarding	Laddering up to reach goals in the group		Building a goal system and separating it	Narrative		
Onboarding	Jointly building the SSI		Word document distributed to all by email	Narrative	Group mission	Virtual reward
Onboarding	Laddering down in the group	Granular beast	Establish a set of actions facilitator pushing deep thinking	Quest list		
Onboarding	Ensure remote participants are engaged		Facilitator to keep asking questions to remote participants			
Onboarding	Onboarding/volunteer or accept to own tasks		Some privileged appearance on avatar	Updated avatar	Status as task owner	Badge
Onboarding	Finetune goals and tasks		Finalized SSI and tasks with owners, information about distribution list, Progress bar showing progress so far		Experience points at phase end, fancy document set shared by email	Random reward for the group (lunch)
Onboarding	Summary of learning read and questions answered		Summary of learning shared	Retrospective summary, quiz	Levelling up from participant to practitioner, career coaching	Virtual reward, Points, Level up, booster
Scaffolding	Team working autonomously to complete actions	Granular beast	Establish a set of actions facilitator pushing deep thinking	Quest list		

Scaffolding	Inviting SME to help refine action items	Humanity hero	Asking SMEs for input on implementation details			
Scaffolding	Elaboration of implementation details	Granular beast	Fleshed out action list that includes actionable details	Quest list	Experience points	Points
Scaffolding	Feeding action items into tracking tool		Tool with dashboard to track implementation (shows progress)			
Scaffolding	Keeping the outcome of the session fresh in the minds of participants		Regular email with parts of the findings and priorities	Refreshing content		
Scaffolding	Sharing findings, experience and seeking help from community	Social prod	Establish social forum (on teams or slack) (CoP)		Feeling part of the community	Belonging
Scaffolding	Attend monthly follow up sessions		Update implementation track tool	Evolved UI	Experience points on attendance	Points
Scaffolding	Attend the bi-annual redo of the G-SODA session		Updated set of goals, priorities and tasks	Advanced gameplay	Experience points on attendance	Points, Virtual Reward
Scaffolding	Completing multiple iterations of G-SODA		Reaching a certain level of Experience Points, set of questions and summary of learning	Retrospective summary, quiz	Levelling up from practitioner to professional, Strategy Master Class	Level up, booster
Scaffolding	Successfully complete projects		Set of completed projects in PM tool		More rewards and recognition as a group	Points, Virtual Reward
Endgame	Institutionalize the process in the company policy	Humanity hero	Updated SOPs for the organization		Recognition on the SOP document	Shout out, Kudos
Endgame	Professionals acting as mentors for participants	Mentorship	Reflection in the status on G-SODA software	Updated avatar	Updated status to mentor, get the coached personally	Points, Badge
Endgame	Publicize the activities of the G-SODA group	Social prod	More news in the social media		Mentions and recognition on social media	Shout out, Kudos
Endgame	Expand the scope of the G-SODA activities	Multiple resources	More session announcements		More activities resulting in more rewards	Points
Endgame	Start considering external variables to trigger sessions		Run in conjunction with strategic foresight			
Endgame	Keeping the outcome of the session fresh in the minds of participants		Regular email with parts of the findings and priorities	Refreshing content		
Endgame	Recruit promising people into the set of participants	Recruitment	The progress that new recruits are making (XP)		Emeritus status	
Endgame	Embrace the process religiously		Upgrade status to emeritus		Sponsor executive education	Booster

As shown above, the process is broken down into phases. It includes the desired action, the response (feedback), and the reward for performing it. These elements can be gamified to create a push (trigger) and a pull (reward) effect. A desired action is coupled with a feedback mechanic to inform participants how well they are performing the task and how far they are progressing. It also presents the reward they can expect for accomplishing the desired action. A well-designed process will have the desired actions coupled with a business metric, enhancing the effectiveness of gamification and making it more relevant for the organization. I believe that this is a multi-dimensional approach towards achieving effective gamification.

Participant types are not considered in the scope of G-SODA design, as the chosen user typography might not be relevant in different situations. However, an informed facilitator might decide to cater to different types of participants by including specific gamification techniques that might be noticed by the targeted group but not noticed or ignored by others.

6.6.2. Automating G-SODA – A Computerized Framework

I set out to produce full-fledged software that considers input from the previous two iterations. With the help of a colleague, I built a rough prototype. However, I observed that software development dragged me into the nuances of code writing and quality control rather than feature description and their proper placement. Accordingly, I stopped developing fully functional software in favour of producing user stories¹(Al-Saqqa et al., 2020), UML² graphs (Koc et al., 2021) and wireframes³ (Garrett, 2011) that describe the functionality of the intended future software keeping the door open to prospective users to design their version of gamified software that serves their purpose based on different user stories, UML graphs and wireframes. User stories capture the software functionality. UML graphs break down the programming component of the software. The wireframes capture the UI/UX of the solution. I attempt to highlight gamification elements in each of the three design modes.

In appendix 9.12, I present the gamified process. The user stories help clarify the software's basic functionality and make it easy to measure for success. UML graphs present the design elements of the

¹ User stories are concise, informal descriptions of one or more aspects of a software system's functionality, expressed from the end user's perspective.

² Unified Modeling Language (UML) is a standardized visual language for modeling and visualizing complex software systems, encompassing structure, behavior, and architecture.

³ Wireframes are schematic, visual guides that represent the structural framework of a digital interface, often used in planning the layout and interaction patterns of a website or application.

software. I will then show the wireframes based on the gamification phase. It starts with the discovery phase, then moves to onboarding before lightly touching on the scaffolding and endgame phases. The last two phases will not be covered in detail, as the empirical research did not include them, despite being theoretically present in the literature and the interviewees' input. This is because these two phases span the month of close monitoring of corporate proceedings in relation to the strategy session's outcome, a feat beyond this study's scope. In each phase, I highlight the gamification elements that could be embedded in the software using the wireframes as a guiding tool. I will include other offline elements that are not present in the software.

6.6.2.1. User Validation

Participant validation for the prototype provides feedback on the usability and effectiveness of enhancements; in other words, the participants say whether the gamification elements and mechanisms achieved their purpose. As described in section 4.3.4 of the methods chapter, it was done on one sample from each session and not the whole set of participants since the purpose was to provide confirmation and not to collect data (interview details are shown in section 9.9). I conducted short interviews to gather opinions on whether G-SODA framework components made sense and if they noticed pressing or apparent areas for improvement to validate the framework's effectiveness (interview questions are shown in section 9.8.3).

6.6.2.2. Confirmation interviews setup

The interviews started by refreshing the interviewees' memories about the process that had taken place and the outcomes that resulted from the sessions. I also reminded them of their input during the post-session interviews. The next step was to show the G-SODA wireframes throughout the four phases of the gamification process. To avoid putting words in interviewees' mouths, I avoided presenting the reasoning behind the choice of the gamification techniques included.

I asked the participants about the following topics before showing the wireframes:

- How well did you think a typical participant would have accepted the idea of participating in terms of:
 - Taking preparatory actions
 - Doing pre-session brain-storming

- Showing up on-time
- Being fully invested in the process
- What positive or negative things do you remember from the session relating to:
 - Ease of doing the process
 - The interaction with colleagues
 - Entering ideas into the software
 - Liking to build the map
 - Choosing priorities
 - Remote participation
- How well would you think a participant would have behaved about:
 - Buying-in on priorities
 - Getting the outcomes implemented
 - Being eager to participate in future workshops

The same questions would be reposed after showing the interviewee the G-SODA and walking them through the wireframes. The last question was about any ideas they thought could be included in the framework.

6.6.2.3. Participants feedback

Both interviewees stressed that a tool used in all process phases and even afterwards is a powerful enabler for success. Such a tool acts as a framework to trigger engagement, facilitate cooperative work during sessions and organize collaboration later. AD pointed out that a dual-mode tool (synchronous/asynchronous) provides the flexibility required for different use cases, a feature already available in G-SODA.

During the discovery phase, AR and AD noted that setting the context, describing the roadmap, and providing the session agenda is essential for a successful start. The benefit comes from showing the target and the path to get there. AR pointed out that a simple email invitation seldom receives the necessary attention and interest. He noted that signing up is an essential milestone in its right. Educating people, invoking their interest, and giving context is an improved approach to achieving this milestone.

Once the onboarding started, both interviewees agreed that the interface and the included gamification elements should increase the chances of higher engagement and contribution. Eventually, this should lead to a higher level of buy-in. AD admired the communication features included in the interface (chat, broadcasting, video conferencing and messaging) since such tools can enrich the discussion. AR thought the interface was user-friendly but suggested an orientation session to ensure a proper understanding and practical use.

The scaffolding and end-game phase could also benefit from the G-SODA tool. AR thought it would be difficult to achieve continuity without such a tool. Follow-up and record progress in implementation are required. AR suggested that it might be sensible to break down sessions into smaller groups to muster focus and get things done, at least while the process is still developing in the organization. Regardless of the phase, the interviewees found that the tool included techniques that might be significant in getting things moving in the right direction throughout the process. These included techniques that trigger fear of missing out, handing out tangibles and boosters to energize and empower participants, utilizing peer pressure to push for action, and using reminders, flags and other feedback techniques to prevent distraction. These findings aligned with the theory behind the Octalysis framework adopted (Chou, 2019a).

After presenting all three iterations and discussing their implications, the final two chapters aim to add more depth. Chapter 7 seeks to add a lateral dimension to the outcome of the iterations, comparing and contrasting the iterations along the dimensions of the RQs and discussing these in the light of the extant literature. Chapter 8 provides final commentary about the methods used, the limitations identified, the research's usefulness and opportunities for future research.

7. Discussion

After presenting the outcome and discussion within each iteration in the previous chapters, including a lateral view that contrasts certain aspects, transcending the different iterations is helpful. From there, links to extant literature can be drawn, and value-adding additions can be laid out. I am hopeful that gamification's implications and benefits to the practitioners using SODA over a non-gamified process will be apparent. While I observed the consequence of my intervention step by step in each iteration of my RO-AR research, I considered the G-SODA software potential rather than actual usage since it was not developed or tried in a practical scenario. This chapter takes two steps back and looks at the overall progress and improvement from an action research point of view.

To recap, I bring attention to the research question: Can gamification improve strategy-making initiatives that use Causal Mapping? Out of this question, the derived research objectives are:

- Identify areas most problematic for participants in causal mapping sessions.
- Understand how gamification helps address challenges in strategy sessions.
- Select the gamification elements that can amplify the effect of different process parts.
- Visualize a gamified strategy making process revolving around the causal mapping sessions.

The reader is also reminded of the study's aims to address the gap identified in open strategy literature regarding potential pitfalls in stakeholder commitment and buy-in, establish an understanding *if* and *how* gamifying the causal mapping technique can help overcome the reluctance of participation by some participants, while improving the experience for participants opting to play an active role. It attempts to enrich the SODA experience with elements that encourage regular sessions, which act as catalysts to making teams more complex as individuals and in their interactions.

I propose a narrative to answer the research questions and achieve the research objectives as follows:

Gamification can play a pivotal role in SODA and address shortfalls identified in the open strategy literature. This happens when a knowledgeable facilitator orchestrates an engagement that brings together a diverse group of participants to collaboratively structure problems and agree on actions. In this process, the facilitator carefully selects a suite of gamification techniques that can be seamlessly integrated into a software platform serving as the focal point for participant engagement. The true measure of success lies in transforming participants' perceptions of strategy—shifting them towards a mindset that fosters autonomous action. Ultimately, the approach proves it's worth when it evolves

into a standardized, cumulative practice within the organization. By embedding these techniques into a single software platform, participants see—moment by moment—how their input shapes agreed actions, closing the gap between formulation and propensity to take action. Hierarchical barriers are flattened through anonymity and structured voting rounds, giving junior stakeholders equal influence alongside senior leaders. Ultimately, success is measured not just by session outcomes but by a lasting shift in mindset: strategy becomes everyone’s lived experience, driving autonomous action and evolving into a standardized, cumulative practice across the organization.

I will start this chapter by establishing how the findings of this research enrich the strategy literature. I will first complement table 3 with responses from G-SODA that have the potential address open strategy shortcomings. I will then delve into the above statement and break down the above narrative, discuss the implication and present the outcome

7.1.Summary of Contribution to strategy literature

Table 14 enriches Table 3 with a response from G-SODA, and suggests implications from the findings that can be considered as remedies to certain pitfalls in open strategy practices, as captured by the literature.

Table 14: Responses from G-SODA to challenges in open strategy

Source	Potential Problems	Consequence	Response from G-SODA
(Hautz et al., 2017)	Open strategy can fail to generate real stakeholder buy-in if participants feel that their contributions lack tangible influence	Cynicism can occur among participants who feel that their input is collected just for show, impacting their future participation	G-SODA visualizes all contributions in real time on the causal map using Contribution Counters, making each participant’s input visible and traceable. Progress Bars and Retrospective Reviews ensure everyone sees the impact of their involvement.
(Dobusch & Kapeller, 2018)	There is a challenge in aligning a wider range of stakeholders	Participant fatigue and frustration, eroding buy-in	G-SODA uses Group Quests, Mentorship Roles, and Booster Rewards to sustain engagement

			and bridge diverse perspectives over multiple sessions. A tiered onboarding process adapts to participant experience levels.
(Tavakoli et al., 2017)	Not aligning participants perceptions can diminish the final outcome	When participants feel that their concerns are ignored, they disengage.	G-SODA's Anonymous Input + Reveal process ensures perceptions are surfaced neutrally. This flattens hierarchies and gives balanced weight to all views.
(Aten & Thomas, 2016)	Crowdsourcing strategic input often struggles to convert online engagement into genuine commitment, since participants do not always identify with the finalized plan	Without a clear process to integrate and credit participant contributions, and without follow up on how these ideas shape implementation, participants might not act when required.	G-SODA can create Pledge Ceremonies, Recognition Mechanics, and Trophy Shelves to foster ownership. Post-session follow-ups include tailored nudges to reinforce commitment.
(Whittington, 2019)	Even when employing open strategy, entrenched hierarchies and legacy practices can limit ownership of initiatives	This will constrain the participatory process, resulting in muting or sidelining some voices, which will reduce the likelihood that strategic initiatives be embraced and acted upon.	G-SODA introduces Anonymized Participation, Role Flexibility, and Status Levelling tools to equalize input power. Facilitators can toggle on/off hierarchy-neutral features to suit culture and session dynamics.

7.2.A Heterogeneous set of Participants

Since this is a people-centric process, starting our discussion with the people involved makes sense. The importance of the choice of participants cannot be overstated. Ensuring that the key stakeholders participate is paramount, despite their attitude to the process or aptitude towards its proceedings. Therefore, it is inevitable that participants will be chosen based on their role and desired outcome. One of the primary purposes of the process is to address negative sentiments and align divergent intentions.

In G-SODA, much attention can revolve around the group creation by the facilitator and who is invited. The drivers of this decision can be merit-driven, based on previous performances, or expected contribution, as well as providing diversity in representation and opinion. This gamification approach aims to instill a feeling of getting scarce value in the participants. The experience participants gain is highlighted by the different levels they progress through. The facilitators can choose whether to communicate the basis of choice based on their assessment of the situation and its requirements. The choice mechanism can be embedded in a gamification technique to address a different core drive. For example, *Group Quest*, a gamification technique, can trigger the core drive of social influence.

Alternatively, *elitism and mentorship (gamification techniques)* could help convince senior participants to include more junior ones (Chou, 2022). Ensuring that the right set of participants are included is required to achieve political feasibility (Eden & Ackermann, 2011) and figuring out who to include is a much-debated point (John et al., 2004). This addresses a core concern in open strategy literature related to pseudo-participation and lack of stakeholder alignment (Dobusch & Kapeller, 2018; Hautz et al., 2017). By leveraging gamification to strategically select and engage diverse stakeholders, G-SODA contributes to fostering meaningful participation and perceived inclusion in strategic processes.

Joining the process for the first time, participants had different expectations of the proceeding and the effort required during and after the process. In the first two iterations, there were comments about choosing a coherent group and the gap in seniority. There were suggestions to create subgroups based on the topic for efficiency. Organizational politics probably come into play in such situations, adding complexity to an already murky situation. Pre-conceptions can be challenging, and the onus is the process to gradually change them. I observed that by the end of the sessions, such scepticism diminished. I speculate that this is due to witnessing the importance of having the right voices heard and held accountable. One way a facilitator can mobilize the group is by understanding the different

potential roles that stakeholders can play (Pyrko, Eden, & Ackermann, 2017) and designing gamification techniques to activate them.

The research also uncovered another critical factor affecting participants' experience: their knowledge of the process. Determining participants' knowledge level allows the facilitator to customize the process using the proper gamification techniques. The facilitator can better understand process familiarity by asking first-time participants or by understanding the participation history of returning participants. For example, the local councilors in the second session combined the theoretical understanding and the practical perspective gained from having a day job in other organizations. Such experienced personas can be counted on to help the process succeed.

Another desired outcome of its iterative nature is the accumulating sophistication of participants. With the right induction and proper process management, the level of knowledge will increase during the session and in future ones. This leads to a feeling of mastery, a necessary ingredient for intrinsic motivation (Deci & Ryan, 1985). However, I think lazily running the same process will have a side-effect of boring the more experienced users. Mitigation can be done by properly narrating the importance of getting everybody on board and innovating using other gamification techniques. Experienced participants can also be assigned as mentors and partners in administering the process (Chou, 2022). This approach touches on multiple core drives in the experienced people, which I believe will contribute to the longevity of the process.

Another interesting observation was that the interviews' most eccentric and irrelevant comments came from the smartest and most experienced people. They quickly gathered the potential that this process held. Their curiosity drove them to wonder what could happen if their ideas on how to get things done were pursued. Doing this would have introduced scope creep into this study and caused it to mushroom out of control. This challenge is also found in the literature (Ackermann et al., 2018). However, in a more practical context, I believe that giving creative space for experienced participants to contribute to the process will add value and result in interesting and unexpected variations. It will also maintain their interest and involvement effectively.

Zooming in on the gamification potential to customize the SODA process to the level of participants is an exciting feat. It breaks the taboo held at all levels of the organization around who the producers and users of strategy are. A facilitator deploying the proper gamification techniques can deliver the right message about the importance of the process to the right audience and mobilize participants from

different levels around desired actions. Additionally, the facilitator can creatively embed techniques that can level the playing field if hierarchical concerns are present in a session. These techniques can help uncover exposure levels to strategy and trigger a sense of achievement and self-investment in bridging gaps. In doing so, it is essential to pay attention to the conditions required for flow and optimal experience (Csikszentmihalyi, 2008).

7.3. Immersion through Gamification

In its original form, the SODA process already includes gamification techniques that work well. *Round-robin* (also referred to as the '*you have the stage*' technique) and *narratives* (such as SSI) are examples (Chou, 2022; Eden & Ackermann, 2018). I believe that formalizing them and building on their effectiveness will expand their impact. I also think that augmenting them with selected elements from the arsenal of gamification techniques would amplify their effects and make other areas more engaging. I consider the impact to include the convenience of use, engagement in the process, and seeing it through to its conclusion.

The convenience of use addresses the obstacles and turn-offs that participants might encounter that would result in them feeling disengaged. A convenient process includes quickly understanding what is required and fulfilling the requirements by exerting reasonable effort, representing practical and hedonic qualities referenced in the extant literature (Hassenzahl et al., 2010). Clear instructions, visually friendly cues, clear calls-to-action, and drop-out avoidance are techniques used to enhance the convenience. However, measuring user journey and service surrounds scientifically (Finstad, 2010) is beyond the scope of this study, as described in the study limitations (section 8.3).

The immersion in usage refers to applying oneself to achieve the purpose behind the steps rather than mechanically completing requirements. It builds on the concept of flow and optimal experience (Csikszentmihalyi, 2014), although it cannot accurately measure whether this has been achieved. While the Usability Metric for User Experience (UMUX) measures usability from the point of view of effectiveness, efficiency, satisfaction and the overall experience, it falls short of measuring whether flow occurred and to what extent (Finstad, 2010). Accepting the process, its outcomes and the accompanying obligations comes from feeling inspired. Immersion also extends to finding the outcomes to be reasonable and considering successful implementation as an integral part of one's success. These

observations align with Partala and Kalinen's (2012) findings that autonomy and competence are most salient when positive experience is registered, while impracticality is a user experience killer.

An excellent place to start the comparison between the multiple iterations is at the planning stage. However, this was not visible during the study, so we moved on to running the process. Once the participants are chosen, the first step is sending out the invitations. The evolution of this process among the different iterations is apparent. In the first one, a formal invitation was sent to chosen participants, politely requesting them to participate in a session to create a strategy for the IT department that aligns with the company's strategy. In addition to my seniority, I relied on people's willingness to read and their sense of responsibility. In the second iteration, I used more intrinsic and self-serving motives. The invitation was inspired by the psychological foundations of gamification principles and aimed to trigger positive responses based on those motives. These foundations are available in the user experience literature (Partala & Kallinen, 2012).

In either case, the difference in the responses from the participants to the invitation was not remarkable, leading me to think that this is a prominent area for improvement. The two desired actions were to get the participants interested enough to respond to the call to action in the email and to get them to complete the preparatory tasks in G-SODA. Persistent nagging in different forms, such as emails and reminders, could work for the first task. The email included a *narrative* technique to create intrigue. The reminders had FOMO (fear of missing out technique) and scarcity using the countdown timer's technique. They also include *social prods* and *conformity anchors* techniques, pointing out that certain colleagues have finished the task. Another option is the *humanity hero*, which links the action required with the broader good. Completing the required actions is rewarded using the *earned lunch* technique with a reward such as a helpful white paper or a user manual. It is also socially rewarded with group recognition through a trophy displayed on the *trophy shelf* (Chou, 2022).

Doing activities before the session and taking the initiative could help invoke immersion early on. Yet participants cannot be counted on reliably to have the initiative, despite luring them with rewards. G-SODA gamified features can hopefully increase the chances of participants coming prepared for the sessions. Once on the platform, the software attempts to onboard the users and give them a feeling of mastery through completing specific tasks. *Visual storytelling* (Videos and animations) aims at overcoming people's reluctance to read. A Video-based story will include implications that stress a higher purpose and potential for advancement. *Retrospective* and a *quiz* (also considered gamification techniques) provide positive feedback and a sense of achievement. Getting through the steps is

rewarded with a *milestone unlock* technique by receiving the credentials for full access to the GDSS embedded in G-SODA (Decision Explorer or StrategyFinder) (Chou, 2022).

Early immersion into G-SODA ensures that participants are ready for the session. Participants create their profiles step-by-step. Users own their profile and its attributes, thus giving them a sense of possession. The platform gradually orients them through information and videos and provides feedback on progress through a test at the end of a phase. The onboarding will be adaptive to the participants' level as they see examples of right and wrong usage and the expected outcome. The responses from the first two sessions highlighted these points as very useful. The completion reward is the promotion to a new status.

Once onboarded to the platform, users get information and instructions on upcoming sessions and can access the GDSS. The participants can enter concepts for an upcoming session before the session starts, a point highlighted from the feedback of both iterations. Benefits include getting to know the application, giving time to consider issues that bother them without pressure, and having a practice run in gamification terms (Chou, 2022). The importance of such a nuanced approach to onboarding cannot be overstated, especially for those participating in the process for the first time.

The platform also employs other experience-enhancing and obstacle-eliminating techniques. Two powerful approaches before, during and after the session are communications (synchronous or asynchronous) and *boosters*. Chat-based (text or voice) communication with the facilitator and the group gives instant feedback. It ensures that flow is not broken in case of an overwhelming challenge. Boosters accelerate the process by rewarding desired actions with enablers to perform better on current or future actions. Examples of boosters are helpful rewards such as white papers, user manuals, credentials, or other empowering means. I highly recommend using them wherever possible throughout the process (Chou, 2022).

