Title

An Exploration of The Barriers for Developmental & Exploratory Type Innovations, and Their Effects on Organisational Intrapreneurship

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Abstract

United Kingdom (UK), small to mid-sized enterprises (SMEs) face the same need to innovate as larger organisations. However, little research has been conducted that is specific about the challenges SMEs face during their innovation efforts. This research explored the barriers for developmental and exploratory type innovations within UK SME project teams; the barriers were then analysed to assess their impact on intrapreneurship and status quo bias.

Based on a review of the literature on innovation and intrapreneurship theory. Focusing on Need discovery and innovation processes, a semi-structured interview was developed. The interviews were of UK SME project team members that were part of either a developmental or exploratory innovation project.

An analysis of the results indicates that the barriers for the two types of innovations are varied, nuanced, interlinking and paradoxical in nature. The barriers are symptoms of a more insidious problem that perpetuates a year-on-year developmental feedback loop. Ignorance of the innovation spectrum and the requirement for a balanced portfolio, compounded by a bureaucratic top-down leadership climate, drives the inertia towards the status quo and is the biggest challenge for organisational intrapreneurship.

Key words: Intrapreneurship; Corporate Entrepreneurship; Innovation Barriers; Developmental Innovation; Exploratory Innovation.

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1. Introduction

1.1. Background

Innovation is a necessity for organisations that compete in today's V.U.C.A (volatile, uncertain, complex, and ambiguous) environment (Brown and Eisenhardt, 1997). V.U.C.A conditions are forcing companies to innovate faster than ever before (Horney, Pasmore and O'Shea, 2010; Schoemaker, Heaton and Teece, 2018) and an organisations very survival is dependent upon its ability to innovate (Koetzier and Alon, 2013; Clustre, 2017). For long-term competitive success, an organisation must be perpetually innovating both developmental and exploratory type innovations (Hamel and Prahalad, 2007; Kuratko, Covin and Hornsby, 2014; Kim and Mauborgne, 2015; Govindarajan, 2016).

Many scholars (Pinchot, 1985; Carrier, 1996; Pinchot and Pellman, 1999; Baum, Frese and Baron, 2012; Lumpkin, 2014) have suggested intrapreneurship as a method of stimulating innovation and using the creativity of employees by giving them the independence and resources they need to innovate within an organisation. The overarching conditions and the need to innovate have compelled organisations to focus on systematic innovation and adopting a more creative organisational climate (Isaksen and Tidd, 2006; Kuratko and Morris, 2018), beckoning a shift from 'managerial' to 'intrapreneurial' (Ries, 2011, 2017; Drucker, 2014).

There have been vast amounts of research conducted on the strategy of innovation (Drazin and Schoonhoven, 1996; Fiol, 1996; Glynn, 1996; Shane and Venkataraman, 2000). Furthermore, there are volumes of research on what strategies and structures make innovative organisations (Koberg, Detienne and Heppard, 2003). Research into intrapreneurship is far too often concentrated with larger organisations (Carrier, 1996; Oke, Burke and Myers, 2007). Resulting in barriers for intrapreneurship and innovation viewed through the lens of larger organisations, even though small to mid-sized enterprises (SMEs) face the same need for innovation if they are to remain competitive.

There were 5.9 million SMEs in the UK in 2019, which was over 99% of all businesses (Rhodes and Ward, 2020). Despite the importance SMEs have to the UKs economy, the knowledge base about how SMEs actually undertake innovative activities remains limited (Hoffman *et al.*, 1998).

1.2. Problem Space

87% of executives consider innovation as their top three priority. However, 94% of executives expressed disappointment with their organisation's innovation performance. (Hamel and Zanini, 2020, p. 14). SMEs are failing to innovate not just because of a lack of resources (Williams, 2014), although this is a major contributing factor (Owens, 2007). The investment and growth opportunity for SMEs is shrinking, and their nimbleness and resilience is increasingly under pressure (Govindarajan *et al.*, 2019). SMEs tend to focus more on developmental than exploratory innovations and that this focus is related to growth in sales turnover (Oke, Burke and Myers, 2007, p. 748). Compounded by V.U.C.A conditions, SMEs often have to prioritise ruthlessly, and are advised to cut projects and promote the best time-managers (Sher, 2014).

Organisations are built for developmental type of innovation (Govindarajan and Trimble, 2010, 2018), and SMEs are perpetuating this narrative by focusing on short-term profits by hiring and promoting for operational effectiveness. It is, therefore, no surprise that 72% of Chief Executive Officers (CEOs) admit their companies are too reliant on fading revenue streams (if!, 2014). Moreover, 56% of leaders say they are unclear on how to think about innovation strategically, with 33% unclear about their leadership responsibilities (Imaginatik plc, 2013). 57% of companies do not have a formal innovation process (CB INSIGHTS, 2018) with 41% of leaders express that they are unclear on how to define the desired outcomes of innovation (Imaginatik plc, 2013). Moreover, 54% of executives struggled to align innovation strategy with business strategy (PWC, 2017).

There is an apparent tension between organisations current state and the navigation to their required state. Organisations struggle to deliver more than incremental change within their organisations, as performance engine excellence

and short-term revenue take precedent, and leaders are unclear on how to break the cycle. See figure 1 below:

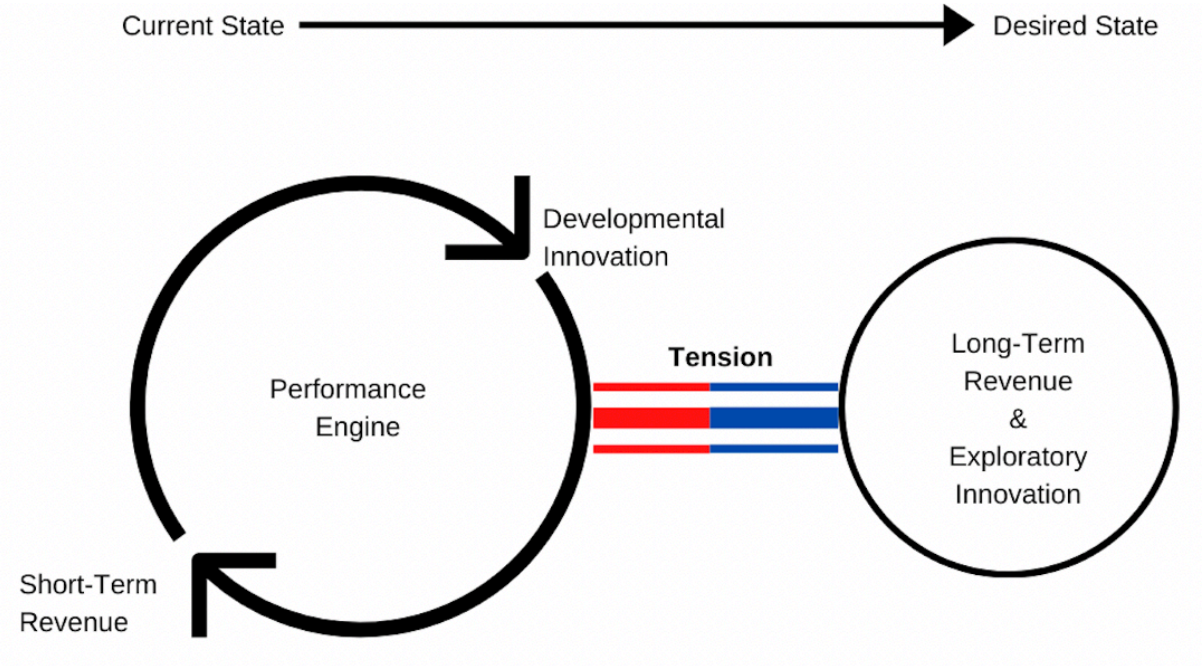

Figure 1: Innovation tension

For an organisation to be sustainable, it has to be continuously innovating new products, services and business models (Christensen and Raynor, 2003; Govindarajan, 2016; Anthony *et al.*, 2020). The most successful and profitable organisations build vibrant pipelines of innovation across the spectrum of innovation (Davis *et al.*, 2000; Hamel and Prahalad, 2007). Supported by Govindarajan (2016; 2018; 2020) who suggests long term organisational success is dependent on innovating across the whole of the spectrum. However, studies seldom distinguish among the different types of innovation (Damanpour, 1992; Klein and Sorra, 1996). Koberg, Detienne and Heppard (2003) define innovation in two types, incremental and radical. This paper has also separated innovation into two types, labelling the innovation types as Developmental and Exploratory. The difference between developmental and exploratory innovation is not always clear (Henderson and Clark, 1990), and not all innovations are the same. It is suggested that the two innovation types are different and should be approached differently (Govindarajan and Trimble, 2018). Moreover, both types of innovations should be explored and developed simultaneously as organisations shift between innovation projects across the innovation spectrum (Govindarajan, 2016; Govindarajan and Tangri, 2020).

1.3. Objectives

The purpose of the research is to explore the barriers for both developmental and exploratory type innovations, and how the barriers affect organisational intrapreneurship and the inertia towards the status quo.

1.4. Questions

1. In UK SME innovation project teams, what are the barriers to developmental and exploratory type innovations?
2. How are the barriers to developmental and exploratory type innovations affecting organisational intrapreneurship?
3. How are the barriers of the two types of innovations perpetuating the inertia towards developmental innovation?

1.5. Beneficiaries

For organisational leaders of SMEs: In understanding the barriers for developmental and exploratory type innovations, leadership would be exposed to the fact that there is a spectrum of innovation. The two types of innovations have different but overlapping barriers that require different strategies to overcome them. In understanding the challenges, the organisational leaders would be able to exploit the differences between the two types of innovations, creating an ecosystem of intrapreneurship and a climate of ideas that incorporates both developmental and exploratory type innovations. Aligning organisational strategy with innovation strategy and building of an ambidextrous organisation that can tackle both types of innovation simultaneously. Developing a balanced portfolio across the spectrum of innovation, insuring short, mid and long-term profits and long-term organisational success.

Or else, organisations will find themselves constantly competing in what Kim and Mauborgne (2015) call the Bloody Red Ocean of incremental change and

developmental innovation, until the day the organisation is inevitably overtaken by a current or new competitor [1] (Christensen and Raynor, 2003; Hamel and Prahalad, 2007; Drucker, 2014; Christensen, 2016) and the organisation is made irrelevant.

1.6. Method

During the masters, three modules that stood out to the researcher: Psychology of Innovation, Creative Problem-Solving & Leadership and Delivering Innovation. The three modules had several interlinking frameworks and theories that related to organisational intrapreneurship. The researcher wanted to explore further and test how the frameworks and theories connected within an organisation.

The researcher interviewed six project teams to explore the barriers within developmental and exploratory type innovations. Following a constant comparative, thematic analysis, the data was synthesised to understand how the barriers negatively influence organisational intrapreneurship and the inertia towards the status quo.

1.7. Dissertation Summary

Chapter 2 (Literature Review): An examination of academic research and theory concerning the barriers organisations face when discovering the Need and executing developmental and exploratory type innovations.

Chapter 3 (Methodology): The rationale and description of the dissertation design. Qualitative data collection in the form of semi-structured interviews and constant comparative, thematic analysis of results.

Chapter 4 (Results): Findings of the thematic analysis, the chapter is a description of the innovation barriers. Grouped into two main themes, the chapter is split into two sections and is supported by quotes extracted from the interviews.

[1] Blockbuster vs Netflix, UK High Streets vs Amazon, Taxies vs Uber and Blackberry & Nokia vs iPhone

Chapter 5 (Discussion) An evaluation of the findings, the chapter discusses the impact the results have upon organisational intrapreneurship and the inertia towards the status quo.

Chapter 6 (Conclusions, Recommendations, Limitations & Reflection): An evaluation of the research as a whole; conclusion, recommendations, limitations of the study, recommendations for future studies and the researcher's personal reflection of the dissertation.

2. Literature Review

The literature review is an exploration of the barriers of innovation, discovering the barriers allow a foundation upon which the researcher can answer questions two and three of the research paper.

The chapter is structured into five sections, section 2.1, definitions, section 2.2 explores what makes developmental and exploratory type innovations, section 2.3 barriers within need discovery phase, section 2.4 explores leaderships influence, 2.5 the processes organisations use to execute innovation and section 2.6 the conclusion, summarising the findings.

2.1. Definitions

Intrapreneurship: The practice of developing a new venture within an existing organisation, to exploit a new opportunity and create economic value (Pinchot, 1985).

Innovation: A problem-solving effort; a task of endowing human and material resources with new and greater wealth-producing capacity (Drucker, 2014). Innovation is novel, resolute (to the user) and stylish (Besemer, 2013).

Innovative Project Initiative: *"Any project that is new to your organisation and has an uncertain outcome".* - Govindarajan and Trimble (2018, p. 10).

2.2. Developmental and Exploratory Type Innovations

Not all innovations are created equal, Humel (2002) and Govindarajan (2016) put innovation into two broad categories: Developmental (linear) and exploratory (non-linear), as do Isaaksen and Tidd (2006) when describing the two contrasting styles. Developmental innovation is not about huge sweeping changes, once a product is part of the performance engine it tends to have built up considerable amounts of

human-capital and competencies. Compelling organisations to devote more time in incremental changes to optimise the product and reduce costs. The reason incremental innovation is so popular is because it is easier to manage, they are never Wicked Messes,[2] and have a reduced risk in comparison to radical innovation, that is typically high-risk and ambiguous (Rittel and Webber, 1973; Camillus, 2008). For these reasons' organisations tend to gravitate towards the status quo of developmental innovation. There are many definitions of exploratory type innovations (Garcia and Calantone, 2002), but ultimately defined as the creation of a new line of product, service or business model that is new and novel (O'Connor and McDermott, 2004; Marvel and Lumpkin, 2007). Typically, exploratory type innovations are recognised by their ability to circumvent the competition and create its own market place (Kim and Mauborgne, 2015).

Govindarajan (2016), Kim and Mauborgne (2015) argue that while traditional competition-based strategies are necessary to keep the performance engine running at optimal effectiveness, and critical to generating short-term revenue to support the innovation engine. Competition-based strategies are not sufficient to sustain long-term performance. Kim and Mauborgne's (2015) research suggests organisations should instead make the competition irrelevant and create uncontested market spaces. The results indicated that strategic thinking in companies should not use competition as a driving force for their exploratory innovation. Moreover, the researchers argued that competition was a critical barrier to exploratory innovation as organisations continued to peruse developmental innovation. Organisational leaders require a Latticework of mental models with specific skills and strategies for creating organisations that can balance developmental and exploratory innovations (Hagstrom, 2000; Govindarajan, 2016).

2.3. Need Discovery

2.3.1. The Paradox of the Innovation Spectrum

Full-spectrum innovation capability refers to an organisation's ability to create value, derived not only from new customer products and services but also, from changes in

[2] Ambiguous, with missing or changing data and at times not having a right answer (Camillus, 2008)

its business model (Dervitsiotis, 2010). The top-performing organisations have a more balanced portfolio across the whole spectrum of innovation (see figure 2), with seventy-five percent of revenue from products that did not exist five years ago. Were as the bottom performing organisations generate all their revenue from products older than five years (Davis *et al.*, 2000). Very few companies manage to produce a continuously flowing pipeline of innovations, ranging from the developmental to the exploratory.

