Ingredients for Success: Developing Innovation Management Practices

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Abstract

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The main objective of this thesis was to find out and make recommendations of front-end innovation management practices for the commissioner. The commissioner updated its innovation strategy to increase added value of its products and strengthening the value creation capabilities of the company's own brands. Part of this development work was also to develop process related to innovation management.

The theoretical framework consisted of various aspects of innovation. While the focus of this thesis was in the front-end of innovation, the theoretical framework addressed innovation from the perspective of organizational capability to innovate, innovation as competitive advantage, individual creativity and organizational innovation, and how culture and leadership affect creativity and innovation. The research strategy selected was case study and the methods used during development work to gather data consisted of observations and surveys. The empirical part of the thesis was started in April 2022. The development method selected was a collaborative idea generation workshop, which was held in October 2023.

The development work of this thesis was started by generating understanding of the current state of the commissioner's innovation process. From the current state analysis, a focus area was selected for further development. The development work focused on implementing practices to the front-end of innovation to support commissioner's success in implementing its innovation strategy. Without creative ideas there is nothing to implement, and without organizational features such as management practices, creativity will starve.

Based on the results, it is obvious that the commissioner's current practices do not support individual creativity or organizational innovation. The organization is siloed, and ideas are not either shared or processed together. Lack of resources such as time, tools and budget inhibit creativity of individuals. The lack of clear goals hinders creative and innovative efforts, as well as deficiency in defined roles and responsibilities around creativity and innovation create unnecessary obstacles. Culture does not encourage employees to creativity, and creativity and innovation are not considered as a shared value of the organization.

In the conclusions section, practices for improving the front-end of the process are presented from the perspective of the theoretical framework and development work. The practices include collecting ideas from across the organization in a mutually agreed manner. Ideas are shared and processed together, and leadership encourages personnel to creativity. By defining ownership and clear goals for the process, creative efforts support the competitive advantage of the company. Finally, creative work is resourced adequately to support the whole process from start to finish. By implementing these practices, the organization strengthens its innovation strategy which will eventually support the company's overall business strategy.

Keywords
Creativity, innovation, strategy, idea culture

Table of Contents

1 Introduction

License to fail, experimentation, psychological safety, openness, and risk taking are values and practices that can be associated with innovative organization cultures. Innovation and innovativeness being a hot business topic, these themes are well known and attributable to many innovative firms. While these are desired by many, only few companies succeed in implementing them with shown track record. Businesses rarely succeed by coincidence and the visible success the public sees is an outcome of deliberate actions to innovate.

Why is innovating so hard then? Surely, many of us have a range of innovative ideas on our minds and some companies might even have a supportive culture for innovating. However, it is the practices to innovate that many companies lack in comparison to their rivals. Success in business requires customer-oriented approach to making business, identifying, and defining business processes and, good leadership. Innovation does not pop out of nowhere, instead it requires systematic, disciplined, well managed organization and it needs to be strategically aligned throughout the company. A systematic approach to innovation might guide many companies in identifying gaps in their innovation capacity and evaluating the results of their innovative processes.

Innovation has been widely accepted as key contributor to business success (Porter, 1985). Food business, although lately largely driven by cost management, is no different from other business areas in this sense. Food producing companies are under pressure from globalization, regulative and nutritional requirements as well as from customer demands for quality, variety of choice and convenience. Technological advancements in biotechnology, packaging technology and processing technology have opened new ways to fulfill these needs. While cost management is still vital, innovation processes play a key role in aligning companies with consumer trends and on the other hand, ensuring that companies remain competitive also in the future.

1.1 Background

I have been working at HKScan for little over three years. Although my main responsibilities are within the quality organization, I have had the opportunity to see how the commercial organization, including product development develops new products to the market. My motivation to start studies at Haaga-Helia was to get more understanding on business development and commercial topics. Considering my previous working history in R&D, it was natural for me to ask for thesis topic from HKScan’s product development organization.

While I have my own experience from R&D (and innovation) work, the way HKScan develops new products is something different. While I may not fully know the process even today, I was openly

welcomed to workshops initiated in 2022 that aimed at developing an innovation strategy for HKScan, supporting the company's strategy in becoming a versatile food company. One of the themes of these workshops was to improve the innovation culture of the company, focusing on openness of the culture and making efforts to improve the "front-end" of the innovation process by creating processes for ideating and taking these ideas to further concepts.

From these workshops I was assigned with a development objective and supervisor from the commissioning organization.

1.2 Objectives and demarcation

The main objective of this thesis is to find out and make recommendations of front-end innovation management practices for the commissioner. Focus on the front-end was selected as the commissioner wishes to improve not only its whole innovation process, but especially the underlying creativity culture and its processes.

To be able to fulfill the objective defined for the thesis, following research questions should be answered:

Question 1: What influences creativity and innovation in organizations?

Prevailing organizational culture affects the creativity of individuals and organizational innovation. Researching creativity and innovation in organizations provides a comprehensive understanding of the factors that drive innovation, enabling the design of practices that are tailored to the needs of the commissioning organization.

Question 2: How are the existing innovation management practices within the commissioning organization perceived?

Answering this research question provides context, insights, and data to create a tailored and effective approaches that drive innovation within the organization. Under this question, I aim to generate understanding of the gaps and opportunities the organization faces, and it will also help in avoiding duplication of efforts already made to the process. This research question will investigate the whole innovation process, not just the early stages.

Question 3: What are the common challenges or barriers faced by the organization in the front-end of innovation?

This research question is justified by the need to understand specific pain points in the process and to engage stakeholders in involvement and support in developing the management practices.

Question 4: What kind of practices should be implemented into the front-end of the innovation management process to make it more efficient?

Answering this question finally provides understanding about how the impact and success of innovation efforts could be improved in the commissioning organization. It directly contributes to ensuring that innovating within the organization is driving force for growth and competitiveness.

The thesis focuses on introducing topics of creativity and innovation, how these are interlinked and how they should be managed. I will also try to give the reader an understanding how strategy, organizational culture and innovation management are interconnected elements that influence and reinforce one another.

With regards to demarcation, this thesis will not be able to provide a complete innovation management system for the commissioner apart from theoretical perspectives. As this thesis focuses on the innovation culture, front-end of innovation and practices of ideating, the later stages of innovation process are left outside the scope of this thesis.

1.3 Research strategy, approach and methods

The research strategy for this thesis is case study. Case studies are most appropriate when the purpose is to understand an organization's situation and the task is to solve a problem that the organization has perceived or alternatively, produce suggestions for development by doing research (Ojasalo, Moilanen and Ritalahti, 2022). A case study usually gives answers to the questions "why?" and "how?". The case is studied by considering the local and social situations and connections at the time. The purpose is to produce new knowledge to support development work. It is typical for case studies that several different data acquisition methods are used, as the purpose is to gain an in-depth understanding of the case (Ojasalo et al., 2022).

Creativity and innovation are complex topics and versatility of research methods is required. Also, solutions that might work in practice are not born as the results of transferring and applying information as new solutions, and thus collaboration and mutual understanding among participants is required (Ojasalo et al., 2022).

Observation of the ongoing workshops is one of the data generation methods. Observing actual workshops is in some cases more effective than surveys or making interviews. I was involved in several workshops and will try to summarize the findings from those workshops in this thesis. These findings will aid in understanding the current state of the innovation process.

Surveys are used in this thesis to understand the current state of the innovation process of the commissioner. They are appropriate in situations in which the subject is already known to certain extent. Both qualitative and quantitative data can be generated by surveys by designing them carefully (Ojasalo et al., 2022).

Collaborative idea generation methods, such as workshop or brainstorming sessions will also be used. For these methods, it is typical that several people create together new viewpoints by applying creative methods. The purpose is to generate as many ideas as possible and record them (Ojasalo et al., 2022).

1.4 Structure of the report

This thesis consists of seven chapters. The first chapter is an introduction to the topic, the commissioner, the background, and objectives of the thesis. Chapters two to four provide a theoretical framework for the thesis:

- How an organization's resources and capabilities are linked to innovation, and to its competitive advantage.
- Creativity and innovation processes in organizations.
- Innovation management.
- Innovation culture and leadership as innovation enabler

Chapter 5 will present the methods of the development work and chapter 6 will present the results of the development work. In the final chapter (7) I will conclude the results of the development work and provide a discussion about the development work and possible further development tasks that were outside the scope of this thesis.

1.5 Commissioner

The commissioner for this work is HKScan Finland Oy, which is subsidiary of HKScan Oyj. The company's home markets are Finland, Sweden and Denmark and it employs about 5400 professionals. The core business includes meat, meat products and ready-made foods, such as meals, meals components and snacks. HKScan's brands are HK®, Kariniemen®, Via®, Scan®, Pärsons® and Rose®. HKScan is a publicly listed company and in 2022 its net sales were over 1.8 billion €. HKScan's long term strategic target is to grow into a versatile food company and in the current exceptional and rapidly changing operating environment innovations and product development are key factors in improving profitability of the company's core business (HKScan).

The company is renewing its innovation strategy to increase added value of products and strengthening the value creation capabilities of the company's own brands. Part of the innovation strategy

are also partnerships to seek new growth and seize business opportunities to drive the company strategy. These partnerships offer the company the opportunity to move into new business areas quickly and flexibly.

As written above, the company has been drafting its innovation strategy and part of this development work is also to develop process related to innovation management. Whereas idea culture has its significant part driving the company's innovation strategy, fulfilling the strategic goals and taking full advantage of partnerships and ideas requires also effective management of innovations. This thesis focuses on the idea culture and the company has identified that it wishes its innovation culture to be rich on new ideas, active in innovating, strong in external partnerships, be experimental and continuously learning and have a strong entrepreneurial mindset free from restricting existing frameworks.