In both initial sessions of the first two iterations, participants voiced concerns about the commitment and seriousness of the group towards seeing the actions through until the fulfilment of the outcomes. In the first session, some concerns about the number of action items were raised. In the second it was about the commitment of junior staff. The *pledge* gamification technique can resolve this uncommitted behaviour with higher meaning and calling. At the end of the orientation phase and before moving to the initial sessions, participants pledge commitment to contribute and their own outcome. They could pledge individually, in a group, or video record it. Such an approach triggers multiple core drives at the

same time. It addresses meaning, social influence and avoiding reputational damage (if not honoured) (Chou, 2022). I believe that such rituals would require a particular culture and specific preparation to bear fruit.

This brings me to the conclusion that a properly implemented set of the above techniques can address challenges in open strategy related to the lack of buy-in and the difficulty of translating initial engagement into ownership and action (Aten & Thomas, 2016). G-SODA uses immersive gamification techniques to deepen participants' identification with the strategic process, thus improving commitment and long-term involvement.

The enriching potential of gamification techniques should not lure a researcher to over-gamify, as this can negate the desired improvements. Too many gamification techniques can overwhelm participants and dissipate the focus from the core activities. Choosing explicit techniques can undermine the seriousness of the exercise, especially where the culture is less accepting of playful behaviour. This is most apparent in the early days of implementation when scepticism is still running high. Other techniques like points, leaderboards and boasting can feed competitive frenzy and strangle the much-desired collaborative spirit. I do not entirely rule out the use of such methods. On the contrary, the G-SODA designer can include these configurable features that can be turned on or off based on the situation.

Choosing the level of gamification details is a balancing act (Burke, 2014). Trying to gamify every aspect of the process and extract action everywhere might feel trivial and cause fatigue to the participants. It will also look like the gamifier is trying too hard. On the other hand, maintaining only superficial gamification might result in minimal improvement to the process. Gamifying the process can be a custom job that addresses the needs of a specific set of participants for a particular session. The techniques implemented in this study and others marked for the future should be considered an arsenal to be deployed as needed. A key recommendation of this study is to be mindful of why, what, and how to gamify.

To continuously improve the process of deploying gamification techniques, asking participants about their impressions of gamification can help. It was interesting to note which implemented techniques were noticed and which were not and why. Were the techniques appropriate for the situation, and were they adequately implemented? Did they deliver their desired outcome? On the other hand, one can question the appropriateness of asking participants these questions, given that some black-hat

techniques might feel a bit manipulative. Again, I believe this decision is best left to the designer and the facilitator. The ultimate litmus test is whether the participant will recommend this process to others (Kujala et al., 2011).

7.4. Practical deployment aspects

This section talks about practical considerations that face the facilitator and the group during the session and suggests gamification techniques that can prove helpful. Remote participation was one such concern. Both initial iterations recorded negative sentiments towards the remote participation experience. Not being able to follow, being easily distracted, only being able to see one view, being missed in the round-robin, and other drawbacks were cited during the interviews. I suggest a facilitator use G-SODA video, audio, and chat capabilities.

During the session, issues surfacing was a smooth endeavour that people quickly warmed to. While participants had no difficulty learning the rules, they still made mistakes in the first session when entering them independently. Participants gathered around one screen in the second session, and the facilitator/chauffeur auto-corrected while entering, eliminating errors early on. Using G-SODA allows the facilitator to give immediate feedback to an individual participant or the group. The entry and feedback can be anonymous if the facilitator deems it necessary to reach procedural justice. These features also allow the facilitator to use the prompting technique to draw the participants' attention to areas not raised in the map or inquire about the specific intention of certain concepts (Chou, 2022).

Additionally, the software has a *counter* to track the number of surfaced issues. I have observed that this number drives pride and amazement among the group to have been able to build such a rich and meaningful map. Showing this number can serve as a motivator but can also be used as a target for less experienced groups. An optional *count-down timer* helps the facilitator keep track and create a sense of urgency. Both performance indicators are gamification techniques that can trigger multiple core drives, such as achievement, scarcity, or loss avoidance. It can also utilize social influence through social prods techniques. I have avoided adding competitive techniques, which might trigger negative sentiments that can damage procedural justice and political feasibility (Csikszentmihalyi, 2014; Ryan & Deci, 2000).

In both sessions, linking concepts took the most time and posed the highest risk of participants' disengagement. The facilitator did the heavy lifting with the help of a few physically present, highly involved participants. Even for an experienced facilitator, meaningfully connecting over 100 concepts in

less than an hour is a big ask. Attempting to create a fresh view and bring concepts one at a time worked well until the fifty per cent marker when the map again became overwhelming. The tactic with the highest chance of success in such a limited time was classifying, sorting, and linking ideas based on themes or tags derived from the topics raised in the concepts. However, such simplification carries considerable drawbacks. Participants highlighted that the map became fragmented, important linking could have been missed, and mis-prioritizing due to differences in themes' priorities could have occurred. Additionally, the choice of themes might be another contention area that poses the risk of breaking the map into functional or departmental areas of responsibilities, which can harm cross-functional cooperation.

G-SODA's capabilities can address such challenges. *Visual feedback* gamification techniques provide a rich source of feedback for both the facilitator and the group. One of these techniques is the *progress bar*, which tracks the completion of milestones and activities. Such a tool targets the accomplishment core drive and, in some cases, the social influence when considered a group quest. Monitoring techniques make this visual feedback visible at the correct times to trigger specific actions. The chat box could act as a mode of communication that safeguards linking suggestions from being lost due to the chaos. Different team members or groups can simultaneously focus on connecting concepts. Counters of orphan concepts as a group quest gamification technique can be handy in tracking linking completion. The chat enables the *water cooler* gamification technique, where people chat in informal surroundings to get their creative juices flowing (Chou, 2022; Eden & Ackermann, 2011).

Due to the challenges faced in linking, both sessions required after-hours work from the facilitator to bring some order into the maps before the team could continue working to finalize the linking in a follow-up session. Some participants thought this was a good approach, as it gave a needed break to participants to come back with fresh eyes and work on a cleaned-up map. Other participants complained about the disconnection and inability to relate to the tidied-up map. G-SODA can address this. The previously mentioned features could help the team conclude the linking work within the allocated time, as collaborative work is possible and can bring efficiency. If a new session is needed, G-SODA can include features to take a snapshot of the map at the end of the first session and keep track of what has changed. G-SODA capabilities can make having one or two sessions a matter of choice rather than necessity. A future enhancement could be an animated visualization of how the map morphed from one form to another through time-lapse.

G-SODA includes a *retrospective* gamification technique, which provides valuable feedback to both the participants and the facilitator (Chou, 2022). At the end of every milestone, the facilitator can initiate a screen that overtakes participants' screens. The purpose is for the group to summarize the achievements, what went right, what could be improved for future times, and how to proceed to the following section. This approach brings reflection to practice, where it is most effective (Boud, 2023), ensures better content absorption and offers higher chances of success.

From the above, it can be argued that G-SODA's real-time interactive features help bridge the communication gaps that often limit ownership and equitable contribution in open strategy initiatives (Whittington, 2019). This enhances procedural justice and ensures diverse voices remain engaged throughout the process

7.5.Strategy perception evolution

At the beginning of the first two sessions, a common observation was that strategy was perceived as a non-inherent, imposed, superficial instrument. Few responded that strategy was either a process or related to action but re-iterated conventional wisdom about strategy being a direction, a set of goals, top-down, a plan, or similar responses. The general feeling among the participants was that strategy was external to the daily proceedings of organizational lives. It was a burden, albeit a potentially useful one. I attribute this to strategy decoupling from the individuals' concerns and real action on the ground. Therefore, a re-coupling strategy with personal objectives and with implementation is necessary for the strategy to redeem itself.

Let us take the personal aspect first. While participants' feedback was generally positive about the usefulness of the process in the interviews, unravelling this sentiment further showed relief that individual concerns and ambitions were common. Taking people from the mindset of holding back to effectively voicing concerns and stating issues is the tipping point where the exercise starts bearing fruit. At this point, the concerns of others are seen as valid and complementary, fortifying the team's solidarity and unleashing its ability to lay down action and implement it. Adding personal advancement potential and overcoming challenges on the job to the mix can be the catalyst for this candid session. Gamification techniques that target advancement, possession and empowerment can be handy.

The other aspect is re-coupling strategy with its implementation, which requires that the participants draw a mental map between what is agreed upon and the organization's goals. The completed strategy

map encompasses individuals' thoughts and concerns (Eden, 1988). It provides that path between action items (drawn from priorities) and organizational goals. It also provides a confirmed visualization of cause and effect and allows for tweaking and fine-tuning of inputs to optimize output. Telling stories about the future and citing past successes of the mapping exercise instils confidence in participants to see the process through. Re-iterating this message in different ways and stages in the G-SODA implementation is a promising approach.

Narrative, a gaming technique in the G-SODA initial communication, is designed to educate participants to accept a strategy-as-a-process mindset (Eden & Ackermann, 2000; Eden & Ackermann, 2018; Mintzberg & Waters, 1985). Narrative targets the meaning (purpose) core drive and establishes a connection between this purpose and the endeavour they are about to embark on. It helps participants understand what is happening (Weick, 1995). It also triggers a feeling of achievement, especially among the junior participants (Chou, 2019b). Setting the expectation out of the process is done by giving a glimpse of the expected outcome, resulting in the growing anticipation in participants' imagination of what to expect. The video included in the onboarding stage has this goal.

By the end of the sessions and after seeing the outcome, many respondents considered the results of the sessions as strategic or partially strategic. The majority noticed some value in aligning people and departments, overcoming implementation obstacles, high quality of output, ownership of the outcome, or the outcome being sufficiently implementable. The outcome enabled and expedited implementation, thanks to the joint and coherent understanding reached. I consider these references to be implicit acknowledgements of SODA's benefits in strategy implementation. I hope that the change in the perception of strategy, thanks to the gamification, will ensure that the process continues.

It is also worth reflecting on how the perception of strategy evolved in participants' minds at the end of the process and after seeing the outcome software concept (for those who got to see it). It is safe to say that at the beginning of the sessions, participants were seeing strategy as a real thing, depending on what their experiences informed them. After the sessions, they become more open to other interpretations of strategy. They accepted that strategy was their lived experience during and after the session, which they communicated to me. In my opinion, this is why gamification is relevant here, as it directly affects the lived experience of making and executing strategy during and after the sessions (Mintzberg & Lampel, 1999; Olekanma et al., 2022). This evolution in participants' strategy perception contributes to overcoming the hierarchical barriers and legacy mental models that often constrain open

strategy implementation(Tavakoli et al., 2017; Whittington, 2019). The lived experience facilitated through G-SODA redefines strategy as something co-owned and actionable.

The existence and importance of structure in studying strategy is another interesting contention point. I have come to believe that a structure is a temporary construct to establish a discourse, yet it is only a means that can be easily let go of or replaced if required. Structure is external to strategy and valuable for providing an explanation. An informed person can create or modify an existing structure as needed. It is not real but made up based on necessity. This finding has led me to believe that invented structures perceived as real are dangerous, as they close possibilities for action and blind away exciting and helpful insights. To this effect, strategy, gamification, motivation, and engagement have assumed a different nature and meaning as I progressed in the project. This progression is in line with the pragmatic stance that I have adopted. As such, being pragmatic opens the door to different approaches that are selected based on the premise of which is most likely to deliver more valid results (Saunders, 2019).

7.6.Ensuring continuous success

As the team move from the onboarding stage to the scaffolding and end-game stages, ensuring sustainability and continuity of the process becomes a challenge. In my opinion, addressing such a challenge requires *demonstrating value to the participants and the organization*, continuing to *provide a fulfilling experience*, and adapting the process to the *evolving and dynamic needs of the organization*.

Participants can find value by interacting with the corporate elite. Being in the company of senior executives or renowned experts opens the door for career progression, developing a personal network and expanding horizons. These trigger the achievement, possession, social relatedness, autonomy, and creativity core drives. G-SODA can help participants shine as a reward for continuous commitment to the process and successful collaborative work on the outcomes. Gamification techniques such as *experience points, levelling up, virtual rewards, shout outs* and *kudos* are helpful. I am not for using exchangeable points that act as a currency and can promote selfish motives (Chou, 2022).

To ensure the value gained at the end of the session does not seize after the participants leave the door, cleverly designed follow-up techniques can get pending tasks done. G-SODA keeps track of all activities that are pending and completed. It sends cute and clever reminders that include appropriate cues and customizable calls for action based on the participant's persona or the task's nature. I believe that communication is a crucial success factor at the later stages of the process. I encourage designers to use

their imagination to generously communicate plans, achievements, star performers, dream teams, and whatever is worth sharing.

Evidence of value to the organization can be both tangible and intangible. Harmonized, effective action that delivers results, coherence, and team spirit are examples of such effects. Both groups agreed that one of the indicators that the process has value to the organization is stakeholders' endorsement or participation, if possible. To address this point, G-SODA can include a sponsor role that can send critical messages and missions to participants at the beginning and end of iterations. Subject matter experts can play this role, contributing their time and expertise to enrich the process. A gamification technique called *Humanity Hero* could encourage them to do that, as it further propagates their reputation (Chou, 2022).

Making the process fulfilling entails generating a feeling of autonomy and empowerment in the participants. Participants referred to this when they spoke about the positive feelings that surfaced from being part of the group. Creatively co-creating resulted in a warm feeling and excitement that led to the joint ownership of the results (Burke, 2014). Building on this, the software prototype employs techniques such as *boosters* that reward and empower participants with tools that make them perform better, a virtuous loop. Courses, sponsored education, and access to advanced tools are such boosters. *Evolved UI* with additional features is another gamification technique that opens options for advanced participants, thus empowering them to perform better (Chou, 2022).

One potential sign of engagement is participants volunteering to own tasks since less involved participants had to be nominated by others. G-SODA encourages volunteering by highlighting recognition, possession, and personal advancement. However, I advise caution, as people might jump into areas where they cannot own tasks. Another way is to tag the action items as a *quest list* and reward the whole team if the work is shared and completed. The result is the added value of mutual support among the team for group success, harnessing the belonging core drive. Task-matching techniques can optimize the usage of available resources. An advanced level of belonging is where people consider their success inseparable from the group's success. In the scaffolding and end game phases, after participants have been through the entire process multiple times, they start improving details that will impact the quality of the outcome, a sign of mastery. As mentioned, mastery is inherent to intrinsic motivation (Ryan & Deci, 2000) and triggers the empowerment core drive (Chou, 2019a).

Having been through multiple iterations, a success indicator is the feeling of belonging that participants experience. The interviews suggested that being chosen as part of an elite group is a reward and an incentive, instigating professional intimacy with the team having gone through the highs and lows multiple times together. I think being referred to as a member of the strategy-making team by non-participants triggers feelings of pride and accomplishment. Again, *belonging* plays a significant role and is a core technique of G-SODA (Chou, 2022). This technique and others offer a remedy to the erosion of strategic commitment post-workshops, a key limitation in open strategy (Dobusch & Kapeller, 2018). G-SODA's end-to-end support mechanisms turn strategic dialogue into ongoing strategic behavior.

Adapting the process to the organization's changing requirements requires an advanced process. This never-ending challenge featured in the feedback from session one is a threat to proper strategy implementation. Participants highlighted continuously changing plans, improper strategy communications and lack of visibility as significant threats. Participants in session two echoed this sentiment from their perspective. Employee disengagement, power struggles, cultural issues, change resistance, lack of roadmap and unclear culture derailed strategic projects. G-SODA aims to address these challenges by including techniques such as *refreshing content*. These hints and insights bring participants up to speed about what is happening at the top level and in the environment. *Recruitment* of new participants brings fresh insight and contribution and fortifies the network. *Mentorship* techniques turbocharge the participants' learning path, keeping the process enjoyable for veteran participants (Burke, 2014; Chou, 2019a).

Next, I conclude by exploring the significance of the contributions of this study to scholarly and practitioner knowledge and indicate avenues for further research.

8. Conclusion and Final Commentary

I set out in this research to gamify my way into addressing challenges of strategy making sessions to answer the question:

Can gamification help improve strategy-making initiatives?

The mission started with running a traditional SODA session, then gamifying the following SODA session, and ended up including the development of a design framework for SODA gamification that allows users to produce gamified SODA software on the go. What has been achieved is both modest and practical. On the one hand, rather than produce a definitive solution, the best I could do is develop a set of suggestions suitable to the situation. On the other hand, this leads to considerations of a framework within which suitable gamified solutions can be produced for diverse situations so each case can be addressed in a unique, suitable way.

The above evolution in mission corresponds to a similar philosophical transformation in my mind of what it means to run a strategy-making session. This is particularly remarkable, as I have been running strategy-making sessions for the past fifteen years, both with practitioners and students. I have moved from the rigidity and conformity of process to the flexibility and adventure of contextualization. With this transformation comes the extra burden of extensive preparation and consequent process customization. At the risk of piling up work for facilitators and G-SODA users, I believe this path leads to better results and a consistent organizational tool that adds value.

In this final commentary chapter, I start with some reflections on the methods employed. I then discuss the research's usefulness and contribution to the scholarly and practitioner knowledge in the field. Finally, I present the limitations that constrain this study and future research opportunities based on the current findings and highlight future research directions.

8.1. Methodological reflections

The methodological process embraces 'research indeterminacy' (Dörfler et al., 2018). As a result, the strategic research direction is emergent, with each research step being defined and affected by the previous one. As such, the process is embedded with learning experiences and is serendipitous if approached open-mindedly. This indeterminacy is inherent to the outcome being so adaptable to

different situations. I speculate that the result would not have been as practical and applicable had it not been for such an approach.

I realized that codes can be extracted from the strangest places when using thematic analysis. The most potent ones came from the examples used by the interviewees, as they unveiled nuggets of tacit knowledge, things they knew but did not know they did (Pyrko, Dörfler, et al., 2017). In doing so, participants expanded their understanding of concepts (Schon cited in Bierman, 1965). TPCA highly values information extracted from examples (Olekanma et al., 2022), as regular discussion would not have been able to reveal such a level of knowledge.

Tacit knowledge emerges from inside the examples and outside of them as well. The examples bring this knowledge out in a communicable form that impresses the owners. Tacit knowledge also serves as a fact checker of the emerging recollection of participants. Once they hear themselves speak, they can check the validity of their recollection and amend it as required (Venkitachalam & Busch, 2012).

Making sense of the interviews was impossible without zooming in and out of collected data. At some point in time, coding was done sentence by sentence. The coding process was recursive and overlapping. One sentence can be coded to generate two different and sometimes opposing meanings. From within one code, multiple can come out, and some codes can be embedded inside others. The details emerging from such an approach only made sense when I stepped back to synthesize different components (Braun & Clarke, 2006). This level-based thematic coding was repeated, and there were four to five levels between the most and least detailed levels. Each level synthesized the level below it.

Based on a hint from my supervisor, I noticed that once the exercise was complete, the only two significant levels were the most detailed and the least detailed. Zooming in and out between these two levels helped validate findings or fill identified gaps. The actionable findings at the top level were refined by tweaking details at the lowest levels. This iterative process continued until the participants' intentions were interpreted and a story was there to be told.

Such an approach was time-consuming but the most fun part of the study. It meant that for data to make sense, I needed to study it profoundly. This concept of indwelling (Dörfler & Stierand, 2019; Pyrko, Eden, & Ackermann, 2017; Pyrko, Eden, Dörfler, et al., 2017) refers to spending time with data. The outcome is when the data starts making sense in a way that begins telling a story. Properly communicating the findings requires adding a formal analysis to speak to the analytic in people. At points in time, it even made sense to revisit coding from previous iterations to refine or review.

Establishing relationships between different iterations provided continuity and fortified findings built on outcomes extracted from both iterations.

Another confusing point to reflect on is the extent to which feedback sincerely represents the true beliefs of participants. As one of the respondents voiced, this scepticism holds merit and occurs in real-life situations where organizational politics run wild. When asked what worked well, what did not, and what needs improvement, caution is required to regulate the input. I accepted feedback on features that worked well and those that did not at face value since the participants provided grounding for their opinions. However, I suspect aspects that participants thought required improvement need further scrutiny, as they could have been diplomatically delivering a negative message.

While this study follows a qualitative methodological choice, dealing with quantifiable attributes can sometimes be inevitable. An example is the capture and treatment of the number of ideas contributed by each participant, as this might cause pressure that might compromise quality. While trying to keep the flow of ideas natural, the total number of contributed ideas is an exciting feedback indicator that the group would feel proud of. Its significance is more of an indicator rather than a variable to analyze. A similar point is the number of participants in a session. In my opinion, such a number is more of a practical concern in order to be able to manage the sessions properly.

The method could expand to capture the relevance of different personas to the data by adding a third dimension when collecting the inputs. However, this would have added substantial complexity and introduced a set of assumptions that might pollute the data. I do not think this is appropriate for this explanatory study's attempt to create a framework. In the future, validation of certain aspects and the usefulness of gamification techniques can benefit from this added detail. The participant type matrix in gamification presented in section 6.3.2 is one way of achieving that, and input from every participant could be further qualified by the quadrant in which they reside.

8.2. Research significance

This study makes the following contributions: It builds an argument for the impact of gamification on strategy-making sessions. Here this was illustrated using SODA, but there is no reason why similar improvements would not be gained using alternative approaches to facilitating strategy-making. Gamification helps solidify the acceptance and the impact of SODA in organizations, and offers a philosophically sound and well-embedded methodological approach for researchers interested in

conducting research that is both rigorous as well as relevant. On demonstrating the usefulness of gamification in SODA, I opened the door to a wider consideration of gamifying approaches to strategy making and various modelling approaches used in management science. Automated G-SODA holds potential to enhance participant collaboration before, during, and after SODA sessions by employing gamification to improve interactions in previously overlooked areas.

User experience is of paramount importance in G-SODA. This study touches on that, as it significantly impacts strategy-making by modifying the lived experience rather than the content of the strategy. Improved experience will eventually result in better content. The study has enhanced the understanding of the user experience of the standard process. I hope this fusion can improve the user experience of participants and facilitators by eliminating usage obstacles.

The study and outcome can impact organizational policy in formulating and executing strategy. Iterative SODA makes organizations more complex each time they run the process. As the organization progresses, it will manage to address the ethical concerns of gamification. This continuous learning cycle implies that this study can find beneficial use in education, where the method, the gamification approach or the outcome might be practical as a reference to enhancements in that field.

While this study has presented recommended gamification options at each stage based on the data gathered from the different iterations, it is not a conclusive or an ultimate set of mandatory techniques. As this was an exploratory study the most important outcome is that gamification provides a pallet of techniques, from which an informed practitioner can deploy the ones with the highest potential impact. The guideline behind the choice is achieving desired outcomes that achieve business metrics in a particular situation.

It is worth mentioning that the facilitator is under no obligation to deploy any of the suggested gamification techniques. On the contrary, facilitators have additional prerogatives on top of the existing responsibilities. At the beginning of a session, they can make a call on what to include or exclude from the identified potential techniques based on the participants, the objectives, the organizational culture, and other elements. In this sense, the facilitator now carries the additional role of session designer.

From a methodological contribution point of view, the use of ethnography with RO-AR, built on a bedrock of integration between pragmatism and phenomenology, is something I am very proud to have been able to carry out. Viktor's vision, experience, and innovative ideas are why this could happen. The inclusive nature of causal mapping, combined with TPCA's rigour, resulted in an outcome conducive to

effective action. In retrospect, the above combination and variations can benefit research in dynamic organizations that need to bring more involvement and order to their strategy and decision-making stage. I hope this contribution will extend further to cover other domains in management science that can benefit from such methods.

The study contributed to the strategy scholarly literature highlighted in section 7.1. It extends strategy as practice literature by offering a structured, experience-driven mechanism that operationalizes strategy workshops as seamless, iterative process. By embedding gamification within SODA, the research highlights how knowledge can be made visible, shareable, and actionable through digital tools. It responds directly to persistent challenges in SaP, such as the difficulty of sustaining engagement, fostering political feasibility, and bridging the gap between thinking and doing.