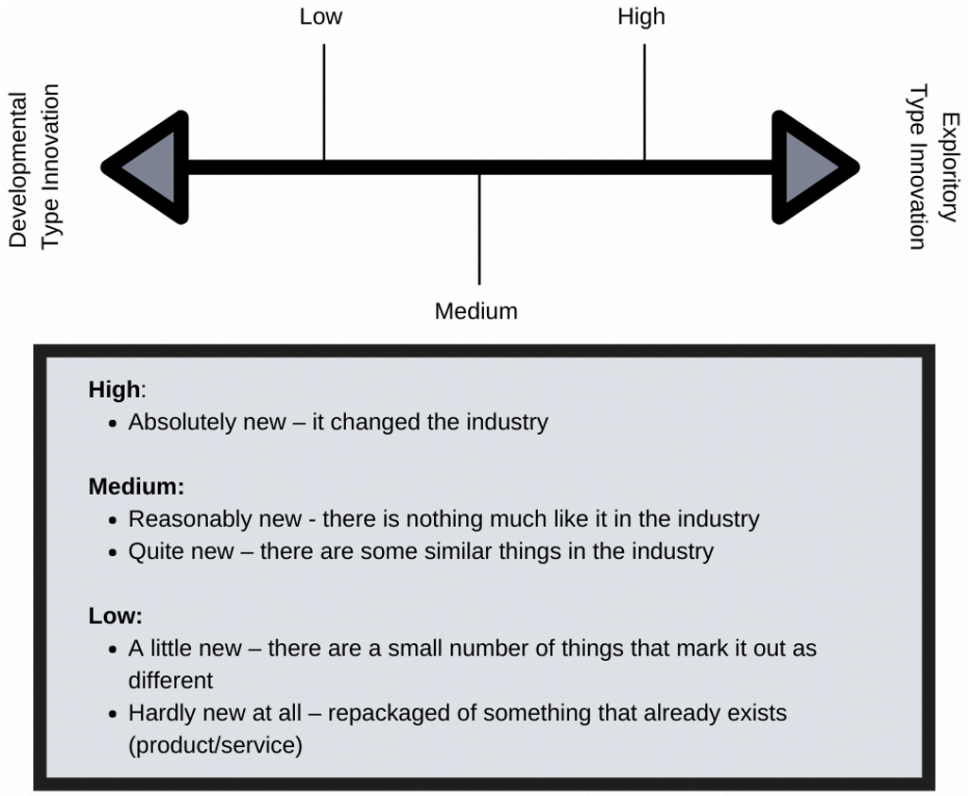

Figure 2: Innovation spectrum

Leaders increasingly embed paradoxical tensions into their organisation's strategy but struggle to manage them effectively (Smith, 2014; Smith, Lewis and Tushman, 2016). Few organisations can integrate paradoxical/Janusian thinking [3] to focus systematically and simultaneously on both the present and the future (Rothenberg, 1971; Hickman and Raia, 2002; Perez-freije and Enkel, 2007; Hamel and Zanini, 2020). Organisations that resist either/or thinking and balance paradoxical thinking, engaging in contradictory behaviours are at a distinct advantage of innovating on both sides of the spectrum (Martin, 2007; Govindarajan and Trimble, 2018; Hamel and Zanini, 2020).

[3] Two contradictory thoughts at once (Rothenberg, 1971).

2.3.2. Systematic Need Discovery

Drucker (2014) argues innovation requires a purposeful and systematic approach to search, respond to and exploit an innovation opportunity. Organisations must convert society's needs into opportunities for profitable business, and the search must be organised and conducted regularly (Drucker, 2014). Govindarajan (2016) explains that innovation must not be reactionary, instead, organisations must proactively explore tomorrows innovations today.

Christensen (2016) suggests that organisations must identify new changes in emerging markets and technology as V.U.C.A conditions have become unrelenting, rapid and pervasive. Hence, the stakeholders must be actively engaged in tracking any changes in the industry and make adjustments appropriately to maintain the competitiveness and relevance in the market. Govindarajan (2016) supports the claims of Christensen (2016) by noting that change cannot be stopped in an organisation, and organisations that resist change will fail to innovate. Similarly, Love (2013) argues that innovation is dependent on the organisation's ability to identify areas needing change and respond appropriately.

Drucker (2014), in his book *innovation and entrepreneurship,* suggests seven internal and external sources of innovation. For a profitable portfolio, it is suggested by Davis *et al.,* (2000) to innovate across the whole of the innovation spectrum, Govindarajan and Trimble (2018) define their spectrum of innovation as models S, R and C.

2.3.3. Weak Signals

Innovation begins with the discovery of the Need. However, Need discovery is often overlooked, in particular the unserved market and unarticulated problems (Kim and Mauborgne, 2015). Identifying these weak signals is critical for futureproofing an organisation (Kim and Mauborgne, 2015; Christensen, 2016; Govindarajan, 2016), the inability to identify weak signals is a significant barrier for exploratory innovation (Drucker, 2014; Kirsner, 2018). However, weak signals are often wicked messes (Rittel and Webber, 1973; Camillus, 2008). Organisational decision making is technical, rational, political and judgemental explains Stacey (2000), and so

organisations prioritise strong signals (Kim and Mauborgne, 2015). Govindarajan and Trimble (2010) go further to say that if the innovation does not make an immediate impact, the idea will not be explored.

2.3.4. The Biased Organisation

Gordon (1961) explains that the human brain naturally moves towards what's familiar and what's comfortable, familiar and comfortable is often in the realm of the status quo. Organisations behave similar to individuals and exhibit ‘cognitive dissonance’ – interpreting signals and behaviours that reinforce what they want to believe (Wason, 1960; Nickerson, 1998; Isaksen and Tidd, 2006; Festinger, Riecken and Schachter, 2009). Organisations develop many different cognitive, behavioural and structural ways of reinforcing the status quo. Drucker (2014), Govindarajan (2016; 2020), Kim and Mauborgne (2015) have all observed; organisations continue to devote resources in terms of money and people to preserving the past when they should be allocated to creating tomorrow.

Govindarajan’s (2016) Box 2 solution, a place where organisations learn to forget and abandon ideas, practices, and attitudes that could inhibit identifying weak signals and innovation opportunities, Drucker refers to this as planned, systematic abandonment (2008). Organisations that only respond to strong signals and linear changes will fall foul of their biases, missing weak signals and non-linear innovation opportunities. Organisations must look at their own biases, ask questions about the organisation and customers (Drucker, 2008; Drucker and Collins, 2008) and break chains to the past practices that fuel the performance engine but fail the innovation engine (Govindarajan, 2016).

2.4. Leadership

2.4.1. Leaderships Role

Leaders exert influence through direct decision-making and also through how their behaviour is perceived by others (Isaksen and Akkermans, 2011). Ekvall and Ryhammar (1999), Govindarajan (2016) posit that top leadership support plays a

critical role in enhancing success in exploratory innovation, especially in enabling employees to operate in challenging and demanding environments while pursuing new markets and improving other business competencies. Kouzes and Posner (2012) express that accepting the leadership challenge is the only antidote to V.U.C.A conditions, without leadership, there would not be the extraordinary efforts necessary to innovate. Kouzes and Posner (2003) further explain the relationship between follow-ship and leadership; followers have to trust and believe in their leaders before they follow them. Credibility amongst all else is the linchpin of leadership. Credibility is how leaders earn the confidence and trust of their employees, to contribute their hearts and minds to a common cause willingly.

2.4.2. Climate

Credibility, trust and climate are inherently connected (Kouzes and Posner, 2003), organisational climate is the defining factor for intrapreneurial behaviours (Amabile and Gryskiewicz, 1989; Taştan and Güçel, 2014) and leadership behaviours create the climate for innovation (Ekvall and Ryhammar, 1998; Kouzes and Posner, 2003; Isaksen and Akkermans, 2011). Govindarajan *et al.,* (2019) and Hill (2014) both express leaderships about creating an innovative climate and leading change, not about leading innovation. Furthermore, due to organisational paradoxes, it is advised to create two different climates for the performance and innovation engines (Berzin and Pitt-Catsouphes, 2015; Govindarajan and Trimble, 2018).

The climate of innovation in a company plays a vital role in influencing all the stakeholders to participate in new projects for development and growth (Ekvall and Ryhammar, 1999; Isaksen and Akkermans, 2011). Isaksen and Akkermans (2011) describe nine dimensions of a creative climate that supports innovative working. Govindarajan (2016), Govindarajan and Trimble (2018) on the strategies of innovation, expresses a combination of ideas and motivation contributes to successful innovation.

2.4.3. Employee Resistance

A poor creative climate can cause resistance amongst the employees. When organisations roll out innovation initiatives but do not commit to sustaining them, can

cause cynicism amongst the employees (Anthony *et al.*, 2019), damaging leadership credibility and negatively affecting the creative climate (Kouzes and Posner, 2003).

Kirsner (2018) argued that some of the business units in a company believe that they are already innovative based on their perspective, and any form plans for change is presumed to compete for resources. Kirsner (2018) goes on to say, the innovation team members or change-makers planning to perform change, face the challenges of resistance from other employees. Aerts, Kraft, and Lang (2015) noted that internal resistance is a critical issue to innovation as the employees are unaware of how they can benefit the innovation, or how their project impacts the organisation overall (Anthony *et al.*, 2020).

Unless an organisation has a climate with frequent changes and innovation with a motivated workforce, employees will be resistant to change (Bateh, Castaneda and Farah, 2013). There are multiple difficulties to success, even during simple developmental projects, employees could resist every aspect of change and/or innovation. The problem of climate issues can be addressed by developing a well-structured venturing process (Oden, 1997), a creative climate (Isaksen and Akkermans, 2011; Kuratko, Covin and Hornsby, 2014; Anthony *et al.*, 2020), and an environment used to routine change, will increase the self-efficacy of the organisation, minimising the chances of resistance to change (Kirsner, 2018). Vyakarnam (2011; 2014) argues that increasing employees self-efficacy will have a positive impact on creative problem-solving. Kim and Mauborgne (2015) suggest that unless employee engagement, explanation and expectation clarity is diffused across the organisation, employees will not commit to bottom-up intrapreneurship.

2.4.4. Learning over Efficiency

Organisational competitiveness is based on the ability to develop collective learning and core competencies across the organisation (Hamel and Prahalad, 1990). Govindarajan and Trimble (2010, 2018) explain that the innovation engines require a bespoke plan, with customised metrics and Key Performance Indicators (KPI), they argue organisations must resist the urge to use old processes and systems. Moreover, advocate that learning and experimentation should be prioritised above profits and Return on Investment (ROI). Ries (2011), Hill (2014) and Christensen (2016) also emphasise the importance of innovation engine experimentation and

learning. Moreover, Argyris (2008) stresses the importance of reflection and double-loop learning, to go beyond the problem and understand the intention behind the action.

Kerr (1975) discovered organisations create a reward system that neglects intended attributes, essentially rewarding the status quo, while hoping for exploratory innovation. Employees can and will accept a communication as authoritative only when, at the time of the decision, the employee believes it to be compatible with his/her personal interests as a whole (Kerr, 1975). How valuable is the reward, how will the different consequences affect the employee if the goal is or is not achieved? Rather than taking a risk and go against the status quo that can lead to several negative consequences, employees would rather achieve their KPIs and reap the benefits of hitting targets.

Edmondson (1999, 2008, 2018) suggests that the lack of psychological safety and a fear of failure emphasises Execution-as-Efficiency over Execution-as-Learning. Execution-as-Efficiency cause organisations to focus on KPI, ROI and operational excellence as opposed to organisational learning. When innovation is genuinely exploratory, it is unknown, and it is difficult to predict the ROI (Govindarajan and Trimble, 2018). Govindarajan and Trimble (2010) go on to express exploratory type innovation as wild guesses with a promise of a big future payoff, which is the reason why exploratory innovations sometimes perceived as having little or no value. There is usually some overlap between the innovation KPIs and the performance engine KPIs, for instance, bottom-line metrics such as ROI which is likely to appear on both (Govindarajan and Trimble, 2010).

Holding the two engines to the same standards could result in the innovation engine being indoctrinated into the performance engine, before the innovation engine is truly explored, the pressure of the ROI, KPIs and Execution-as-Efficiency take precedent. Top-down pressure could harm the psychological safety of employees explains Edmondson (1999). The lack of psychological safety could prevent employees from challenging the leadership, admitting to their mistakes and shifting blame, causing what Argyris (2008) calls brittle personalities. If leaders do not value the creativity of their employees, employees will not have the sufficient support required for bottom-up innovation (Nodoushani, Stewart and Wall, 2017). Hence, Byers (2017), Hamel and Zanini (2020) recommend that organisations

ensure that the top leadership's vision compounded by Business as Usual (BAU) does not prevent employees from presenting creative ideas.

2.4.5. Bureaucratic Leadership

Bureaucratic leadership style postulated by Max Weber (1947). A system for controlling or managing an organisation that is operated by a large number of officials employed to follow rules carefully (Cambridge University Press, 2011).

Hierarchy, authority is correlated with rank, the architecture of bureaucracy is that of a pyramid where ideas and authority trickle top-down (Hamel and Zanini, 2020). Hamel and Zanini (2020) describe how bureaucracy undermines empowerment and employees are seldom involved in significant change initiatives. Novel ideas and imposed change are likely to encounter indifference, scepticism, or resistance. Kim and Mauborgne (1997) suggest that unless organisations implement the three E principles of Fair Process, employees will be reluctant to share their ideas or support change initiatives. The lack of employee involvement and experience is undoubtedly a contributor to the high failure rates of major change programs. Organisations such as 3M and Google recognise the value of bottom-up intrapreneurship. These organisations encourage employees to launch small-scale experiments. However, top-down bureaucratic leadership makes it extremely difficult for employees to share novel ideas and launch new initiatives (Hamel and Zanini, 2017, 2020).

Top-down change programs; the time a problem is big enough to capture leaderships attention, the organisation is already behind the curve. Organisations are spending the majority of their innovative efforts catching up to new threats and technologies (Christensen, 2016; Hamel and Zanini, 2017, 2020), as opposed to exploring new market opportunities. Hamel and Zanini (2020) discuss the paradox of efficiency vs flexibility and democracy vs autocracy, labelled by Thompson (2003) as the paradox of administration.

An intrapreneur vs BAU, the intrapreneur will lose (Govindarajan and Trimble, 2010; Cadar and Badulescu, 2015). In an autocratic organisation, being an intrapreneur is a high-risk occupation (Hill, 2014; Hamel and Zanini, 2020). Research shows top-down innovation does not merely have a negative effect on creativity and bottom-up intrapreneurship (Gaynor, 2013; Hill, 2014; Zhou *et al.*, 2019), but

effectively kills it, because bureaucratic organisations are “innovation-phobic” (Hamel and Zanini, 2020, p. XXIV).