Innovation is paramount for food business operators as it drives growth, competitiveness, and customer satisfaction in an ever-evolving industry. Embracing new technologies, culinary techniques, and sustainable practices not only enables businesses to stay ahead of the curve but also allows them to meet changing consumer demands. This could involve developing novel food products that cater to emerging dietary trends or employing advanced food processing methods to enhance flavor and nutritional profiles. Additionally, innovation in supply chain management and distribution channels can lead to greater efficiency and cost-effectiveness. Moreover, in an era of heightened awareness regarding health and sustainability, innovative practices can help businesses reduce their environmental footprint and provide healthier, more responsible food options. By embracing innovation, food business operators position themselves as leaders in the industry, creating a stronger brand identity and building lasting customer loyalty. Ultimately, innovation is not just a competitive advantage; it's a fundamental driver of success in the dynamic world of food business.

While this thesis cannot elaborate on all aspect of innovation management, hopefully the results will be linked to the innovation management process the company one day implements in its daily operations.

2 Strategy and innovation management

There are several definitions for strategy. Usually, strategy can be considered as a plan of actions and patterns that direct the organization towards predefined goals and objectives (Mintzberg, 1996). Whatever the definition, the core idea of strategy is about being different, or *unique*, in some way to gain competitive advantage. Strategic decisions take place on multiple levels of the organization and affect different aspects of the organization's tasks.

Innovations then, as Van de Ven (1986) described from organizational effort's perspective "while the invention or conception of innovative ideas may be an individual activity, *innovation (inventing and implementing new ideas) is a collective achievement*".

Firms can use innovation strategically to achieve competitive advantage, compete effectively in local and global markets and adapt their strategy to changing markets and customer demands (Keupp, Palmié and Gassmann, 2012). In the classical Schumpeterian definition, innovations are either radical or incremental. Those innovations that shape the world are "radical", whereas those innovations that fill the gaps in the process of change are "incremental". Schumpeter (1934) continued to propose further innovation types:

- Introduction of a new product or a qualitative change in an existing product
- Process innovation new to an industry
- The opening of a new market
- Development of new sources of supply for raw materials or other inputs
- Changes in industrial organization

2.1 Resource-based view on strategy

The quest for competitive advantage has been a central piece of strategy for decades. However, the focus *where* the competitive advantage rises has changed through time. Hamel and Prahalad (1994) introduced the idea that competitive advantage is an inherent feature of a firm through firm's core competencies. Core competencies are a bundle of skills and technologies that enable a company to seek competitive advantage by providing increased benefits to customers. These core competencies are the sum of learning across individuals' skills sets and individual organizational units.

Certain strategic factors like organizational size (big market leaders are able to produce more data from large number of production), access advantages (to resources or customers because of investment barriers to entry), product or operational protections (e.g., patents), technology, brand identity, organizations workforce and culture, capital resources, managerial control and integration

can also be regarded as sources of competitive advantage (Clardy, 2007). To summarize the aforementioned factors, one could say that core competencies refer to the ability of the firm to deliver the best it can and therefore core competencies are critical strategic tool in understanding the foundation of competitive advantage (Enginoglu and Arikan, 2016).

According to Prahalad and Hamel (1990), core competence must make a significant contribution to customer benefits, it should be inimitable and difficult to imitate, and it should have access to different marketplaces. Barney, Wright and Ketchen (2001) argue that the resources and capabilities (competences) that are valuable, rare, imperfectly imitable, and not substitutable (VRIN) are the source of sustainable competitive advantage of a firm. Later, the non-substitutable aspect of the resource was further developed by assessing whether the firm is *organized* to be able to capture the value of the resource it possesses (VRIO). Firms cannot be best at everything, and most firms usually have only a few core competencies. Apple's design competency, McDonald's cost control competency, Wal-Mart's customer information management, Zara's short time-to-market and 3M's expertise in adhesives are prime examples of core competencies (Kothandaraman and Wilson, 2001). Similarly, innovation can be considered as a core competency of a firm (Tucker, 2001).

How can core competencies then be acquired or developed? In general, resources vary in quality and availability for a firm. As a firm cannot utilize all the possible resources at the same time, only certain resources can effectively be turned into capabilities that return high value to the firm. In time, the firm accumulates experience in these specific areas and consequently, these areas of high expertise can be transformed into valuable competencies through deliberate investments. Through these investments competencies are turned into core competencies, and thus, core competencies can be said to be built on continuous and deliberated investments and accumulation of experience (Javidan, 1998).

2.2 Dynamic capabilities

Firms can be considered possessing "ordinary capabilities" like efficient manufacturing, effective marketing, strong partnerships, and capable operational leadership. These capabilities are critical for companies in their current environments as they are the cornerstones of the production and sales of their current set of products and services (Schoemaker P. and Heaton S., 2018). However, possessing ordinary capabilities is not sufficient in sustaining competitive advantage in conditions that can be attributed as volatile, uncertain, complex and ambiguous (VUCA). Teece (2007) introduced a dynamic capability framework that assists in understanding how certain firms build competitive advantage in times of rapid change, especially in the world of innovation-based competition. Dynamic capabilities can also be considered as the organizational and strategic routines, by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.

Barney (2001) also highlights the importance of firm's agility in gaining competitive advantage through dynamic capabilities:

> "To the extent that nimbleness, the ability to change quickly, and alertness to changes in the market are costly for others to imitate, these abilities can be a source of sustained competitive advantage. This competitive advantage will continue as long as the ability to be nimble, change quickly, and to be alerted to changes in the market are economically valuable, that is, as long as the competitive environment continues to change rapidly."

This ability to achieve new forms of competitive advantage is "dynamic" in a sense that capacity to renew competences to achieve congruence with changing business environment, generate innovative responses, adapt to rapid technological change and whenever competition and markets are difficult to determine. "Capabilities" refers to strategic management practices in adapting, integrating and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment (Teece, 2007).

Innovation management can be seen as dynamic capability of a firm. Such capability may help firms not only to be aware of environmental changes (market and technology) but also to learn new abilities and skills for innovation (Teece, 2007). Consequently, as innovation management can be systematized it is apparent that it may lead to faster adaptability and to application of changes that may increase competition's difficulties in imitating the company's VRIN resources and thus maintain or enhance the competitive advantage of the firm by implementing innovation routines (Eisenhardt & Martin, 2000). Similarly, innovation management can be considered as a form of organizational capability, one which efficient companies invest and nurture to be able to execute effective innovation processes (Mir, Casadesus and Petnji, 2016).

In organizational context, dynamic capabilities are the ability of the business to be ambidextrous, meaning that it can compete both in mature and emerging markets by exploring and exploiting. According to Tushman and O'Reilly (1997) the key success factors needed to excel at exploitation are about short-term time perspective, efficiency, discipline, incremental improvement, and continuous innovation. The alignment of competencies, systems, structure, and culture to execute this strategy is fully different from the alignment needed for exploration, where the key success factors emphasize a longer time perspective, more autonomy, flexibility and risk taking and less formal systems and control. Such ambidextrous organizational behaviors require also ambidextrous leadership. Oluwafemi, Mitchelmore and Nikolopoulos (2020) describe a model for ambidextrous leadership for innovation in Figure 1. The topic of leading innovation is examined in chapter 4.4.

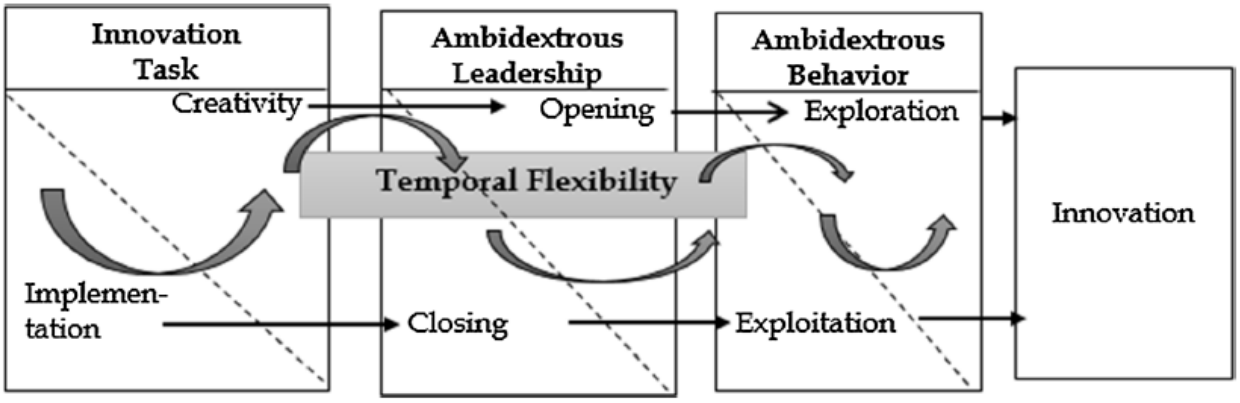

Figure 1. A model of ambidextrous leadership for innovation (Oluwafami et al., 2020).

To maximize the potential to earn more than competitive returns, businesses must combine the ordinary capabilities with dynamic capabilities that enable firms to identify profitable configurations of competencies and assets, assemble and orchestrate them and finally exploit them with an innovative and agile organization (Schoemaker and Heaton, 2018). Both capabilities are important as the former enable identification of process innovations and the latter help identifying new products and services in markets that are not yet discovered by the competition. In the dynamic capabilities framework, collection of knowledge and skills are a way to address near-future market opportunities and a viable business model (Schoemaker and Heaton, 2018). Tidd (2001) adds that, strategic management of innovation is a major contributing factor to a firm's competitive advantage and classifies different types of innovation to how they affect firm's competitive advantage (Table 1).