In the realm of open strategy, the study addresses well-documented risks around pseudo-participation, lack of buy-in, and hierarchical dominance by showing how gamified mechanisms (e.g., contribution counters, anonymous inputs, pledges, and feedback rituals) can democratize the strategy-making process. These techniques foster genuine inclusion, transparent deliberation, and participant ownership—key pillars of open strategizing.

From a practical standpoint, the research contributes to the evolving body of knowledge on gamification in organizational processes. Unlike short-term or superficial gamification efforts, this study's approach is long-term, purpose-driven, and grounded in well-established psychological and sociological motivation theories. It provides a validated, conceptually grounded model of gamifying a robust decision-making methodology—SODA—within a strategic context. This G-SODA variation not only augments an already proven strategy tool, but also opens the door for its adoption as part of an organization's extended, participatory strategy-making lifecycle.

8.3.Limitations

This study inherits some limitations from the choice of pragmatic stance and the phenomenological strategy. Yet, I am convinced this choice provides the flexibility needed for a dynamic and complex organizational life. An example of the alleged limitation of the above philosophy is the limited generalizability of the outcome, the sample size, and the diversity. Yet, my ontological understanding and experience do not accept a generalizable method or tool. The lack of long-term sustainability and scalability, while a flow in a different type of studies, is not in this one. On the contrary, I encourage

facilitators to revisit the design of the G-SODA before every session. This prudence ensures they do not succumb to complacency in a rigid, over-structured process.

Another concern that emerges from methodological constraints is not being able to apply quantitative methods to validate quantifiable results, such as user satisfaction and rate of completion. The iterative nature of action research also makes comparing outcomes from different iterations challenging, as they might have other restrictions. The study might suffer from the difficulty in measuring outcomes. It is prone to bias from both participants and researchers. Like any subjective study, this uncertainty is not a drawback but a vital and enriching ingredient that can help capture perspectives that other types of research are incapable of. This is all typical for exploratory studies, which initiate a scholarly journey rather than conclude it. It can serve as basis for future confirmatory studies.

One practical limitation is that of time and resources. A full-fledged action research exercise was not possible, although such an exercise would have added much value. It would have allowed exploring what happens during the post-session phase (scaffolding) and when the G-SODA becomes an organizational artefact and a regular occurrence in the organization (endgame). It would also allow the exploration of the value of automated G-SODA software. Along the same lines, a third strategy session with a fresh set of participants who have not seen either method could have eliminated the impact of familiarity. This session could have utilized automated G-SODA to witness its value in real life.

I would have liked to see more comparison points between the first two sessions to benefit from what action research offers. However, the circumstances, context, tasks, and other factors differed, resulting in fewer comparison points in the interviews. Nevertheless, the thematic coding addressed this concern and presented abstract ideas. These ideas were the basis to create a (hopefully) robust model.

Being an insider to both organizations might have been an unfair advantage that does not reflect what happens in real life. It can also pose an ethical challenge due to my seniority in both organizations since people would feel pressured to go out of their way to cooperate. I believe that I mitigated this by presenting myself as an impartial researcher interested in learning from shortcomings and trying to address them. An alternative approach would have been to include an iteration in an organization with which I am not associated, offering a calibration reference.

8.4.Future Research

A few areas are worthy of refinement and further focus to extend the usefulness of this research's method and outcome. I will address the potential to expand the current study within the same discipline (longitudinally or otherwise) and the opportunity to transcend it to other disciplines. I also see potential in exploring refinements and modifications to the methods used. Being technology-centric, looking at the impact of technological advancement is also interesting.

Starting with extending the scope of the study, the first thing that jumps to mind is to carry out multiple studies of a similar nature. The recurrences can occur in different organizations and industries, such as healthcare, the public sector, or financial services. It will also open the door for comparative studies where similarities and differences among industries can be the source of valuable insights. Researchers and practitioners can produce meaningful case studies highlighting the lessons learned. It can also be applied to different departments and in other contexts. It can be extended to various disciplines, such as decision-making, planning and project management. Such extension will enrich the data collected about the usefulness of the gamification techniques added to the SODA process.

Encouraged by the fact that the study is based on action research, it can extend to become a proper longitudinal study (Saunders, 2019). More iterations that capture data from the scaffolding and endgame phases will provide valuable insight into the efficacy of the techniques. Limitations, challenges, and side effects will also reveal themselves, allowing for further framework enhancements. This understanding will make such an approach sustainable in an organizational context and potentially portable to other contexts. Effective progress tracking can be done manually or using G-SODA as a data repository, bringing a feeling of continuity and progression.

Regarding future methodological opportunities, there is potential to include additional methods and data sources. I can envision studies that include archival data, narrative, focus groups, and case studies as data collection methods. Employing a mixed-method approach can put the power of quantitative analysis to good use. The deduction could confirm certain presumptions and the platform could be accepted more by people who demand rigour and generalizability.

An obvious continuation of this study is to produce a complete software that builds on the prototype presented in this study. In addition, gamification is still a young field of research. New studies cover gamification techniques in strategic planning, decision-making, and organizational behaviour. Combining technology with gamification is an exciting field that promotes Artificial Intelligence, Virtual/Augmented

Reality, and other cutting-edge technologies. Data analytics on the plethora of extracted data can uncover areas for improvement that have been overlooked. Another area to look at is the advancement of simulators in decision-making. These could shorten the test cycle and help tweak models.

Additionally, the work done on StrategyFinder is commendable and promising. It encompasses essential features of causal mapping in a distributed and collaborative fashion. Since it is embedded, the more features and advances StrategyFinder undergoes, the richer G-SODA will become. Finally, customer experience studies can contribute to the interface design and help produce a highly accepted and interactive interface for G-SODA.

9. Appendices

9.1. Supplementary Literature Exploration

9.1.1. Using Casual Mapping to manage Distinctive Competencies

Another area where Causal Mapping has proved its potential is the tedious and contentious task of uncovering distinctive competencies. I will define and contrast competencies against assets and outcomes in this section. I will then explore what is meant by distinctive. I will finish by exploring how to use Causal Mapping to build a map that will help uncover where the strengths are and how to develop and retain them. The outcome is that the company can establish its competitive advantage.

Competitive advantage is “The potential to do better than most competitors in any particular endeavour through a focus on customer value as expressed through organizational purpose” (Eden & Ackermann, 2011, p.177). The competitive advantage derives from two elements; the first is a company's competencies. Second, these are unique enough to help the company stand out. Competencies are “a subset of resources and consist of abilities, sets of actions, technologies or processes that help an organization perform well against important goals or critical success factors. [...] Distinctive competencies are competencies that are very difficult for others to replicate and therefore are a source of enduring advantage [...] features of the organization that underpins long-term success” (Bryson et al., 2007, p.704).

Competencies fall into three types. The first and probably trickiest to figure out is competencies. They denote a clearly defined ability to do something. They are frequently confused with the second type, which is competencies outcome. Outcomes are uncontrollable or unmanageable by a team because it is unclear how to reproduce them, but they result from properly utilising competencies. Outcomes are important because they help a company achieve goals. The third type is assets, which are static resources to which the company has access, such as tangible, intangible, or human assets. Assets are usually exploited to create or obtain competencies and outcomes (Ackermann & Eden, 2010a; Eden & Ackermann, 2011).

Identifying distinctive competencies is another challenge. Some researchers simplistically define it as the answer to the question, ‘What do, or can we do, exceptionally well that our customers perceive more valuable than alternative providers?’ However, anybody trying to pin it down would tell you it is not as

straightforward. Eden and Ackermann (2000, p.13) define Distinctive Competencies as "...those particular strengths within an organization that are very difficult to emulate, and which can be utilized in a way which generates sustainable profits (private sector) or marks out why the service could not be provided elsewhere, or not provided (public sector)."

Distinctive competencies are, by default, scarce, valuable, and imperfectly imitable resources. "What makes them [competencies] distinctive is their uniqueness or lack of substitutability, a rarity among competitors or collaborators, the difficulty of imitation, the value in terms of exploiting opportunities or warding off threats, and the resulting provision of competitive or collaborative advantage" (Bryson et al., 2007, p.704). Distinctiveness is relevant and time-dependent. What is distinctive today might not be tomorrow. Ackermann and Eden introduced the concept of competence-based management (CBM) as an evolution from the resource-based view (RBV) which aims at providing the basis for identifying, protecting, growing and reconfiguring these competencies to serve the organization (Ackermann & Eden, 2010a) "A competitor should find it difficult to overcome distinctiveness that is grounded in a complex pattern of internal coordination and learning – suggesting elements of causal ambiguity" (Ackermann & Eden, 2010a, p.13). To sustain this distinctiveness, the organization builds, integrates and effectively reconfigures resources and competencies. They intend to maintain distinctiveness and to keep competencies inimitable for as long as possible. This loop of reinforcing distinctiveness is distinctive by itself and fends off competitors, who aim to copy them or at least be able to achieve the same outcome. The more complicated the pattern of distinctiveness is, the more difficult it is to imitate it. Thus, developing a new linkage between competencies is the best way to support distinctiveness (Eden & Ackermann, 2011).

The main challenge is that distinctive competencies can go unnoticed by internal and external observers, as they are subtly buried within an organization. They have an aura of ambiguity since competitive advantage rarely relies on one competence but usually on a pattern or set of skills that might not be individually distinctive. This pattern hides in subtle peculiarities in the way an organization operates. Often, this distinctiveness is found in a self-sustaining virtuous loop pattern. In some cases, none of the founding competencies is distinctive, but the loop is. In other cases, one of the competencies in the loop might be distinctive, and thus, the loop serves to sustain this distinctive competence. In addition to loops, portfolios of competencies are significant and might be considered distinctive. These patterns could have developed by luck or over time. Some organizations are blind to them and find it challenging to identify their competitive advantage, a situation called 'Causal Ambiguity.' Expectedly, not knowing

where a company's power comes from leads to grave consequences. One such consequence is that this strength source would not be protected or grown and would become vulnerable to competitive activities and environmental conditions. This ambiguity is demystified and tamed through elicitation and causal linking of concepts (Ackermann & Eden, 2010a; Eden & Ackermann, 2011).

Further analysis of the linkage between competencies, outcomes, and goals uncovers 'Core competencies,' which are those competencies that support multiple business goals. Not all competencies serve goals, and not all of them are relevant. The more relevant (core) ones enable the organization to achieve its business goals, which help it achieve its core goals. Some competencies might not be connected to any goal and thus might have become irrelevant. The organization has to determine whether the resources directed to maintain these irrelevant outcomes are better utilized in a different effort. Strategies need to mobilize existing competencies to make them as core as possible (maybe through building value for them in the customer's eyes). Furthermore, disposing of obsolete competencies is necessary to eliminate deadwood that might slow down the organization. It also makes sense to devise new goals that benefit from our distinctive competency, making them core. The Blue Ocean Strategy approach advocates such initiatives. However, developing new distinctive competencies is extremely difficult. A workaround is modifying the configuration of the existing competencies and exploring new combinations. Core distinctive competencies might turn to rigidities if not regularly rejuvenated with a new focus or if the environment changes (Ackermann & Eden, 2010a; Bryson et al., 2007; Eden & Ackermann, 2011; Kim, 2005).

Upon mapping out the set of distinctive competencies that support organizational aspirations, we are creating a model. Not-for-profit organizations call it a 'livelihood scheme', and for-profit organizations call it a 'business model.' Developing a business model or a livelihood scheme is cyclical, as goals are modified in light of the identified distinctive competencies. Both concepts comprise the centrepiece and fundamental logic underlying any effective strategic plan. The plan should detail how to activate, reinforce and exploit the business model and livelihood schemes. Traditionally, SWOT analysis was the primary tool to strengthen existing capabilities to seize external opportunities; however, it lacks focus and depth to identify the organizational strength's source. Causal Mapping, on the other hand, can identify the distinctive competencies related to the business model or the livelihood scheme (Bryson et al., 2007).

9.1.2. Action Research additional material

9.1.2.1. The nature of Action Research

Lewin found that the need for advancing action research as an approach that covers general laws and a specific situation when studying social science has become pressing. His approach is designing hypothesis-testing experiments in workshops. As expected, he faced challenges dealing with the complex and elusive data from social sciences. Developing methods for recording ill-structured data became very important, as it established the link between theory and action (Eden & Huxham, 2006). One of the methods is causal mapping.

Action research has a lot of use in socio-technical research across the world. It is the root of other derived approaches, such as action learning, which covers different knowledge accumulation types. It originally refers to the collaborative transformation that results from the learner's participation and reflection in action. Action inquiry is similar and relates to consciousness and thought while work occurs. Action Science, promoted by Argyris, is where clients take part in public deliberation and attempt to understand details of particular cases and explore and test the theory behind them. Participatory Action Research (PAR), promoted by Whyte, requires the studied organization members to participate in the design and further analysis of the research and has the added benefit of making change and learning a self-generating and self-maintaining process in the organization. Some scholars consider action research the foundation for Organizational Development (OD) (Eden & Huxham, 2006).

9.1.2.2. How to perform good RO-AR

Eden and Huxham (2006) list good RO-AR characteristics before clubbing them (non-exclusively) into four main clusters. These are clusters, either features that differentiate RO-AR from other methods, describe the technique of RO-AR directly or indirectly, discuss the nature of its output, or address issues related to its validity. The main characteristic of RO-AR is that it requires the involvement of the researcher and members of the organization about matters of genuine interest to the organization and over which the organization intends to take action. The commitment of the researcher to advance the relevant field of knowledge adds drive and context. RO-AR also focuses on emergent conceptualizations, where theory develops from synthesizing the data collected from practice. Given the circular nature of RO-AR, this data stems from the foundational theoretical constructs that the intervention started with. This specific characteristic also depicts the essence of RO-AR, enriching the theory with elaboration and

development that come out of interventions. The researchers have to explicitly capture this integration between intervention and research, which constitutes the primary differentiator from consultancy and other types of research. To quote Levin: “There is nothing so practical as a good theory” (Eden & Huxham, 2006).

Additionally, theory coming out of RO-AR is incremental, developing through cycles of extending theory to action, reflection, advancing theory, followed by action, and so on (Hunziker & Blankenagel, 2024).

This cycle renders valuable knowledge even more helpful with every intervention. RO-AR requires the orderliness and reflexivity of the systematic method. It helps to reflect on the research data and emergent theoretical outcomes after each episode of involvement and acting. The RO-AR process involves a series of interconnected cycles that researchers document for future reference.

Documentation is an integral part of exploring and developing new and existing theoretical constructs, covering both pre-understanding and methodical reflections. Data must also be checked as much as possible through triangulation to ensure validity. Elaborating further on the nature of RO-AR leads us to the fact that in any application or designed tool, technique, or model that comes out of RO-AR, the theoretical basis must be explicit, and the relevance shown to how it supported the development of those tools (Eden & Huxham, 2006).

The distinguishing features related to the output of RO-AR include this reference to tool documentation. From there, Eden and Huxham concluded that the outcome of RO-AR should have further implications than that specific intervention and that particular organization and be applicable in other contexts. The description will become a prescription, even if implicitly so. Therefore, RO-AR presenters should clearly state what they expect the consumer to take from the intervention and present it with the appropriate form and style. As a result, the history and context of interventions are critical for interpreting RO-AR outcomes, requiring reporting to include context, history, and data analysis. It should imply the generality of relevance but with boundaries of validity (Eden & Huxham, 2006).

The validity cluster of RO-AR features talks about exploring data (not collecting data). Examining data must be explainable and replicable to detect developing theoretical constructs. There needs to be an explicit method of exploration. Another characteristic of RO-AR is that its validity comes from its applicability. RO-AR is most useful when traditional approaches do not work and cannot capture the complexity. If conventional methods work, their use is encouraged to avoid the complexities and controversy associated with RO-AR (Eden and Huxham, 2006).

9.1.3. Negotiation

Reaching alignment among different people's opinions resembles scaffolding in buildings. The approach is called Scaffolded Affective Cognition, and it constructs collaborative modelling for decision development, building on the different patterns of thinking. It also encompasses various types of behaviours. The outcome is cumulative engagement leading to genuine collaboration that, if employed correctly, can help conceptualize complex affective processes in the location where the negotiation is taking place (Burger et al., 2018). A successful causal mapping session, or any decision-making session, has three sequential phases. The first is gathering diverse points of view, the second is building a shared framework of understanding, and the third is finding inclusive solutions. Getting to phase 3 before finishing 2 and 1 will result in non-inclusive solutions (winners and losers) and is a sure path to failure in solving wicked problems. People must fight the temptation to close prematurely and the pressure for speed (Kaner & Lind, 2007).

In a typical strategy-making session, the early stage of the discussion sees pre-formed opinions or conventional wisdom surfacing first as participants seek safe familiarity. The prevalent thinking at this stage is surveying the territory, speaking from an individual perspective, trying to capture all requirements, and searching for alternatives. A first attempt to close the discussion usually occurs here. For most complicated problems, this first attempt is a false step and not the answer. A facilitator might want to raise difficult questions at this stage to perform scaffolding and highlight the depth of the problem. The group moves away from this first set of narrow, familiar opinions to explore other options. A lot of criticizing and judgment passing happens at this stage. There is a risk of the divergence of ideas becoming cumbersome. Still, in a perfect world, an orderly group would force itself to consolidate into a refined proposal that is their final decision. Unfortunately, the real world does not work this way. In reality, the attempt to understand each other can fail if the gap is significant, and people become overloaded, disoriented, annoyed, impatient, or all of the above. In that case, the session is bound to fail, and no outcome will come out of it (Kaner & Lind, 2007).

At this point, some people will blame the process, which is a futile argument. A senior person may unilaterally declare a decision, which is a big mistake, as it shows the people that this is a pre-packaged decision, and that their opinion is irrelevant. So, the new decision does not get buy-in. This situation is known as the groan zone and sometimes seems insurmountable. What it is, is inevitable and a natural outcome of diversity and human nature. It is addressed through understanding the group dynamics. The ideal way to address this is to encourage thinking that promotes mutual understanding. This

understanding is the elusive goal that the facilitator should aim for while supporting the group in continuing to work. A shared context must be created (people do not have to agree, but they must understand by asking questions), and the relationships must be strengthened. Hopefully, the group will be wise enough to overcome this urge, and people will start considering new perspectives or expressing controversial, bold, or undeveloped opinions (Kaner & Lind, 2007).

For a successful GSS-powered SODA negotiation session, a consensus is the ideal output of negotiations. Consensus is the process that leads to a unanimous decision, where every person can veto the group's work and where the group is in continuous discussion until a solution is reached and accepted. It is essential to know that silence is not agreement. The consensus level sought is enthusiastic support instead of agreement with minor points of contention or support with reservation. Once achieved, the group would move to close the discussion. There are many formalities to reach closure. Whatever has been agreed upon needs to be documented, reviewed by the members for accuracy and signed off as final (Kaner & Lind, 2007).

9.1.4. Collaboration engineering

ThinkLets are standard building blocks comprising a tool, a configuration, and a script (steps) that help achieve one of the five stages of the GSS process. The first step is Diverge, where the team expands the available concepts through tools such as brainstorming and elaboration. The second is Converge, focusing on the critical few concepts. e.g., filtering, prioritizing, abstracting, establishing shared meaning. The third is the Organize, where understanding the relationship between concepts happens. e.g., categorize, cluster, causal link. The fourth is the Evaluate, focusing on consequences. e.g., comparing perceived value (could lead to another round of divergence), and the fifth is to Build Consensus: Getting agreement. e.g., discussion, issue selling.

Collaborative engineers can arrange Thinklets to produce a repeatable process for critical tasks such as creating a mission statement, evaluating a project and running a marketing focus group. An exciting addition to the above is to define measurement for each step. Practitioners can be trained to run these processes (Robert et al., 2003). ThinkLets can be very beneficial because they are a convenient common language for facilitators and practitioners. They can also serve as an inspiration for further improved patterns and as an enabler to design large, complicated, but still coherent systems. They can also be used in teaching and sharing expert knowledge, providing fast enablement for pattern creation and

eventually improving the quality of life. On top of the above benefits derived from Alexander's patterns, ThinkLets also play a significant role in collaboration research (de Vreede et al., 2006).

ThinkLets "produce a predictable state of mind among participants" and thus a similar pattern of collaboration and result (Kolfshoten et al., 2010, p.345). Their structure consists of four components. The first is an identification or a unique name (catchy metaphor referring to the pattern of collaboration; it is supposed to invoke). The second is a rule-based script, relating to people's actions in different roles using capabilities according to parametrized constraints. The third is the selection guidance, a pattern of collaboration and guidance on when it will be useful. The fourth and final one describes what will happen if/when a ThinkLet is executed, covering both success and failure scenarios (Kolfshoten et al., 2010).

ThinkLets implementation can compensate for the facilitator's absence in any of the three phases of GSS: the design phase (including process and technology), the application phase, and the management phase. In the facilitator's presence, the three might be done by him directly but can be divided between the practitioner and the collaboration engineer. Thinklets are organized around patterns of collaboration they create. There are 6 of them identified as:

- 1- Generate: have more concepts shared by the group (through creativity, gathering, and reflecting).
- 2- Reduce: have fewer but worthier concepts through filtering, summarizing, and abstracting.
- 3- Clarify: have more shared understanding through sense-making.
- 4- Organize: increase the understanding of relationships among concepts through categorizing, sequencing, and causal decomposition.
- 5- Evaluate: increase the understanding of the relative value of the concepts through choice (social or rational), communication of preference, and reflecting.
- 6- Consensus building: build acceptance and agreement to commit to a proposal through building agreement and building commitment (Kolfshoten et al., 2010).

To achieve practical collaborative engineering, the cognitive load of GSS needs to be minimized while simultaneously transferring facilitation skills to practitioners to ensure continuity. A GSS function and facilitation must be mapped to steps aligned with the practitioner process. This process needs to be definitive, outcome independent of a practitioner. A new way to reduce the turnaround time of new packages is required. A library of standard, reusable building blocks would be handy (Robert et al., 2003).

9.2.A fresh perspective of the SODA process

This section presents a fresh look at the key components of the SODA process to improve the understanding.

9.2.1. SODA ecosystem

I present a personal perspective of the SODA ecosystem and why it is an excellent strategy-making tool that enables strategy implementation. This perspective forms the basis for creating incremental value in strategy making. Figure 15 below provides some details. The graphic captures the main concepts, how I view their interaction, and the assumptions upon which I build the arguments. I view that all the concepts presented are socially constructed, created from the shared understanding of the group. The relationships are neither causal nor chronological but loose indicators of inputs and outputs. They are representational and can also change direction, as SODA will impact the constructs feeding it and be affected by the strategy coming out. However, the below model aims to bring some order into the fluid concepts that constitute this study and establish the ground rules.

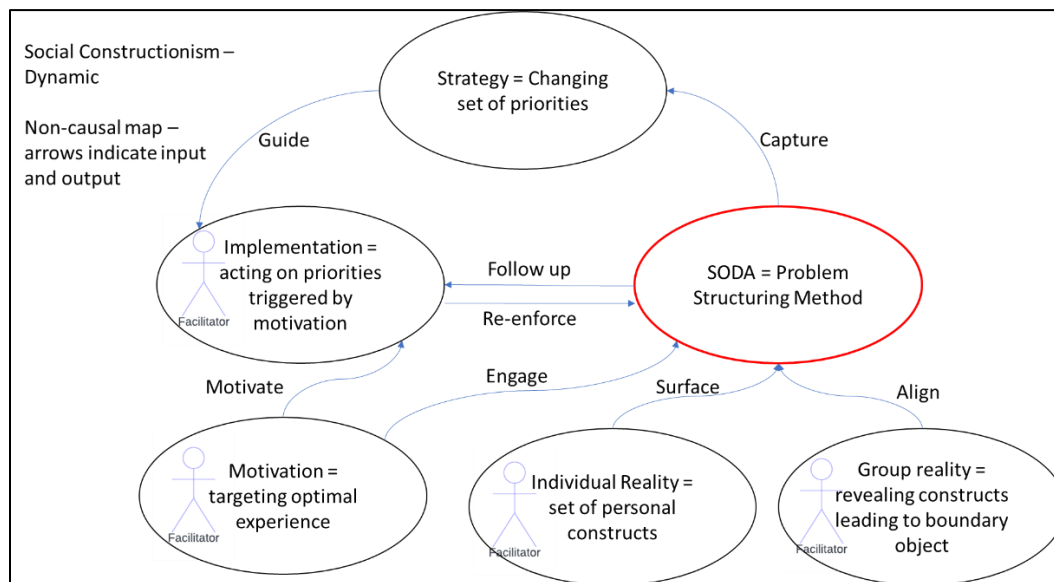


Figure 15: The relationship between SODA and strategy components

Highlighted in red, I find that SODA is a good starting point for exploring the nature of the distinctions necessary to build this thesis. The SODA process is the outcome of running multiple iterations of Research-Oriented Action Research (RO-AR) on Causal Mapping workshops (Eden & Ackermann, 2018).