2.4.6. Managements Role

Managers are a hub through which most organisational knowledge flows (Floyd and Wooldridge, 1992). Management makes decisions that influence resource allocation, product development, processes and ROI. Furthermore, they are often responsible for redirecting resources away from existing operations and toward innovative initiatives (Kuratko, Covin and Hornsby, 2014). Christensen (2016) explains that leadership often believe they determine the organisation’s strategy. However, in reality, organisations are often run by management. Management that can stifle an innovation project before it even gets the attention of the leadership (Christensen, 2016). Management decisions are often technical, rational, political and judgemental (Stacey, 2000), managers are incentivised by leadership to reach specific milestones. The role of the manager is essentially managing the profit and loss sheet and their ability to deliver on KPIs and ROI. An innovation that will not make an immediate positive impact on the balance sheet will more than likely be rejected (Govindarajan and Trimble, 2010). Bonuses and promotions are dependent on the manager’s ability to deliver and execute current products and not developing new innovations (Christensen, 2016). Resulting in managers playing importance on the performance engine and not willing to take the risk in funding hazardous exploratory innovations, but instead deliver on developmental innovations for short-term revenue success and long-term career progression (Christensen, 2016).

2.5. Process

2.5.1. Need Evaluation

To evaluate the Need; every new product developed and launched in the market must have a systematic innovation process to address the Need successfully. Ward (2001), Isakson, Dorval and Treffinger (2010), Isaksen and Tidd (2006) suggest the most comprehensive way to analyse the Need opportunity is the Creative Problem-

Solving (CPS) framework. Specifically, the three sections that makeup the Understanding the Challenge component, as this offers a full understanding of the current state, the problem and future vision.

2.5.2. Generating and Focusing Ideas

Isakson, Dorval and Treffinger (2010) express the importance of the Heartbeat of CPS, a balance of two complementary kinds of thinking 1. Generating, many novel and varied ideas and 2. Focusing, the process of analysing and refining the ideas. The approach of separating the generation and the focusing of ideas is widely recognised by many scholars as the most effective approach to creative problem-solving (Parnes, 1961; Osborn, 1979; De Bono, 2000, 2016; Treffinger and Isaksen, 2005). Osborn (1979) stresses the importance of deferring judgment during the generating phase. Isakson, Dorval and Treffinger (2010) express judgement as either/or thinking and the mental blocker that kills good ideas, Isaksen and Akkermans (2011) go on to say that a judgmental environment reduces the creative climate of an organisation. Edmondson (2018) suggests that a judgemental climate would negatively affect the psychological safety of employees, reducing employee commitment and the sharing of ideas.

Isakson, Dorval and Treffinger (2010) suggest several generating and focusing tools, Gryskiewicz's (1980, 1987) indicates that it is possible to use specific creative-thinking tools to achieve developmental or exploratory outcomes.

2.5.3. Innovation Frameworks

Organisations excel in the backend of innovation; there are libraries full of literature that support organisations to excel in this area (Ries, 2011; Ash Maurya, 2012; Nathan R. Furr and Jeff Dyer, 2014; Sutherland, 2014; Brown and Katz, 2019; Lewrick, Link and Leifer, 2020). Innovation frameworks such as SCRUM, Design Thinking and Human-Centred Design have become part of the innovation landscape.

Phadke and Vyakarnam (2017) argue that management process must be clear throughout the five stages of the Critical Path to Innovation Valorisation,[4] across each of the three chasms. Similarly, Govindarajan and Trimple (2018) aver

[4] Need, Idea, Solution, Diffusion, Valorisation

that the process of innovation must focus not only on the early stages of identifying the problem, but it also should project beyond the idea. In this case, considerations of factors such as monitoring, maintenance and regular upgrade of the innovation are vital in ensuring that the users are satisfied with its integration in the daily business processes. Hill (2014) implores organisations to embrace the ambiguity and instead of prototyping, experiment, do not think too far ahead, and allow the feedback to direct the development. However, Danneels (2003) describes the paradox of Tight (better understanding of customer's needs) and Loose (necessary to remain flexible) Coupling.

Norman and Verganti (2014) explain that frameworks such as Human-Centred Design are only as innovative as the Need input, they help you incrementally climb the mountain. However, they cannot define the mountain, meaning ideas that are not inherently exploratory will not become exploratory and leadership feedback will, by definition be developmental. Moreover, Slater and Narver (1998), Christensen and Raynor (2003) warned that being customer-led is but a short-term strategy. Day (1999) and Christensen (2016) express words of caution for organisations being too customer-focused and market-driven, as an inordinate attention on these two factors, organisations will fail to see emerging technologies, markets and customer insights.

2.6. Literature Review Conclusion

The literature shows that organisational leaders define how innovative an organisation is by defining the organisation's climate and the paradox in which employees operate within; this is widely recognised among scholars.

Due to the lack of available research, the literature review has been predominately extrapolated from research of larger organisations as opposed to from SMEs. Highlighting the need for this paper and further research that explores specifically barriers for innovation and the challenges intrapreneurs face within SMEs.

3. Methodology

The research was conducted in the form of a small-scale qualitative, exploratory study of an under-researched topic, namely barriers to developmental and exploratory type innovations, and their effects on intrapreneurship within SMEs.

The research aimed to explore the barriers for developmental and exploratory type innovations that innovation project teams face during the three components of the Creative Problem-Solving (CPS) framework: Understanding the Challenge, Generating Ideas and Preparing for Action. A fourth component introduced, the Need, the component of Need indoctrinated Drucker's (2002, 2014) Seven Sources of Innovation.

The following sections cover the research rationale for the method and design, processes of participant selection, interview process and data analysis.

3.1. Research Rationale for Method and Design

3.1.1. Research method

In order to address the research questions, a qualitative method was chosen over a quantitative method. Qualitative research because studying several members of a few innovation project teams means a more in-depth study. Consideration was also given to factors such as time given to complete the study and access to participants (Baker and Edwards, 2012). The research question centred on opinions and perceptions of key stakeholders within the project teams and the interaction between the members within a specific context (Silverman, 2013a). However, given the limited number of case studies and participants, the research would not be able to be used as a generalisation for SMEs across the UK (Thomas, 2015).

It has been argued that a case study is about the particular as opposed to the general, and one cannot generalise from a case study (Thomas, 2015). Moreover, a case studies purpose is to compare and contrast, discover similarities and differences between (in this research) innovation project teams (Bell, 2010). To

discover the 5WH [5] (Isakson, Dorval and Treffinger, 2010, p. 66), one must get as close as possible to the situation (Thomas, 2015). Although quantitative data collection that would have provided a more extensive dataset. It would not have provided the means to answer the questions of this research project in a detailed way. One can define a case study as:

> *"an in-depth exploration from multiple perspectives of the complexity and uniqueness of particular project, policy, institution, programme or system in a real-life context"* - Thomas (2015, p. 51).

Following this definition, these case studies focused on subjective personal perspectives from different stakeholders within an innovation project team.

A comparative study was considered as the research compares similarities and differences between individuals, project teams and organisations. However, the research is also to clarify the exact nature of the problem, and to investigate a problem which is not clearly defined (Silverman, 2013b) and so exploratory research was deemed to be the most appropriate.

3.1.2. Design Method

Semi-structured interviews were used as an established qualitative research method (Gubrium *et al.*, 2012; Thomas, 2013; Robson and McCartan, 2016). Semi-structured interviews will provide a greater depth and breadth of information, the opportunity to discover respondents experience and interpretation of reality and access to people's ideas, thoughts and memories (Klandermans and Staggenborg, 2002). However, when speaking about subjective points of view, the researcher can also be hampered by the interviewee's personal biases (Thomas, 2013) The latter is also true in regards to the researcher Hader Ali as the interviewer/researcher when interpreting the results of the interviews. Furthermore, the researcher will be using 'thick description' an interpretivism approach (Geertz, 1975). Interpreting what was, and was not said and the non-verbal signals. An ethnography approach will give the researcher direct access to the culture and practices for each innovation project

[5] Who, What, Where, When, Why, and How.

group, to learn first-hand the behaviours and interactions of people within a particular context (Thomas, 2013).

Disclaimer: The researcher Hader Ali is an employee of one of the case study organisations, IGI.

The researcher is interested in the process of problem-solving and innovation in the domain of the four components. Asking participants to think about the process of problem-solving and innovation, involves participants to describe what they did, which may be in contradiction to what they actually did.

3.1.3. Data Collection

Three types of data collection methods:

1. Semi-structured interviews (Thomas, 2013).
2. Questionnaire 1: Yes or No, Need discovery rating scale (Revilla, Saris and Krosnick, 2014)
3. Questionnaire 2: Score sheet, scored from 0-7 (Preece, Rogers and Sharp, 2015).

The triangulation method was to receive the most honest, complete and accurate picture from each participant. However, the primary method of data collection and analysis were the interviews; the questionnaires are to support the interviews.

3.1.4. Creative Problem-Solving (CPS)

Humans have a natural propensity to problem-solve and be creative (Sawyer, 2012), and organisational leaders recognise this as their most sort-after asset (IBM Corporation, 2010). Following on from Wallas (1926), Osborn (1942, 1979) developed the Creative Problem-Solving (CPS) framework, using humans natural inclination to problem-solve, the CPS v6.1 model focuses problem-solving into a non-linier framework (Isakson, Dorval and Treffinger, 2010, p. 31). CPS is a simple process that involves breaking down and understanding problems, generating and focusing ideas to discover the most effective solutions. Creative individuals tend to follow this process without thinking about it, CPS is easy to learn and follows the

natural process of human problem-solving in a deliberate framework and is often used in group problem-solving efforts.

3.1.5. The Need

Before Understanding the Challenge component of CPS, organisations first require a Need, discovering the Need is not a ‘flash of genius,’ but purposive tasks that can be organised as systematic and analytical work fostered by leadership (Drucker, 2014). This research seeks to explore the process of Need discovery and the barriers that affect it.

3.2. Process and Participant Selection

The sample size is hard to calculate, and sampling should continue till new results appear (Baker and Edwards, 2012). However, given the time and resources, this would not be practical. Baker and Edwards (2012) state in regards to qualitative research, the emphasis should be on the quality of the analysis as opposed to the quantity of the sampling.

Product life cycle (PLC) in five phases: Development, introduction, growth, maturity and decline (Sääksvuori and Immonen, 2004). Although difficult to quantify the average PLC, new products often have rapid growth over the first eight years. The growth is followed by the maturity phase when sales start to decline (Golder and Tellis, 2004). It is advised that organisations should be innovating before the product, service, or business model is in decline (Govindarajan, 2016), and so the minimum age of an organisation for this research project was six years. This also means it will be considered to be out of the ‘start-up phase’ and would have developed its own culture, climate and organisational norms.

Focusing on SMEs based in the UK. An SME defined as having between 11-250 employees (Gov.Uk, 2012). Organisations were picked that had a specific innovation project that was considered to be either developmental or exploratory, one organisation in the study had both developmental and exploratory projects, IGI allowed access to employees across the two projects.

Vertical and horizontal cross-ties (Aalbers, Dolfsma and Leenders, 2016) and top-down, bottom-up innovation (Gaynor, 2013) are important to intrapreneurship. Participants were selected because of their roles and seniority within the project team and the organisation as a whole. Ideally, each case study would have representation from leadership, management and employees. Although interviewing across the hierarchy for every innovation project was not always possible due to a variety of reasons.

Through the researcher's personal network, the researcher approached eight companies with five organisations agreeing to take part. See table 1 for participant and project information:

Participant and Project Table										
Organisation	**Industry**	**Organisation Size**	**Organisation Age**	**Project**	**Developmental or Exploratory**	**Innovation**	**Participant Code**	**Role**	**Seniority**	**Interview Length (minutes)**
IGI	Real Estate	160	163	Radius	Exploratory	External	Keter P1	Managing Director	Leadership	46.09
						External	Pom P2	Senior Product developer	Management	45.35
						External	Soe P3	Product Developer	Employee	68.55
IGI	Real Estate	160	163	Sumo	Developmental	Internal	Cichard P4	Commercial Director	Leadership	59.59
						Internal	Bta P5	Marketing ops manager	Management	54.55
The.TV	Media	36	18	Ahamo	Exploratory	External	SSohal P6	Customer Insights Director	Management	61.08
IC International	Recruitment	45	11	Automation	Developmental	Internal	Blex P7	CEO	Leadership	36.48
IC International	Recruitment	45	11	Automation	Developmental	Internal	Mobert P8	Commercial Manager	Management	37.12
BMUK	Coaching	17	15	Online Course	Developmental	External	Aadia P9	Co-CEO	Leadership	44.35
BMUK	Coaching	17	15	Online Course	Developmental	External	Maseem P10	Founder / Co-CEO	Leadership	53.21
DC Innovation	Innovation	187	7	UDX	Exploratory	Business Model	Lndreas P11	R&D Partner	Management	86.37

Table1. Participant and Project Table: The table shows the list of innovation project teams and participants of the research.

3.3. Interview Process

Interviews are a recognised method of data collection for qualitative research (King and Horrocks, 2010). Semi-structured interviews are useful when the information is non-tangible, such as cognitive process and views or opinions of individuals.

3.3.1. Pre-Interview

To prepare the participants for the interview and have them in a reflective state of mind. Prior to the interview, via email, participants were asked to score a short questionnaire that revolved around two areas, 1. Sources of Need, adapted from Drucker's (2014) book, *Innovation and Entrepreneurship* and 2. The Nine Dimensions of a Creative Climate, adapted from Isaksen and Akkermans's (2011) *Creative Climate: A Leadership Lever for Innovation.*

The Nine Dimensions of a Creative Climate modified from the work from Goran Ekvall (Isaksen and Ekvall, 2007), the Situational Outlook Questionnaire has over 50 questions and tests the creative climate of an organisation. However, the objective of the research is to gather an understanding of participants perception towards the creative climate, as opposed to measuring it. Employees perceptions are useful predictors of innovation (Tesluk, Farr and Klein, 1997).