Table 1. Innovation and competitive advantage (Tidd, 2001)

Type of innovation	Competitive advantage
Disruptive	• Re-writing the rules of competitive game, creating a new value proposition
Radical	• Offering a highly novel or unique product or service, premium pricing
Complex	• Difficulty of learning about the technology keeps entry barriers high
Continuous incremental innovation	• Continuous movement of the cost/performance frontier

Schoemaker and Heaton (2018) also propose three pillars of dynamic capabilities; sensing change, seizing opportunities and transforming the firm, following Teece's terminology (2007); sense and shape opportunities; seize opportunities; and redeploy and reconfigure (create, extend and modify) their resource base. Sensing and shaping opportunities and threats involves scanning, search and exploration activities across markets and technologies (Teece, 2007). This requires the firm to maintain close relationships with its customers, suppliers and other partners, and to observe best practices in the industry. Seizing opportunities involves the assessment of existing and emerging capabilities, and possible investments in relevant designs and technologies that are most probable to achieve market's acceptance (Teece, 2007). Reconfiguring the resource base is the firm's capacity to recombine resources and operating capabilities (Teece, 2007).

2.3 Innovation strategy

Creating an innovation strategy is similar process to that of creation of any good general company strategy. Coming up with an innovation strategy starts with understanding and articulation of specific objectives related to helping the company achieve a sustainable competitive advantage (Pisano, 2015).

Good innovation strategies provide answers to few basic questions. First, it should answer how the innovation strategy creates value for potential customers. As Pisano (2015) concludes, if the innovation does not induce potential customers to pay more, saves them money or provides some larger societal benefits, it is not creating value. Choosing what kind of value company's innovation will create and then sticking to that is critical, because the capabilities required for each different type of innovation are different and take time to accumulate (Pisano, 2015).

Another aspect of innovation strategy should be the definition of how the company intends to capture value from its innovations. Innovations that create value quickly attract both customers and imitators. Entry of imitators into the market creates price pressure which can eventually lead to decrease in value generated. Also, a company should think of the whole value network of the innovation: if suppliers, distributors, and other companies required to deliver an innovation are dominant in the value chain, they might eventually generate enough bargaining power to capture of the innovation's value (Pisano, 2015). To counter all this, companies need to define what kind of complementary assets, capabilities, products, or services could prevent customers from defecting to rivals and at the same time defend their position in the ecosystem. Pisano continues to propose that one of the best ways to defend one's position is to keep investing in innovation – both to new designs to win new business and in process technologies to defend against low-cost manufacturing rivals.

One of the key aspects of the innovation strategy should be the definition of what types of innovations will allow the company to create and capture value, and what resources should each type receive (Pisano, 2015). This relates to the organizational capabilities of the company, but also to the innovation management within the company. While technological innovations create economic value and drive competitive advantage, more and more business model innovations are also required. Thus, the innovation strategy should also give guidance to what extent should a company pursue technological innovation (create value), how much should it invest into business model innovation (capture value) and how this all should be assembled into a feasible business model (deliver value). Pisano (2015) presents an innovation landscape map, that characterizes innovation along two dimensions; technological change and change in business model (Figure 2).

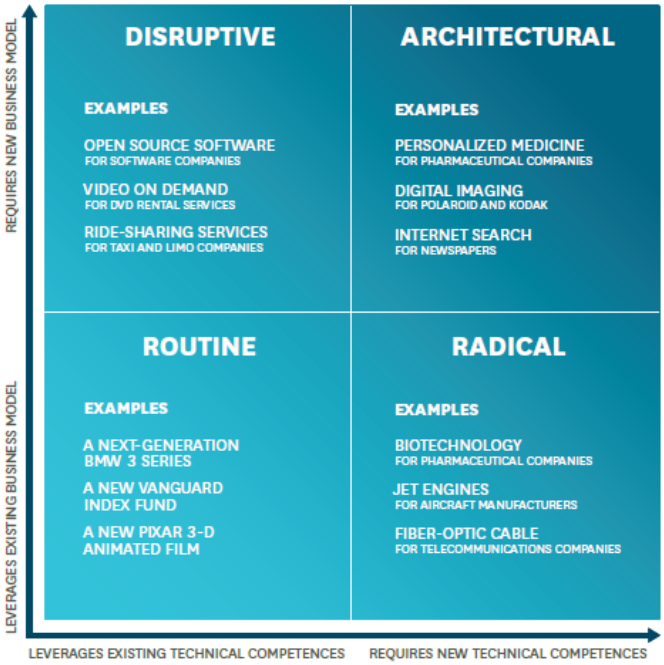

Figure 2. Innovation landscape map. (Pisano, 2015)

Routine innovation builds on company's existing technological competence, and it matches its current business model. Essentially, it serves its current customer base. *Disruptive innovation* requires new business models, but not necessarily a technological breakthrough, hence disrupting other companies' business models. *Radical innovation* is about creating technological breakthroughs. The final category of the four are *architectural innovations* which require both technological and business model disruptions and hence they are also the most demanding to pursue (Pisano, 2015).

No matter what kind of innovation the company pursues, the innovation strategy should specify how the innovation category fits into its business strategy and how should the resources be

allocated for this pursuit. While routine innovations generate most of the business profits and radical and breakthrough innovations are “trendy”, innovations can act as complements to each other and thus resource allocation is a vital step in innovation strategy (Pisano, 2015). How much a company should invest into these categories depends on the rate of technological change, technological opportunities, intensity of competition, growth rate in core markets, how customers’ needs are being met and what are the company’s strengths (Pisano, 2015).

As with any strategy, an innovation strategy should also manage trade-offs and help the members of the organization understand which practices might be a good fit for the organization. For example, popular practices such as crowdsourcing, open innovation or co-creation might be suitable practices for certain types of innovation, but not to all. This does not mean that these practices are good or bad, they are just aspects of strategy that need to be considered (Pisano, 2015). Similar weighing should be done for the processes that innovations go through: highly structured phase-gate processes are good for innovations involving known technology for a known market. When uncertainty and complexity increases, the innovation processes also require different kind of solutions that involve rapid prototyping, early experimentation and parallel problem solving through iterative cycles (Pisano, 2015).

As every innovation strategy cuts across every function of the company, it is the job of the senior management to set the innovation strategy. They must take prime responsibility of the processes, structures, talent and behaviors that guide the organization in pursuit of the innovation opportunities. Finally, as innovation strategies are set against a hypothesis, innovation strategies must evolve. They are tested against unfolding realities of markets, technologies, regulations and competitors and thus they need to evolve to stay competitive through continual experimentation, learning and adaptation (Pisano, 2015).

2.4 Innovation management

Innovation management is a critical part of a company’s management system that covers aspects such as organization, strategy, processes and assessment of innovation. However, there is unlikely to be one best way to manage innovation as industries differ in terms of sources of innovation (Tidd, 2001). Damanpour (1991) identified four factors that affect the management of innovation: type of innovation, stage of innovation, scope of innovation and type of organization. Due to this complexity, Tidd (2001) continues to suggest that the complexity and uncertainty of the environment affects the degree, type, organization, and management of innovation, and that the greater the fit between these factors, or the more coherent the configuration, the greater the performance. Haefner, Wincent, Parida and Gassmann (2021) suggest that information processing is a key component in innovation in organizations. They claim that decision making is a central activity in

innovation management, requiring information processing by the managers involved in the innovation process.

As innovation is such a broad term and considering the suggestions of Tidd (2001), companies should, instead of investing into collection of individual stand-alone efforts, focus and manage for "total innovation" (Nagji and Tuff, 2012). To manage the innovation portfolio of a company, firms should invest at three levels of innovation ambition: core, adjacent and transformational (Figure 3).

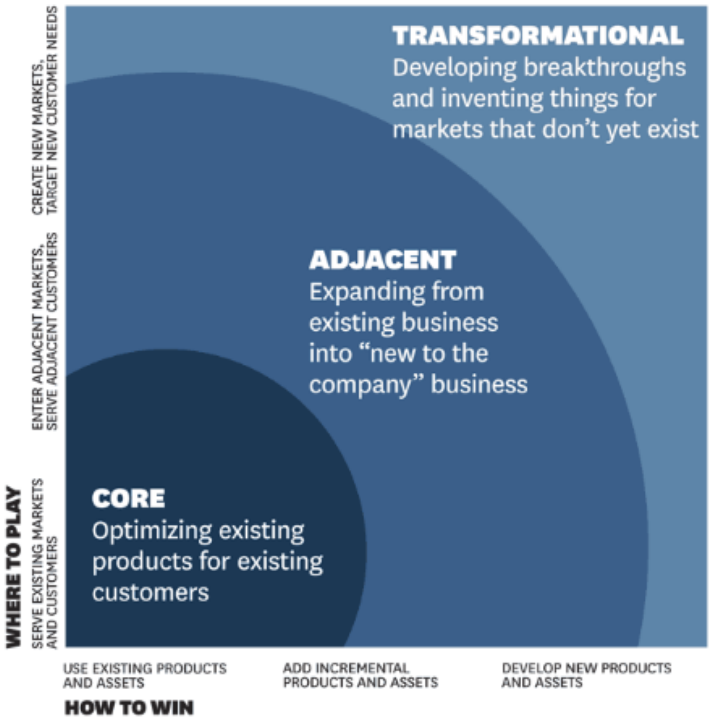

Figure 3. Innovation ambition matrix (Nagji and Tuff, 2012)

The innovation ambition matrix gives organization's managers a view on all the innovation initiatives the company is pursuing and secondly, it acts as a framework to discuss the overall ambition of the company's innovation portfolio. Managing the overall portfolio is imperative to business success, as focusing on innovations that are "achievable" for the organization will return greater benefits. Nagji and Tuff (2012) reported that companies that allocated about 70% of their innovation activity to core initiatives, 20% to adjacent ones, and 10% to transformational ones outperformed their peers. They also found that return ratio is roughly the inverse of that ideal allocation described above: core innovation efforts typically contribute 10% of the long-term, cumulative return on innovation investment; adjacent initiatives contribute 20%; and transformational efforts contribute 70%.