The outcomes are enhanced problem structuring processes for extracting emergent strategy and presenting it in a communicable format. While this problem structuring method is robust in paying attention to the social aspects, I have improvised on the method to adapt to situations. This has given me the idea that the door is not closed for further improvements or customizations through additional iterations of RO-AR. Enhancing the model's flexibility to empower the facilitator is also possible.

SODA's inputs reveal individuals' constructs and the alignment among participants. There are embedded enabling elements, such as the facilitator, an individual with an interpretivist mentality. The facilitator is empathetic towards the participants, aiming to enter their world and understand their points of view (Saunders, 2019; Yearworth & White, 2019). Procedural justice is another element that encourages participants to articulate and publicize their constructs. It allows all contributions to be part of the outcome. In that sense, I visualize procedural justice as the all-catching net that does not let points of view go unnoticed. The interaction among the group results in individually perceived statements morphing into a collectively conceived boundary object that augments what the group envisions to be reality. SODA objectifies the previously unknown and uncharted into something the group logically and psychologically accepts.

This objectification creates a new set of concepts whose meaning is mutually agreed upon and only relevant to the group. Such mutually agreed concepts are constructs the group accepts as enforcing, or at least not in conflict with the existing constructs upon which they build their reality. Participants build action and design the future based on these concepts, allowing the indwelling of such concepts to occur. This iterative transformation from individual knowledge to common knowledge to enriched individual knowledge marks a successful SODA process (cf. Dörfler, 2019; Pyrko, Dörfler, et al., 2017). I expect that the output's quality and validity directly relate to the quality of experience that the participants live in SODA. I am studying this experience to enhance it.

In the same spirit, I expect that the success of SODA in implementing its outcomes relies on motivating individuals and groups to trust the process. Whether intrinsic motivation is a must or strong extrinsic motivation is enough is a futile point to argue, as it is challenging to draw the line. It is essential to have the SODA process and follow-up actions designed in a way that achieves flow (Csikszentmihalyi, 2008). Such activities need to lie in the channel between boredom and anxiety. Their design should align with the capabilities of the group. A high level of clarity and continuous feedback play a significant role. The process of agreeing on priorities is the negative of the psychological chaos that individuals might experience in the face of day-to-day challenges of their daily lives. As a result, motivating the group can

be translated into designing activities that achieve optimal experience and flow for participants. I hope that successful implementation will result in a positive spiral that will further enhance motivation and promote the continuous use of SODA.

Engagement is not isolated from the feelings it brings in the people involved. So important is this feeling in participants to making strategy that it needs to be part of its definition. Therefore, Strategizing and SODA can be described as ‘employing a psychological understanding of motivation and flow to facilitate engagement of participants to agree “on priorities and then implementing those priorities towards the realization of organizational purpose” (Csikszentmihalyi, 2008; Eden & Ackermann, 2011, p.5).

Understanding the participants’ emotions and lines of thought as they move from defending their opinion to subscribing to and owning the boundary object accounts for an interesting field of study and a worthy challenge (e.g.(Dörfler, 2019)).

In this space, I developed a new contextual understanding of *gamification* as a design process that embeds SODA techniques to adjust the challenge level to the group’s capabilities, allowing the process to work for different people and circumstances. The techniques are not aimless. They are guided by business objectives, achieved through the desired actions that such techniques promote. If implemented correctly, gamification can enhance participants’ motivation and engagement throughout the process to work towards a win-state with one or more business objectives. While such an endeavour might seem manipulative at times, sustainable success commences when the best interests of both the individual and the organization intersect, ensuring that motivation is maintained throughout the SODA session and following implementation.

The output of the SODA process is the emergent strategy, which comes from “agreeing on priorities and then implementing those priorities towards the realization of organizational purpose” (Eden & Ackermann, 2011, p.5). Therefore, emergent strategy is a socially constructed concept. The priorities are the outcome of SODA’s social interaction that captures individuals’ tacit knowledge (Pyrko, Dörfler, et al., 2017) about the organization’s strengths and weaknesses and their perception of the threats and opportunities in the environment. What one group would subscribe to is different from another group’s beliefs. The same group would subscribe to different priorities under other circumstances. Such inconsistency is of little consequence, as what matters is that the set of priorities is agreed upon to be the best path to achieve the organization’s purpose then. In this context, strategy is a time-bound concept of what the group sees as most effective at a particular time.

As indicated before, the role of the facilitator cannot be overlooked. This role is significant in giving individuals the space, confidence, and ease to express personal constructs. It enables the group to build on each other's ideas and reach a group reality, translated as the boundary object. Ideally, the facilitator embeds intrinsic motivation triggers and tweaks the exercise's complexity level to come as close to the flow experience as possible. Additionally, once the process is institutionalized, the facilitator can monitor progress on implementing the action items reached. In my experience, SODA, in its current format, will fail if the role of the facilitator is not filled efficiently.

9.2.2. Unpacking SODA

To learn the intricacies of strategy making and how to improve the process requires close monitoring of this process in action. The flow chart in Figure 16 below shows the stages, assessments, inputs, and areas where groups develop. It is an ambitious view of what a sustained SODA process should look like. I have built it based on the views of Ackermann and Eden (2011), then augmented it with a feedback loop to introduce the desired continuity. I have also unpacked each stage to add granularity, which opens the door to embedding gamification elements into the work of the process rather than adding it as an artificial layer.

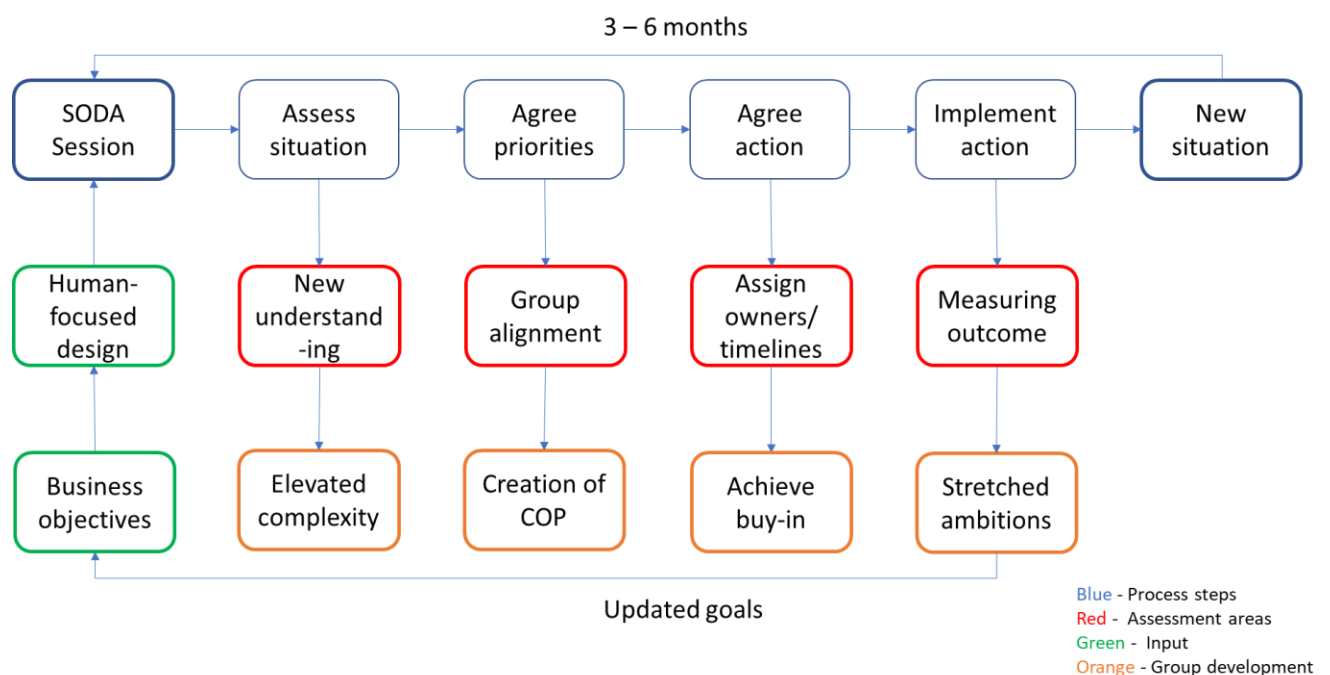


Figure 16 SODA's extended components

Error! Reference source not found. The above figure tracks the different steps in SODA (the blue boxes). While the concepts presented in the above diagram derive from the literature review, the understanding has evolved through the research. The concepts are localized to the researched organizations to project a more elaborate meaning. Such elaboration will be made clearer in the findings section. At the start of a session, participants give an individualized assessment regarding the challenges and opportunities their organization faces. These assessments reveal personal constructs that make up an individual's perception of reality (their world). Therefore, the first sign of a working SODA process is to see those ideas smoothly flowing. As a Problem Structuring Method (PSM), SODA brings the different contributions into a clear structure, clarifying vaguely troubling concerns that bother people. The outcome is a *boundary object* representing the group's socially constructed reality. Putting it together is significant since explicitly stating the problem and agreeing on its nature is a big part of finishing it, as discussed in section 2.1.2.1. Getting to this stage creates a new understanding and results in increased complexity. It gives a sense of accomplishment, as the participants would have completed the challenge of collectively describing the situation.

Based on the above, I speculate that the regular occurrence of SODA sessions and stakeholders' active and voluntary participation maximises the process's benefits. I even believe that regularity and involvement are more critical to achieving superb outcome quality, especially in the first few iterations. I think that the improved results are the de facto result of the group working more efficiently and effectively together. An assessment of whether a company is actively strategizing versus drifting can be made based on the regularity of the SODA process and its different components and the participants' feelings and actions during and after each session. While regularity might indicate the viability of SODA, studying its impact is not one of this research's goals—the impact is an area for further investigation.

Therefore, the first step to strategizing is aggregating and integrating participants' worldviews using *procedural justice* and facilitation as glue. Seeing a displayed model that resembles daily life generates a belief in the ability to modify and improve the lived reality. The debate that follows to agree on the priorities indicates that the process is working and that participants are engaged. Care needs to be exerted to distinguish social conformity from genuine agreement situations. The former rarely results in committed action, while the latter has much higher chances of success. Indicators revealing the difference include participation in debate, the speed at which agreement is reached, the sentiment towards the outcome, and the feeling of ownership. However, such indicators are not conclusive. A better yet delayed indicator is the group's long-term success in generating and executing priorities and

forming a community of practice around the SODA process (Pyrko, Eden, Dörfler, et al., 2017). This last indicator is out of the scope of this study.

The priorities will count for something only if they are acted upon. Translating priorities into actions and assigning owners and timelines to these actions are indicators of a working process. As always, the nuances of this sub-process can say a lot about the chances of success. Things to look out for include the specificity of the action item, whether the timeline is realistic, and the fair distribution of tasks among the participants. Accepting ownership of tasks is a good indication of buy-in of the outcomes of the process, as the participants are attaching their names (and possibly their reputations) to actions.

As the group returns to their daily lives, the progress of tasks is a good indicator of a working SODA process. Therefore, tracking this progress is an effective way of learning about the success of the SODA process in the group. This tracking can be done manually or using the software. More important is the feeling that the participants have about the continuity of the process and the vigour with which they carry out the assigned tasks. In many cases, I have experienced excitement dying at the end of the problem-structuring session, and daily life concerns kick in, leaving agreed actions hardly attended. Therefore, repetitive, continuous communication about the process, its outcomes, and its significance can help. Implementation as an act of learning while doing can bring back the excitement in what is possible. When implemented, a new reality is created, making the team proud of their achievement and more committed to the process. The modified reality and what has been happening inside and outside the organization are the topic of the next SODA iteration.

As a group starts the process, they initially take a general direction. A specific direction reveals itself as the team goes through iterations of discussion and action. Goals become more precise, the teams more efficient, and the tacit knowledge grows. A Community of Practice is born (Pyrko, Dörfler, et al., 2017). The following priorities and action plan form the collective narrative and must be continually updated with new learnings added while implementing it. The narrative serves as a comparison tool between what is going on and where the organization is heading versus desired goals. A path correction, which is the essence of emergent strategizing, can occur.

The feelings the process instigates in participants (being appreciated, accomplishment) and their assessment of whether this work benefits them personally (personal development, career progress, network) and produces tangible improvements for the organization are crucial. A human-focused design (Chou, 2014) for all the activities and surrounding elements of the process improves the chances for

success. As I will demonstrate, the chosen approach to gamification holds some aspects that can be tracked, including feedback, desirable actions, incentives, win-states, and business objectives. We learn and improve the Gamified SODA process by studying how to implement such elements, measuring their impact, and tweaking the design for better results.

With this new perspective, I now dive into the first iteration, which takes this fresh perspective as its mode of operation.

9.3. List of participants

Below table lists the participants from both sessions. Participants 1-14 are session one participants for Target1 and 15-22 are session two participants for Target2. The positions and key criteria that are relevant to strategy making are also mentioned.

While participants' type was not taken into consideration in the scope of this study, it was indeed assessed. It was based on involvement (taken to indicate ambition), assertiveness and experience.

There are 3 levels of involvement:

- 1- Participant takes initiative only if necessary and will do the work with no questions asked.
- 2- Participates in improvement initiatives and come with ideas within the common wisdom.
- 3- Takes initiative and demands change. Comes with disruptive ideas outside common wisdom.

Assertiveness is broken down into 3 levels:

- 1- Will speak only when asked, occasionally throwing words to kill awkwardness
- 2- Speaks in an orderly fashion usually with a complete idea, that is open to discussion
- 3- Commands attention, usually interrupting. Can be judgmental

Experience is also broken down into 3 levels:

- 1- Does not know or will think of something when asked
- 2- Has a sense of what needs to be done, but cannot easily determine whether ideas are good or bad
- 3- Has a clear idea of what needs to be done and can tell whether something will work or not.

Participant	Position	Remote or onsite	Involvement (ambition)	Assertiveness	Experience
Participant 1 AE	Head of HR	Onsite	2	2	2
Participant 2 AA	IT Automation Manager	Remote	2	1	3
Participant 3 CH	IT Service Manager	Onsite	3	2	3
Participant 4 AS	Head of Marketing	Onsite	2	2	1

Participant 5 IB	Supply Chain Director	Remote	1	1	1
Participant 6 IM	Quality Director	Onsite	1	2	2
Participant 7 OK	Head of Financial Planning	Onsite	3	3	2
Participant 8 YK	Financial Controller	Onsite	3	3	2
Participant 9 NM	Sales Director	Onsite	3	3	3
Participant 10 HB	IT Governance and PMO manager	Remote	2	2	2
Participant 11 MM	IT Service Delivery Manager	Onsite	2	1	2
Participant 12 RM	IT Business Solutions Manager	Onsite	3	2	2
Participant 13 AH	Head of Procurement	Remote	2	1	1
Participant 14 AR	IT Solutions Architect	Remote	3	1	2
Participant 15 AD	Center Manager	Onsite	3	3	3
Participant 16 MS	Regional Head	Onsite	3	3	2
Participant 17 RD	Marketing and Recruitment Officer	Onsite	2	2	1
Participant 18 SS	Program Administrator	Onsite	1	1	1
Participant 19 WS	Local Counselor	Remote	3	3	3
Participant 20 MMS	Local Counselor	Remote	3	3	3
Participant 21 RH	Student	Onsite	2	2	3
Participant 22 SG	Student	Onsite	2	2	1

9.4. Communications

9.4.1. Iteration 1 invitation

The following was sent to the participants in session 1.

Dear Team,

Thank you for the enthusiasm you have shown to participate in the workshop.

My PhD project is entitled “Strategy implementation: A Gamified Causal Mapping Approach”. Please find attached the Participation Consent Form. It includes a brief about the project with some ethical and privacy considerations. You are kindly requested to sign and return to me.

The workshop serves two purposes, the first as the project for my PhD. The second is as a blueprint for IT strategy for NFPC.

There will be two workshops. One in May, and another in August/September. The format of the workshops will be hybrid. You have the option to be present in the training room on the first floor in CSC. Alternatively, you can attend through Teams (link below).

Each participant will use her/his laptop. Two or three participants can share a laptop, provided Covid-19 restrictions are respected. Each of the participants will be given access to a software called Strategy Finder. Instructions on the process and how to use the software will be given on the day itself.

There is no preparation needed for the workshop. However, it would help if you can give some thought to what issues you see in the IT ecosystem in NFPC and what expectations or concerns you have about it. If you do, please write them down and bring them along.

After each session, I will be conducting 45-60 mins interviews with each of you to get feedback about the session.

I again extend my gratitude for your support.

Best regards/

Wasef

9.4.2. Iteration 2 invitation

A suggested template that is followed for the discovery email that is send to participants has the following structure:

- Introducing the process and what to expect, laying down the path from start to finish. This will trigger the achievement and development core drive. Three levels of strategy: participant, practitioner and professional
- It conveys why the process is very important to the organization, thus invoking core drive one.
- It stresses the importance of teamwork and respecting each other's opinion as a pre-requisite for the process's success.
- It intrigues people through unpredictability of what is going to happen.
- It asks people to take action within a given time limit: scarcity
- It encourages them not to miss out on this opportunity: loss avoidance drive.

This structure employs gamification elements to invoke the core drives of participants to gain their interest and action. Email sent to the participants in G-SODA held for the Dubai branch of the University of Strathclyde MBA program.

Dear participants,

Thank you for accepting to participate in the Gamified SODA (G-SODA) session scheduled for Tuesday the 21st of December at the center in Dubai Knowledge Park. The purpose of the session is to agree on a set of priorities to address the challenges and growth requirements of the University of Strathclyde Dubai Center. These priorities will be the strategic plan for the center over the coming short to medium period. If successful, follow-up sessions will be scheduled semi-annually to assess progress and devise a new set of priorities.

As a participant, you will get a chance to help define these priorities. You will also get the chance to hone your strategic knowledge and skills through practicing an innovative approach. As you participate in more such activities, you will see yourself move from being a participant to becoming a practitioner and then a strategy professional. A practitioner understands the steps of the strategy making process, their significance, and prerequisites for success. A professional can independently run and facilitate sessions.

As the process is designed to fairly treat all participants, the outcome will enjoy their buy-in. It will bring forward action that delivers the highest chances of success for the chosen priorities, ensuring feasibility and practicality. A simple, yet highly effective, tested and tried process.

In preparation for the session, please send me a bio in no more than 250 words. It should cover educational and professional background, as well as your experience in setting and implementing strategy. Please make sure to send this by Monday to ensure that the session is optimized.

You will receive another email by Monday afternoon updating you with more details. Stay tuned.

Best regards

Wasef

9.4.3. Iteration 2 conclusion

Dear Participants,

It was a great pleasure to facilitate the Strathclyde Dubai Center strategy workshop. I hope you found the session useful and up to your expectations. You are all officially strategy practitioners. You have also contributed to identifying the strategic priorities for the centre.

As a team we have:

1. Surfaced 144 issues
2. Managed to link all of them through discussing the significance of each link
3. Created an agreed goal system that include goals and objectives
4. Identified 14 potential priorities, of which we consensually chose 7 as agreed priorities.

5. Identified 35 potential actions, of which 12 were chosen as these most potent to help achieve the chosen priorities
6. Created the skeleton of the Statement of Strategic Intent and the action register.

We look forward to repeating this exercise in six months' time.

As previously mentioned, the next step is to interview each of you individually for feedback about the process. These interviews are the input to my PhD research. These interviews are 30-45mins.

Can you please revert with a convenient time for you this week or next week? I will send the invites accordingly.

Thank you very much.

Wasef

9.5.Outcomes

9.5.1. Session 1 outcomes

IT Strategy Making Session

26/5/2021

Statement of Strategic Intent

NFPC will be a technologically advanced company through empowering and expediting innovation and driving collaboration and implementing an IT driven excellence unit. It will base all its decisions on data. It will have a robust compliance system. Comprehensive and available knowledge bases and fresh approached to project management will ensure that the company is geared towards these goals.

To achieve the above, we will fully utilize the power of SharePoint, which will allow us to launch our e-learning platform, allow collaboration with external parties, build a new project development portal and provide the medium for data sharing. The IT department is required to keep an eye on other departments' needs to assess the usefulness of existing solutions and

ensure alignment before investing in new solutions. This will be done through having regular sessions with each department to assess their needs for business solutions and automations, and by focusing more on cross functional engagements.

Accurate and timely data is a cornerstone in launching any successful project. Therefore, NFPC will work to ensure the accuracy of our master data, that data is received real-time and that OAC is the universally accepted data platform and the single source of truth.

NFPC's IT focus will also shift to investing in innovative software solutions that will generate revenue and improve collaboration and service. This will be done through reducing the investment in hardware and moving to the cloud and to central desktop. While doing so, data security and compliance are considered of the highest importance and a robust business continuity and risk management framework will be put in place.

Action items:

Why	By who	How	By when	Impact	Feasibility	Priority
Ensure master data is always clean	Hari, Rajesh	-Define what is required -Identify process and tools	31-Aug	3	3	9
Increase the digital transformation and share the knowledge	Ann, Charbel	-In house develop -Identify ways to expedite and generate new project plan		3	3	9
Ensure that projects are delivered as planned and that users are satisfied	Wasef	-Ensure all projects (if required) follow agile		3	3	9
Maintain the image of NFPC and creating digital mediums for generating insights	Aleks, Hari	-List digital presence -Put plan for the maintenance of each		3	3	9
Capture and use accurate data and automate workflows on ERP	Rajesh, Charbel	- Explore orchestrator -Identify what can be done by	31-Jul	3	2	6
Increase the digital transformation and share the knowledge	Wasef	-Quarterly workshop between IT and each department		2	3	6
Make sure that we are giving the business what they want	Wasef	-Ensure that a comprehensive CSOR is completed		2	3	6
Make more money available for software	Hari, Wasef, Omar	-List current investments -Analyze feasibility and use		2	3	6
	Charbel, Hari			3	2	6
Create digital mediums that will give insight to improve service and revenue	Aleks, Amer	- available and missing data -Explore what information can be extracted from them	30-Jun	2	2	4
Make more money available for	Mourad	-scope the project		2	2	4
Give access to HR and other services to those who do not have PCs	Hari, Charbel, Ann	-Share project plan		3	1	3
Introduce end to end traceability on products	Ian, Iain, Ali	-To be discussed		3	1	3
Improve performance	Rajesh, Mourad, Yazan	-Study queues -Study posting process		1	2	2
Use to technology to enhance NFPC image	Aleks, Ali	-To be discussed		1	1	1

University Strategy Making Session

14/12/2021

Statement of Strategic Intent

We will become the best-recognised, leading brand in the executive education sector in the UAE through harnessing an effective marketing campaign to get wider brand presence across the country and region. We will understand different student segments to ensure the best possible experience through providing excellent teaching experience and introducing our students to Glasgow academics.