3.3.2. Interview Question Design

The literature review supported the researcher in designing the semi-structured interview. The following shows the process of creating questions in relation to customer signals and Need discovery:

Developmental and exploratory type innovations are often defined by the strength of customer signals. See figure 3 below:

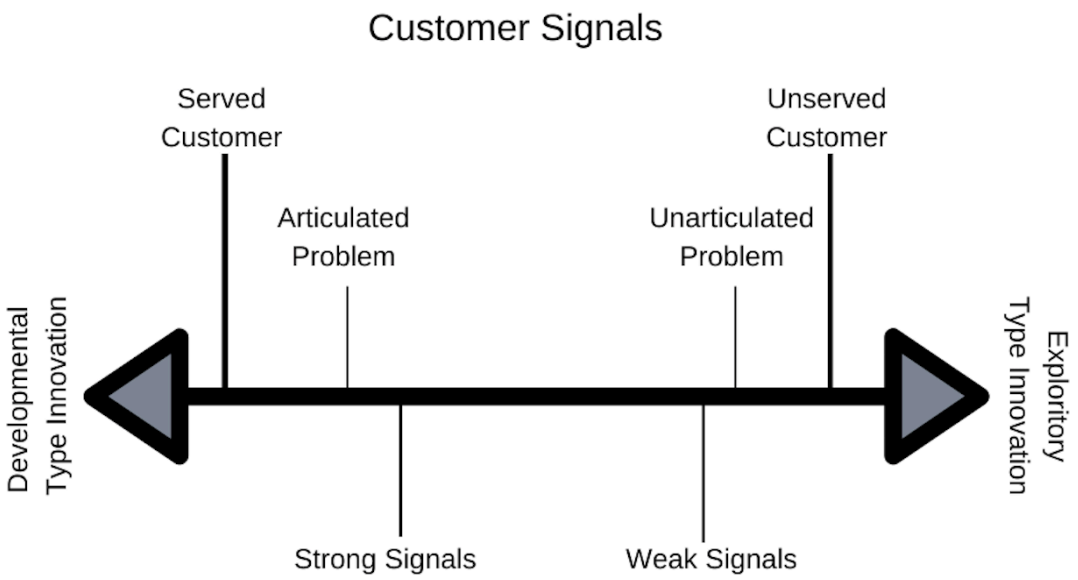

Figure 3. Customer Signals: Depicting the strength of the customer signal across the spectrum of innovation. Served customers and articulated problems on the developmental side of the spectrum. Unarticulated problems and unserved market on the exploratory side of the spectrum.

The stronger the signal, the more articulated the problem and the more served the market. Weak signals are often of unserved markets and unarticulated problems (Kim and Mauborgne, 2015). Exploratory type innovations are built upon weak signals, and organisations must systematically seek out both strong and weak signals (Drucker, 2014; Kim and Mauborgne, 2015). During the Need discovery process, it is also recommended for organisations to reflect on innovation inhibiting biases and assumptions (Drucker, 2008; 2008; Govindarajan, 2016).

3.3.3. Interview Questions

Following the literature review, the most appropriate questions for the Need discovery section are as follows:

- How open was the project team in developing a hypothesis of strong and weak signals?
- Do you actively seek out weak signals, can you give an example?
- How are signals evaluated?
- How are you ensuring you avoid personal and organisational biases during this process?

The questions were kept open-ended to allow the participants a platform to express themselves in their own words. To ensure that the participants were as comfortable and as honest as possible, the opening statement would assure everything the participant said will remain confidential. If the participants would like to omit anything, the researcher would be happy to do so. The researcher also made it clear that the purpose is not to judge the participant but to understand the process. The researcher ended the opening statement by thanking the participants for their time and for their participation in the research.

3.3.4. Adaptation

The semi-structured interview format allows for flexibility and adaptation on the part of the interviewer (Leech, 2002) in asking questions in a fluid way, allowed participants to explain their choices or the meaning of the questions (Carr, 1994) and allowing for follow-up questions and asking participants to elaborate on their answers. Moreover, flexibility in questions allowed the interviewer to use what was learned from one member of a specific innovation project team, to ask better-informed questions to another member of the same innovation project team. Individual opinions from different points of view about the same innovation project were collected, allowing for better insights and a more robust foundation for inductive inference when analysing the data (Silverman, 2013b; Thomas, 2013).

3.3.5. Post Interview

- The participants were emailed the consent form.
- All interviews were conducted on Zoom.
- Using Otter.io all interviews were audio-recorded and transcribed verbatim.
- Transcripts were anonymised to ensure compliance of data protection, GDPR and to ensure they are in line with the participant consent form.

3.4. Data Analysis

Constant Comparative Method, Grounded Interpretive Analysis: Mathison (2005) explains that the constant comparative method is an inductive data coding process used for categorising and comparing qualitative data for analysis purposes. Mathison (2005) goes further to say that the method is considered “grounded” because it is derived from everyday experience as constituted by the data. The constant comparative method, grounded theory is often used where data and analysis are seen as social constructions reflecting their process of production, and each analysis is specific to the time, space, culture and situation (Arthur *et al.*, 2012; Kolb, 2012; Thomas, 2013).

Coding and analysing at the same time (Kolb, 2012) involved a process of induction, deduction and abduction (Cohen, Manion and Morrison, 2018). According to Lowenberg's classification (1993), Grounded Theory is a type of interpretative research situated as a variant of symbolic interaction. The use of thematic analysis is driven by a constant comparative method, grounded theory, as it is particularly informative in areas of cultural research when identifying a phenomenon (Braun and Clarke, 2006, 2013; Glaser and Strauss, 2009). The process involved a critical review of responses in determining appropriate coding and the formation of themes from those codes (Miles and Huberman, 1994).

Disclaimer: Due to the structure of the interview and the knowledge of the researcher, framework analysis had a small influence on coding as the interview questions revolve around specific areas such as Need, Seven Sources of Innovation (Drucker, 2002) and the CPS components (Isakson, Dorval and Treffinger, 2010). However, the research was approached as inductive as opposed to deductive. As there were no presupposed themes, and the data was critically analysed (Braun and Clarke, 2006, 2013).

The data was approached experientially to some degree. However, focused heavily upon a critical integrative approach (Braun and Clarke, 2006, 2013). An interpretive focused coding strategy was most appropriate for making sense of the data (Thomas, 2013; Adu, 2019). When coding, the researcher looked for the conditions, interactions, strategies, tactics and consequences (Glaser and Strauss, 2009). Mason (2002) suggests looking at the literal, interpretation and reflective. The researcher was reflexive concerning the research question, participants, and social processes (Braun and Clarke, 2006, 2013).

Thematic analysis was used to analyse the participant's responses to interview questions. Thematic analysis as an independent qualitative descriptive approach is mainly described as *"a method for identifying, analysing and reporting patterns (themes) within data"* - Braun and Clarke (2006).

3.4.1. Analysis Method

Braun and Clarke (2006) recommend the Six Phase Approach of thematic analysis. The phases of the approach follow:

Phase 1: Familiarising Yourself with The Data

The researcher deep-dived into each of the transcripts, listening to each interview multiple times. Then actively read the data (searching for meanings and patterns), memos were created to encourage a reflexive approach (Braun and Clarke, 2006, 2013). Highlighting areas of interest and critical importance and developing an initial understanding of what is emerging from the data.

Moreover, listening to each interview multiple times supported the subjective element of the interviews, i.e., the verbal and non-verbal feedback. The researcher noted what was said and what was not said, pause and delays, tone of voice, umms and arrrs, if the interviewee went on a tangent or did not answer the question. This was to identify the feelings and emotions attached to the interview, 'thick description' (Geertz, 1975; Sullivan, 2012) as mentioned above.

During this process the researcher, Hader Ali then reflected on his biases, assumptions and background of studying an MSc in Innovation, Creativity and Leadership to inform (but not lead) the analysis (Glaser and Strauss, 2009).

Phase 2: Generating Initial Codes

Braun and Clarke (2006) describe codes as pithy labels identifying what is of interest in the data. Using Quirkos (2013) as a qualitative analysis software, the researcher built on from the semantic coding in the previous phase and moving to a more latent coding method. Inductive, bottom-up, open coding method was 'data-driven' as the focus was always on the data and not on pre-existing theories or concepts. The

constant comparative method was used to develop concepts from the data by coding and analysing at the same time (Kolb, 2012).

Latent coding was used to capture implicit meaning, assumptions and ideas from the data (Boyatzis, 1998). Resulting in a vast number of codes, and the need to refine and define subcategories was critical (Tuckett, 2005; Charmaz, 2014). Axial coding was used throughout phase 2. However, played particular importance towards the end of the phase when categorising group-codes, codes and sub-codes, readying the codes to be placed into themes.

Phase 3: Searching for Themes

Themes are common, recurring pattern across a dataset, clustered around a central concept (Braun and Clarke, 2006). In this phase, a re-focused effort to analyse the broader level of themes (Braun and Clarke, 2006). Within this phase, the codes were placed into overall themes.

Themes were developed as an interpretative analysis of the codes, in relation to the arguments about the phenomenon that was being examined (Boyatzis, 1998). The researcher's role was not to merely discover frequency, but bigger patterns of shared concepts and meanings, and used a mixture of inductive (weak signals) and manifest (strong signals) theme selection.

Throughout phase three, the constant comparative method was used as the researcher continually sorted through the data, analysing and coding the information, reinforcing the codes and themes (Kolb, 2012). Using network analysis, the researcher created a Theme Map, that included the themes, codes and sub-codes (Thomas, 2013).

Phase 4: Reviewing Themes

Each theme was analysed to ensure a central organising concept (Braun and Clarke, 2006), meaning data within the themes fit well, and there was a clear and identifiable distinction between themes (Braun and Clarke, 2006). A review of the transcripts was done, and a refinement of the themes made.

Phase 5: Defining and Naming Themes

Each theme was named, and a short description was written to ensure the codes and the description matched, ensuring overall cohesion of themes and the overall message of the data.

Phase 6: Producing the Report

From the dataset, two themes were discovered, and a write-up of the report was produced. After the write-up of the report, an iteration of the literature review was conducted. A description of the results is presented in the following chapter.

3.5. Methodology Conclusion

Semi-structured interviews were conducted with several innovation project teams, both developmental and exploratory. Using the four components of Need, Understanding the Challenge, Generating Ideas and Preparing for Action, as the framework of the semi-structured interviews. The objective of the interviews was to discover the barriers for intrapreneurship within project teams of both developmental and exploratory type innovations. Using Braun and Clarke's (2006) Six Phase Approach, the researcher used a constant comparative method, thematic analysis to analyse the two innovation types. Extrapolating from the data the most critical themes and barriers.

4. Results

The research explores the barriers for developmental and exploratory type innovations within SME project teams, and how these barriers affect organisational intrapreneurship and the inertia towards the status quo. The most relevant quotes support the results of each theme; the transcripts were all anonymised and reflected in the quotes. Having interviewed six project teams, eleven participants in total. The constant comparative, thematic analysis has resulted in two themes, see table 2 below:

Themes			
	Theme 1: Top-Down Bureaucratic Leadership	**Theme 2: Status Quo Bias**	
Grouped Codes		Organisational Paradox	Process
Codes and sub-codes	Innovation Spectrum	Performance vs. Innovation Engine	Understanding the Challenge
	Need Discovery	Janusian thinking	Generating Ideas
	Top-Down Ideas	Risk-Taking	Preparing for Action
	Bottom-Up Innovation	Management Decisions	Building Acceptance
		Project Structure	Developing Solutions
		Strategic Involvement and Feedback Loop	Process Need

Table 2. Themes: The table shows the themes, codes and sub-codes that the themes are comprised of. Theme 2 Status Quo Bias, is separated into two group codes: Organisational Paradox and Process.

A combination of the two themes contribute to organisations being in a developmental feedback loop; the feedback loop suppresses bottom-up intrapreneurship and drives the inertia towards the status quo. See figure 4.

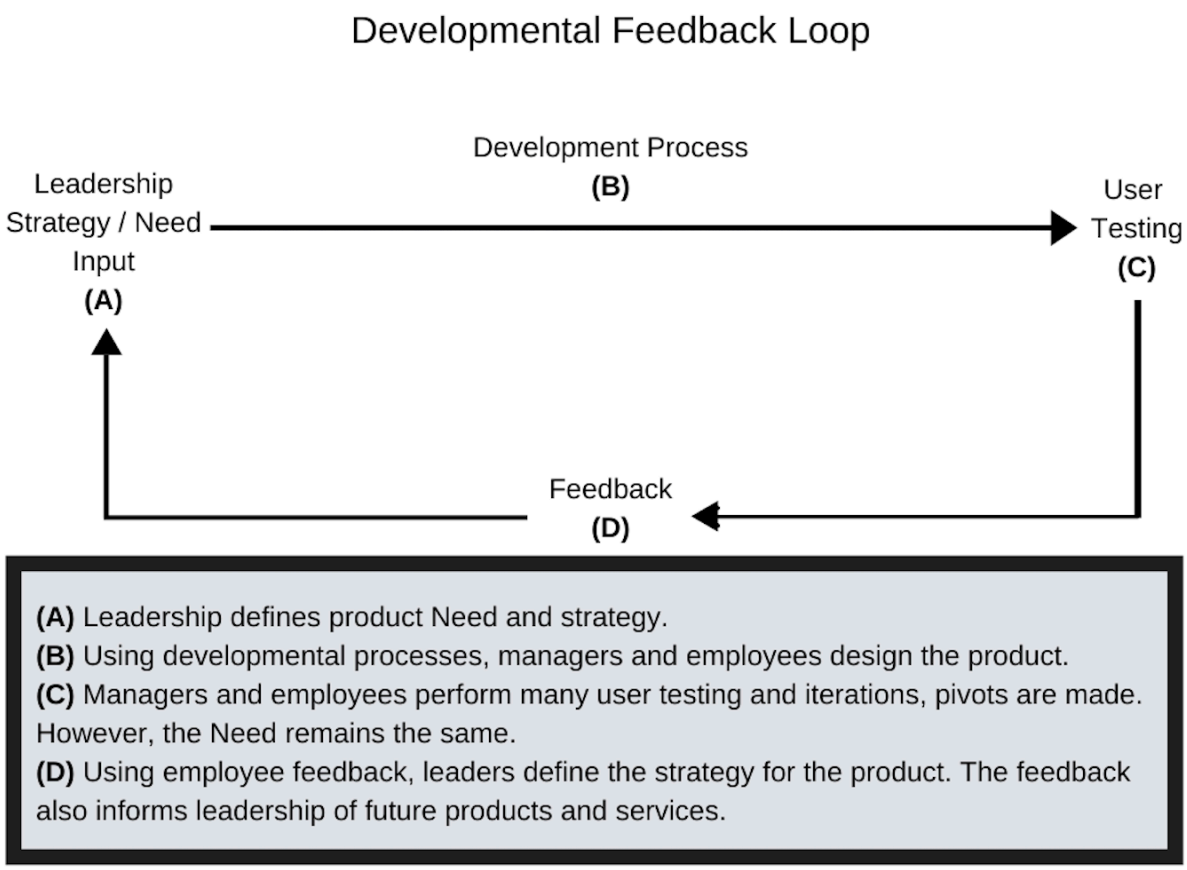

Figure 4. Developmental Feedback Loop: Demonstrates how bureaucratic leadership and the status quo act together to keep an organisation stuck in a feedback loop of developmental type innovation.

The results chapter is comprised of two sections:

- Section one describes theme 1 and section two describes theme 2.
- Section two is segmented further into two parts: Organisational Paradox and Process.

The two sections describe the barriers for developmental and exploratory type innovations.

4.1. Section1: Theme 1 Top-down Bureaucratic Leadership

The theme explores the Need discovery phase and the effects the barriers have upon intrapreneurship. The theme is made up of codes and sub-codes, namely: Innovation spectrum, Need discovery, ideas from leadership and bottom-up innovation. The section concludes with a case study example of bureaucratic leadership.