To serve the innovation portfolio certain key areas of the organization require management: talent, integration, funding, pipeline management and metrics (Nagji and Tuff, 2012). Understandably, the

skills needed for core and adjacent innovations are quite different from those required for transformational innovations. While the right skills are critical, they also need to be organized and managed in the right way. Also, conditions need to be set in a way that will help them succeed. For example, teams engaged in transformational innovations benefit from physical distance to the core business – without the distance they cannot escape the company's norms and expectations, which reinforce on sustaining the core (Nagji and Tuff, 2012).

While core and adjacent innovation might not require extensive funding, bold transformational innovations typically require sustained and significant investments and firms often engage in separate crowdfunding or other external funding to pursue these opportunities. With regards to financials, core and adjacent initiatives are usually measured by financial metrics. For example, net present value and ROI calculations are commonly used. Using such metrics on transformational initiatives can however kill those too early on as customer input, for example, may not be available for an idea that the world does not yet know it needs (Nagji and Tuff, 2012). As an example, could transformational initiatives be measured on the amount of *learning* the company accumulates from them?

Similarly, to manage initiatives from different levels of ambition, the company needs to manage those projects differently. Core and adjacent initiatives may succeed from simple stage-gate processes as long as the market insight is clear. Moving to transformational initiatives, the company must spend sufficient time up from exploring what's possible and constantly expand the options available in pursuit of the big idea. Obviously, such projects cannot be handled through stage-gates processes, but instead require non-linear management, in which potential alternatives remain undefined for a long period of time (Nagji and Tuff, 2012).

Innovation processes involve a huge number of choices companies need to make, from stage-gate process' decisions to decisions about how to experiment, what data to collect and how to act on findings of the processes. This complexity can lead to issues in not identifying risks, misallocation of resources and neglecting actual big opportunities. Hill, Tedards and Swan (2021) propose that engaging into agile and lean principles in decision making with regards to innovation, can lead to considerable benefits. Other authors, such as Mir et al. (2016) claim that innovation processes are essential corporate processes and must be managed to get profit from them. Standardized innovation management systems, such as ISO 56000 series, are sets of standards designed to help companies navigate the complex process of innovation, systematize their activities, and enhance efficiency of its management. However, there is also evidence about the detrimental effect of standardizing the innovation, as greater process control can disrupt level of freedom necessary for creativity and R&D processes (Mir et al. 2016). However, innovation extends beyond R&D, its products,

and processes. A management system for innovation must then address the entire innovation process and not only the quality of the R&D department. The standardized systems intend to build on this, by managing the innovation processes systematically and strategically across all departments.

Innovation management leads to innovations in new products, services, and processes, consequently resulting into superior business performance results and competitive advantage. Making innovation management systematic can also be considered as an organizational capability. As a management system, it is dynamic as it is frequently reviewed and enhanced, and it can also be considered as an organizational learning system (Mir et al. 2016). As written earlier, the ability to learn and ability to change are likely to be among the most important capabilities a firm can possess.

2.4.1 Artificial intelligence and innovation management

Management of a firm has huge role in information processing. Its role is to decide upon inputs into the process in terms of data, knowledge, and other information. The information must then be processed and analyzed. After this processing, the management has the responsibility to make decisions, for example on what kind of innovations to pursue (Haefner et al., 2021).

All the steps of the organizational information processing can be supported or taken over by artificial intelligence (AI) systems (Haefner et al., 2021). Similarly, AI can support the innovation process. Haefner et al. (2021) summarize the innovation process into three steps:

1. The recognition, discovery, creation and generation of innovative ideas, opportunities and solutions
2. The development of exploitation of various ideas, opportunities, and solutions
3. The evaluation and selection of one or several of the most promising ideas, opportunities, and solutions

As the first steps require creativity and out-of-the box thinking, it is there where Haefner et al. (2021) suggest that AI can support human decision making the most. They propose that AI can assist humans in overcoming two key barriers: *information processing constraints* and *ineffective or local search routines.* The first limits the amount of information on either new opportunities or possible solutions the firm may pursue resulting often from managers' cognitive limitations. The second limits managers' ability to search for solutions outside knowledge domains that are related to the firm's and their own existing knowledge base (Haefner et al., 2021).

Haefner et al. (2021) propose a quadrant on the possible application areas on how AI can assist humans in innovation process (Figure 4).

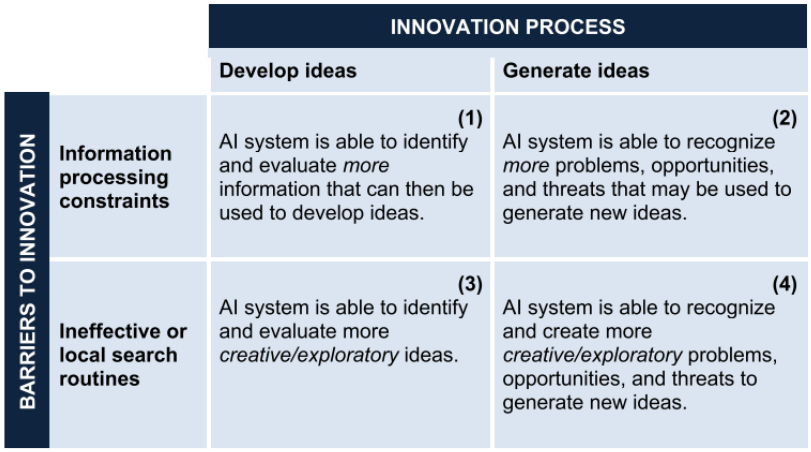

Figure 4. Application areas of AI in the innovation process (Haefner et al. 2021)

As AI systems are currently developing at huge pace, it is difficult to assess whether AI could ever replace human in innovation management. Investments in AI will generate fast and inexpensive solutions that that can result into new, and possible innovative ideas. However, the human judgment is still needed and may be difficult to replace (Haefner et al. 2021).

2.4.2 ISO 56000 family of innovation management standards

ISO 56000 family of innovation management standards consists of set of standards. At the heart of the standards is a framework that provides practical guidance that is compatible with other management systems to increase organizational understanding and value without prescribing specific actions or tools. The guidance allows for implementation flexibility. It also provides a common language and framework and durable foundation for innovation management that is widely applicable (Hyland and Karlsson, 2021).

Hyland and Karlsson (2021) propose eight innovation management principles, that can be used as a basis to guide innovation management (Table 2).

Table 2. Innovation management principles (Hyland and Karlsson, 2021)

Principle	Description
Realization of value	Value, financial or non-financial is realized from the deployment, adoption and impact of new or changed solution for interested parties
Future focused leaders	Leaders at all levels, driven by curiosity and courage, challenge the status quo by building an inspiring vision and purpose and by continuously engaging people to achieve those aims

Principle	Description
Strategic direction	The direction of innovation activities is based on aligned and shared objectives and a relevant ambition level, supported by the necessary people and other resources
Culture	Shared values, beliefs, and behaviors that encourage openness to change, risk-taking, and collaboration and enable the coexistence of creativity and effective execution
Exploiting insights	A diverse range of internal and external sources are used to systematically build insightful knowledge to exploit stated and unstated needs
Managing uncertainty	Uncertainties and risks are evaluated, leveraged and then managed, by learning from systematic experimentation and iterative processes, within a portfolio of opportunities
Adaptability	Changes in the context of the organization are addressed by timely adaptation of structures, processes, competences, and value realization models to maximize innovation capabilities
Systems approach	Innovation management is based on a systems approach, with interrelated and interacting elements, and regular performance evaluation and improvements of the system

While innovation activities can be managed largely by creating the right conditions, removing barriers, and engaging people in the organization, the ability of an organization to innovate is also dependent on several interconnected factors such as leadership, resources, culture etc. Especially managing radical or breakthrough innovation can be a true challenge for an organization as ways of working, business models and organizational culture might pose barriers to change. An innovation management system requires an innovation strategy driven by an emergent innovation or strategic intent (as in intent to design an innovation strategy) that sets a direction for an uncertain future. Thus, Hyland and Karlsson (2021) propose that an innovation management system might be a solution to address any organization's innovation challenges. Within the context of the ISO 56002 they propose seven different elements for the management system (Table 3)

Table 3. Elements of ISO 56002 innovation management system (Hyland and Karlsson, 2021)

Element	Description
Context	The organization should track external and internal issues and trends, e.g., user preferences, technology developments, and internal capabilities, to identify opportunities and challenges that can trigger innovation activities.
Leadership	Based on the understanding of the context, top management should demonstrate leadership and commitment by establishing an innovation vision, strategy, and policy, including the necessary roles and responsibilities.
Planning	Innovation objectives, organizational structures, and innovation portfolios should be established based on the direction set by top management and the identified opportunities and risks.
Support	The support necessary for innovation activities should be put in place, e.g., people with the right competences, financial and other resources, tools and methods, communication and awareness creating activities, as well as approaches for intellectual property management.
Operations	Innovation initiatives or projects should be established in line with the strategies and objectives. Innovation processes should be configured according to the types of innovations to be achieved and include the following generic innovation activities: identify opportunities, create and validate concepts, and finally develop and deploy solutions.
Evaluation	The performance of the innovation management system should be regularly evaluated to identify strengths and gaps.
Improvement	Based on the evaluation, the system should be improved by addressing the most critical gaps with regards to the understanding of the context, leadership, planning, support, and operations.