We will have a positive and profound impact on the community, while having enduring and mutually beneficial relationships with alumni and the business community. Being considered as thought leaders, differentiating from local competition through having local relevance in our offerings and engaging our alumni as much as possible will help us achieve that.

We will secure a sustainable number of student recruits to ensure the financial health of the centre. To get the numbers, we will diversify our programs, target regional growth and improve our reach to potential students. We will offer MSC programs non-eligible MBA candidates. Our immaculate operational excellence is the indispensable catalyst to our plan. We will be considered the blueprint for all international centres.

Action	Owner	Dependency	Start	End	Success Criteria
10 Conduct more exhibitions in offices					
15 Reactivate approved programs we have (marketing and entrepreneurship and supply chain)	Abbi		Q122	Q422	Have at least one student in each newly offered program
19 Conduct more team workshops with students					
20 Employ more local faculty	Abbi		Q122	Q222	Identify and secure at least 5 FTE academics in the locality
21 Align class assignments with real time projects					
26 Leverage our online presence ahead of competitors					
35 Conduct feedback workshops with current students	Reem		Q122	Q122	Have regular (twice annually) focus group-themed workshops in addition to semester committee meeting (including all documentation and setting the process in motion)
37 Increase marketing activities on social media					
41 Target multi-national companies to recruit for all centers	Moustafa		Q122	Q422	Get 3 MOU's (or agreement) with MNC's in the UAE with at least 4 students
45 Align with other centers to have students take courses					
50 Provide interesting classes to alumni and potential students					
58 Launch out of the box marketing campaign for the Dubai center					
60 Provide companies with strategy courses for their employees					
62 Increase CSR activities					
68 Form a networking club for students and alumni					
73 Check whether library access across universities exists					
75 Expose talented students to Glasgow					
83 Get clarity from Glasgow	Abbi				
87 Conduct market research with students					
89 Have presence in grassroot education events					
93 Showcase our relevant academic research	Reem		Q222	Q322	Set the process to become a continuous activity and run the first showcase in social medial and events
98 Engage Glasgow to create multiple versions of same material					
99 Glasgow academics spending more time with students					
100 Revisiting the intensive seminar's format					
103 Provide platform to share learning and industry findings	Reem				Same as 93
105 Use strath connect to hold CVs of alumni					
108 Make introduction to the company by Alumni	Moustafa		Q122	Q123	List of Alumni and work venue, reach out and get introduced. 8 qualified leads to recruit from. Create process to become self-sustaining
109 Arrange exclusive activities					
110 Survey alumni on what would interest to come					
117 Introduce a program to convert mini-programs to academic credits	Moustafa		Q122	Q123	Launch 3 mini-programs feeding into multiple programs
119 Target universities that do not have MBA programs	Moustafa		Q122	Q123	Sign agreements with 1 university
123 Compile a list of potential business participants	Reem		Q122	Ongoing	Minimum 2 speakers per month to cover multiple classes
132 Expand the DBA and PHD student base in UAE					
134 Clarify the existing P&P with Glasgow					
137 hire an operational excellence employee	Abbi	Budget	Q222	Q222	Could be part-time. Needs to be onboard by said date.
141 Have visibility of finances					
143 sponsor an entrepreneurship awards					

9.6.Video Script for video in discovery phase

The script aims at invoking the following core drives:

- 1- Meaning: By presenting the importance of the practice to the organization and the importance of the individual gaining enough knowledge to participate in it.
- 2- Achievement: By pointing out the developmental aspect of learning this process and the achieving proficiency in it.
- 3- Creativity: By pointing out that the language and tool learned will unleash creativity and allow individuals to use this at will on their own
- 4- Possession: By giving the users their own account, the badges associated with progressing in the journey
- 5- Social influence: By highlighting that this is a social endeavour and that colleagues have already started their journey
- 6- Scarcity: The countdown timer indicates that they need to take action quickly
- 7- Unpredictability: By describing it as a journey, the message is that there is going to be fun, unexpected events on the way

- 8- Avoidance: By sending the message that they do not want to miss out on this opportunity, as there is much to lose.

Below is the script:

“Hello and welcome to the first step of Making Strategy. This is an important moment for you and for the company. You are embarking on a journey where you move from being a consumer of strategy. You will become a strategy participant, then develop to be a strategy practitioner before becoming a strategy professional. This journey will augment your skillset and equip you with valuable tools. These tools will unleash your creativity in working with a team to address challenges faced by an organization. This will be a notable achievement that will immediately help you stand out. You will speak the strategy language, use the tools, and practice the process.

The company will also benefit. You will be working with like-minded individuals to address issues and steer in the right direction. You will conduct and participate in strategy sessions that align people on priorities and implementation. Once done, the cycle repeats to uncover a new set of priorities and get them implemented.

To get you started, please read the introductory document and answer the questions related to it. Once you finish this step, the keys to the kingdom will be given to you – you will get your own account to StrategyFinder, our strategy making platform. This is the canvas where you and your colleagues will draw the future of our company on.

Please hurry! Your colleagues have already started their journeys. There is a time limit to this invite. Be sure not to miss it.

Enjoy the journey”

9.7. Introduction and Questions in the discovery phase

Strategy is about Prioritizing and Agreement. SODA stands for Strategic Options Development and Analysis. It is a problem structuring and strategy making technique that a group of professionals use to agree on their priorities and set out to implement them. It is designed in a way that addresses psychological and sociological elements so that the outcome enjoys the buy-in of participants.

SODA also serves as a launch pad for the implementation, as generates practical and applicable outcomes. The participants leave the session all set and ready to start the work. It is iterative in the sense that it has the flexibility to address the variable of a volatile environment and the fast pace of business.

Gamified SODA or G-SODA is an enhanced version. It amplified SODA's features in terms of getting all people involved and aligned. Being part of this strategy making group serves two purposes. The first is that this session will see G-SODA produce an agreed and focused set of priorities, that will act as the strategy to follow. The second is that by participating and practicing G-SODA, you will develop your skills from being a strategy consumer to become a strategy participant, a strategy practitioner, then a strategy professional and finally a strategy expert.

As already mentioned, G-SODA is an iterative approach. It starts with a strategy making session. Each session includes four parts. The first is issue surfacing, where individuals voice whatever is on their mind. The second part is where those issues are jointly linked based on which one causes the other. The third part is analyzing the resulting map using tools to get to the set of options that will help the company achieve its goals. The fourth and last one is the part where the options are prioritized and owners are assigned.

G-SODA uses multiple tools. The main tool is called Strategy Finder. It is the canvas where you and your colleague get to creatively draw your map. This is embedded in an information and feedback frame. Implementation of prioritized tasks is done through MS Planner.

Before you move to next part of this induction, please answer the following questions to ensure that you are ready to start your journey. Good luck.

Question 1: What does G-SODA stand for?

- a) Good System Organizational Development Act
- b) Gamified Strategic Options Development and Analysis
- c) Gaming Society of Developed Applications

Question 2: What are the two most important aspects of strategy?

- a) Prioritizing and Agreement
- b) Vision and Mission
- c) Long term planning
- d) Paying attention to the environment

Question 3: Which of the following is NOT a strategy proficiency level?

- a) Strategy Expert

- b) Strategy Practitioner
- c) Strategy Professional
- d) Strategy Master

9.8. Interview Questions

9.8.1. Session 1

As the interview is a semi-structured interview, these are not rigid questions. Rather, they are prompts to assist me to question my understanding and seek new knowledge around the research questions.

I will start with a brief introduction, explanation of the procedure and invite to ask question. **Then start the tape recorder.** Do not put words in people's mouth. Probe based on cues in participants answers.

(Arsel, 2017)

- How involved have you been in creating or implementing strategy in your career?
- Different people have different understanding about what strategy is. What is it to you? Who should make the strategy?
- What is the biggest challenge that strategy in an organization might face?
- Did the meeting invite and prep discussion we had prepare for the event? If yes how? What could have been done better?
- What did you think of the setup (room, team, software, screen, ...)? Was it suitable for the required activity? What could have been done better? How did you feel at the beginning of the session?
- How did you expect the event would look like after the introduction? What gave you that feeling?
- The first session was the surfacing of issues:
 - How clear was the initial presentation and the instructions?
 - What is your assessment of how that went?
 - How did it contribute to the overall outcome of the session?
 - How did it feel while entering the issues? Where did you get your ideas from?
 - How easy was it to use the tool?
 - How could it have gone better?
- The second session was the group session of adding links.

- How do you think that went?
- Was it valuable to the overall exercise? How?
- How did you feel while we were in that session? How did you decide which concepts to connect?
- What could have been done better?
- How effective was the facilitator role? Was there any conflict between participant and facilitator role?
- The third session was about choosing priorities.
 - How do you think that went?
 - Was it valuable to the overall exercise? How?
 - How did you feel while we were in that session?
 - What could have been done better?
- We were not able to finish the fourth session on the day but had a follow up Teams call on the following Sunday based on the effort that Wasef did to clean up the maps and create the action plan and SSI.
 - Was he able to capture the proceeding and content well?
 - What could he have done more?
 - Would you have liked to be part of putting the outcome together?
 - Did you see these are one or two sessions? Would it make sense to merge them, or should they be split? Why?
 - Why and how would it have made a difference?
- To what extent do you feel that what he presented reflects your thinking and what happened during the session? Why?
- How practical and implementable are the agree action items? How are they going to contribute to the strategy?
- How well was the outcome aligned to the priorities of other departmental outcomes?
- How likely are you to commit and follow up on the action items that were agreed?
- How frequently would a follow up be needed? How would it look like?
- Do you consider the outcome as strategy? How?
- What other comments would you like to add? Any concluding notes that you would like to add about the concept, proceedings or outcome? Anything that could have been done better to improve the outcome?

Reflect on whether everything worked as it should. What should I change? (Arsel, 2017)

9.8.2. Session 2

- How involved have you been in implementing strategy in your career?
- Different people have different understanding about what strategy is. What is it to you? Who should make the strategy?
- What is the biggest challenge that strategy in an organization might face?
- Before I start asking process specific questions, let's recap the process
 - Email invite: elements
 - Email reminder: CD6
 - Session setup: progress bar, levels of strategy, meaning
 - Surfacing of issues
 - Linking of issues
 - Finding the priorities
 - Creating SSI
 - Creating Action list
- What went well in the sessions?
- What could have been done better?
- Was the significance of the session clear to you? Please describe it. What elements contributed to understanding this significance?
- Did you feel that there was some development for you in this session? On what level? What parts of the process made you feel that way?
- Did you feel that there is an achievement in completing the session? How so? What elements or communications made you feel that?
- Did you feel that the process unleashed creativity? How so? Which elements in the process contributed to that feeling?
- Did you feel a sense of team work and collaboration? How so? Which elements in the process made you feel that?
- Did you feel that the process was exciting? Unexpected? How so? Which elements in the process made you feel that way?

- Did you feel threatened or uncomfortable in any way during the proceedings? How so? Which parts made you feel that way?
- When we do this in 6 months, how different will the process be? What would you like to see?
- For the remote part of the session, did you feel the process was affected? How so?
- If hybrid, did you feel that you were at a disadvantage? How so?
- To what extent do you feel that what he presented reflects your thinking and what happened during the session? Why?
- How practical and implementable are the agreed action items? How are they going to contribute to the strategy? Is the excel sheet enough to track progress? If not, what else can be added?
- If assigned a task, how likely are you to commit and follow up on the action items that were agreed?
- How frequently would a follow up be needed? How would it look like?
- Do you consider the outcome as strategy? How?
- What other comments would you like to add? Any concluding notes that you would like to add about the concept, proceedings or outcome? Anything that could have been done better to improve the outcome?
- How do you think this interview went?

9.8.3. Interview questions relating to new software

- How much do you remember from the last session.
 - The preparation: what do you remember went well and what did not?
 - The proceedings: what do you remember went well and what did not?
 - The follow up: what do you remember went well and what did not?
- Do you remember how you felt during the session?
- Have a look at this POC of a software program, do you think it addresses the concerns that you had?
 - Talk about the different aspects of the new software
 - How do you see this serving the purpose
- What other suggestions do you have to improve on the software?

9.9. Summary of interviews

The following interviews were conducted with the different participants. The columns refer to the length of the interview and the number of transcript pages. Empty cells indicate that no interview has taken place.

Participant	Target Organization	Iteration 1 Interview	Iteration 2 Interview	Iteration 3 Interview
Participant 1 AE	1	62 mins / 21 pages		
Participant 2 AA	1	46 mins / 13 pages		
Participant 3 CH	1	51 mins / 14 pages		
Participant 4 AS	1	32 mins / 13 pages		
Participant 5 IB	1	35 mins / 11 pages		
Participant 6 IM	1	43 mins / 12 pages		
Participant 7 OK	1	36 mins / 10 pages		
Participant 8 YK	1	52 mins / 16 pages		
Participant 9 NM	1	53 mins / 15 pages		
Participant 10 HB	1	52 mins / 21 pages		
Participant 11 MM	1	25 mins / 9 pages		
Participant 12 RM	1	36 mins / 10 pages		
Participant 13 AH	1	30 mins / 8 pages		
Participant 14 AR	1	45 mins / 12 pages		19 mins / 5 pages
Participant 15 AD	2		48 mins / 14 pages	14 mins / 4 pages
Participant 16 MS	2		59 mins / 17 pages	
Participant 17 RD	2		22 mins / 8 pages	
Participant 18 SS	2		29 mins / 8 pages	
Participant 19 WS	2		41 mins / 13 pages	
Participant 20 MMS	2		55 mins / 16 pages	
Participant 21 RH	2		44 mins / 15 pages	
Participant 22 SG	2		40 mins / 13 pages	

9.10. Thematic codes

Name	Files	References
A.Session 1	0	0
00-Nature of strategy	13	37
a.Interlinked departmental strategies	1	1
b.Strategizing as goal setting	6	8

c.Strategizing top down	9	10
d.Strategy as a plan or position	7	8
e.Strategy as actions (practice)	1	1
f.Strategy as direction	5	5
g.Strategy as process	3	4
01-What worked well	14	121
a.What went well in session preparation	8	13
01.Importance of Engagement through preparation material	4	4
02.Number of participants adequate	3	5
03.Right choice of participants	3	4
b.What went well during the session	11	24
01.Surfacing Session timing enough or more than enough	9	10
02.Positive feelings in creating together	3	6
03.The session bring out different perspectives	3	3
04.Stress free environment helped participant feel confident to voice ideas	1	1
05.Follow up session related to first session and useful to evolve map	4	4
c.What went well in strategy finder	1	1
d.What worked well about facilitation	7	14
01.Importance of facilitation	6	9
02.Importance of neutrality of participants	1	1
03.Balance between facilitation, participation and research	3	4
e.What worked well in remote participation	3	7
01.Being able to clearly hear onsite proceedings	2	2
02.No disadvantage due to remote participation	2	3
03.Video not needed	2	2
f.What worked well as session outcome	14	62
01.Alignment of priorities to company and other department priorities	5	6
02.Benefits coming from the session	1	4
03.Good Quality of outcome	3	5
04.Joint ownership of outcome	8	9

05.Outcome is strategic to the IT department	7	10
06.Outcome representing the group's thinking	6	15
07.The outcomes are sufficiently implementable	7	13
02-What did not work	10	44
a.What did not work in session preparation	4	4
01.Entering concepts before the session to gain time	4	4
b.What did not work during the session	8	15
01.Disengagement in linking by some members and a few contributing most	4	7
02.Missing definition of priorities	2	3
03.Most vocal people getting most air time	2	2
04.Potential group think	2	2
05.Preference for one session without split	1	1
c.What did not work in strategy finder	5	12
d.What did not work in remote participation	2	10
01.Difficult to keep track of proceeding	1	6
02.Feeling remote	1	1
03.Not easily able to join debate	2	3
e.What did not work as session outcome	3	3
01.Disconnection between map and SSI	1	1
02.Reduce priorities and focus resources	1	1
03.UnWillingness to offer ideas if people knew it would increase tasks	1	1
03-What worked but can be improved	14	129
a.What worked but can be improved in session preparation	10	22
01.Expectations before the session	8	11
02.Importance of induction with examples	3	3
03.Multi-level session	1	3
04.Room setup adequate, but better if facing each other	3	3
05.Suggestion to group people in Focus groups	1	1
b.What worked but can be improved during the session	13	56
01.Anonymosity is not important at this level	2	4

02.Clustering before linking	7	9
03.Clustering causing biased priorities	2	4
04.Keeping the focus on the purpose is important	3	4
05.Linking activity too centered around facilitator	3	6
06.Linking properly done by facilitator	2	3
07.Linking session timing adequate	4	4
08.Participants avoiding entering duplicate concepts	2	3
09.Preference for Session split up	8	12
10.Prioritization was too rushed	2	2
11.Taking a longer break to do linking and cleanup	3	3
12.Unsure if linking done correctly	1	2
c.What worked but can be improved in strategy finder	8	17
d.What worked but can be improved in remote participation	3	3
01.Asking specific people to address remote	1	1
02.Prefering face to face	2	2
e.What worked but can be improved about facilitation	3	3
01.Need for a chauffeur	3	3
f.What worked but can be improved as session outcome	11	28
01.Alignment is demonstrated in execution	2	3
02.Assigning ownership vs volunteering	10	12
03.Partial ownership of outcome	6	9
04.Significance of causality	1	2
05.Validation only, as alignment difficult to measure	2	2
04-Causal Mapping to overcome strategy implementation obstacles	14	146
a.Participants ideas to Overcome implementation obstacles before session	10	29
Accountability and Appreciation	2	2
Achieving buy in and commitment from business	3	4
Clearly cascading strategy down	6	7
Having an achievable grounded strategy (bottom-up)	3	3
Increase the competence of the team	1	2

Inspire trust in people	2	2
Limit projects in progress	2	2
Simplification to make goals actionable	2	2
Tracking implementation relevant to goal	4	5
b.Challenges to strategy implementation	10	34
Continuously changing priorities in organizations	3	4
Lack of strategic plan details	2	2
Lack of Team buy in mobilization	4	5
Lack of tracking and feedback	3	3
Low level of organizational maturity	3	3
Management lack of visibility	2	2
Not understanding Changing Markets	3	3
Output conflicting with ongoing projects	2	3
Resources non availability	3	4
Technology incompatibility or inadequacy	2	2
Unrealistic strategy and targets	2	3
c.How causal mapping helped overcome implementation obstacles	14	83
Alignment of priorities to company and other department priorities	5	6
Assigning ownership vs volunteering	10	12
Benefits coming from the session	1	4
Good Quality of outcome	3	5
Joint ownership of outcome	8	9
Outcome is strategic to the IT department	7	10
Outcome representing the group's thinking	6	15
Partial ownership of outcome	6	9
The outcomes are sufficiently implementable	7	13
05-Follow up session	14	32
a.Frequency of follow up sessions	6	6
b.Frequency of strategy making	13	17
c.Timeframe for action	1	1
d.New session Continue vs start blank	6	8

B.Session 2	0	0
00.Nature of strategy	0	0
a.Hybrid strategy model bottom up with guidelines from top	2	2
b.Strategy as a learning process	1	1
c.Strategy as a plan to reach goals	4	5
d.Strategy as a process	1	1
e.Strategy as evaluation of position and goal and the roadmap	1	1
f.Strategy as guidance on the path to be followed	1	1
g.Strategy as prioritization	1	2
h.Strategy coming from the top	2	3
i.Strategy done collaboratively	2	2
j.Strategy formulation and implementation go together	3	3
k.Using existing resources and people skills as strategy	1	1
01.Strategy Implementation Obstacles	0	0
a.Bad culture as obstacle to strategy implementation	1	1
b.Change resistance as strategy implementation obstacle	1	2
c.Employee disengagement jeopardizes strategy execution	1	1
d.Fear of losing power as hindrance to strategy implementation	1	1
e.Lack of clarity at lower levels affecting implementation	1	2
f.Lack of leadership as hindrance to strategy implementation	1	1
g.Lack of priorities as a hurdle for successful strategy implementation	1	1
h.Lack of resources as a change resistance excuse	1	1
i.Lack of roadmap causing quitting strategy at first failure	1	1
j.Lack of roadmap results of quitting on first obstacle in implementation	1	1
k.Not accepting that change is a journey results in implementation failure	1	1
l.Not getting buy in from stakeholder jeopardizes strategy implementation	2	2
m.Organisational culture that resist change as hindrance to strategy	1	1
n.Unclear vision as obstacle to strategy implementation	1	1

02.Player types	0	0
a.Axis - Engaged at work or not	0	0
01.Difficulty to assign ownership to non-committed individuals	1	1
02.Leaders understand the importance of strategy	1	1
03.Participants unengaged now might become interested down the road	1	1
04.Personal development techniques do not work for those who believe they are not part of strategy making	2	2
05.Personal gains as a trigger for motivation	1	1
06.Professional development techniques work for those with career path ambitions	2	2
07.Some stakeholders will never be interested in the process.	1	1
b.Axis - Experience or lack of	0	0
01.Inexperience in strategy sessions as creativity hurdles	2	2
02.Inexperience of some participants wasted time	1	1
03.Participant having good experience with strategic planning	6	8
04.Participant inexperienced in strategy	2	3
05.Personal development techniques work for senior participants	2	2
06.Quality of outcome is related to experience of participants	1	1
07.Regarding oneself as SME enhances participation	1	1
08.Session not seen as a personal development chance for experienced people	1	2
09.Session seen as personal development chance for less experienced people	2	5
10.Tailored briefing can be beneficial to build engagement	1	1
03.Benefits of the process - objectives and business metrics	0	0
BM - Coherent content (Procedural Rationality)	0	0
Importance of reaching common understanding of the circumstances	2	2
Outcome is practical and actionable and implementable	7	7
Session important in bringing participants up to speed about future plans	1	2

Session outcome as strategy or partial strategy	7	7
Some priorities are more implementable than others	2	2
BM - Political feasibility	0	0
Inclusion through communication leads to awareness, energizing, buy in and execution	3	5
Session helping set the roles of the principle right	1	2
Session importance driven from the significance of the issues facing the organization	1	1
Successfully conveying strategy implementation and change as a journey is crucial	1	1
BM - Positive sentiment towards content (Procedural Justice)	0	0
Absence of buy in kills strategy implementation	2	2
Alignment of participants, especially those who formulate and those who implement is important	4	4
Buy-in means energized and motivated by the strategy	1	1
Feeling the collaboration results in owning the outcome	2	2
Session important to assign ownership and support to initiatives	1	1
Session important to bring forward different people's perspectives	4	5
Session important to get people to know each other	1	1
Session to provide a reference to address unreasonable requests	1	1
The outcome enjoying the commitment of the group	4	4
The outcome owned by each member of the group	4	6
The outcome representing the thinking of the group	2	2
04-Discovery phase	0	0
a.Desired Actions	0	0
0-Enabling factors	0	0
a.Better to have session outside working hours	1	1
b.Participant enthusiastic about session for sake of personal development	1	1
c.Participants not regularly dealing with strategy did not get engaged with first communication	1	1

d.Session challenge in not properly communicating time requirements	2	2
e.The mechanism of task ownership should be communicated at the beginning	1	1
1-Timely and complete response to the invitation and consent form as a desired action	0	0
2.1-Research very important to understand strategic position	1	1
2.2-Preparation by participants can save time	2	2
3-Learning to use the tool as personal development	1	1
b.Feedback mechanics	0	0
01-Effectively communicating about the session and its importance - Narrative	0	0
Clearly communicating importance of strategy reduces disengagement	1	1
How to better convey the importance of the session	2	3
Importance of spreading the word about activity	1	1
Initial communication sufficient to highlight the importance of the session	1	1
Narrative about ownership needed at the beginning	1	1
None of the elements in the session conveyed the importance of the session	1	1
Session purpose and importance clear	5	7
Session introduction to include narrative to stress the importance of the session	1	2
Significance of session properly conveyed in the invitation	1	1
Tailored briefing can be beneficial to build engagement	1	1
The title of the session bringing intrigue and anticipation	1	1
The title of the session indicating personal development	1	1
02-Team composition as a sign of inclusion and status	0	0
Including demanding stakeholders is a sign of courage	1	1
Presence of key stakeholders conveys importance of session	2	2
Senior sponsorship not useful in highlighting importance	1	1
03-Retrospective to re-enforce learning	0	0