4.1.1. Innovation Spectrum

In order to understand the participants knowledge of the innovation spectrum, it was first essential to understand what the participant's knowledge of innovation was, and how they defined it:

> *"I would Define innovation as creating a proposition that creates that either builds on or creates value to customers. I can think fo something to be true innovation to work. You have to really understand your customer base and you have to create compelling products that help them deliver on their business outcomes"* - Keter P1
>
> •••••••••••••••••••••
>
> *"Innovation I guess is anything that takes you from problem to solution"* - Mobert P8
>
> •••••••••••••••••••••
>
> *"Useful novelty, it needs to be. It needs to be something new, but it does need to add value. The those of things need to go together. And if it adds value, at least to one individual is already innovation"* - Lndreas P11

Majority of participants understood innovation as a process of problem-solving and creating value for the end-user in novel and useful ways. One participant went further to say it can also be a way of changing the status quo within an organisation:

> *"Improving a process improving away working challenging, a legacy system or legacy behaviour that, you know, if the way we've always done things around here is the, what you find in in large organisations and challenging those conventional wisdoms is often where you can find very rich opportunities for innovation, and it might be about doing something differently. But in short, I think it's about making things better"* - Cichard P4

While Blex P7 made a weak distinction between innovation types, but again pressing the definition that innovation is a change in state:

> "*Innovation doesn't have to be crazy new. Innovation is developing new products, services, technology and processes. you know, a change in state"* - Blex P7

Summarising the PricewaterhouseCoopers (2000), *Innovation and Growth Survey*, the researcher expressed the importance of having a balanced portfolio of innovation. All participants showed surprise and ignorance of the importance of a balanced innovation portfolio. While two of the participants rejected the premiss entirely:

> *"I don't run the business thinking about what level of innovation I run the business based on improving outcomes for our customers. We deliver products that do that, and, in the mix, they'll be some stuff that's high innovation, some that's medium and some that's low"* – Keter P1
>
> ••••••••••••••••••••••
>
> "*No, I don't build a product for a type of innovation. What I do is create value wherever that is in the product spectrum"* - Blex P7

All the participants understood innovation as being, a process of problem-solving. However, there was no explicit distinction of innovation being on a spectrum, or no mention of the difference between developmental and exploratory type innovations, showing a narrow view of innovation.

Concerning having a balanced portfolio of innovations, while a majority of participants found the premiss interesting. Two participants rejected the notion of developing a balanced portfolio but instead innovating to create customer value. Unless an organisation is aware of the spectrum and is systematically seeking exploratory innovations, customer value will likely be developmental innovation.

4.1.2. Need Discovery

Need discovery is the first point of any innovation. The theme explores the process that organisations use to develop the Need. Needs can be presented, created or discovered; the latter was the most common way the Need was identified. The three most common Need discovery methods are listed below:

> *"Radius innovated an existing business model. The data business that IGI launched in the mid 90s. I mean, that was a was brand new truly innovative… The data that it [IGI] was providing wasn't good enough"* - Keter P1

1. A failing business model that is not meeting its customer needs.

> *"When I started, though, so when when something like Salesforce works best. hat's what you get. Everybody using it, not people using it a little bit and then partly doing stuff offline. And then, you know, there being inconsistency in, in what people think the numbers are and so on. And when I started, we had Salesforce in place, great, fantastic. But what became very clear quite quickly is that the behaviours around Salesforce were not very mature. So, you know, the people people were using Salesforce because that's where the invoice comes from. So you can't invoice your customer without logging in Salesforce so there's a forcing function there you have to use it for that reason but they weren't using it for what it was designed to be which is a customer relationship management tool"* - Cichard P4

2. An internal inconsistency in process, reporting and tracking Key Performance Indicators (KPI).

> *"I think. because indirectly, we've been doing the coaching for a long time, but we didn't realise we were using it as when we started realising that the client journey kind of partner was transforming, that we actually started building the coaching courses"* - Maseem P10

3. Discovering that part of a service is not being monetised – wasting valuable resources.

SMEs appear to be reactionary, as opposed to proactively seeking new opportunities. When asked if there was a process for Need Discovery, participants said:

> *"I wouldn't say there is a process for discovery. I wouldn't say is purely serendipity either"* - Lndreas P11
>
> ••••••••••••••••••••
>
> "*I would not go as far as saying we have a process. But you know. We know the market well. We have a product that solves a problem for our customers. And we. We make sure we are constantly improving our service with the customer in mind"* - Blex P7
>
> ••••••••••••••••••••
>
> "*So, I would say that we have no specific process. But we do have a solid team where we meet weekly to discuss the needs and wants of our clients"* - Aadia P9

None of the project teams had a process to discover the Need. The above quotes suggest developmental type innovation, as two of the quotes are of articulated problems of served customers.

Not only is there an apparent lack of process for discovering the Need, but the importance of execution far out ways Need discovery, as this Managing Director said:

> *"Identifying the problem is almost the easy bit. Executing is far more challenging"* - Keter P1

"Fuzzy" front end of innovation[6] vs the back end of innovation[7]; the Managing Director expressing where his organisation places its importance.

4.1.3. Top-Down Ideas

All six of the innovation projects stemmed from the leadership of the organisation:

[6] Fuzzy front end, starting point of innovation. Often are wicked mess, the tasks tend to be ambiguous and ill-defined.
[7] Testing and refining the ideas and creating solutions.

"I saw the opportunity to create the contributor database, but then from then on. Ideas around how we improve that comes from. It comes from all functions" - Keter P1

••••••••••••••••••••

"No, I reckon, it was my recommendation to do it, because as I say I could see what needed to be done" - Cichard P4

••••••••••••••••••••

"Actually, the original idea was from David [CEO]" - SSohal P6

••••••••••••••••••••

"The need was discovered by the head of the project, he is the person who leads the IoT team. This is his legacy and his project. But now he's going to become the CEO of the company" - Lndreas P11

One manager confirmed that leadership are often best placed to discover new Needs within the industry:

"I guess, in a very kind of higher-level view of how different people in the organisation, would be able to discover, needs. I think those are people [senior executives] that tend to have a closer connection with industry. And I think, that's how we learn what are the needs and how they what moves the needle to these to these businesses team that's sort of like how we get that insight" - Lndreas P11

Asking a senior executive why in fifteen years not once, a stand-alone product or service has been created by an employee? She said:

"I certainly don't tell my team to come up with an entirely new product or branch of our service, we tend to do that amongst ourselves, myself and my co-director" - Aadia P9

In his eleven years of working at IGI, asked if a manager or employee had ever developed a standalone product or service:

"No, nothing immediately springs to mind" - Pom P2

The results show no deliberate approach or a systematic process for need discovery - organisations innovating out of necessity as opposed to foresight of a clear innovation strategy.

The leadership of the organisation exclusively discovered the Need for each case study interviewed. Moreover, results suggest this is not an anomaly, and that leadership defines the Need for new products and services across the organisation.

4.1.4. Bottom-Up Innovation

One of the senior leadership team (SLT) members explains that top-down bureaucratic leadership within the organisation is stifling bottom-up innovation:

"I think it's the culture of the company. Which one level embraces innovation. You know something like radius where it's a whole company, innovation, but but at a micro level and smaller level in teams. People are just, you know they're not used to, they're not used to change. And I don't think we've built that you know as an organisation I don't think we've done enough to build that muscle organisational muscle that says changes change can be a positive thing. And we should embrace it, it's not say change is always a positive thing because sometimes it isn't sometimes mistakes are made, adapting we have enough of that muscle that is about right. That restlessness about improving the way that we work. And you know there's there's a kind of, you know, comfortable, a culture of being comfortable with the status quo and just easy. I want an easy life, rather than being restless about how could you know if we did this, this could be so much better and why are we, why do we accept the way that that is working. Why don't we challenge it Why don't we do it differently. We were in control. You know there's a little bit of a little bit, you know, and this is an individual's it's collectively it's we've always done it like this around here so I don't feel I'm empowered to make a change who you are, why, why aren't you" - Cichard P4

One quote above of the SLT member at IGI advocating for moving away from the status quo, while another member of the SLT admitted:

“Most companies don't want to be transformed. They certainly don't want to be disrupted” - Keter P1

4.1.5. Bureaucratic Leadership Case Study

Bureaucratic leadership did not only manifest during the Need discovery phase but was also evident during the project phase. A symptom of bureaucratic leadership is that people are defined by their roles, and cannot do anything outside of the job they are paid to do (Hamel and Zanini, 2020). An example of this is the Sumo project team.

SMEs prefer having an innovative framework as it allows for a deliberate type of process and structure. However, these frameworks are restricted to the innovation teams such as product development and technology, see below:

"I was going to say, because you wouldn't think of having someone from finance in a workshop internally, but why not, you know like, they, they can be very insightful or someone from legal, but they might also be very insightful "- Lndreas P11

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"I think like not many people in organisations are doing the innovation work. So obviously I'm doing it David is doing it. Because not many people are involved in it. But yeah, some people are probably have ideas about it. And because also is a creative company, they have also ideas about how to come up with creative ideas, that some of them can also know that but not everyone can. Because not everyone is working on these types of projects" – Ssohal P6

The product development and technology departments often use colleague’s expertise, who are not trained in innovation techniques. Below shows how the two mindsets compare:

"But there just seems to be a group of people that IGI who work very well together. There's a lot of respect, and I think because of the tech and product leadership as well over the years we've fostered a relationship between product and tech, which I think is fairly unique often product and tech can be at odds in the business. Yeah, but we were uniquely well together" - Pom P2

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"*Culture comes a lot from the stories people tell right. You can tell a lot about company by the stories people tell. And, and, you know, if you're in the tech team, the stories they tell are about innovation and moving stuff forward and releases and that's where innovation is that it's heart, but I imagine the stories and some of the sales things are about all you know I didn't renew that customer and, you know, that didn't go down well and, you know, what's Rich gonna think was Pete and whats Hugh gonna think too much of that there's too much in that"* - Cichard P4

Cichard P4 went on to comment:

"Which one level embraces innovation. You know something like radius where it's a whole company, innovation, but but at a micro level and smaller level in teams. People are just, you know they're not used to, they're not used to change."..."And I don't think we've built that you know as an organisation I don't think we've done enough to build that muscle organisational muscle that says changes change can be a positive thing. And we should embrace it, it's not say change is always a positive thing because sometimes it isn't sometimes mistakes are made, adapting we have enough of that muscle that is about right" - Cichard P4

While all departments are expected to achieve their KPIs, particular departments such as product development and technology are expected to (incrementally) innovate – as is their job role - and are used to being in innovation project teams while others are not. Below, developmental innovation project Sumo, a project team with no 'innovation trained' team members. See below statements from one of the managers of the Sumo team:

“I think the first meeting, it was like a bloody disaster because we had the guys from sumo. And we had our sales managers. Plus, Isabel, and Cichard, and we were discussing like the stages… “We've got constantly sales managers complaining actually this is not working no this is not what I expected”… “We presented the behaviours to the sales managers David salsbury like you know him very well. He said everything is wrong. Were at that point my blood pressure went through the roof”… “I think it could be done better. First time. But maybe because of lack of understanding, I don't know, I think everyone that was having different expectations”… “But I think from that point Cichard got more involved because it looked like we were me and Skyler was doing the implementation part, which was quite complicated”… “But Cichard stepping in and told the sales managers that they need to think what behaviours, what they want, and then we had a [second] meeting”… “Cichard, who, you know, cascade to the managers that he needs to work closer with marketing to make the things to work right”… “I think, personally, that the rich are stepping, a bit too late. If he got involved, earlier. And then, it would be better. But then when he started being involved. The projects started moving significantly faster but this is normal, you feel someone senior who is overseeing the things and, and you've got clear direction from your manager this needs to be done, then people are doing that so it's like with our jobs, isn't it, you've got an order from Michelle [CMO], you know that you need to prioritise that and to do everything to make sure that she's happy with the, the results” - Bta P5

Management explaining that there is a preference for leadership to have a hand on the tiller, i.e., leadership dictate, and management execute. Whereas the leadership explained:

"So, I think, you know, and I think there's a lot of history there that, you know, it has. I think there's a there's a I think there's a culture of subservience to leadership in some and I don't mean that in a, in a bad way, but, there's a bit of, you know, I'm not gonna do things I'm told to and I don't want to do wrongs that only get told off "…"I think the biggest challenge was getting the stakeholders involved, who, you know, the managers to really believe in it. Not a not just believe in it. Because I said so because I'm the boss. But to kind of, own it as I own it as a project, rather than rather than it being oh this is Cichard project and we'll go along with it"… "It was my recommendation to do it, because as I say I could see what needed to be done. And then I you know I, you know, did my best to hand it off to Bta and Skylar and the managers to kind of execute on it"… Yeah I think that's probably fair, but that frustrates me that doesn't mean that yes that's fine, that that that's good and sometimes you need to do that but if I have to intervene, then something's gone wrong…[I'd like the team to] own it [the project] from the outset" - Cichard P4

The leadership tried to allow the project team freedom and autonomy. However, the untrained project team could not get out of the storming phase (Tuckman, 1965) and required leadership having to intervene, and enforcing top-down bureaucratic management, that perversely made the project team feel more comfortable as this is what they were used to.

4.2. Section 2: Theme 2: Status Quo Bias

Theme 2 is split into two parts; part one is of the benign structure's leaders set when balancing the paradox between developmental and exploratory innovations. Codes and sub-codes include performance vs innovation engine, Janisian thinking, risk-taking, strategic involvement and feedback loop, management decision and project structure. How section one's benign structures influence the CPS process is explored in part two.

The two sections combined, explore how developmental and exploratory type innovation influence the bias of the status quo.

4.2.1. Theme 2: Part One, Organisational Paradox

The section explores how benign structures such as Key Performance Indicators (KPI) and commercial Return on Investment (ROI) influence the inertia towards the status quo.

4.2.2. Performance vs Innovation Engine

Project teams seemingly emphasise the importance of developmental type innovation over exploratory type innovation:

> *"I think that is something that we're probably more apt to consider now we spent a lot of time building the radius product that is asking the question of is it still relevant"* - Pom P2
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> *"So that's actually where the greatest level of innovation continues to come from, which is the friction in for customers, when it comes to contributing"* - Keter P1

Asked how the dynamics are between the performance and innovation engine in a challenging economic climate, one project team said:

> *"Yeah, 100%. So we haven't been promoting it as much, mainly just because we're trying to keep our main service going our matching service, because obviously during COVID, people's mindset has changed. I wouldn't see we're no longer providing this course we very much are still very current and still very relevant. But we're pushing a rematching more so because that's still a very pressing need. Whereas the coaching, you have to be in the right mindset and don't feel that people are in the right mindset at the moment" - Aadia P9*
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> *"But I think it was a challenge going through COVID having to put some projects on the back burner" … "But I think we just have to get our heads above water to be able to deal with the bread and butter. Because we can't bring on new things if the weal is not spinning well, because I'm gonna drop the ball on what we actually do" - Maseem P10*

The requirement for the performance engine to make money is paramount. The innovation engine continues to develop only if the performance engine is working at operational excellence. Results show that when the performance engine is

struggling, organisations tend to reallocate resources (time, money/funding and people power) into the performance engine.