2.5 Innovation types

While the types of innovation Schumpeter proposed in 1934 (see chapter 2.) may be the traditional way of categorizing innovation, narrow view on innovation can lead to systematic erosion of competitive advantage, resulting firms resembling each other over time. Best practices are copied, companies pursue same customers using undifferentiated capabilities and processes, and in

technology-based industries firms focus on product R&D. All this leads to companies coming up with the same innovations. Sawhney, Wolcott and Arroniz (2006) propose that firms should look more broadly into business innovations and adapt a new definition of business innovation as “the creation of substantial new *value* for customers and the firm by creatively changing one or more dimensions of the business system”.

Sawhney et al. (2006) present an innovation radar that consists of 12 dimensions of business innovation at the center of the radar are the anchors of the offerings that the company creates, the customers it serves, the processes it employs and the points of presence it uses to take its offerings to market (Table 4).

Table 4. Dimensions and definitions of the innovation radar (Sawhney et al. 2006)

Dimension	Definition
Offerings	Develop innovative new products or services
Platform	Use common components or building blocks to create derivative offerings
Solutions	Create integrated and customized offerings that solve end-to-end customer problems
Customers	Discover unmet customer needs or identify underserved customer segments
Customer experience	Redesign customer interactions across all touch points and all moments of contact
Value Capture	Redefine how company gets paid or create innovative new revenue streams
Processes	Redesign core operating processes to improve efficiency and effectiveness
Organization	Change form, function or activity scope of the firm
Supply chain	Think differently about sourcing and fulfillment
Presence	Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers

Dimension	Definition
Networking	Create network-centric intelligent and integrated offerings
Brand	Leverage a brand into new domains

The different dimensions, or types of innovation can help companies in gaining competitive advantage. Most firms' innovation strategies are the results of inertia (this is what we've always innovated on) or industry convention (this is how everyone innovates). However, identifying and pursuing neglected innovation dimensions can have a big impact on competition and leave competition to distance, as each dimension of innovation requires a different set of capabilities that can be hard to imitate and acquire in a short time span. The innovation radar can help firms evaluating how their current innovation strategy stacks up against competition and maybe even find new uses for their offerings. For example, Apple's iPod attacks not only the offerings and platform dimensions, but also the supply chain (content owners), presence (portability of customer's media library), networking, value capture (iTunes), customer experience and brand dimensions (Sawhney et al. 2006)

2.6 Measuring innovation

To benchmark best practices for various business activities or evaluate progress towards a desired goal, including innovation, various performance indicators are used. A performance indicator becomes a key performance indicator (KPI) when there is a rationale for understanding that what is being measured contributes directly to achieving the strategic goals of a company (Nappi and Kelly, 2022).

For innovation, several KPIs can be used to measure innovation outputs. For example, number of new products and revenue. Other indicators measure number of patents and other indicators from the front-end of innovation such as ideas generated. Riskiness of innovation portfolio can be evaluated by measuring the investment balance between high-risk vs. low-risk projects (Nappi and Kelly, 2022). Not always is measuring innovation straightforward, as for example patenting may be driven by tactical motives, such as an improved bargaining position in licensing negotiations, and thus may not be directly related to the firm's innovatory activities. Also, not all inventions are patentable (Keupp et al., 2012). As the innovation landscape is rapidly changing, companies need new performance indicators for innovation – consider measuring knowledge management, openness of innovation, servitisation or sustainability of innovation (Nappi and Kelly, 2022).

In general, performance indicators can be hard or soft, quantitative, or qualitative or they can differ in terms of addressing the innovation process. Leading performance indicators are indirect determinants of process outcomes (e.g., clear innovation roles) and lagging performance indicators refer directly to results (e.g., new product sales). In general, leading indicators are more valuable as their use enables managers to act on the course of ongoing activities (Nappi and Kelly, 2022).

Hansen and Birkinshaw (2007) present the innovation process as a three-stage value chain with corresponding performance indicators. The three stages are idea generation, idea development (conversion) and the diffusion of the developed concepts. In each of these stages, managers must perform six critical tasks – internal sourcing, cross-unit sourcing, external sourcing, selection, development and companywide spread of the idea. Each of these are vital tasks in the value chain and management must pay attention to both those that the company excels in, and conversely to those that the company struggles with. For example, a company that generates creative ideas constantly does not necessarily need more brainstorming sessions, but rather increased focus and effort in commercial skills and more funding for high-risk projects that will eventually lead to new technologies (Hansen and Birkinshaw, 2007). This value chain and corresponding performance indicators are presented in Table 5.

Table 5. The innovation value chain (Hansen and Birkinshaw, 2007)

	IDEA GENERATION			CONVERSION		DIFFUSION
	IN-HOUSE Creation within a unit	**CROSS-POLLINATION** Collaboration across units	**EXTERNAL** Collaboration with parties outside the firm	**SELECTION** Screening and initial funding	**DEVELOPMENT** Movement from idea to first result	**SPREAD** Dissemination across the organization
KEY QUESTIONS	Do people in our unit create good ideas on their own?	Do we create good ideas by working across the company?	Do we source enough good ideas from outside the firm?	Are we good at screening and funding new ideas?	Are we good at turning ideas into viable products, businesses, and best practices?	Are we good at diffusing developed ideas across the company?
KEY PERFORMANCE INDICATORS	Number of high-quality ideas generated within a unit.	Number of high-quality ideas generated across units.	Number of high-quality ideas generated from outside the firm.	Percentage of all ideas generated that end up being selected and funded.	Percentage of funded ideas that lead to revenues; number of months to first sale.	Percentage of penetration in desired markets, channels, customer groups; number of months to full diffusion.

3 Creativity and Innovation process

Generating creative ideas and turning them into innovations is key for competitive advantage. In literature and public context, innovation has several definitions, some relating more to tangible products and services, some to business models. For example, Damanpour (1991) defines innovation as a new product or service, a new production process technology, a new structure or administrative system, or a new plan or program pertaining to organizational members. Subramaniam and Youndt (2005) take note of the organizational capabilities in creating innovations: “Innovations are about identifying and using opportunities to create new products, services, or work practices.”

3.1 About creative ideas and innovation

Creativity and innovation are often used interchangeably, but as Amabile and Pratt (2016) put it:

> “We view creativity and innovation as different parts of essentially the same process, when innovation is understood as organic (arising from activities within the organization) and not as externally acquired innovative products or services (arising from mergers and acquisitions).”

They continue defining creativity as “the production of novel useful ideas by an individual or small group of individual working together” and subsequently innovation as “the successful implementation of creative ideas within an organization”. Baer (2012) writes that individual innovation refers to the “development and implementation of new ideas by people who over time engage with others within an institutional context.” According to Baer (2012), creativity can be viewed as the first stage of an innovation process, and it refers to the development of ideas that are both novel and useful. Idea implementation then describes the process of converting these ideas into new and improved products, services, or ways of doing things. Anderson, Potocnik and Zhou (2014) write, that creativity occurs not only in the early stages of innovation processes but rather in a cyclical way throughout the process of idea generation and implementation. While the creativity part of the process, the front end, has often been termed as the “fuzzy front end”, the whole innovation process unfolding over time is messy, reiterative, and often involves forward, backward and side steps.

New ideas and practices implemented in an organization are usually generated by the employees of that organization. However, idea generation by employees in that particular organization is not a prerequisite for innovation as new ideas and practices may also be generated by employees outside of the organization. If an employee intentionally introduces and makes an attempt to apply a new idea, method, or practice, he or she is said to engage in innovation (Anderson et al., 2014).

Stepping aside from these general definitions, it is important to note that creative ideas and innovations are subjective constructs, and they are socially bound by historical time and place; what is perceived as new varies as a function of what already exists (Amabile, 1982). According to George

(2007), what is useful might vary; what is useful and creates value for one stakeholder group might harm one or more other stakeholder groups. Creative ideas and innovations are also value-free; a creative idea may be useful towards either an evil aim or morally good aim, and similarly an innovation could do harm or good (or both). According to Anderson et al. (2014), creativity and innovation can occur at any level of the organization, be it the level of the individual, work team, organization, or at more than one of these levels combined but will eventually result in identifiable benefits at one or more of these levels.

3.2 Components of creativity and innovation

While individual creativity and organizational innovation go hand in hand, work environments have an impact on creativity components. Amabile and Pratt (2016) present the major components to individual or small team creativity and to organizational innovation. These are: *basic resources or raw materials, a set of processes or skills combining them in new ways and a driver*. As the model is called dynamic componential model of creativity and innovation, it further theorizes that the two processes are inextricably linked, and that the creativity of individuals feeds organic innovation within organizations. As the authors put it, without creative ideas there is nothing to implement. They further theorize that employee creativity relates to overall job performance and that organizational features such as management practices feed or starve individual creativity.

At the model's individual level, the driver to generate creative ideas is intrinsic motivation to do the task. The basic raw materials are skills in the task domain: expertise or actual knowledge about the domain, technical skills for doing work or advancing one's knowledge. Individual creativity relevant processes (creative thinking skills) are then used to combine the raw materials in new ways (Amabile and Pratt, 2016). These include cognitive styles, thinking skills in taking new perspectives on problems, pivoting among different ideas, thinking broadly and making new unusual associations. Other traits the authors propose are personality processes, traits and characteristics that the lead the individual to take risks and eschew conformity, and persistent energetic work styles (Amabile and Pratt, 2016). Figure 5 summarizes the individual creativity and organization innovation components.