Questions to reinforce the learning	1	1
Reinforcing strategic significance of their role to participants	1	1
c.Incentives	0	0
01.Being taken as a reference if successful is a strong narrative and calling	1	1
02.Personal gains as a trigger for motivation	1	1
03.Reward to signify personal development	0	0
Personal development communication not very effective	3	3
Personal development opportunity clear in the invitation and introduction	2	2
Personal development technique not registering with participants	3	3
Personal development techniques do not work for those who believe they are not part of strategy making	2	2
Personal development techniques work for senior participants	2	2
Session not seen as a personal development chance for experienced people	1	2
Session seen as personal development chance for less experienced people	2	5
04.Some indication that you are ready to join	0	0
d.Win state	0	0
01.Becoming proficient with the tool	1	1
02.Being ready for session	0	0
03.Being seen as a good example both individually and as a group	2	2
04.Being selected as part of the group as a win by itself	0	0
Unengaged stakeholders need to be invited regardless	1	2
Unexpected stakeholders feel honored to participate and will be fully engaged	2	2
05-Onboarding phase	0	0
a.Desired Actions	0	0
00-Enabling factors	0	0
Addressing remote participation concerns	0	0

breakout rooms to address engagement issues of remote participants	1	1
Face to face session is more enjoyable	1	1
Face to face session results in better bonding among the team	1	1
Giving remote participants tasks to do addresses them going passive	1	1
Hybrid mode causes the session to take longer	1	1
Putting remote participants on the spot to ensure engagement	1	1
Remote participants getting distracted	1	1
Remote participation eliminates the important chat between people	1	1
Remote participation not affecting the process	1	1
Remote participation resulting in missing people in round robin	1	1
Video technology needs to be better setup for remote and on premise	2	2
Appreciating any contribution from participants as it has value	1	1
Assign breakout groups based on expertise (or lack of)	1	1
Creativity games and exercises may or may not help	2	2
Facilitator role in time keeping and focusing group	1	1
Practicality of outcome relying on autonomy of team	1	1
Some parts of the process were not efficient time wise	2	2
01-Participants not knowing each other reduces participation quantity and quality	1	1
02-Distracting artifacts need to be put away in the process	1	1
03-Free flowing discussion	0	0
03.1-Delaying discussion of ideas removes protectionism and possessiveness	1	1
03.2-Free flowing discussion as a trigger for creativity	1	1
03.3-Refraining from judgement at the beginning helped collaboration	1	1
03.4-Dominating participants affect the engagement of other participants	1	1
03.5-Session was good as all topics were open for discussion	2	2
03.6-Any contribution from participants has value	1	1
03.7-Fair process encourages contribution from less engaged participants	1	1

03.8-Round robin as a good inclusion tool	1	1
03.9-Round robin as a social tool to avoid embarrassment	1	1
3.10-Round robin as an ice-breaking tool	1	1
3.11-Round robin as trigger to creativity	3	3
3.12-Round robin giving a sense of anticipation and excitement	2	2
3.13-Round robin surfacing of issues brings everybody up to speed	1	1
04-Working creatively and autonomously	0	0
04.10-Working on specific themes in sub groups as a trigger for creativity	1	1
04.1-Focusing on a certain theme when surfacing ideas saves time	1	1
04.2-Building on each other's ideas as a creativity catalyst	4	5
04.3-Benchmarking as a trigger for creativity but not comparing against competition	2	3
04.4-Using precise language invites creativity	1	1
04.5-Creativity in linking	1	1
04.6-Shed of doubt on outcome is always there	1	1
04.7-Laddering down to actions is a creative process	1	1
04.8-Making the session task-oriented in more engaging	1	1
04.9-Pushing participants to think deeper adds value	1	1
05-Working collaboratively	0	0
05.1-Collaboration manifested in linking activity	1	1
05.2-Agreement in proceeding and outcome as sign of collaboration	1	1
05.3-Assigning ownership did not feel very collaborative	1	1
06-Committing to outcome and owning it	0	0
06.1-Every participant should own at least one initiative	1	1
06.2-Volunteering to own tasks as a sign of comfort and acceptance of outcome	1	1
06.3-Volunteering to own tasks as a sign of ownership of outcome	1	1
06.4-Ownership of outcome transfers completely to task owners	1	1
b.Feedback mechanics	0	0
00-Session setup and messages	0	0

a.Awareness of importance of tasks will improve communication	1	1
b.Clearly communicating importance of strategy reduces disengagement	1	1
c.Importance of endorsement of key stakeholders	5	7
d.Importance to have the first part of the session face to face	1	1
e.None of the elements in the session conveyed the importance of the session	1	1
f.Presence and endorsement of decision makers of outcomes creates excitement	1	1
g.Proper facilitation important to ensure fairness of process	1	1
h.Remote participants lose on collaboration feeling	2	2
i.Remote participants lose out on the body language	4	4
j.Remote participants not being able to see the ideas clearly	1	1
01-Feedback on the output volume	0	0
a.Level of participation is a measure of the comfort level of participants	1	1
b.Need to refocus when discussion goes out context	1	1
c.Not setting a limit to the number of ideas per participant pushes participation	1	1
d.Number of ideas as an indicator of excitement and engagement	1	1
e.Number of ideas as indication of creativity	1	1
f.Pushing participants to think deeper adds value	1	1
02-Feedback on progress during session	0	0
a.Importance of progress bar	2	2
b.Progress bar is clear	1	1
c.Progress bar is good feedback to understand progress in session	2	2
03-Retrospective to re-enforce learning and outcome ownership	0	0
a.A summary of learning will serve as a milestone reminder	1	1
b.Questions or summary at the end of section to emphasize the personal development	2	2
c.Questions to reinforce the learning	1	1
d.Re-enforcing strategic significance of their role to participants	1	1

e.Restrospective about the session is useful	1	1
04-Tool as feedback mechanic	0	0
a.The tool is good as it allows categorizing	1	1
b.The tool used is adding value to the session	1	1
c.Use mindmap or miro to work collaboratively in groups	1	1
c.Incentives	0	0
01-Development-related incentive	0	0
a.Learning to use the tool as personal development	1	1
b.Personal development techniques do not work for those who believe they are not part of strategy making	2	2
c.Personal development techniques work for senior participants	2	2
d.Professional development techniques work for those with career path ambitions	2	2
e.Session as a rare chance to learn strategy (personal development)	1	1
02-Recognition as a valued and experienced participant	0	0
a.Badges and levels might not be universally accepted in an organization	1	1
b.Facilitator to use people's strength to encourage participation	1	1
03-Uninterrupted speech	0	0
a.Avoiding objection releases tensions and invites people to participate	1	1
b.Avoiding objections in the beginning creates good vibes	1	1
c.Fair process encourages contribution from less engaged participants	1	1
04-Recognition as a model group	0	0
a.Being taken as a reference if successful is a strong narrative and calling	1	1
05-Importance of material rewards	0	0
a.Personal gains as a trigger for motivation	1	1
d.Win state	0	0
02-Participant becoming proficient in the tool and strategy making	0	0
a.Participant enthusiastic about session for sake of personal development	1	1

b.Session as a rare chance to learn strategy (personal development)	1	1
c.Session not seen as a personal development chance for experienced people	1	2
03-A collaborative inclusive creative inspired discussion	0	0
a.Participants feeling appreciation and respect	0	0
01.Nothing in the experience was causing discomfort	7	9
02.Participant feeling that they were treated fairly	2	2
03.Participant feeling they were given importance	1	1
04.Participants feeling that their ideas were considered	2	2
05.Session was good as all topics were open for discussion	2	2
b.Session conducive to creativity, collaboration and excitement	0	0
01.Generating new ideas creates anticipation and excitement	2	2
02.Growing interest during the session is a sign of success	1	1
03.Ideas that are too ambitious create aspiration and enthusiasm	1	1
04.Process triggering creativity	3	3
05.Session challenge in time allocated not being enough	3	5
06.Session time was not rushed giving the feeling that it was thorough	1	1
07.The process was exciting that they did not feel time	2	2
08.The session had an element of anticipation enthusiasm and excitement	2	3
09.The session was collaborative	2	2
10.Working out the details of the priorities was engaging	1	1
04-A meaningful and sophisticated map as a win-state	0	0
a.Getting out of the messy phase feels like an accomplishment	1	1
b.Messy phase of the process was worrying for some people	1	1
c.Sense of achievement on developing the map	5	6
d.Simplification of map shape as a relief to participants	1	1
e.The formulation of the final product creating anticipation and excitement	2	2
05-Having a prioritized plan with owners as a win-state for the group	0	0

a.Excitement can come from the belief that actions are doable and effective	1	1
b.Feeing the collaboration results in owning the outcome	2	2
c.Outcome as collective effort gives sense of achievement	1	1
d.Sense of accomplishment coming from feeling that we were thorough	1	1
e.Sense of confidence when we have an agreed strategy	1	1
f.Session arriving at existing initiatives gives good feeling to team	2	2
g.Session arriving at known ideas gives these ideas more weight and different perspective	1	1
h.Session challenge that action list was not completely detailed	3	3
06-Designated as task owner as an individual win	0	0
a.Assigning ownership of tasks creates a sense of achievement	1	1
06-Scaffolding phase	0	0
a.Desired Actions	0	0
01-Task Refinement and Assignment	0	0
a.Assigning ownership of tasks creates a sense of achievement	1	1
b.Assigning remote participants a task gives them a sense of ownership	1	1
c.Having to move on with the assumption that everybody was honest in their input	1	1
d.Inviting more people to elaborate the implementation details in a similar session	2	2
e.Moving from the aspirations to actions is a creative process	1	1
f.Next step to complete action register	2	4
g.Ownership of outcome transfers completely to task owners	1	1
h.Regarding oneself as SME enhances participation	1	1
02-Strategy implementation	0	0
a.Implementation is the main driver for the sense of achievement	2	4
b.Importance of a clear narrative to strategy implementation	1	1
c.Importance of flexibility and accepting adaptability in implementation	1	1
d.Inability to know that everybody is honest in their input	1	1

e.Moving from the aspirations to actions is a creative process	1	1
f.Need for leadership action to address resistance to change	2	2
g.Pivoting important to ensure successful strategy implementation	1	1
03-Regular follow up sessions	0	0
a.Followup session to start from findings of previous session and build on them unless exceptional	4	4
b.Frequency of repeating the session	5	6
c.Periodically repeating the process helps keep it relevant	1	1
d.Personal development opportunities through follow up sessions in different areas	1	1
e.Regular strategy sessions to overcome artificial creativity hurdles	1	1
b.Feedback mechanics	0	0
01-Continuous communication as a feedback mechanism	0	0
a.Importance of endorsement of key stakeholders	5	7
b.Presence and endorsement of decision makers of outcomes creates excitement	1	1
c.Timing as a trigger for session importance	1	2
02-Consistent follow up on progress of implementation	0	0
a.Action items need to be followed upon regularly	2	3
b.Action tracking software can give feedback to maintain motivation	1	1
c.Collaborative project management software is better in tracking	1	1
d.Progress bar also relevant to implementation of strategy	1	1
e.Task tracking through excel is sufficient for now	2	2
03-Assessing variables and situation	0	0
a.Converting aspirations to actions will have gaps	1	1
b.History as a guideline for chosen strategy to avoid repeating mistakes	1	1
04-Retrospective and diary	0	0
a.Interview as method of reinforcing learning of participants	1	1
b.Keeping a strategy diary and retrospective is important for learning	1	1
c.Questions or summary at the end of section to emphasize the personal development	2	2

d.Session arriving at existing initiatives gives good feeling to team	2	2
e.Session arriving at known ideas gives these ideas more weight and different perspective	1	1
c.Incentives	0	0
01.Badges and levels might not be universally accepted in an organization	1	1
a.Levels and titles are less important for senior people	1	1
02.Certificate useful as reminder of the sessions proceedings and outcomes	1	1
03.Importance of spreading the word about activity	1	1
a.social media posting gives a sense of accomplishment	1	1
d.Win state	0	0
01-A thoroughly detailed and autonomous project(s) plan	0	0
a.Assign breakout groups based on expertise (or lack of)	1	1
b.Assigning ownership of tasks creates a sense of achievement	1	1
c.Importance of autonomy to achieve engagement	2	2
d.Inclusion of all stakeholders adds value	2	4
e.Practicality of outcome relying on autonomy of team	1	1
f.Themes elaboration to be done by teams to reduce stress on facilitator	1	1
g.Themes elaboration to be done by teams when they have the skillset	1	1
02-Becoming a strategy practitioner	0	0
a.More sessions with the same people will cause them to open up and engage better	1	1
b.Personal development technique might better register on session repetition	1	1
c.Sense of achievement on developing the map	5	6
d.Sense of confidence when we have an agreed strategy	1	1
03-Successfully delivering projects	0	0
a.Implementation is the main driver for the sense of achievement	2	4
b.Outcome as collective effort gives sense of achievement	1	1

c.Strategy ownership by group is enhanced by successfully delivering it	1	1
07-Endgame phase	0	0
Desired Actions	0	0
01-Institutionalize Process	0	0
a.Action items need to be followed upon regularly	2	3
b.Need to embed outcome in operational SOP's for practicality	1	1
02-Expand Scope	0	0
a.Facilitator to use people's strength to encourage participation	1	1
b.Importance of continuously scanning the environment to update context	1	1
c.Pushing participants to think deeper adds value	1	1
03-Communicate and publicize	0	0
a.Importance of a clear narrative to strategy implementation	1	1
Feedback mechanics	0	0
01-Continuous communication as a feedback mechanism	0	0
a.Importance of endorsement of key stakeholders	5	7
b.Presence and endorsement of decision makers of outcomes creates excitement	1	1
c.Timing as a trigger for session importance	1	2
02-Consistent follow up on progress of implementation	0	0
a.Action items need to be followed upon regularly	2	3
b.Action tracking software can give feedback to maintain motivation	1	1
c.Collaborative project management software is better in tracking	1	1
d.Progress bar also relevant to implementation of strategy	1	1
e.Task tracking through excel is sufficient for now	2	2
03-Retrospective and diary	0	0
a.Interview as method of reinforcing learning of participants	1	1
b.Keeping a strategy diary and retrospective is important for learning	1	1
c.Questions or summary at the end of section to emphasize the personal development	2	2
d.Session arriving at existing initiatives gives good feeling to team	2	2

e.Session arriving at known ideas gives these ideas more weight and different perspective	1	1
04-Assessing variables and situation	0	0
a.Converting aspirations to actions will have gaps	1	1
b.History as a guideline for chosen strategy to avoid repeating mistakes	1	1
Incentives	0	0
01-Being known as the expert	0	0
a.Levels and titles are less important for senior people	1	1
b.Personal development techniques work for senior participants	2	2
c.Professional development techniques work for those with career path ambitions	2	2
02-Mentoring novices	0	0
03-Trophy shelf	0	0
a.Badges and levels might not be universally accepted in an organization	1	1
Win state	0	0
01-Becoming a strategy professional	0	0
a.Regarding oneself as SME enhances participation	1	1
02-Expanding and extending the scope of strategy making	0	0
a.Ideas that are too ambitious create aspiration and enthusiasm	1	1
b.Importance of autonomy to achieve engagement	2	2
03-Successfully delivering projects	0	0
a.Implementation is the main driver for the sense of achievement	2	4
b.Outcome as collective effort gives sense of achievement	1	1
c.Strategy ownership by group is enhanced by successfully delivering it	1	1
04-Complete process of formulating and executing embedded in company SOP	1	1

9.11. Gamification techniques

Table 15 below is a list of some gamification techniques. This is not an exclusive list, nor is there agreement that all entries are accepted gamification techniques. However, it comes from activities and material that is published in Octalysis Prime, the online gamified gamification resource (Chou, 2022).

Table 15 List of gamification techniques

#	Gamification Technique	Description
1	Adaptive Choices	Adjusting game options in real-time based on player behaviour to enhance engagement
2	Advanced Gameplay	Introducing complex game mechanics to challenge experienced players and prevent monotony
3	Adventure	Offering players a narrative-driven exploration and discovery experience
4	Alfred Effect	Fostering player loyalty by personalizing the game environment or responses
5	Anticipation Parade	Building excitement through previews or hints about future game content
6	Appointment Dynamic	Encouraging players to return at specific times for rewards or events
7	Attribute Webchart	Visualizing player or character progress and skills in a web-like graph
8	Aura Effect	Providing benefits to players or characters within a certain vicinity in the game
9	Automation Booster	Allowing players to automate repetitive tasks to focus on strategic elements
10	Avatar	Letting players create or choose a virtual representation of themselves in the game
11	Badges (Achievement Symbol)	Rewarding players with virtual badges for accomplishments to display progress and achievements
12	Bandwagon Extension	Encouraging players to follow popular trends within the game for rewards or recognition

13	Beat Your Friends	Motivating players to outperform their friends' scores or achievements
14	Beginners Luck	Offering new players an initial advantage to boost confidence and engagement
15	Belonging	Creating a sense of community and connection among players
16	Betting	Allowing players to wager in-game currency or items on outcomes within the game
17	Best Possible Team	Enabling players to assemble the strongest team based on available characters or resources
18	Blankfills	Engaging players by having them complete missing information or solve puzzles
19	Blanks	Presenting players with empty space to relax
20	Blocking	Implementing obstacles that require strategy or specific actions to overcome
21	Boosters	Offering temporary advantages or enhancements to players to be able to enhance participation or capabilities
22	Bootleg Quest	Introducing unofficial or fan-made challenges or missions within the game
23	Boss Fights	Challenging players with powerful adversaries that mark significant milestones in the game
24	Brag Button	Allowing players to easily share their achievements on social media or within the game
25	Buddy	Providing players with an AI companion or friend within the game for assistance or company
26	Build from Scratch	Letting players create game elements or environments from the ground up
27	Cap Switcher	Enabling players to switch between different sets of abilities or equipment
28	Chain Combos	Rewarding players for executing sequences of actions or moves
29	Choice in Collecting Rewards	Offering players options on how to receive their earned rewards

30	Co-creationist	Involving players in the creation or development of game content
31	Conformity Anchor	Encouraging players to conform to group norms or trends for benefits
32	Consequence (Operant Conditioning)	Applying rewards or punishments to shape player behaviour
33	Countdown Timer	Creating urgency or time-limited challenges to engage players
34	Cross-section Battles	Facilitating competitions between players from different game sections or levels
35	Crowd Creation	Leveraging player input or actions to generate game content or features
36	Crowning	Acknowledging a player's achievement or status in a significant, celebratory manner
37	Daily Tipper	Offering daily advice or tips to enhance player experience or performance
38	Dance	Incorporating rhythmic movement or dance mechanics as a game element of celebration or personalization
39	Dangling	Teasing future rewards or content to maintain player interest
40	Desert Oasis	Providing rare or valuable resources in sparse areas to reward exploration
41	Double Edged Sword	Introducing game mechanics that have both positive and negative consequences
42	Duels	Facilitating one-on-one challenges between players
43	Dynamic Feedback	Offering real-time responses or adjustments based on player actions
44	Easter Egg (Sudden Reward)	Unexpected bonuses for players to discover
45	Elitism	Creating exclusive groups or levels for top players
46	Evanescence Opportunity	Offering time-sensitive opportunities that disappear if not acted upon
47	Evil Egg	Introducing deceptive or harmful elements disguised as rewards

48	Evolved UI	Allowing upgraded user interface for certain players or after a certain milestone
49	Exchangeable Points	Allowing players to trade points earned for rewards or advantages
50	First Person Learning	Immersing players in learning experiences through a first-person perspective
51	Fixed Action Rewards (Earned Lunch)	Rewarding players for completing specific, predetermined actions
52	FOMO Punch	Leveraging the fear of missing out to encourage participation in time-limited events
53	Free Lunch	Providing players with unearned rewards to increase satisfaction
54	Friending	Facilitating the creation of friendships within the game through social features
55	Foul	Penalizing players for breaking game rules or norms
56	Glowing Choice	Highlighting or emphasizing certain choices to guide player decisions
57	Go to Jail Card	Implementing a penalty system that temporarily restricts player actions
58	Group Quest	Encouraging collaborative efforts to complete challenges or missions
59	Grownup Lock	Offering controls that allow access to certain game content after a certain time or based on achieving a certain milestone
60	Grinding (Repetition)	Requiring players to perform repetitive tasks for progress or rewards
61	Head Start	Giving players an initial advantage or boost at the beginning of the game or level
62	Help a Friend	Allowing players to assist each other for mutual benefits
63	Hiding	Enabling players to conceal their actions or strategies from opponents
64	High Five	Encouraging positive reinforcement among players through virtual acknowledgments

65	Humanity Hero	Rewarding players for making ethical or socially responsible choices in the game
66	Hunter's Mark	Designating specific targets or goals for players to pursue
67	Information Overload	Challenging players with managing or deciphering large amounts of information
68	Invite Friends	Encouraging players to bring new participants into the game for rewards
69	Last Mile Drive	Motivating players to complete the final steps of a challenge or level
70	Leaderboard	Displaying player rankings to encourage competition and recognition
71	Leveling Up	Allowing players to progress to higher levels for greater challenges and rewards
72	Life-jacket	Offering mechanisms to prevent player failure or to cushion the impact of setbacks
73	Lives Refresh	Automatically replenishing a player's lives or chances after a set period
74	Lost Progress	Implementing consequences for failure, such as losing game progress
75	Mayor	Assigning leadership roles or titles to players based on achievements or contributions
76	Magnetic Caps	Limiting the time a certain feature is available
77	Mastering the Basics	Encouraging proficiency in fundamental game mechanics before advancing
78	Meaningful Choices	Presenting players with decisions that significantly affect the game outcome
79	Mentorship	Connecting new players with experienced ones for guidance and support
80	Merging Loots	Allowing players to combine items for upgraded rewards or capabilities

81	Milestone Unlock	Granting access to new content or features upon reaching certain achievements
82	MiniQuest	Offering short, optional challenges for quick rewards or diversions
83	Moats	Creating barriers that players must overcome to access certain areas or resources
84	Multiple Resources	Introducing various types of currency or materials for players to manage and use
85	Narrative	Embedding a storyline to provide context and depth to the gaming experience
86	Navigation	Enhancing the user interface to facilitate easy movement and exploration within the game
87	Night and Day	Simulating a day-night cycle to affect game dynamics, available activities or force a break
88	Observer Attachment	Allowing players to spectate others, fostering engagement and learning
89	Obvious Wonder	Presenting clear, awe-inspiring elements or events to captivate players
90	Open World	Offering a game environment where players can explore freely without linear constraints
91	Option to Quit (and Restart)	Giving players the ability to exit challenges or missions with the option to retry
92	Oracle Effect	Providing foresight or hints about future game events or outcomes
93	Peer to Peer (Recognition, Support and Motivation)	Facilitating interactions among players for mutual encouragement and acknowledgment
94	Pet Companion	Assigning a virtual pet to accompany and assist the player throughout the game
95	Plant Picker (Meaningful Choices)	Giving players the option to select choices based on impact on their game strategy
96	Poison Picker (Choice Perception)	Offering choices where players must weigh immediate benefits against potential long-term drawbacks