4.2.3. Janusian Thinking

Organisations find it difficult to think in a Janusian way. Exemplified when organisations accelerate the indoctrination of the innovation engine into the performance engine for faster ROI:

> *"And I think it's that it's always that challenge of moving from project mode and when you're in Project mode, and when you're building you're naturally very, very customer centric, when you think, you know, BAU and it's the products up and running and operating, you can tend to, you know, lose some of that focus. And you start, you know, getting really, really, you know, focus on the Commercial performance, perhaps as opposed to the longer-term value that you're trying to create"* - Keter P1

Pressure for organisations to meet commercial KPIs for the innovation engine is echoed in the performance engine. KPIs are driving operational excellence within the performance engine to achieve more significant revenue generation:

> *"[KPIs have an affect] Yeah, I think that's right that's what I mean about them being quite narrow sometimes, you know, but also you know there's a little bit of, you know, is that gonna distract me from, you know, if you're in sales, you know, that's part of your earning comes from that so that doesn't help. You know that sharpens people's focus"* - Cichard P4
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> *"And we had deadlines to reach and KPI to achieve. There is that quote about failing fast. But the fact is, most companies work to tight constraints and were no exception"* - Blex P7
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> *"But I also think employers push and employees to come up with new ideas, it's always about meet targets for this project meet targets for that project"* - Aadia P9

The pressure of revenue generation is forcing employees to focus on the performance engine's KPIs, stopping the sharing of ideas and the potential development of new innovations.

There is a distinct lack of tension in some exploratory projects. See below:

> *"It was rare that there were big disagreements, I think a grievance came about more differently. You know if they would come back with a solution, I was able to say, this will or will not solve the problem"* - Pom P2

Case study project team managers often make top-down decisions that are technical rational, political and judgemental decisions to avoid tension and chaos, another symptom of bureaucratic leadership.

In the pre-interview questionnaire, the participants were asked to score their project teams using the nine dimensions of a creative climate (Isaksen and Akkermans, 2011). Challenge/Involvement scored the highest out of all the dimensions and Risk-Taking the lowest. The researcher paid particular attention to these two dimensions, as they play significant importance to status quo bias.

4.2.4. Risk-Taking

“The tolerance of uncertainty and ambiguity, in a high Risk-Taking climate, people can make decisions even when they do not have certainty and all the information desired.” - Isaksen and Akkermans (2011). Risk-Taking received the lowest scores in the pre-interview questionnaire. During the interviews, when asked about taking risks, two of the participants said:

'You have very strong personalities as well that that are difficult to manage. So, you might not feel very, or you must you also might feel more vulnerable actually when you're when you're with your teammates, or with your own company as well, because, yeah, they can be judging you or you're more [at] risk"… "I'm happy to take part of the responsibility for it, indicate that there is nothing stopping me from doing it, but I guess you feel more vulnerable with them [leadership]. And you want to be portrayed as, as some someone that is professional, and someone that is serious at their job and they might take these as a joke or they might take he was, I don't know was not professional, unfortunately, or are they might have. They might have a bigger impact on you. If, if they don't accept you so you're looking for acceptance in a way all the time with within a company I guess and. And if, if, the ones of your peers or the people below you don't accept you then. Who cares in a way for people and I'm not saying who cares about me because I wouldn't want to be disrespectful" - Lndreas P11

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"I think it's partly fear of failure of being blamed. I think partly working for large corporate. that has, you know, in some ways, has kind of is quite dated, and you know he's quite bureaucratic that's, you know, you know you get that in large corporations. And I think it's partly about the journey that IGI's been on, on, on the one hand it's been a legacy publishing quite traditional publishing business on the other hand it's a kind of startup tech business so it's a bit schizophrenic*. So I think, you know, and I think there's a lot of history there that, you know, it has. I think there's a there's a I think there's a culture of subservience to leadership" - Cichard P4*

There are signs of being vulnerable in front of leadership. Managers do not want to be judged; on the contrary, management wants to look professional and impress leadership to further their career. Leadership recognising managements and employees fear of failure, but not having a solution to alleviate the fear.

When describing the difference between performance and innovation engines, Cichard P4, mentioning "schizophrenic" and "subservience to leadership", stumbled upon the organisation's requirements for Janusian thinking and for bottom-up innovation.

4.2.5. Management Decisions

Fear of failure and risk-taking is also a barrier for management. Asked who makes the final decisions for the product, the project leadership and management said:

"No, I don't get involved at all. I think it's the product team that have the final say, you know, what, guess what gets done?"... "[But understand the reasons behind the decisions] Yeah, because it's customer voices it's not somebody just deciding this might be a good idea. Yeah, there has to be evidence from the customers that this is what's required" - Keter P1

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"*I probably understood those problems better than Keter or Huw will do, because I was more in the weeds of it in the thick of it"… "You know if they [employees] would come back with a solution, I was able to say, this will or will not solve the problem"… "As a product manager as probably the closest person to the problem. And I would look at how much of a big problem it was that we're trying to solve, decide what level of complexity to solve the problem, how much value that would deliver back to the customer. And then weigh that all up and determine how much time we want to spend on it so looking at essentially what would be our return on investment for that time that we're spending"* - Pom P2

Leadership do not get involved in product development. Instead, leadership rely on management feedback who track competitors and listen to customers. Management determines the ROI and build more robust performance (speed and power etc.), high-quality products to yield greater profits. During the interviews, one manager said:

"…you want to be accepted by the senior management, more so because they could have. They could impact you more if, if, say you want to progress in your career"… "it was quite stressful time, and. And the result of the project is, it was easy, it is very good we got the highest grade" - Lndreas P11

Management wants acceptance and recognition from senior leadership in order to achieve promotions. Management wants their projects to succeed and solve articulated problems of served customers to ensure a successful project with a faster ROI. Project structures are built for this very purpose.

4.2.6. Project Structure

The exploratory type innovation project teams had a new structure to what the organisations usually use:

"*No there is a dedicated teams across all functions that support radius" … "In order to get it off the ground and running, there was a whole completely different level of focus, urgency and accountability. It was it was it was run like a project for two years*" - Keter P1

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"*So, we've got three development squads and radius"* - Soe P3

However, the below quotes show that the processes remain the same:

"I mean, we're well in products, because it's all you know it's all part of it's all part of a vision, a roadmap. So, you know, there could be several things going on at once we've got different development squads so we've got three development squads and radius, and they will all have their own roles. So, it's all around coordinating that. And so, it's not, it was part, it was part of my job. It was all part of the roadmap, ultimately, not an isolated project" – Soe P3

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"This is the problem, what is our solution. and that went down to a granular level, where we're working with the developers web developers to build different features of the product, early on in the process we're probably a bit too prescriptive, and we realised that we weren't getting the best out of our developers. So, we did that approach where we define the problem, and then let them come up with very various solutions, the complexity of those solutions would vary, and the amount of time it would take to build would also vary depending on that complexity" - Pom P2

Soe P3 describes the product roadmap that is used in their projects. Furthermore, Pom P2 described the bureaucracy of top-down problem-solving from management to employees, and the requirement to change the process as it hindered problem-solving. Exemplifying that there was no unique bespoke plan created for the project, but an adaptation of an existing plan.

4.2.7. Strategic Involvement and Feedback Loop

Challenge/Involvement *"the degree to which people are involved in daily operations, long-term goals and vision"* - Isaksen and Akkermans (2011). Challenge/Involvement

received the highest scores in the pre-interview questionnaire. The one employee that took part in the interview said:

> *"So, I think in general they're good leaders. I think one thing that they do well, is, well, I guess, particularly Kete is that he kind of leaves us, he kind of leaves us alone. So, he trusts from a technology point of view and a product point of view that we know what we're doing. And ultimately, we are a lot closer to the data than he is. So, I would say. That sounds odd, but that leaving us alone and giving us giving us the freedom to make decisions, and autonomy is a key thing"… "I think ultimately, it's around what we were speaking about before, as kind of developing you're developing my own opinion. A product manager you should be defining the product vision, and the strategy. But to do that well. You've got to look at it. You've got to look at it from first principles, and that's where you know going out speaking to the market. Reading up about the market analysing data comes into it to allow you to do that. I think, shapes the roadmap. And the vision for radius, based off of Kete and Hue's work at a higher level so that they do the overall business strategy and also that and they will very influential in Radius and the contributory model. But now from a day to day point of view, I'm the one that is defining the roadmap and spotting new opportunities. As a result of that and working with the developers to deliver that" - Soe P3*

Employees are offered high freedom, trust and the autonomy to develop new opportunities. Soe P3 went on to say:

> *"Planning ahead for 2021. So, whenever it comes to getting more investment for 2021 it typical like there's big things we're looking at. And they've had input they've had input in those big themes. I have to present back to them [leadership], asked me you know what is where we should prioritise our bets next year, based off of those themes and other information. That's all around the customer research so I'm going to do a lot of customer research and present back to the findings in terms of the size of the opportunity, i.e. the investment that how we deliver it. What problems this solves. Will it grow revenue will it help us acquire data, etc. On a day to day level, very rare that they [leadership] get involved. On bigger decisions in terms of what's going to shape the whole year, or the whole strategy. There's usually a couple of presentations and if we need investment. We work together but it's all very collaborative, and they kind of. They have, you know, they haven't got the time and they're not close enough to make those decisions so they will help shape the overall strategy, but working with us, if that makes sense"* - Soe P3

During the Preparing for Action phase (theme 2, part two), Soe P3 generates lots of customer feedback. With the feedback, Soe P3 advises leadership to define the future of the product, helping to shape next year's strategy and future products/services. However, employees and managers' methods and processes in gathering customer feedback data are developmental, meaning that the leadership feedback will most likely be developmental.

In direct contradiction to his previous statement regarding challenge/involvement, Soe P3 went on to say:

> *"I think this contradicts what I just said but they might be more like regular. Maybe roll more regular communication, so that it's so that vision is ultimately always clear, because some examples those, those themes that I'm talking about researching for next year. Yeah, so I think Keter and Huw, they are working with a central team, like there's a central Strategy Team I'll be identical if you know about them. But Dan Benson, now works on that team, they were doing stuff at a level where the SLT [senior leadership team] level to come up with a strategy. And these kind of big bets. But actually, a lot of it so like sight finding as an example of one of them. A lot of it is part of the vision and an actual roadmap to get into radius anyway, that we will be working on, so I felt like there was a bit of a disconnect with that. Because, in product, we were closest to that. So, it's maybe around more regular communication on the strategy and vision with SLT. Rather, rather than all of a sudden becoming something that you have to present that is that makes sense"* - Soe P3

Leadership promoting the status quo by giving the illusion of a positive dimension of challenge/Involvement. However, this high scoring dimension is reserved within the confines of a developmental climate, a climate that promotes status quo and deters intrapreneurial behaviours. Exemplified by the Radius leadership failing to engage the three Es principles of fair process (Kim and Mauborgne, 1997), by segregating the decision-making process and not communicating long-term strategic goals.

4.3. Theme 2: Part Two: Process

Post Need discovery, the section explores how the paradoxes influence the innovation processes within the CPS framework: The section explores the creative,

operational and strategic processes within both the performance and innovation engines.

The codes and sub-codes include: Understanding the challenge, generating ideas and preparing for action.

4.3.1. Understanding the Challenge

The component deals with gaining a clear focus for the problem-solving efforts. Often breakthroughs happen by ensuring project teams are working on the right problem. It is segmented into three components: Constructing Opportunities, Exploring Data and Framing Problems. All the case studies were of served markets with articulated problems. Organisations excelled during this component. One participant articulated it as:

> *"Understanding if this is actually is a problem. And it shouldn't be there and then coming with ideas and different ideas, actually how to kind of address that, how can we make better like a no solution, or if there is no solution, just make a solution for it. And then actually, for that, obviously, there we have ideation. So, you need to come with first you need to understand the problem. And then you need to ideation but it's better obviously, to have a group ideation like brainstorming those kinds of things. And then obviously, we come with prototypes. And it's also prototypes. It can be software hardware, and I think and then the system is just like a wait and you were doing but just testing it. So, the sooner you test your ideas, yes, when you're not spending a lot of time on it, but that's because it's much easier for you to lock in your change it back at the beginning, very lucky. high level conceptual, low, five prototypes. But just, in fact is like, No, you need to create as many as ideas you can and indicate the beginning without critiquing, or just judging it and then testing it, and then narrowing it down. It's kind of like, you know, going up a lot of ideas, and then you were criticising and you're testing that prototypes, then you come with less ideas, and then again, expand on those less ideas, like try to elaborate on the first kind of like, you know, up and down, up and down. But at the end, you could narrow it down. From there"* - SSohal P6

Below are what other participants said about understanding the challenge:

"*A mission is you have a goal. So, the goal could be you know how customers find planning and construction data. As an example, and then the actual solution isn't always clear*" - Soe P3

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"We did, we did a little bit of research in advance and found that no sales people were spending up to eight hours a week on repeated effort, you know so keying stuff into a spreadsheet and then rekeying into Salesforce so it's all just lost wasted time, a up to eight hours a week" - Cichard P4

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"*Do the best you can to speak with different receptors of the problem. And they will tell you different things, or they will tell you the same thing but with different words and then you try to get, you know, to read some information that they send to you*" - Lndreas P11

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"We started with that. And then we did a lot of discovery. So yeah, the first the first bit is around discovery, which is where we go in and you know we asked, we asked questions around what types of analytics you needs prioritise, we got into group stuff together" - Soe P3

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"*Hypothesis is based on the extensive research that we do with the market. That we can go in and do customer discovery and understand whether or not there's something there"* - Pom P2

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"*And the only way of doing it was through collaboration. So that's the problem we were solving was quite claims about. Data that you could trust data that you could use and data that you could put into the heart of your business*" - Keter P1

Organisations do extensive research and excel during the Understanding the Challenge component, creating both problem and opportunity statements. However, project teams do not spend the time constructing these statements to get to the root cause of the problem, reverting to the traditional management decision making that is technical, rational, political and judgemental. The statements are also in the departments context as opposed to an overarching problem and opportunity statements for the project as a whole.