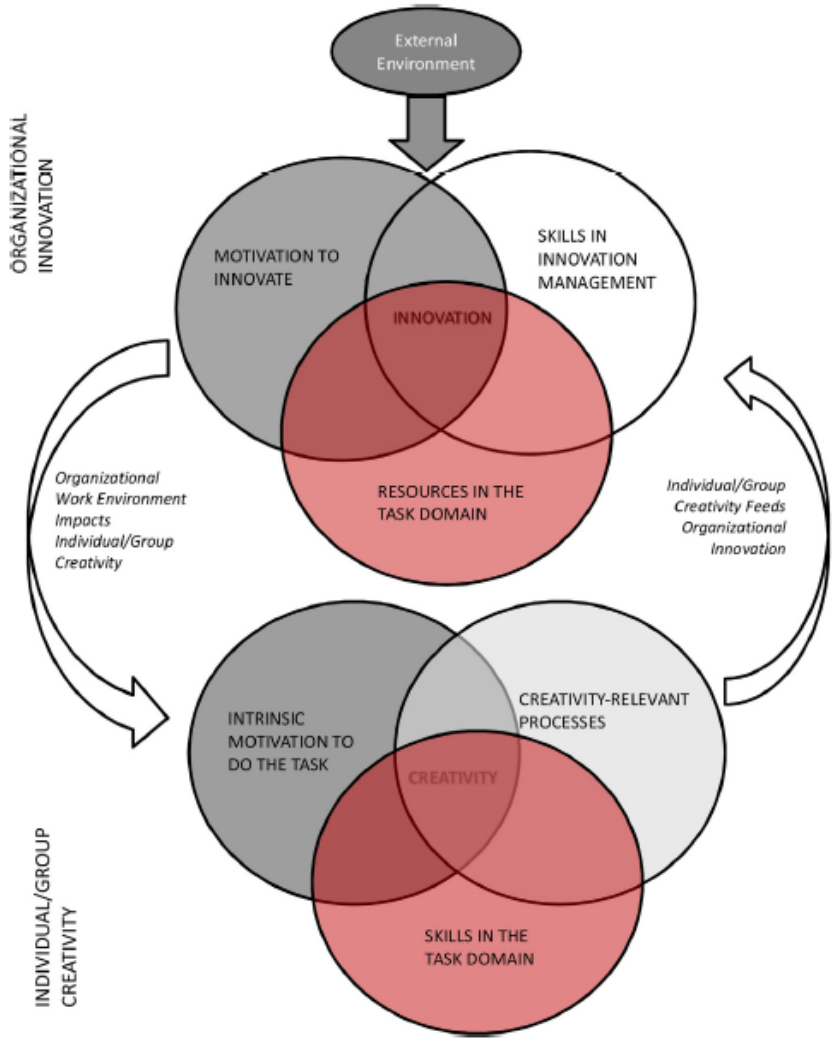

Figure 5. Components and interaction of individual creativity and organizational innovation. (Amabile and Pratt, 2016)

The components at the organizational level are analogous to the components of the individual creativity; the driver being the true motivation to innovate. By true motivation, the authors mean an organization bias to risk-taking, genuine openness to new ideas, a system for developing creative ideas and, an offensive strategy of leading the organization into the future (Amabile and Pratt, 2016). The basic resources or raw materials at the organizational level are resources in the task domain which aid the organization in creative work: people with sufficient expertise, skill and interest; financing for innovative projects; sufficient infrastructure and access to necessary information. The authors also highlight sufficient time to explore creative solutions and implementation of solutions as an organizational resource. Skills in innovation management are then used to combine these raw materials in new ways. These skills include management practices at all levels of the organization; goal setting to direct work towards strategic goals at the same time allowing individual creativity, work assignments that are positively challenging and match individuals' interests, open

communication systems within the organization including feedback systems, equitable and generous rewards, absence of unnecessary hierarchy, and supportive collaboration across the organization (Amabile and Pratt, 2016). According to Amabile and Pratt (2016) all elements of this work environment can be moderated by managerial work, and they can affect individual creativity in positive or negative ways (Table 6).

Table 6. Work environment components and their effect on creativity (Amabile and Pratt, 2016)

Organizational innovation component	Creativity stimulant	Creativity obstacle
Motivation to innovate	• Clear organizational goals • Value placed on innovation • Support for risk-taking and exploration	• Unclear / shifting organizational goals • Disinterest in new undertakings • Overemphasis on the status quo
Resources in the task domain	• Sufficient resources • Sufficient time	• Insufficient resources • Insufficient or over-abundant time
Skills in innovation management	• Clear project goals • Autonomy in meeting project goals • Mechanisms for developing new ideas • Participative decision-making • Frequent, constructive feedback on new ideas • Work assignments matched to skills & interests • Equitable, generous reward & recognition for creative efforts • Collaboration & coordination between groups	• Unclear / Shifting project goals • Constraints in how to meet project goals • Harsh evaluation of new ideas • Hindrance of the work • Ignoring or overreacting to problems • Restricted idea flow

Organizational innovation component	Creativity stimulant	Creativity obstacle
	• Help with the work • Learning from problems • Open idea flow	

Subramaniam and Youndt (2005) highlight that an organization's capability to innovate is closely tied to its intellectual capital, or its ability utilize its knowledge resources.

3.3 The individual creativity process

Creative processes require some kind of starting force to initiate. This force can be an individual's intrinsic motivation to solve a problem or take on an opportunity. On the other hand, the starting force can be an external one, such as an assignment from individual's group or manager. The first stage in the individual creative process, according to Amabile and Pratt (2016) is called *task presentation* and it involves the identification of the goal or problem. To effectively solve a problem the individual needs knowledge, skills and specific information to tackle the problem. In the *preparation* stage, the individual prepares to successfully solve the problem by acquiring the knowledge and skills needed. In the third stage, *idea generation*, the individual comes up with one or several solutions to the problem or opportunities to meet the goal. This stage mainly depends on individual's creativity-relevant processes (skills in creative thinking) and task motivation. The level of skills and motivation for the task are directly proportional to the novelty and number of ideas generated in this stage (Amabile and Pratt, 2016). In the two final stages, *idea validation* and *outcome assessment*, the idea is first checked against criteria for the task to ensure the appropriateness of the novel ideas. In the outcome assessment, decisions are made based on the results of the validation stage (Amabile and Pratt, 2016).

The stages of the individual creativity process are depicted in Figure 6. It is important to note in the model, that the individual creativity components are multiplicative, meaning that all components are needed for the creative process. In other words, in the absence of motivation, skills in the task domain or creative thinking skills, creative ideas do not occur. They all affect all stages of the process, and generally, the higher the level of each component, the higher the chances of success in the creative process (Amabile and Pratt, 2016).

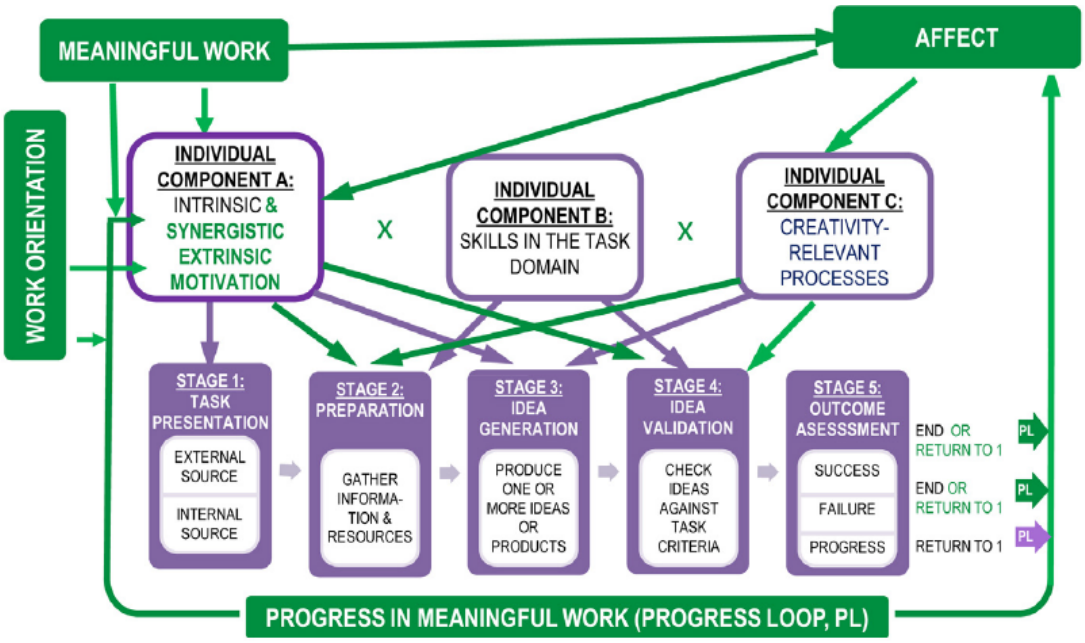

Figure 6. The individual creativity process (Amabile and Pratt, 2016)

3.4 The organizational innovation process

In the dynamic componential model, the organizational innovation process is shaped into five different stages, similarly as the individual creativity process. Amabile and Pratt (2016) suggest that the organizational innovation process is also multiplicative, that is, all organizational components are required for innovation. Further, they suggest that the work environment consists of the three organizational components, which then affect the individual creativity components. This work environment is an open system, subject to external influences of social, economic, cultural and other factors.

Stage 1, *agenda setting*, involves identifying the goal to be attained or problem to be solved. In the organizational context, this stage is often initiated by strategic imperative of the organization, for example a top-level managers' decision to pursue an opportunity. However, external crises can also be initiating factors. This stage is highly affected by the first organizational component, the motivation to innovate and in the organizational context this motivation usually manifests in organization's leaders' statements and actions about innovation (Amabile and Pratt, 2016).