97	Predict Your Performance	Allowing players to guess their game outcomes for rewards
98	Prize Pacing (Collection Set)	Distributing rewards over time or through collecting a set of items
99	Progress Bar	Visually tracking player progression towards goals or rewards
100	Protection	Offering players means to safeguard themselves or their assets within the game
101	Protector Quest	Assigning missions where players defend or save others
102	Puppet Master	Giving players control over multiple characters or elements simultaneously
103	Qualifiers	Setting prerequisites for players to enter certain events or access specific content
104	Quest	Presenting players with missions or tasks for rewards and progression
105	Quest List	Displaying available quests for players to choose and pursue
106	Quiz	Engaging players with questions or puzzles for learning or entertainment
107	Random Reward (Mystery Box)	Offering unpredictable rewards to stimulate excitement and exploration
108	Realtime Control	Allowing players to manipulate game elements or strategies in real-time
109	Recruiter Burden	Rewarding players for bringing new participants into the game
110	Recycled Shards	Utilizing parts of failed attempts or losses to build new strategies or resources
111	Refreshing Content	Continually updating game material to maintain interest and engagement
112	Revealed Heart	Showing players the impact of their actions on the game world or characters
113	Rightful Heritage	Rewarding players with legacy items or status based on their game history

114	Rolling Rewards (Lottery)	Randomizing rewards to keep players engaged and guessing
115	Rolling Penalties (Opposite Rewards, Musical Chairs)	Implementing dynamic penalties to add unpredictability to the game
116	Rotating Freebies	Offering different free items or bonuses at regular intervals
117	Rules Change	Modifying game mechanics periodically to refresh the challenge
118	Seasons	Cycling through themed events or changes in the game environment
119	SeeSaw Bump	Balancing game difficulty to keep players within a zone of optimal challenge
120	Social Army	Mobilizing groups of players for collaborative tasks or competitions
121	Social Prod (Nudge)	Subtly guiding player behaviour through social cues or suggestions
122	Social Treasure (Gifting)	Encouraging players to exchange gifts or benefits among themselves
123	Status Points	Awarding points that reflect a player's standing or achievements within the game
124	Status Quo Sloth	Discouraging change by making comfort zones rewarding
125	Step-by-Step Overlay Tutorials	Providing in-game guidance to teach gameplay mechanics gradually
126	Streaking	Rewarding players for consecutive achievements or daily logins
127	Sudden Rewards	Surprising players with unexpected bonuses for engagement
128	Sudden Tips	Offering spontaneous advice to improve player performance or strategy
129	Sunk Cost Prison	Encouraging continued play by leveraging investment in time or resources
130	Synergetic Probability Booster	Enhancing rewards through collaborative efforts among players
131	Teleporting	Allowing players to instantly move to different game locations
132	Time Travel	Enabling players to explore different time periods within the game

133	Time-bound Challenges	Introducing tasks that must be completed within a specific timeframe
134	Time-out	Pausing game action or penalties to provide players with a break
135	Thank-you Economy	A system that tracks and rewards players for helping each other
136	The Big Burn	Implementing a significant challenge or event that requires substantial player effort and resources
137	Third Person Empathy	Encouraging players to understand and relate to characters or players from an outside perspective
138	Torture Break (Time Delay)	Introducing deliberate pauses in gameplay to build anticipation or frustration
139	Treasure Hunt	Engaging players in the search for hidden items or rewards within the game
140	Trading	Allowing players to exchange items, resources, or services
141	Trash Talk	Facilitating competitive banter among players to enhance rivalry and engagement
142	Trophy shelf	Displaying players' achievements or trophies within the game environment
143	Turnover	Power shifting because of a mistake of one team
144	Tutorial	Providing instructions or demonstrations to acquaint players with game mechanics
145	Uniting	Bringing players together for a common goal or challenge
146	Unkillable Objects	Introducing indestructible elements within the game for strategy or challenge
147	Virtual Goods	Offering digital items for players to purchase, collect, or trade
148	Visual Feedback	Using graphical elements to communicate game status, progress, or feedback to players
149	Visual Storytelling	Conveying narrative and context through visuals rather than text
150	Voting	Allowing players to make decisions collectively on game elements or directions
151	Water Cooler	Creating spaces for informal player interaction and discussion
152	Chat Function	Enabling real-time communication among players within the game

153	Monitoring (Same as observer attachment)	Allowing players to watch others play, fostering a sense of community and learning
154	Recruitment	Encouraging players to involve others in the game for communal benefits
155	Practice Run	Offering players a trial or rehearsal to hone skills without penalty
156	Round Robin (You have the Stage)	Granting players exclusive attention or focus within the game or community
157	Personal Reveal (For Introduction)	Encouraging players to share personal stories or details to foster connections
158	Prompting (Planting Ideas)	Suggesting actions or thoughts to players to subtly influence gameplay

9.12. G-SODA elements

<https://www.figma.com/file/Zh2MLvLGmvglYVqhVW6ry2/Untitled?node-id=0-1>

9.12.1. User Stories

User stories describe software features informally and concisely from the user’s perspective (Cohn, 2004). However, in G-SODA, I have also employed user stories to describe offline features and touch points that take place before the introduction of the software or after the process has finished. An example is receiving and reacting to an email to join a strategy-making group. Non-responding participants receive a reminder email with gamification techniques targeting different drives (black hat). From a software design perspective, it is essential to note that the facilitator is also a user and gets a dedicated set of users’ stories.

In this maiden version of G-SODA, I start with the participant-specific stories (Figure 17) before moving on to facilitator-specific user stories (Figure 18). Each story includes the target of the feature, its purpose, and the steps to complete it.

As a participant



Figure 17 Participants' User Stories

User stories one to four refer to the users setting up their accounts and managing their profiles, including viewing their trophy shelf from previous achievements. Potentially, they can change their avatar. These user stories are designed to address the core drives of possession and personal development. They also aim to create a feeling of anticipation of what is to come, (hopefully) triggering the unpredictability drive. In case of inaction, the process uses techniques such as fear of missing out and countdown timers to trigger scarcity and loss aversion drives. The process onboards users by attending tutorials, signing a pledge of participation, passing a quiz, and doing external research if needed. Gamification techniques that stress process knowledge and required skill to handle the tool efficiently are widespread in the tool—more on that in the wireframes section.

User stories 5,6 and 7 are designed to target the social drive, as participants speak to each other and share screens. Getting to talk to each other forms a social bond of relatedness that is one of the pillars of intrinsic motivation. They are invited to groups by the facilitator. They accept this invitation and join the group, which (if successful) creates the feeling of belonging and a higher meaning, the epic meaning drive in the Octalysis framework. User stories 8, 9 and 10 are intended to delve into the activities of the issue-surfacing process and the subsequent linking. They include entering a concept and searching for duplicates on the page, allowing users to link directly on the map or suggesting linking in the chat box that the group can discuss. These activities and building on each other's work may instill a sense of creativity in participants, triggering a feeling of autonomy and possibly mastery. These are right-hand, white-hat drives that result in intrinsic motivation.

The scaffolding phase starts from user story 11 until 16. It includes stories that happen after the session has ended. They talk about the ability to get and conveniently access the outcome of the process, including personal deadlines. Such knowledge can trigger autonomy and empowerment, as the participant can take action and seek feedback. Participants can see the progress of their colleagues, which is vital to maintaining the social impact. Appropriately managed, visibility of the progress of others is designed to trigger relatedness and belonging drives, as participants can coordinate action and support each other if a member is falling behind. In addition, it may bring a sense of competition, which plays to the accomplishment and possession drives. However, too much competitiveness can hamper the cooperative spirit, so caution is advised. After a few scaffolding repetitions, the users mature into the end-game phase.

Facilitator-related stories are typically administrative. I have identified eight of them. Since the facilitator is the gamifier in a G-SODA process (please refer to section 4.1.2), I have not paid much

attention to gamifying the facilitator’s journey. I assume the facilitator is sufficiently motivated to engage intimately in the process. Nevertheless, the facilitator is an integral part of the process, and digitalizing the facilitator’s journey must be part of the comprehensive software. It is important to note that the facilitator gets more rights and views than regular participants.

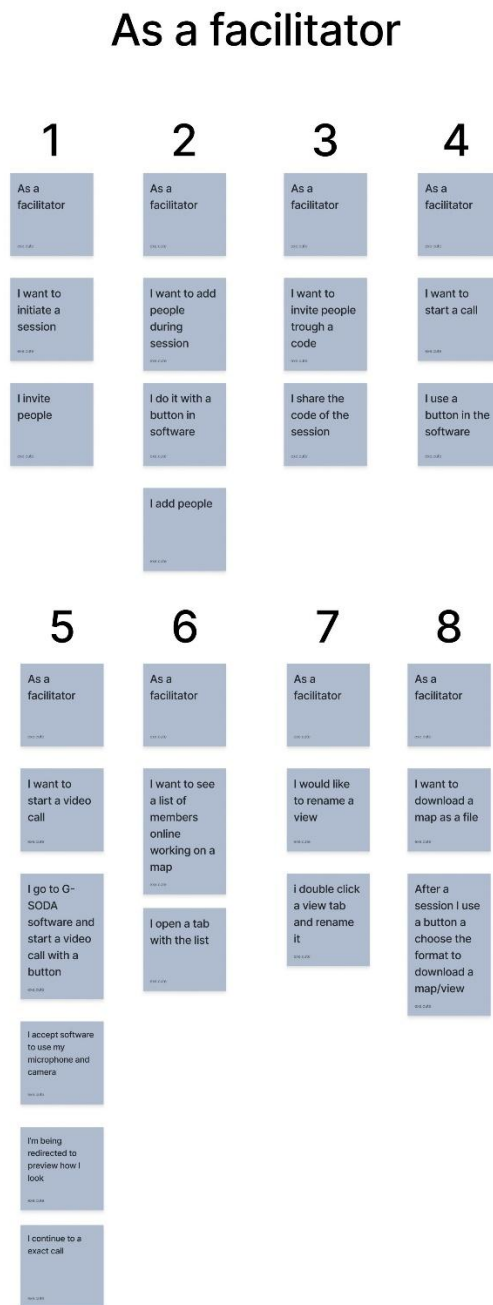


Figure 18 Facilitator User Stories

User stories one to four happen before the session starts and aim to bring together the strategy-making group. They are part of the users' discovery and onboarding phases. As previously mentioned, the communication power of GDSS is vital to propagate information in a timely fashion to ensure that everybody feels included and involved. Creating the groups is another critical step, and multiple factors can play a role in making the choice, the most important of which is including all stakeholders. Sub-groups are a helpful option in larger groups as they enhance efficiency. While such a technique can have a gamification spin, it is not covered here.

During the session, user stories five, six and seven refer to actions that the facilitator can take during the session. These include starting a conference call, which is beneficial in a remote or hybrid setup. The facilitator can also see a list of all members and text an individual, a group, or the entire set of participants. Instructions and directions can be shared using this medium. The facilitator can also organize the GDSS workspace by organizing and renaming the views where participants work.

After the session and during the scaffolding and end-game phases, the facilitator will have complete visibility and control of the list of action items. The facilitator can follow up, send reminders, and update open items. If the next session is to follow up on where the previous one left off, this functionality allows for the extraction of incomplete items and deploying them in a new white slate session.

The participants and the facilitators' user stories above have helped shed some light on what a gamified GDSS and process can look like. They will also constitute the reference against which the outcome will be measured to determine whether it met its objectives.

9.12.1. UML

The use case UML diagrams below show events and actions before and after the session. They present the options available for different users of G-SODA. I will segregate the use cases into three categories: before, during and after the sessions.

Before the beginning of the session, the facilitator would initialize a session and invite participants to it. Once done, participants sign up for the session. Depending on whether they are new or returning users, their journey might include signing up and creating their profile. As part of their journey, they would log in and see the screens related to their group. Different use cases complete the login process and address different scenarios related to logging in. Once in, they will be able to access the GDSS. In it, they would

see the SODA maps the facilitator had already granted access to and relevant material left there. Figure 19 below shows the pre-session use cases.

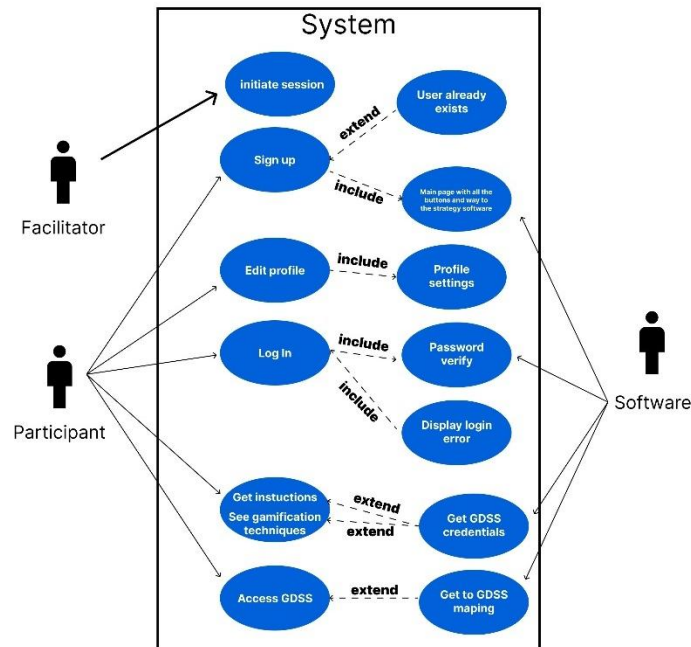


Figure 19 Pre-session UML use cases

During the session, a new set of use cases is available for the facilitator and the participants. In Figure 20 below, the facilitator has some unique tools, such as starting a voice or a video conference, which can trigger related use cases of asking permission from users or reporting an error if something goes wrong. A facilitator can upload files for the group to download. A facilitator can manage the view to keep everything in order. As I present these use cases, I realize that a facilitator's user journey can undergo significant functionality enhancements. However, the suggested functionality serves the purpose at this point, as participants are the centre of this study, and their willful and effective immersion in the process is its purpose. As mentioned, I consider facilitators to be seasoned veterans who are intrinsically motivated and aligned with the organisation's aims (an assumption that might always stand true).

Users have either collaborative or creative use cases in the UML below. Collaborative ones include sending messages to the group (individually or broadcast), receiving messages, controlling the position of the chat window, and sharing screens. Creative use cases relate to the core of the process and include adding concepts and ideas, linking ideas, or suggesting links.

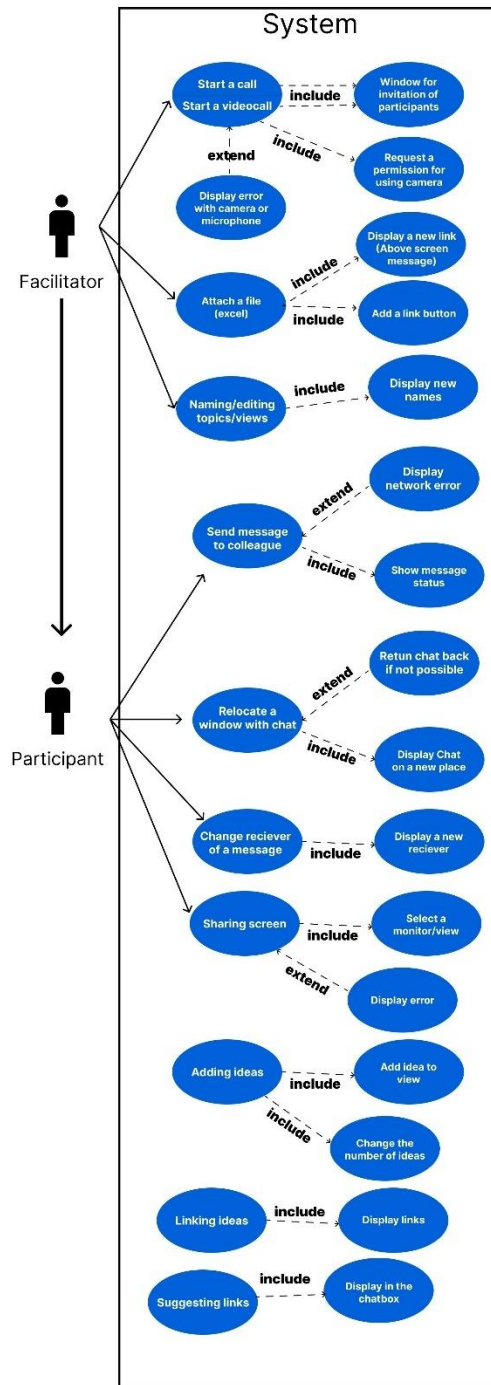


Figure 20 In-session UML use cases

After the session, the users' journey continues. Additional use cases cover the scaffolding and endgame phase of the process. They focus on content management and working collaboratively to finish the assigned tasks. Content management is initiated by the facilitator, with the whole team contributing. It includes uploading files such as the action plan and SSI for future reference. Users can update open

tasks on the live version of the document. The platform allows assigning tasks outside the group to seek specialized (subject matter experts) opinions and input. The facilitator can ensure action owners receive reminders about pending tasks and looming deadlines. Figure 21 captures the details of the post-session use cases.

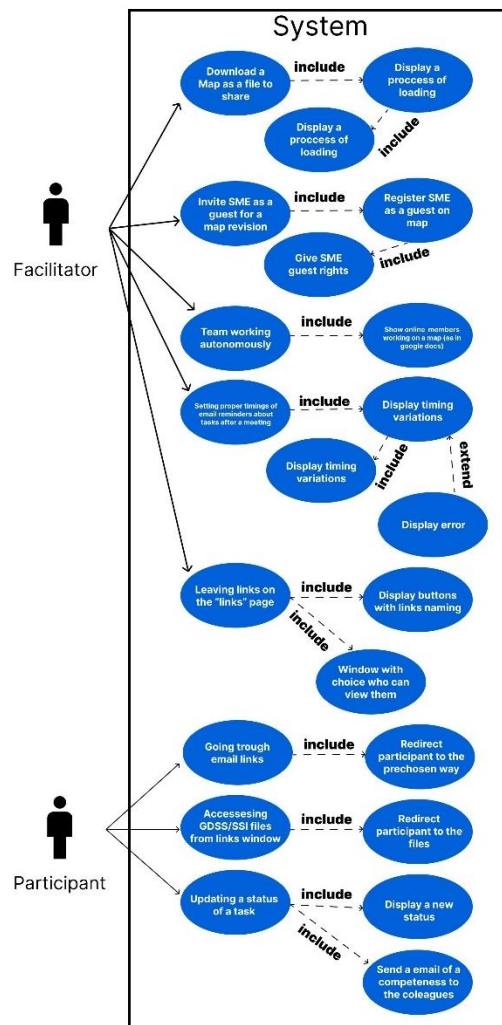


Figure 21 Post-session UML use cases

The UML use cases do not lend themselves to properly capturing gamification elements in the software design. However, the following sessions will achieve that through displaying wireframes.

9.12.2. Wireframes

Simply put, wireframes capture the interface layout (Garrett, 2011). Following the above research and design phases, the development phase started. For the purpose of this study, consisted of putting together the wireframes that show the user interface for G-SODA (the software is a platform that includes and enables gamification techniques). It is worth mentioning that each phase includes on-software and off-software features and gamification techniques that work in tandem to create and benefit from interactions with participants.

9.12.2.1. Discovery Phase

In the discovery phase, the facilitator and the participants first see the software. Its purpose is to capture the attention, instigate motivation, and get the participants involved as quickly and as deeply as possible to draw action from them. Ambiguous messages, unfriendly interfaces and unclear calls of action are detrimental to this phase.

While I assume that the facilitator is intrinsically motivated to do a good job and use all available tools, the wireframes below are needed to describe the user interface thoroughly. Figure 22 shows the facilitator's view when first logging in to create a strategy-making group. It contains the personalized view, the level of experience that the facilitator attained and the control panel that would allow them to get G-SODA started. It is the landing page for the facilitator, and no enticing techniques are required.

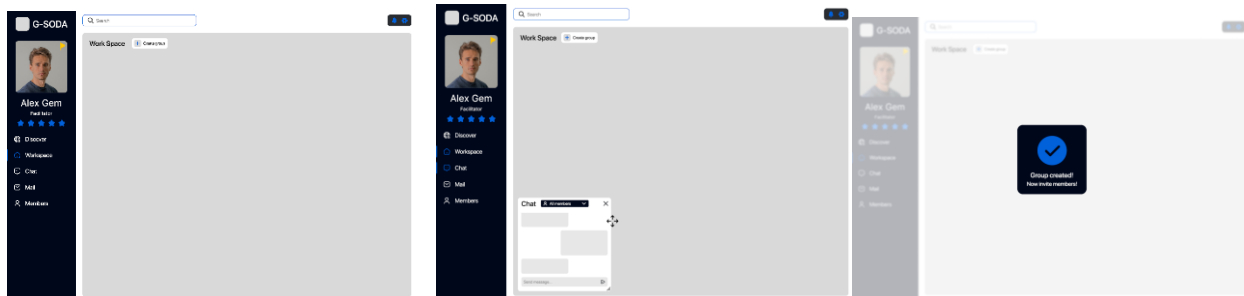


Figure 22 Facilitator landing page

From the facilitator's point of view, the candidate group members are visible once they sign-up, as seen in Figure 23. The facilitator can see the participants' experience level, their last logins, invite them, and other options accessible by clicking on the plus sign.

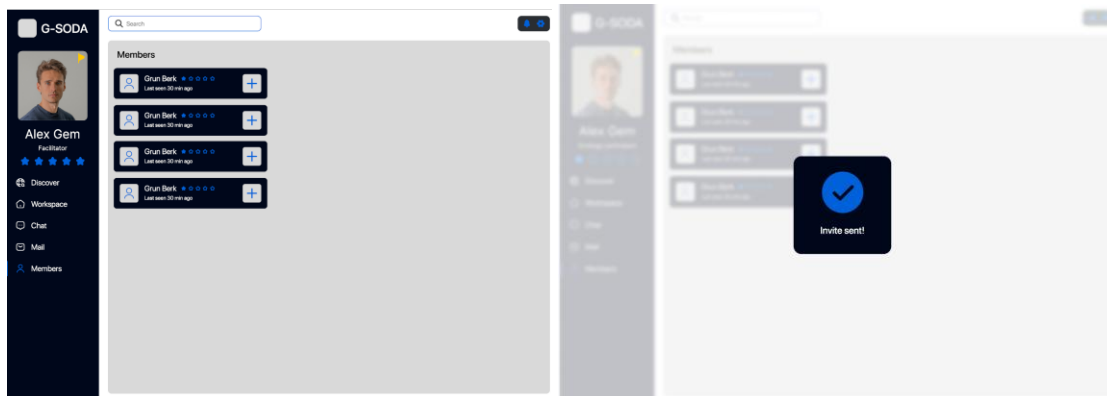


Figure 23 Group members from the facilitator's view

As for the participant, receiving an unsolicited message limits the chance of a favourable response. Therefore, the participant must be expecting the message from the software after being inducted into the process to the extent that they are willing to take action. After an introductory message from the facilitator (embedded in the software), the participant receives a gamified message like the one below. It includes an easy call to action button (go for it). Along with the gift figure, it plays at the unpredictability core drive. It consists of a countdown timer that suggests a deadline, which means a scarcity of time. Figure 24 is an illustration.

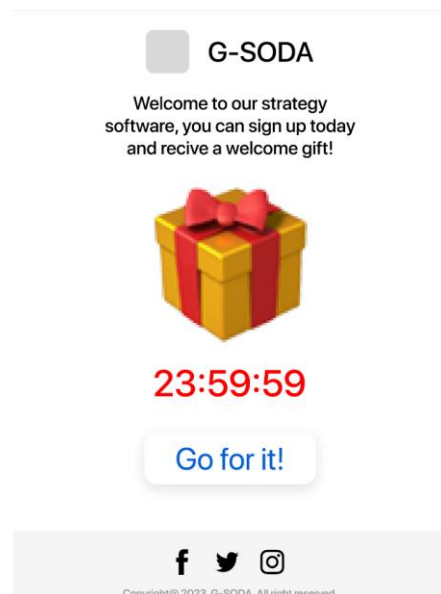


Figure 24 Call to action message to start using the software

Not taking action triggers follow-up messages like the one below in Figure 25. Such messages target the fear of missing out (loss avoidance drive). It includes a prominent call to action button and indirectly implies a community waiting for the participants to come over and join the group.