4.3.2. Generating Ideas

This component of the CPS model seeks to generate many possible opportunities and focuses upon the most promising. Asked if there was a process that the project team used to structure the generation of ideas, evaluate the ideas and develop new market opportunities. One participant explained:

> *"Yeah, absolutely. I mean that in a way. There are, you know, we call it BAU MPD. So, that's kind of, you know, how do we develop our existing propositions to drive more value to existing customers"* - Keter P1

The question was not answered; this was common amongst 90.1 percent of participants. Moreover, only one out of six project teams used specific tools for generating and focusing ideas. When asked about the tools, one participant said:

> *"Well, I mean, we work with the strategy teams to do some innovation, that sort of stuff. Yeah. But you know, generally it was more around getting that direct customer feedback, putting that customer feedback into certain buckets that was either addressing problems or addressing value gaps, and then you know, prioritising how we have how we address those base, wrongly. You know, see the strength of the comments or the revenue opportunities"* - Keter P1

Again, the participant did not answer the question, instead reverted back to "customer feedback" "value gaps" and "revenue opportunities". Majority of the project teams generated and focused ideas at the same time:

"But the difference is you what you want is a positive input. Now somebody comes along to a scenario like that and just there's no it's not going to work and provides no other alternative. And, or doesn't provide a way of improving it. That's not a very positive contribution to comes and says, I don't think it's going to work. These are the reasons why. Here's an idea let's do it this way, that's a positive contribution here" - Cichard P4

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"You know lots of people come up with problems in things and I always say don't bring me problems bring me solutions" - Blex P7

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"Based on x, y, z, I think we should be doing things this way. And we will hear them out and the rest of the team will also get their opinion on everything that would work or not" - Aadia P9

Isakson, Dorval and Treffinger (2010) explain that generating and focusing ideas at the same time kills creativity. Some organisations are aware of this; they use non-judgemental ideation workshops for clients. However, fail to create the same climate internally when idea-generating within the organisation. See below:

"Yeah, I think there are instances where, where that happens is also interesting that you, we tend to, to make those [non-judgemental] spaces for others. And we don't make those spaces for ourselves. Interestingly enough, because we are consultants in a way and we want to make this work for our client. So, we set up a workshop scene and we have the brainstorming key. then we have the post it's on the flip charts and all of that and we, we like the and we encourage that type of, like, hands on types of activities when we do them a lot. And we're good at them as well and. And then we capture the insights and we can make reports and we can feed back to the group and stuff. But we don't do as much of that for ourselves for our internal processes" - Lndreas P11

Speaking about creating novel ideas in front of leadership Lndreas P11 went on to say:

"you tend to be our own blockages as well you we think that they might be thinking bad about that when when they would think that's brilliant. But you stop yourself from being creative with them more often than than with others" - Lndreas P11

Confirming the results from previous sections Management Decision and Risk-Taking. The project team was showing cognitive dissonance towards idea generation. By not voicing new and novel ideas the project team only perpetuates the bias towards the status quo.

4.3.3. Preparing for Action

The component turns interesting and promising ideas into useful, acceptable and implementable action, a place to test, refine and develop solutions. Organisations excel in the backend of innovation. This section of CPS has two components: Building Acceptance and Developing Solutions.

4.3.4. Building Acceptance

Building acceptance is a process that happens both internally and externally. The paper focuses upon the internal process of building acceptance; below are three participants experiences:

"Pete was sceptical about it, it wasn't a cheap exercise and, and I had to you know had to how to you know convince him" … "I tried to build consensus around the problem, which I did to varying degrees of success. I think people you know recognise that there was an issue, but you know didn't necessarily recognise how big the issue was" … "I think there was a lot of scepticism. You know, among some of the managers about whether this would work. Because when, when you're when you've been used to working in the same way for so long. Something like this, which is quite radical and quite different from being seen. You know through the lens of, you know, this is a this is a kind of a bit of a new fad. It's the next new thing it's going to come it's not going to work, and it will go so we'll just ride through it" - Cichard P4

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"Yeah of course. When I first said that I wanted them to get an automated system for the data. I was met with scepticism. I knew they were comfortable using the system that was that they had and didn't want to change because they were so used to something that was working fine" - Mobert P8

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"*One thing I think I became aware of was that there was this very apparent project being done with what we're working on, which got a lot of attention I think there were a few other members of staff probably got a little bit frustrated and sick of hearing about it because it was seen as this huge big project that was a game changer for the business but it shouldn't be forgotten that everybody else in the business was doing really important work as well that contribute to the overall success of the business"* – Pom P2

When organisations are used to one way of working, bringing in new developmental or exploratory ideas that can potentially change or disrupt the status quo. This is often met with scepticism on all levels of the hierarchy within the project team. External to the project team, there may be a risk of other employees resenting the new exploratory project's attention and accolades.

4.3.5. Developing Solutions

All the project teams used Agile frameworks:

"No, not personally, but fortunately, I work with lots of people on the team who have [got training in agile frameworks]" - Keter P1

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"My bachelor's degree I say software engineering many years ago, and then I studied human computer interaction as a master's degree. Okay, these are all related to like, you know, human centred design, design, thinking and innovation" - Ssohal P6

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"*As you know, I did a masters in innovation and creativity"* - Lndreas P11

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"I done a degree in business strategy so a small part there. But for a few years I have been reading up on agile and scrum" - Mobert P8

With one of the projects adopting a framework towards the end of the project and admitted:

“It has taken couple years. And we just didn't want to produce something that was not good. So Aadia, and I figured out what the angle should be what should work we'll be testing on different clients to see what's working and what's not working”…”then we started using some of the scrum methodology that helped speed up the process” - Maseem P10

Innovation frameworks speed up the product development process, and organisations can focus the frameworks to develop a product tailored for their customer:

“I think, again, as I say like because the following a methodology of like human centred design, so it's all I think what we did was great was like, you know, we just really followed the procedure” - SSohal P6

However, these frameworks are not a silver bullet, and some project teams were confronted with difficulties:

“[Using Scrum] I think we just spent too long in planning meetings, trying to estimate how long it would take to build particular features. Whereas, the team would count with estimations of how long it would take and without fail, that would be wrong. So, we thought we needed a different approach where we looked at different levels of complexity, which will take different amounts of time, and it was motivated the team better. They will be more precise about it [time]”- Pom P2

It is evident that during the Developing Solution stage; this is the area that organisations excel because a structured and methodical framework is easily applied to developmental type innovation. Project teams frequently performed user testing, with several iterations:

"*You came up with it we came up with a mock ups and designs and then we did another round of testing"* - Soe P3

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"open dialogue with customers. So, we can test our existing suite of products" - Pom P2

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"So the sooner you test your ideas, yes, when you're not spending a lot of time on it, but that's because because it's much easier for you to lock in your change it back at the beginning, very lucky. high level conceptual, low, five prototypes. But just, in fact is like, No, you need to create as many as ideas you can can and indicate the beginning without critiquing, or just judging it and then testing it, and then narrowing it down" ... "sometimes we just build something in showing it to people and then get the feedback" - SSohal P6

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"*Yes that’s right. We understand what we are not making a course for ourselves but for customers of our service and people who are not yet customers of our service. So we need to listen to their feedback and notes"* - Aadia P9

However, what was discovered is that although there may be pivots:

“And it's, you know, being prepared to change your path or adapt or pivot and not just to be, you know, so fixated with the outcome that you're not prepared to, you know, listen, listen to, you know, opposing views” - Keter P1

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“*... because the problem was like, we thought that was the original problem. But then we came up with these requirements, or the problems that people wanted to address. For instance, one of them, which we were not thinking about before, was like, people want to know what is happening in the video before watching it. So because for instance, if you have a book, you have kind of like no chapters, look at the content at the beginning, what is happening in videos most of the time we don't have it*” - SSohal P6

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“*the plan gives you enough flexibility to pivot*” - Lndreas P11

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“We have made a lot of changes a few pivots and we do have a process, a road map of developing ideas” - Mobert P8

The user testing, iterations and pivots did not change the Need that the leadership initially identified, as explained by one Managing Director:

"[user testing] is ongoing, because the feedback you get from the customer just reinforces the need and reinforces you know, the challenge" - Keter P1

The Need remaining the same; affirms the previous point that leadership do not ask managers and employees to develop new products or services. But to merely perform incremental innovations within a construct defined by leadership. The status quo is for managers and employees to be used as tools of execution, which is another symptom of top-down bureaucratic leadership.

4.3.6. Process Need

Post Need discovery, innovation based on process need was by far the most common way of developmental innovation. Here are what leadership said:

"We focus on trying to identify problems in in the workflow. So, we don't say to the customers that okay, you know, what do you think of radius? What do you think of any other? What could be better? What could be different when we try and do so right? So, we try to understand the workflow. So, talk us through what you do when you get into work on a Monday morning, and then you end up doing on a Friday afternoon? And where are your pain points? Where are your problems? You know, is it you know, you have to go to go and get data from multiple data sets and that takes you a long time. Is it big So the data that you are, when you do get that data, is it reliable enough? Or do you have to go and validate that data?" - Keter P1

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"*You know where you manage your leads and your opportunities in one place for everybody and I mean everybody was doing was running spreadsheets on the side, using Microsoft Excel separately to Salesforce, and then just keying in data. You know, as and when they needed to get the invoice done and to basically pass over to customer success, but they weren't using the pipeline properly they weren't putting leads in there properly they weren't updating Customer Contact records properly. And the problem you've got with that behaviour is that people's spreadsheets are completely tailored to them. It's not certainly can't surface it for other people so that person is off sick and their records aren't up to date and there aren't aren't there the call they leave a lot of that information just goes in their heads. And nobody can pick up where they left off, so you end up with this massive sort of brain drain of somebody leaves or is sick or is off for a long period of time. And you're not getting the massive you know the massive investment that you're making you're not getting value for money"* - Cichard P4

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"*…just small changes, but how she wants to change. When people put them you can then when, when they should be responding, how efficiently you can do an email what you can do to send out broadcasts, what she can attach. So, these are new things that we've not done before that will make our process easier"* - Maseem P10

The employees also echo the requirement for developmental Process Need:

"So, it as a product manager you're constantly speaking to customers around understanding their work understanding their workflow, their challenges" - Soe P3

Once leadership has set the goal and defined the paramotors of the product or service, using process innovation employees and managers generate feedback from customers, the feedback is interpreted, and these interpretations define the basis of subsequent actions.

4.4. Results Conclusion

The chapter, a description of the barriers for developmental and exploratory type innovation. Not all barriers are exclusively developmental or exploratory; they are nuanced and interconnected. Furthermore, some barriers saddle the two types of innovations at once. The barriers explored within this chapter combined with top-down bureaucratic leadership create the inertia towards the status quo and discourage intrapreneurship.

Leadership defines the Need and create several benign structures that encourage status quo bias, managers and employees adhering to the status quo, are used as tools of execution. They develop the product and collect customer feedback, the product then goes through many iterations, and more feedback is gathered. The customer feedback data is then reported to the SLT who, equipped with developmental data, make strategic decisions for the product. The data also informs them of potential new products and services, creating a year-on-year developmental feedback loop.

The nuanced and interconnected barriers and how they affect intrapreneurship and status quo bias are discussed in the following chapter.

5. Discussion

The chapter synthesises the developmental and exploratory barriers that were discovered in the previous chapter. Discussing how the barriers affect organisational intrapreneurship and the inertia towards the status quo.

5.1. Innovation Spectrum

All the organisations within the study actively pursue innovation. However, the participants have a narrow view of innovation, as the participants appear to be less attentive to two critical factors; 1. The importance of building a balanced innovation portfolio across the innovation spectrum, and 2. Not all innovations are the same, developmental and exploratory type innovations should be approached differently, as explained by Govindarajan and Trimble (2010, 2018).

Given the relative success of organisations with respect to short-term profits can lead to Cognitive Consistency. Festinger, Riecken and Schachter (2009) say people often avoid incongruency that can lead to unpleasant psychological states. Given this, it is understandable that two participants in leadership positions responded to the question in a defensive manner. The two participants, perhaps did not want to admit they did not know about the importance of having a balanced innovation portfolio, linking to Argyris's (2008) theory of teaching smart people how to learn.

Furthermore, the case study organisations have been pursuing developmental type innovation and have been getting reasonable results. Organisations receive feedback from their customers, the feedback is interpreted and form the basis of future actions; Danneels (2003) explains an overreliance on customer feedback and process innovation, could result in a chain of developmental innovation. Given the reasonable successes of developmental innovation, Nickerson (1998) argues organisations and the people within them can fall foul of Confirmation Bias. Seeking more information that confirms the narrative, the strategy of developmental type innovation is the correct strategy. Reinforcing the position that there is no

requirement for a balanced portfolio across the innovation spectrum, and so organisations will not seek exploratory type innovation.

5.2. Need Discovery

Organisations need to be perpetually innovating (Christensen and Raynor, 2003; Govindarajan, 2016), proactively discovering the Need from multiple sources (Drucker, 2014) across the whole of the innovation spectrum to develop a balanced and profitable innovation portfolio (Davis *et al.*, 2000). However, the results indicate that for all of the case studies interviewed this is not the reality. Although not left to serendipity, it is clear that the case study organisations do not take a systematic approach to Need Discovery as a long-term innovation strategy, as recommended by Drucker (2014). Organisations interviewed, innovate out of necessity as opposed to proactively innovating for the future, as recommended by Govindarajan (2016; 2018; 2020). Resulting in organisations falling prey to short-term success, that again confirms through confirmation bias, there is not a requirement for a balanced innovation portfolio. Christensen and Bower (1996) express organisations in this feedback loop will only develop developmental type innovations.

5.3. Customer Signals

Creating Value is critically important to innovation (Simonson and Rosen, 2014; Kim and Mauborgne, 2015). Discovering the Need for exploratory type Innovations are often wicked messes. The case studies show if the value can not be seen, or if the innovation will not make an immediate impact, the idea will not be explored, having a detrimental impact on all potential exploratory type innovations, affirmed by Govindarajan and Trimble (2010).

Organisations are customer and capability focused in their strategy (Camillus, 2008) and believe: *“coming up with the idea is easy” – Keter P1*. The case study organisations develop hypotheses from served markets and articulated problems that offer strong signals, whilst not having a method to discover weak signals. Hamel

and Prahalad (1994) warn of the risks of the articulated, served market that exclusively drives developmental innovation.
Case study organisations do not spend time developing opportunity or problem statements as their challenge is often linear in nature. Staying sted fast to these linear methods will not yield exploratory type innovation (Hamel, 2002; Kim and Mauborgne, 2015; Govindarajan, 2016), but only perpetuate developmental innovation and the status quo, that ideas are easy and best coming top-down (see, section 5.5 Bureaucratic Leadership).

5.4. Self-Assessment

None of the project teams had a mechanism for self-assessment. This is contradictory to Drucker's (2008), Drucker and Collins's (2008) and Govindarajan's (2016) research, who all recommend self-assessment and reflection of organisational biases and assumptions. Drucker (2008) and Govindarajan (2016) suggest self-assessment and reflection as a tool for planned, systematic abandonment of processes and behaviours that will not facilitate exploratory type innovation. Moreover, a higher level of reflection often leads to a positive innovation climate (Isaksen and Akkermans, 2011) and supports double-loop learning (Argyris, 2008).

Furthermore, the case studies did not appear to have a process for experimenting and learning as recommended by a majority of scholars (Ries, 2011; Hill, 2014; Kim and Mauborgne, 2015; Edmondson, 2018). Instead, having a climate of shifting blame elsewhere was a common theme throughout the interviews, which is not favourable for a learning organisation, explains Argyris (2008) and Edmondson (2018). Edmondson (2018) goes further in explaining that the shifting of blame is not conducive to a psychologically safe environment and will not facilitate the sharing of ideas.

The combination of ignorance of the innovation spectrum, Execution-as-Efficiency over Execution-as-Learning (Edmondson, 2008) and not reflecting upon organisations behaviours reinforces the inertia of the status quo.