In stage 2, *stage setting*, the organization prepares for a successful process. Goals for the process are stated, resources gathered, and work context established (leadership, deadlines, budgets, evaluation). The effectiveness of this stage is affected by two organizational components: resources in task domain and skills in innovation management (Amabile and Pratt, 2016).

Producing ideas (stage 3) involves generating possibilities. This stage consists only of the results of the completed creative processes of individuals working on the project. In stage 4, *testing and implementing ideas,* involves all processes of the organization in evaluating the ideas presented by the individuals and taking decisive actions in developing those ideas further. The stage is affected by resources in the task domain and skills in innovation management – good ideas need to be taken forwards and bad ones sent back to earlier stages. Amabile and Pratt (2016) also suggest that motivation to innovate also has a direct influence on this stage as the organization's leaders' orientation toward taking risks and supporting mechanisms for developing new ideas is affecting the success of this stage.

In the final stage, *outcome assessment*, organization makes decisions based on the previous stages. The model suggests that also in this stage the assessment could lead back to earlier stages of the process, in this sense the process is iterative (Amabile and Pratt, 2016). The stages and components of the organizational innovation process are pictured in Figure 7.

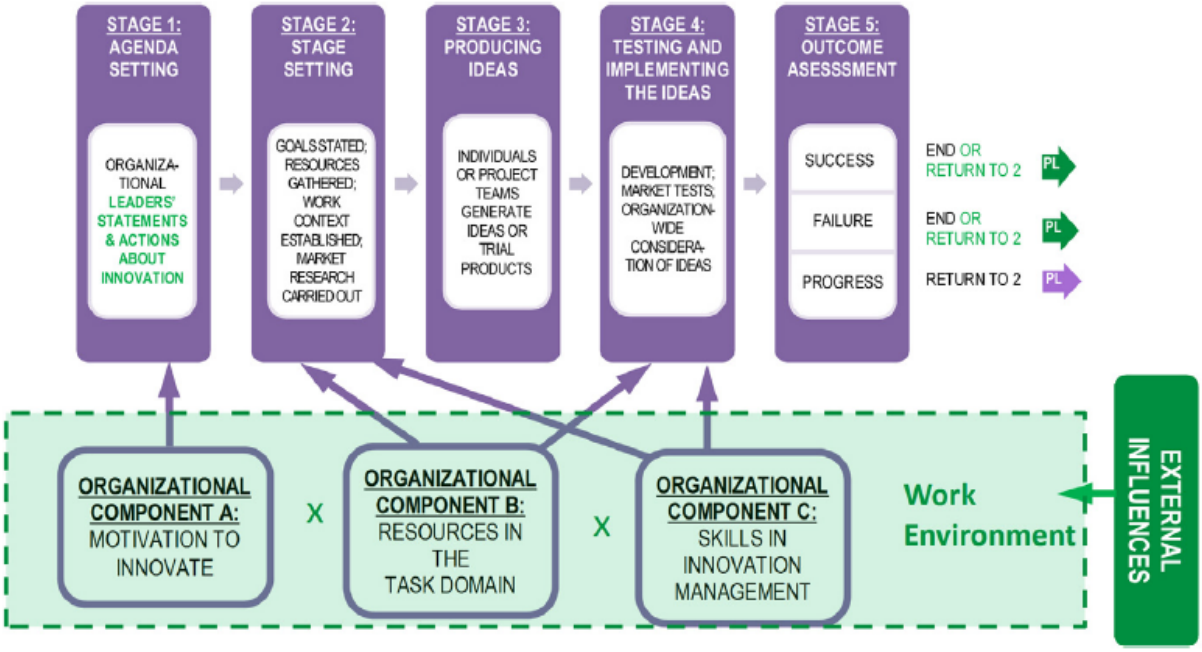

Figure 7. Organizational innovation process (Amabile and Pratt, 2016).

3.5 Combining individual creativity and organizational innovation

So how does then individual creativity increase organizational innovation? As Amabile and Pratt (2016) propose in their componential model, it is not until stage 3 of the individual creativity process that the ideas enter the organizational innovation process (thick purple arrow in Figure 8). Also, while the individual components of the creativity process influence the creativity of the individuals, also the organizational components affect the individual process as they constitute the work

environment (thick green arrow in Figure 8). Actually, any of the organizational components can affect any of the individual components. For example, if the organization trains its staff (organizational component B) and if the work is structured appropriately (organizational component C), individuals of the organizations should be able to increase their skills in the task domain (individual component B). These interactions are depicted in the componential model by Amabile and Pratt (2016, Figure 8).

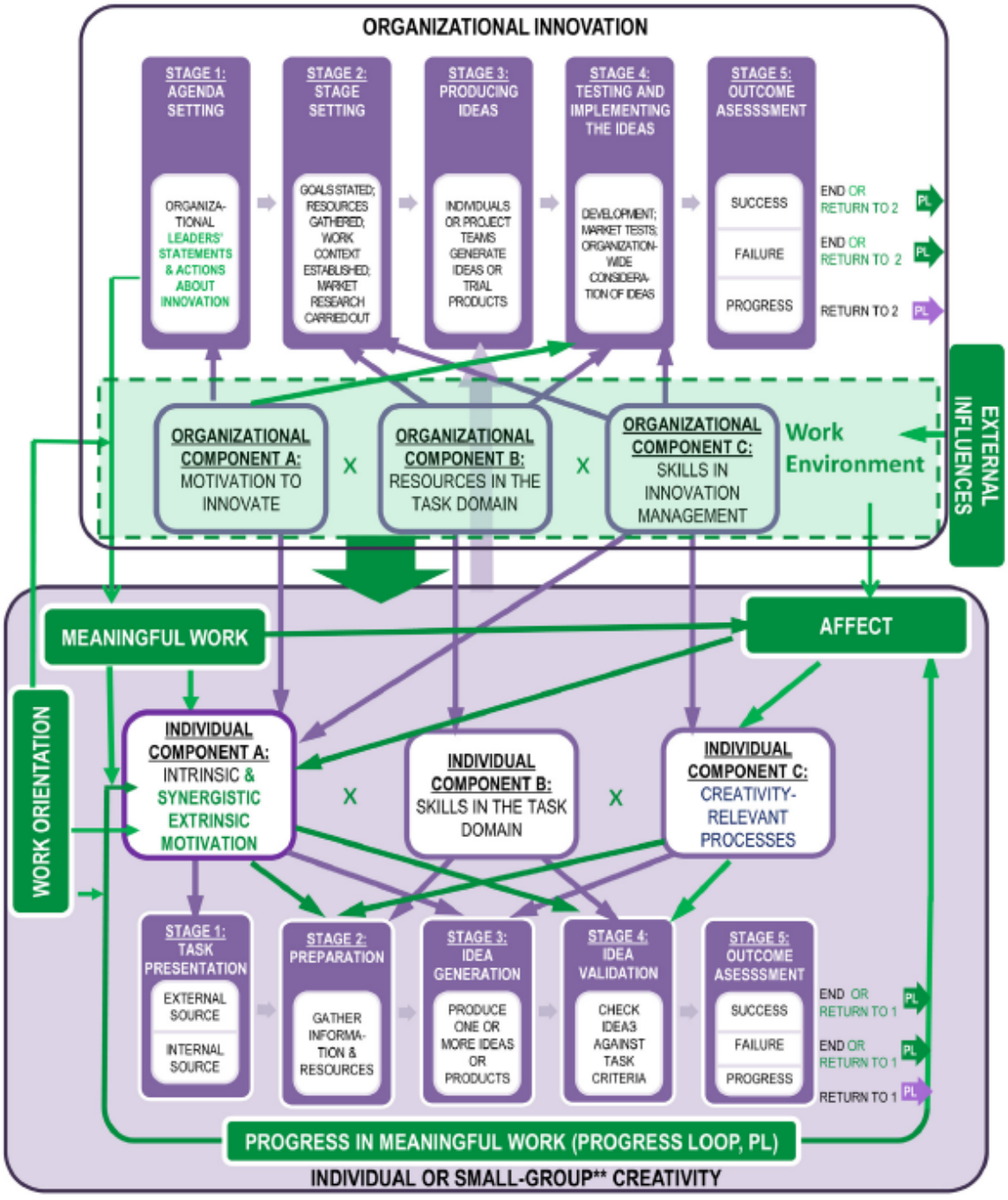

Figure 8. The dynamic componential model of individual creativity and organizational innovation (Amabile and Pratt, 2016).

3.6 Psychological factors of creativity

Amabile and Pratt (2016) propose several psychological factors affecting the dynamic componential model. These include (and are depicted in Figure 8): progress loop, meaningful work, affect and motivation.

Of all the work events that occur repeatedly on days of people's most positive subjective experiences, the most important is making progress in meaningful work as it increases intrinsic motivation. This progress can be individual, team or organizational, as long as an individual is aware of it. Similarly, setbacks and failures in work affect in contrasting way (decreasing intrinsic motivation). The way progress affects intrinsic motivation is called self-efficacy, the basic human drive toward seeing oneself as capable of carrying out activities required to achieve desired goals (Amabile and Pratt, 2016).

In order the progress loop to occur and strengthen, the individual needs to engage in meaningful work, that is, the individual must believe that the work matters and that contributes something of value. Similarly, to "novelty", meaningful work is in the eye of the beholder; work perceived as meaningful by one may not be viewed similarly by others. Meaningful work enhances intrinsic motivation and thus facilitates creativity (Figure 8, Amabile and Pratt, 2016). As creative and innovative work can often be loaded with setbacks, it is important to notice that progress in meaningful work has also an effect on the persistence on creative work; any work can be viewed as meaningful is an individual is able to find the "why" for the reason to work. Individuals who experience failures in the creative work can find meaningfulness in their work by finding appropriate justification for their actions toward the work. Amabile and Pratt (2016) suggest that pursuit of creativity might be one such justification. Similarly, if individuals do not see their efforts in creative and innovative work as meaningful, it is unlikely that organizational leaders' statements and actions about the importance of innovation will be motivating.