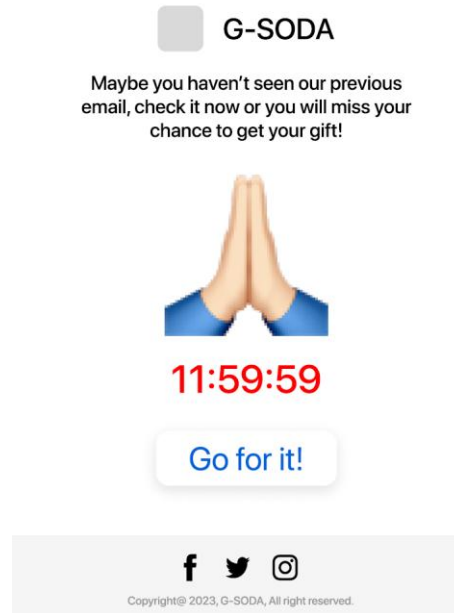


Figure 25 Follow-up message to join

Another way to get participants to take action is using the peer pressure gamification technique. By nudging them with actions other participants have taken, it is hoped that they will fear being left out and would not want to be the odd one in the group. The below wireframe (Figure 26) presents a sample of the gamification technique.

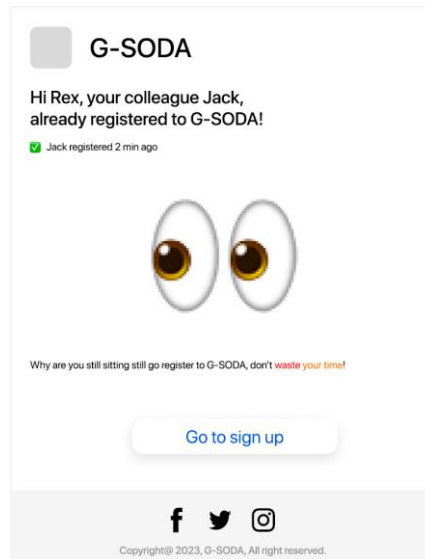


Figure 26 Nudging participants to take action.

Once the participant takes action, they see the log-in screen to G-SODA in Figure 27. Making the call to action as easy and frictionless as possible is necessary to encourage participants to take the desired action. Therefore, multiple signing up and login options are possible. Successful signing up gets them to the induction area of G-SODA, where they are prepared to start using the GDSS.

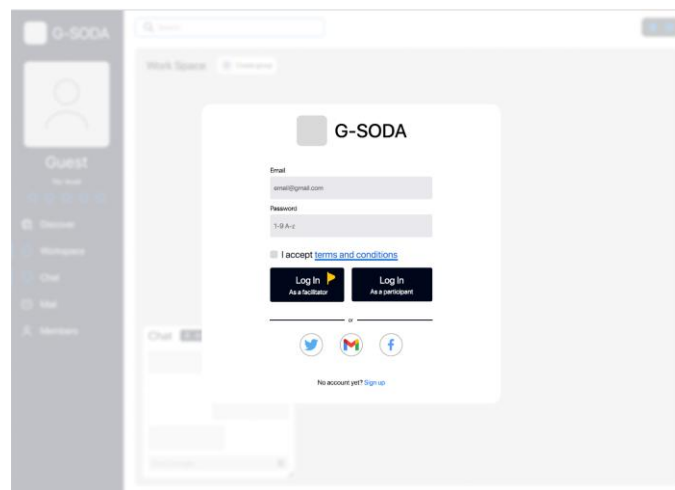


Figure 27 Signing up page for participants

The feature to read and accept the terms and conditions is common in most software programs, and in a few of them, it is mandated by law or by the company's legal department. In this software, one way of using it is as a gamification technique to call for an epic meaning in terms of pledging to uphold the commitment to see the process through and abide by the expected behaviour. A future feature is to link

this software with other corporate software through a single sign-on feature and identity access management⁴.

The user gets the software manual as a reward for taking action, accessing the platform, and signing up (Figure 28). This reward is a booster gamification technique, as it enables the users to improve at another desired action: properly using all areas of the software, the GDSS and the gamified surroundings.

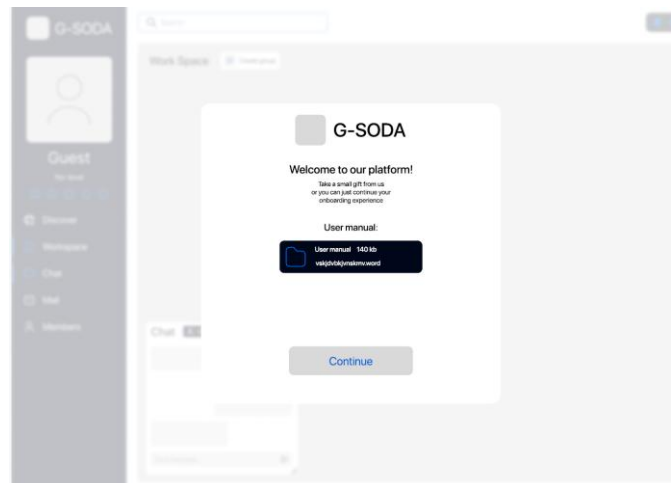


Figure 28 User manual as a booster reward

A significant part of the onboarding of participants is getting them to complete an essential training, followed by a quiz. Upon successfully passing the quiz, they will get into the first experience level (Figure 29). They are celebrated for passing the quiz, and some social news might be shared among the group. This would have multiple benefits, such as giving them social capital through recognition. It can also put peer pressure on those who have not completed their induction.

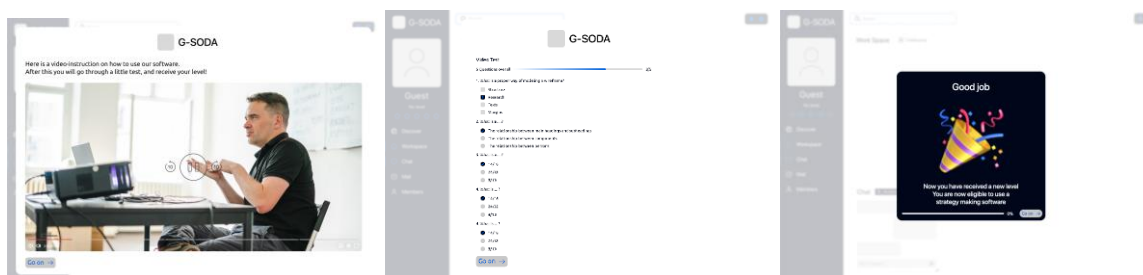


Figure 29 Training, quiz and passing celebration

⁴ Identity Access Management (IAM) is a framework for managing digital identities and controlling user access to resources within an organization.

Passing the training earns them a certificate (visible on their trophy shelf). As discussed, this technique targets the possession and professional development core drives in one go (Figure 30).

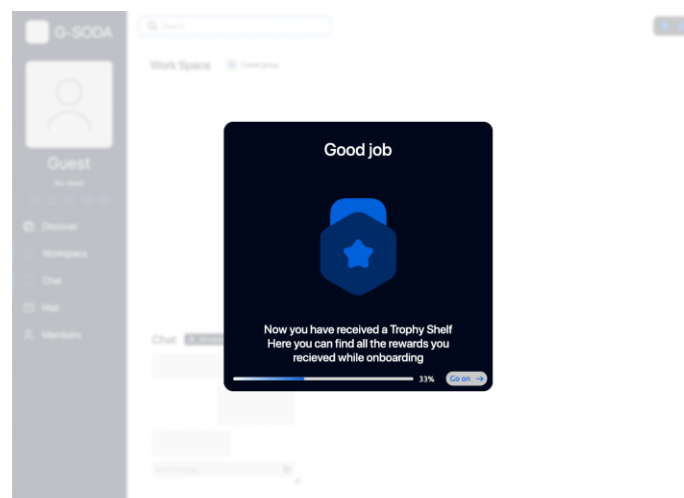


Figure 30 Certificate of passing

This certificate is a prerequisite for accessing the GDSS part of the software with the credentials received (Figure 31) and actively participating in the strategy-making group. Such a technique aims to provide a sense of autonomy, as the participant can start making strategy with a group of similarly vetted peers. It also gives a sense of belonging to a distinguished group.

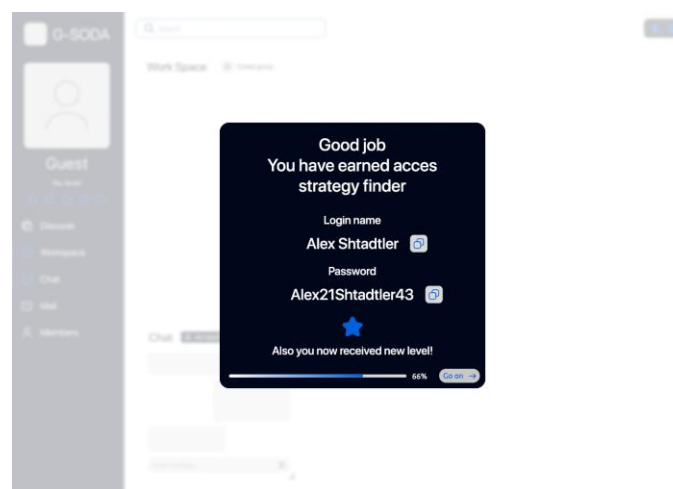


Figure 31 Getting access credentials to SODA

9.12.2.2. Onboarding Phase

The first step of onboarding is for the participants to be able to sign in, as shown in Figure 32. While participants usually log in for the first time during the session, this could happen before the session if the facilitator wants participants to get to know the tool and prepare some ideas for the upcoming session. The participant can join a group if they have already received the invitation. They can also see their status, profile, and trophy shelf. They can interact with other participants or with a facilitator.

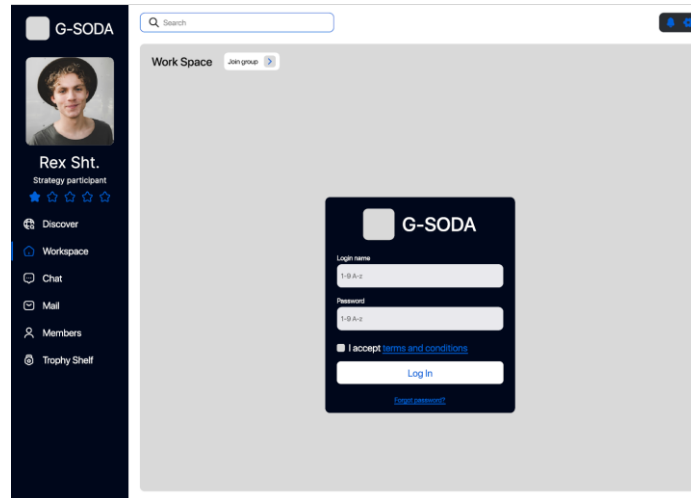


Figure 32 Signing into G-SODA

The participant can then update their profile, add a photo or avatar, set the account options, and set the preferred messaging medium, as shown in Figure 33. The control panel on the left and the messages and settings button on the top right corner remain visible.

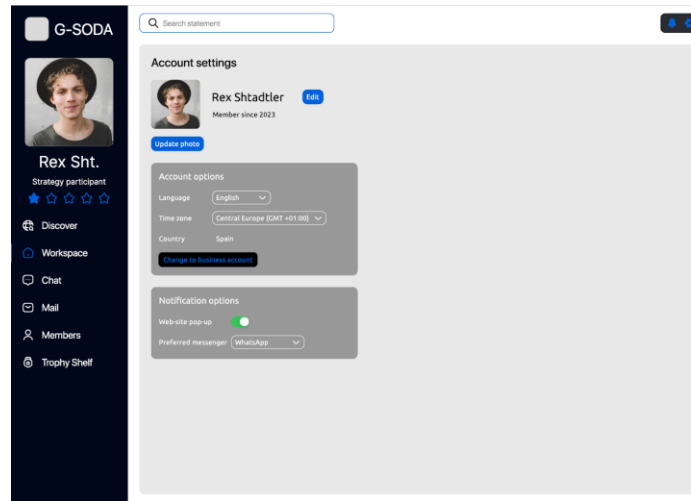


Figure 33 Updating the profile

Once the participant is in a group and the session starts, they can see the session's workspace. In G-SODA, each strategy-making session gets its workspace, keeping a clean separation between different workshops and containing the surrounding metadata (communication, interactions, achievements) of the session within that workspace.

The GDSS resides inside the workspace (Figure 34). There is no need to reinvent the wheel by rebuilding a new GDSS. It suffices to embed a powerful GDSS such as StrategyFinder into the workspace to serve the purpose. The surrounding tools, such as the message pane and the zooming lens, could be either those of the G-SODA or the GDSS itself. A significant benefit of such an integration is that there is only one source of data for the views: the GDSS. G-SODA only provides the gamification and UI/UX enhancement elements. A future improvement is when G-SODA can re-construct the workspace using flat files such as CSV, as this allows for combining data from different sources and overlapping it onto the strategy workspace.

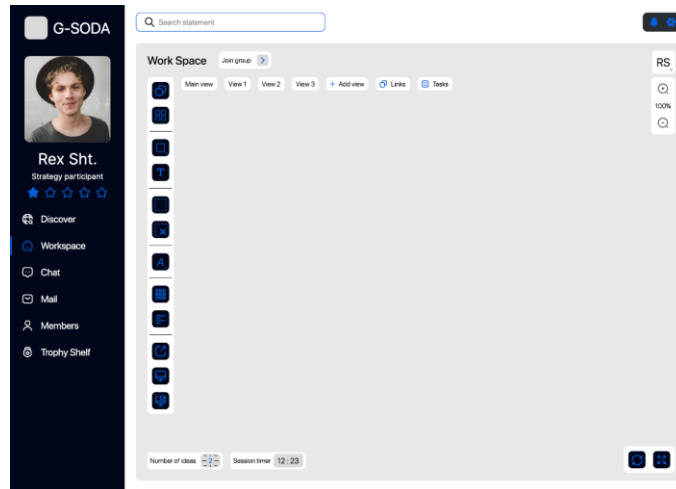


Figure 34 Workspace embedded in G-SODA

At the bottom of the workspace, the participant can see the session countdown timer and the idea counter. As mentioned, these gamification techniques aim to tackle a different core drive to trigger a desired action. The countdown timer intends to create urgency, prevent slacking, and encourage more action regarding entering and linking ideas. The ideas counter is a feedback mechanism that is supposed to give the users a sense of achievement if a certain number is bypassed or a trigger for action if it is not.

During the onboarding stage, the facilitator needs to be able to broadcast messages and chat with the participants collectively and individually. This is important for providing feedback and interfering to rectify incidents or address stalemates. Figure 35 shows this capability. The chat box is easily movable around the screen and resizable for ease of use.

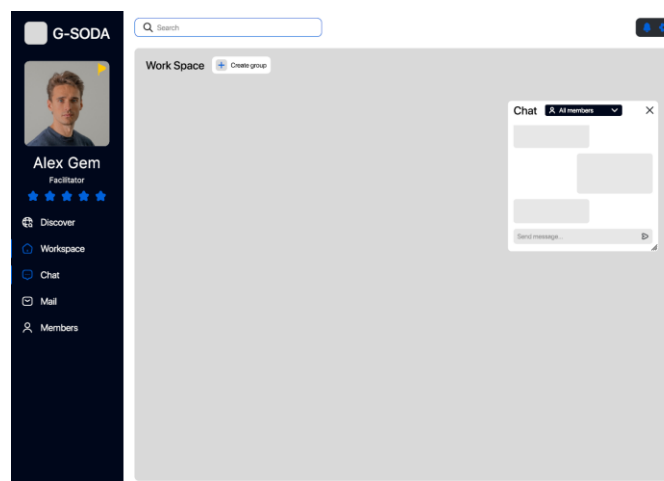


Figure 35 Chatting and broadcasting capabilities for the facilitator

9.12.2.3. Scaffolding and End Game phases

At the end of the first session, participants will receive the session's outcomes through messages. This should hopefully trigger feelings of achievement, commitment, and ownership if the session goes as planned. Figure 36 shows what this wireframe would look like.

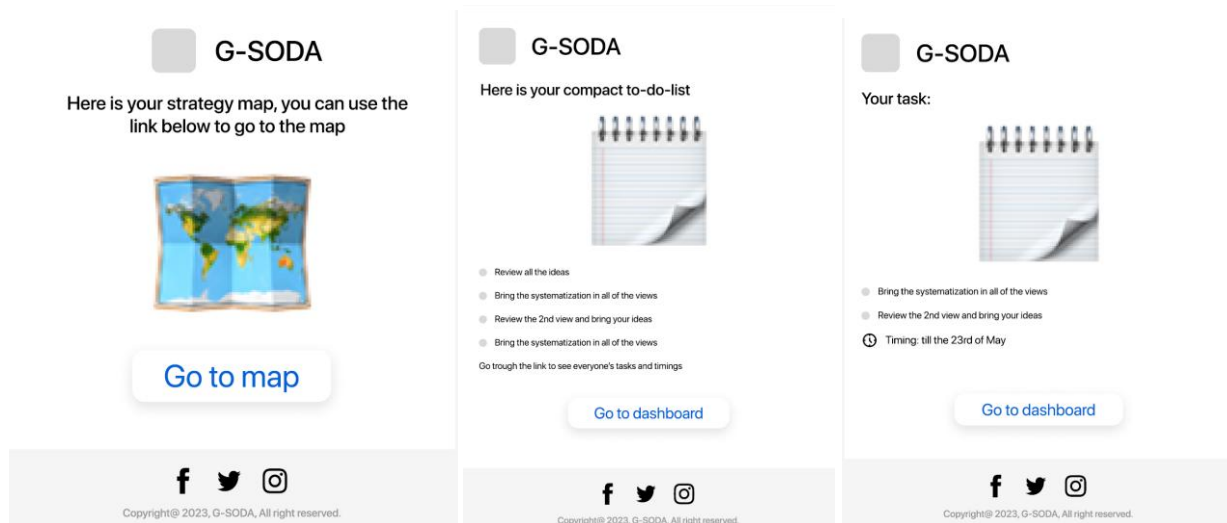


Figure 36 Users receiving pop-up messages with the outcome and their tasks

The statement of strategic intent and a set of actionable items are stored in the workspace itself and can be accessed at any time by the participant to view and update. Figure 37 shows these are embedded files or links to a virtual location. In the future, the tool could be better integrated into collaboration tools such as Jira.

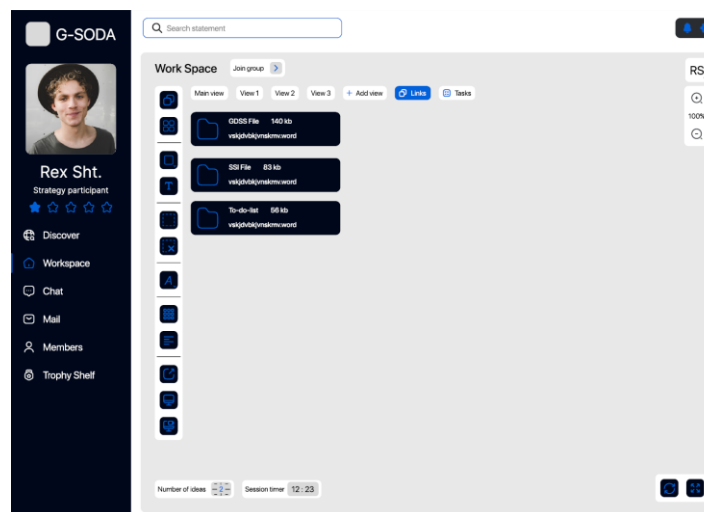


Figure 37 Session outcomes stored on the workspace

Conformity anchor, which targets peer pressure and the fear of being left out, can push participants into action. Receiving a nudge to take action when another participant has completed a task can also be programmed differently depending on the situation. Figure 38 is a wireframe sample.

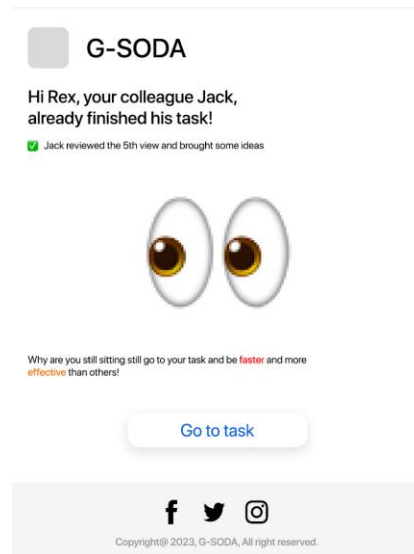


Figure 38 Conformity Anchor Nudge to get tasks done

After clicking the GoTo Task button, the participant will be taken to their open tasks page on G-SODA. There, they can view and update as necessary. Task completion will trigger a celebratory and acknowledgement response (Figure 39).

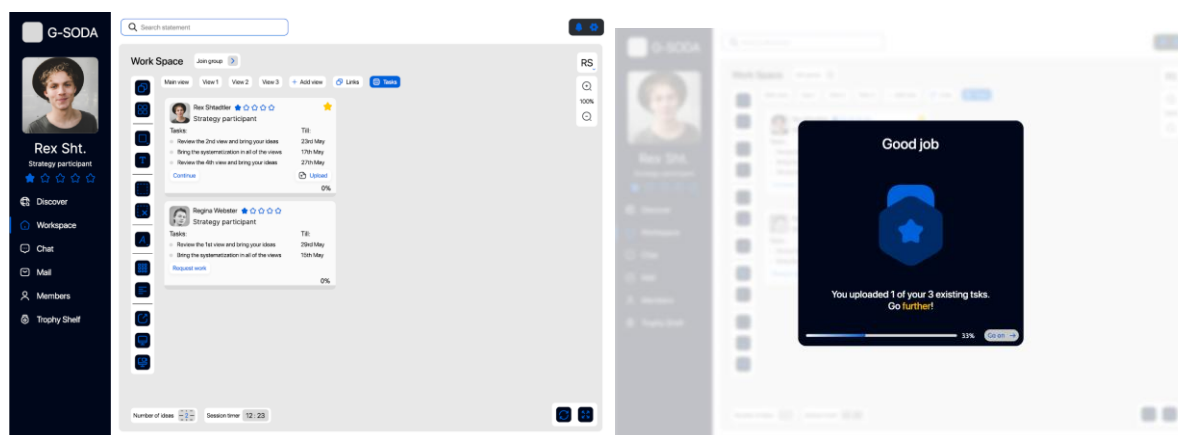


Figure 39 Tasks page and celebration upon completion.

A successful strategy initiative in the organization will encourage more facilitators to initiate and manage multiple strategy-making groups. As the teams get involved in more strategy-making workshops and implement the outcomes they produce, there might be confusion between different sessions and

teams. This dilemma is addressed by adding a unique identifier (code) for each session. The facilitator will only see it at this stage, as per Figure 40. In the future, more session management tools can be added.

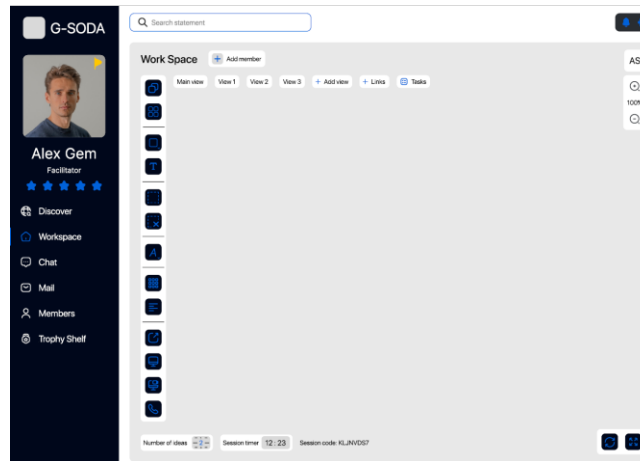


Figure 40 Facilitator workspace view

Now that the designs have been presented, it is time to check in with some participants to see if automated gamification of G-SODA can work.

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