5.5. Bureaucratic Leadership

Top-down innovation, fuelled by a strong vision, the Need in all case studies were discovered exclusively by leadership. Hamel and Zanini (2020) explain how bureaucratic top-down leadership create climates that stifle intrapreneurship, and this is what the results of the study point towards. For all projects interviewed, leadership defines the Need and paramotors to which managers and employees can innovate within. Leaders do not ask managers or employees to develop new products or services, and management or employees have no intention to do so. None of the organisations interviewed had an employee or manager who created a standalone product or service. In the project teams, the original Need does not change but is only affirmed (paraphrasing Keter P1).

Interviews suggest the goal of leadership is seemingly to solve compliance and maximise control for the sake of operational excellence and efficiency, as opposed to maximising employee contribution, the leadership struggling with the tension between efficiency and flexibility. The paradox of administration (Thompson, 2003) was most apparent during the Sumo project, an organisation entrenched in top-down bureaucracy. Leadership wanted to step back and allow autonomy and ownership to the management team. However, managers and employees were too used to leadership having an autocratic approach. Inexperienced and untrained in innovation, the developmental project team could not self-organise (Schwaber and Sutherland, 1995) or leave the Storming phase (Tuckman, 1965). The project fell into chaos and required leadership intervention. This could have subconsciously confirmed the bias that bureaucratic leadership is the best leadership method, negatively affecting managers self-efficacy, as argued by Vyakarnam (2011, pp. 113–114).

5.6. The Leadership Dilemma

There were numerous paradoxical tensions found within the case study project teams: Control vs flexibility, exploitation vs exploration, democracy vs autocracy, ROI vs customer value and OKRs vs KPIs. Leaderships consciously and unconsciously

create structural tensions that influenced the project teams and organisations as a whole.

The researcher discovered many contradictory messaging; on the one hand, customer value and innovation are essential. However, what takes precedent is developmental innovation and short-term revenue manifested in ROI and KPIs. Organisations seemingly prefer the transparency of developmental innovation within the performance engine over the ambiguity of the innovation engine. Against scholarly advice (Govindarajan and Trimble, 2010, 2018), the innovation engine was measured by the same KPIs as the performance engine. Performance engine KPIs and ROI within the innovation engine act as a catalyst in indoctrinating the innovation engine into the performance engine, before, the innovation engine was ready. Customer value and long-term organisational success lose out for the sake of short-term revenue. Leadership is giving the message that innovation is important as long as it does not affect organisational excellence or employee KPIs, Kerr (1975) explains that this contradiction is common amongst many organisations and negatively affects risk-taking and innovation. The contradiction also affects organisations when they roll out innovation initiatives, but do not commit to sustaining them, this will lead to cynicism, claims Anthony *et al.,* (2019), as evident within the start of the Sumo project when stakeholders were sceptical and non-committal to the project.

5.7. Management Uniformity

The interviews have unearthed a psychological barrier; managers want to be successful and be taken “seriously”. They have perceived dangers in failing, risk-taking and showing vulnerability in front of leadership. Diverting blame was also recognised within the interviews. The pressure of KPIs and ROI coupled with the perceived unsafe psychological environment, led to a distinct lack of creative tension, stopping employees and managers challenging leadership and expressing alternative or novel ideas. This had a negative effect on project team learning and further presses the importance of top-down bureaucratic leadership, as confirmed by a majority of scholars (Argyris, 2008; Hill and Lineback, 2011; Hill, 2014; Christensen, 2016; Edmondson, 2018; Anthony *et al.*, 2020; Hamel and Zanini,

2020). The effect this has on managers is that they ensure the organisations status quo, wherein every process, task and activity is repeatable, predictable and through KPIs and ROI, measurable.

Management literature and theory address a particular type of decision-making, which is technical, rational, political and judgemental (Stacey, 2000). Against scholarly advice (Isada and Isada, 2017; Govindarajan and Trimble, 2018; Jugend *et al.*, 2018), innovation engines management practices and climate remained the same as the performance engines. There is little integrative thinking and evidence of not having a latticework of mental models for both higher and operational problems. Which is critical for simultaneously developing developmental and exploratory innovations, explains Hagstrom (2000) and Govindarajan and Trimble (2018). Evident when exploratory type innovation project teams that use a new structure but old processes, causing problems and delays. When what is required is to create an entirely new process, structure and climate, as recommended by Govindarajan and Trimble (2010, 2018).

5.8. Climate of Developmental Innovation

Organisations execute developmental type innovation with immense efficiency (Govindarajan and Trimble, 2010). The questionnaire shows a positive developmental climate and organisations scored high in the dimension of Challenge/Involvement, and during the interview, an employee affirmed this. However, the same employee contradicted himself, beneath the surface lays an inconsistency to this dimension. Organisations are offering high Challenge/Involvement within the confines of developmental innovation, but not, in an exploratory context.

Moreover, organisations believe they are innovative because particular departments (product and technology) frequently undertake developmental type innovations; creating a fallacy that the organisation is innovative. Unaware of the spectrum of innovation, organisations are neither designed to explore or built to execute exploratory type innovations (Govindarajan and Trimble, 2010; Hamel and Zanini, 2020) and do not seek them out. Due to this fallacy of innovation, organisations do not pursue exploratory type innovations because, overall

organisations scored highly in participants perceptions of the nine dimensions of a creative climate, although the climate seemingly in the context of a developmental one. Further strengthening the inertia of the status quo towards developmental type innovation.

5.9. Understanding the Challenge

During the CPS component of Understanding the Challenge, project teams construct opportunities, explore data and frame problems. They explored the data particularly well, as all participants had undergraduate degrees or higher and essentially are trained in research. Moreover, the problems were very much of served markets and of articulated customer problems that require technical, rational, political and judgemental decision making, which is the norm within organisations and promotes single-loop learning (Argyris, 2008). However, this is counter-intuitive for exploratory type innovation that requires double-loop learning.

5.10. Generating Ideas

Majority of organisations interviewed did not have a process to structure the generation and the focusing of ideas or evaluate and develop new market opportunities. Moreover, project teams did not use tools to generate and focus ideas separately, but instead generated and focused simultaneously. Which is contrary to all theories of creative problem-solving (Parnes, 1961; Osborn, 1979; De Bono, 2000, 2016; Treffinger and Isaksen, 2005). Leading to a judgmental, self-conscious climate (Isakson, Dorval and Treffinger, 2010), suppressing employee engagement (Edmondson, 2018) and creativity (Gordon, 1961). This was evident in the UDX project, providing ideation workshops with non-judgemental climates for clients. However, failing to implement the same non-judgemental climate within the organisation, the cognitive dissonance culminated in creating a judgmental and negative creative climate, where novel ideas were not created or shared.

5.11. Innovation frameworks

Organisations use innovation frameworks (SCRUM, human-centred-design and design thinking) as they offer a clear, structured and methodical process for product development, making developmental innovation more efficient. However, if like the case study examples, the original Need is not an exploratory type Need, and if new and novel ideas are not shared due to the lack of a creative climate and the status quo, then the frameworks will not lead to exploratory type innovations (Norman and Verganti, 2014). Moreover, the Need that leadership defines does not change, further compounding that managers and employees are tools for execution. As to innovation project team members, Hamel and Zanini, (2020) argue this will further perpetuate bureaucratic leadership.

Project teams in the study had an overreliance on process innovation that was based on customer feedback. The project teams show tight coupling, leading to a better understanding of customers needs. However, negate the loose cuppling, Danneels (2003) explains this is important for agile working and discovering weak signals. Organisations who use tight cuppling process innovation may miss insights from other sources of innovation that competitors could take advantage of (Danneels, 2003; Christensen, 2016).

Leadership avoids the edge of chaos; they struggled to balance the tensions of the performance and the innovation engines. Culminating in exploratory innovation being designed using developmental methods and processes that result in developmental customer feedback.

5.12. Leadership Feedback

Leadership set the product and organisational strategy for the following year using the developmental feedback gained from management and employees, allowing employees to be involved with short-term plans. However, along with the strategy team, leadership then makes segregated decisions, failing to involve and communicate long-term strategic goals to all employees. Management and employees are essentially denied the opportunity to refute the merits of leadership

decisions. Moreover, management and employees did not get a full understanding of why the decision was made; leadership can lose the feedback loop that helps to enhance organisational learning, commitment and bottom-up innovation. Resulting in leadership failing at engaging the three E principles of Fair Process, as explained by Kim and Mauborgne (1997, 2015).

The developmental feedback loop is not restricted to just strategy; organisational leaders use the feedback to discover the Need for future products and services, resulting in an organisation stuck in a loop of developmental innovation, affirmed by Christensen and Bower (1996) and Danneels (2003).

5.13. Discussion Conclusion

Developmental and exploratory innovation barriers are symptoms of an overall cause. The cause being ignorance of the spectrum of innovation and the importance of a balanced portfolio of innovative products and services. Promoting a bureaucratic top-down leadership approach that deters intrapreneurship. Leadership creates a climate of developmental innovation; managers and employees incrementally innovate within the climate's confines, presenting and affirming the incremental results back to leadership. Resulting in a developmental feedback loop wherein leadership base their strategic decisions upon; culminating in developmental innovation, that drives the inertia towards the status quo.

6. Conclusion, Recommendations, Limitations & Reflections

The section evaluates the research as a whole, covering conclusion, recommendations, limitations of the study and recommendations for future studies. The chapter concludes with a personal reflection of the dissertation process.

6.1. Conclusion

Innovation is essential for long-term organisational success, and intrapreneurship is the method of stimulating innovation. While there are vast amounts of research related to innovation, the research specific to UK SMEs is limited. Leadership recognises the need for exploratory type innovation. However, organisations are built for developmental innovation and are failing to develop a mixed portfolio across the innovation spectrum, which includes exploratory type innovations.

The research aimed to investigate the barriers for developmental and exploratory type innovations in UK, SMEs, and the effect these barriers have upon intrapreneurship and the inertia towards the status quo.

It is concluded that the majority of the innovation barriers are not placed simply as developmental or exploratory but, are innately interlinked. Due to the paradoxes within an organisation, there are many tangible and non-tangible nuanced barriers occurring at any one time. The results indicate that the ignorance of the innovation spectrum and the requirement for a balanced portfolio, coupled with a bureaucratic top-down leadership approach, and a feedback loop that perpetuates developmental innovation, are the most significant contributing factors that negatively influence intrapreneurship and the inertia towards the status quo.

6.2. Recommendations

Davis *et al.,* (2000) and Hamel (2002) describe an ever-growing population of organisations that focus on developmental innovation. Developmental innovation may feed the organisation's requirements for short-term revenue and affirms the

fallacy that the organisation is innovative. However, this strategy will only lead to diminishing product returns (Davis *et al.*, 2000; Christensen and Raynor, 2003).

"But my organisation is in a healthy financial and competitive position; we are doing amazing" – SME CEO. The organisation may be profitable and competitive today, but, unless organisations are innovating for the future, continuously developing new products and services across the whole of the innovation spectrum, it will be forever innovating within the bloody red ocean (Kim and Mauborgne, 2015). The longer organisations swim in this ocean, the faster-diminishing returns will impact the bottom line, and developing for the future will be too late, as *"the future is now"* - Govindarajan (2016, p. 16). The literature suggests that unless an organisation is developing S-curve innovations or is disrupting, it will be disrupted (Burns, 2013; Govindarajan, 2016; Phadke and Vyakarnam, 2017).

The following section summarises higher-level recommendations for organisational leaders to develop a portfolio of innovation across the spectrum.

Recommendation 1: Organisations should first seek to understand where each of their products and services are on the spectrum of innovation.

Recommendation 2: Understanding their current offerings, organisations should consider combining the Seven Sources of Innovation (Drucker, 2002) with the innovation spectrum, deliberately and systematically filling gaps within their innovation portfolio.

Recommendation 3: It would be advantageous for organisations to embrace ambiguity, seek out weak signals and experiment within the innovation engine, with the essential KPI being learning (Hill, 2014; Govindarajan and Trimble, 2018).

Recommendation 4: Organisations may consider developing a reflection tool to challenge their assumptions, processes and implement planned, strategic abandonment (Drucker, 2008; Govindarajan, 2016).

Recommendation 5: In a psychologically safe environment engage the three E principles of Fair Process (Kim and Mauborgne, 2015).

Recommendation 6: Bottom-up innovation**,** encourage employees to develop products and services, by rephrasing the question, do not ask “how do we get employees to better serve the organisation?” instead ask “What sort of organisation elicits and merits the best that employees can give?” (Hamel and Zanini, 2020).

6.3. Limitations

The findings of this study have to be seen in light of its limitations:

Personal Bias: The Researcher is not an impartial bystander in research (Thomas, 2013). In qualitative research of this nature, researcher’s biases can affect the analysis of results. I quickly became aware I was reading barriers into the text where there were none. This could have been avoided with a more, reflective approach to data analysis.

Lack of experience: First academic work since my late-teens, and my first research paper. I tried to prepare myself by conducting an early literature review. However, upon reflection, there were many areas I could have improved on, such as stricter milestone deadlines. Furthermore, Interviewing and analysing the results right after. Both to save time and better prepare me for a more informed interview with the next participant.

Sample and Selection: The richest data source was from IGI, two project teams from one organisation, five participants that spanned the organisation’s hierarchy. Although there were some valuable insights discovered from the other project teams, interviewing one manager from one organisation or two leaders of another did not yield the best results for a study of this nature. Time spent on these projects would have been better served interviewing one other organisation with two innovation projects and multiple members within the projects.

The size of the case study organisations varied between 17–187 employees. Small and mid-sized enterprises have their own challenges. Although, the three research questions were answered, the difference in the organisations' size caused a lack in depth when exploring the barriers of innovation. For instance, small

enterprises struggle more with slack time and resource allocation. Mid-sized enterprises have more innovation projects, but their challenge is to develop an exploratory climate. For future research, it would be advantageous for research to focus on either small or mid-sized enterprises.

None of the projects were genuinely exploratory, as they were serving a served market with articulated problems. However, the group of case studies was sufficient to answer the research question, focusing on a truly exploratory project may yield different results.

Interview: The interview questions were broad, too many questions that covered too many areas, breadth, but not enough depth, leaving little time for follow up questions. In the future, I would consider having two interviews per participant to really understand the answers, this would also strengthen the ethnography approach.

6.4. Recommendations for Future Research

A relatively one-dimensional study on a topic that is in fact, multifaceted. To varying degrees, the researcher accomplished what he had set out to do, in meeting the objectives and answering the three research questions.

The study did not capture enough data from different perspectives from members of the developmental or exploratory project teams. It would be recommended for a richer dataset to interview multiple employees, managers, and leaders of developmental and exploratory projects within one organisation and do this with many mid-sized organisations. Two interviews; the research could be expanded by first focusing on Need discovery and the seven sources of innovation, then focusing on the innovation processes.

It would be advantageous for future research to develop a mechanism to track an organisation’s current offering, and where the offerings sit on the spectrum of innovation. Alongside the seven sources of innovation and the CPS framework, the mechanism could also work as a strategic planner to develop future innovations. Supporting mid-sized enterprises to develop a vibrant innovation portfolio across the spectrum of innovation.

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