Internalized orientations by individuals toward their work, work orientations, also play a role in the creativity of organizations. Work orientations are about individuals' perceived view on their own work and what they value in their work. These orientations affect creativity in three ways according to Amabile and Pratt (2016): through motivation, how the employee perceives his/hers work and through perseverance in the progress loop.

Affect, or general mood, has also been shown to influence creativity. Induced positive mood leads to higher levels of creativity and dimensions of performance that are related to creativity, like making unusual associations and exploring alternative solutions (Amabile and Pratt, 2016). Positive feelings like joy affect creativity positively and feelings such as anger, fear or sadness are

negatively related to creativity. Connecting the dots of the dynamic componential model, Amabile and Pratt (2016) suggest that progress in meaningful work leads to positive affect, and it feeds intrinsic motivation which in turn affects the creative progress positively. However, as the link between affect and creativity is not very clear, Amabile and Pratt (2016) suggest that positive affect, negative affect, and ambivalent affect can all have a positive influence on individual creativity, but to varying degrees and at different stages of the creative process. The authors propose that positive affect may be more effective in the earlier stages of the process, whereas negative and ambivalent affect are effective in the later stages of the process by motivating people to more detail-oriented working in improving the usefulness or appropriateness of the outcome of the process.

Motivation plays a critical role in creativity. The intrinsic motivation principle states that people are most creative when they are motivated primarily by the interest, enjoyment, satisfaction and challenge of the work itself, and not by extrinsic pressures or motivators in the social environment (Amabile and Pratt, 2016). Extrinsic motivation can act in harmony with intrinsic motivation too. Amabile and Pratt (2016) suggest that extrinsic informational motivators that give people information that confirms or allows them to build their competence or confirms the value of their work are supportive for intrinsic motivation. These synergistic extrinsic motivators, such as recognition that acknowledges the value of the work done, or rewards that allow the individual to engage more deeply in activities that are intrinsically interesting, are positively affecting intrinsic motivation and creativity. In general, Amabile and Pratt (2016) suggest, that extrinsic motivators have an adverse effect on creativity as they are perceived as controlling by the individual.

Psychological safety is a term that describes positive state in (work) teams. It relates to state where all members of the team can voice their ideas and opinions without fearing censure or dismissive behavior. As Amy Edmonson put it (1999): “a shared belief held by members of the team that the team is safe for interpersonal risk taking”. Psychological safety can be considered a critical part of support system for ideas, as failure on a creative project can lead to increased intrinsic motivation and re-engagement in the creative process through learning of domain related skills (Amabile and Pratt, 2016).

Other authors like Dyer, Furr, Lefrandt and Howell (2023) have suggested that teams that nurture psychological safety and intellectual honesty, innovate more efficiently compared to teams that only one culture dominates. By culture of intellectual honesty, the authors mean a culture in which team members will proactively voice their ideas and disagreements in a rational and constructive way.

To achieve such culture requires certain personal characteristics from leaders and team members, as well as certain actions from leaders of the organization. First, leaders need to create an

environment where team members feel comfortable speaking their minds and are valued for doing so. This emotional intelligence consists of four main elements: awareness of one's own emotions, regulation of one's emotion, empathy, and the ability to see others' viewpoints and ability to find common ground and build rapport. While leaders need to be skilled at all four, social awareness and relationship management are particularly important to encouraging debate without destroying psychological safety (Dyer et al., 2023).

Secondly, proactive employees are required either through hiring or training. Employees need to show initiative, take action and persevere to bring meaningful change into the organization. According to Dyer et al. (2023) personal initiative is the most important individual trait in predicting whether someone will offer their ideas or raise questions and is even more important than psychological safety.

Honesty needs to be legitimized and encouraged. Dyer et al. (2023) writes that when employees raise problems or concerns about the organization's practices or processes, they get worse performance evaluations, that is, honesty is on some occasions a risk from personal perspective. To tackle this, team members need to be convinced that they won't be punished for being frank.

Lastly, intellectual honesty flourishes when members of the organization are pursuing goals they care about. Employees' feelings of engagement with and responsibility for the organization's mission are more important than psychological safety (Dyer et al. 2023).

4 Leading a culture of creativity and innovation

Every company has an innovation culture, although it might be dormant and lethargic. Consequently, every company engages in some way with novelty and new ideas – no matter the area or maturity of business. Innovation cultures can be classified on a scale of passive versus active, but in most cases such classification is not enough. An organization can be very active in innovation topics without much innovative results (Rehn, 2019)

4.1 Innovation culture

One way to categorize the innovation perspective of a company is to investigate whether they are going for *impact* or *novelty* and whether they are pursuing something *unique* or looking for what their rivalries are doing i.e., *me-too* mindset (Rehn, 2019). Impactful innovations refer to approaches that emphasize change, whereas novelty looks at the innovation itself and whether it has new functions, for example. Similarly, companies that pursue unique innovations look at the empty spaces where no-one wants to look at and look for new possibilities. Me-too innovators jump into the bandwagon and try to benefit from ongoing trends (Rehn, 2019). It is not uncommon to have several of these characteristics within the same company.

Rehn (2019) proposes a simple two-by-two matrix combining these options and following four types of innovation cultures (table 7).

Table 7. Classification of innovation cultures (Rehn, 2019)

	Novelty	***Impact***
Unique	Show-offs	Deep
Me-too	Shallow	Social

Shallow cultures prioritize novelty in their products or services, often following trends without considering their impact. An example is a company introducing an electronical gimmick simply because others are doing so. Social cultures prioritize maximum impact and may follow current trends, as seen in microfinancing banks. Show-off cultures focus on public perception rather than actual impact, producing innovations like smart home devices that may be impressive but only address minor inconveniences. Deep cultures, on the other hand, emphasize meaningful and unique

solutions, prioritizing impact and using innovation for the greater good, regardless of market trends or popular opinion.

Whereas Rehn classifies innovation cultures from the perspective of the innovations they aim to generate, Dyer et al. (2023) classifies organizations from the perspective of psychological factors such as psychological safety and intellectual honesty (Figure 9).

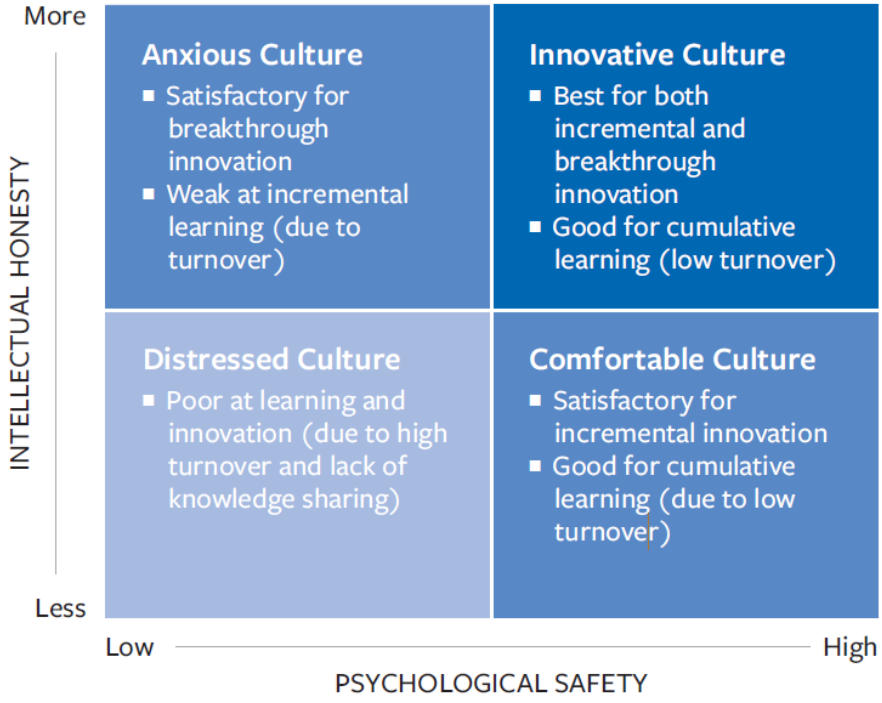

Figure 9. Innovation cultures balancing psychological safety and intellectual honesty (Dyer et al., 2023)

Distressed cultures are cultures that exhibit low psychological safety and intellectual honesty, hindering learning and innovation. They are found in organizations where individuals lack emotional intelligence or where the company is under threat, but it's not acknowledged. Anxious cultures prioritize intellectual honesty but have moderate to low psychological safety. Team members are encouraged to be brutally honest, valuing being right over being nice. Conflicts in these teams can be either task-related (productive for innovation and performance) or relationship-related (detrimental to innovation and performance due to feelings of rejection). (Dyer et al. 2023).

In comfortable team cultures, psychological safety is high, but intellectual honesty tends to be moderate to low. Team members value traits like agreeableness and being liked but may lack assertiveness and proactivity. They feel accepted and respected, but choose not to speak up, believing that avoiding conflict is better for productivity and morale. They may also doubt that their ideas receive proper feedback. Innovative team cultures strike a balance between psychological safety and

intellectual honesty. Team members feel safe to voice their opinions and challenge each other to excel towards shared objectives. They engage in open debates while maintaining respect for one another. Additionally, they are willing to set aside personal biases and adapt their perspectives based on evidence and differing viewpoints (Dyer et al. 2023).

4.2 Organizational innovation capabilities

Organizational innovation capability consists of managerial innovation and technological innovation. Managerial innovation includes the creation of new strategies and business models, while technological innovation includes the development of products, services and processes related to these business activities (Damanpour, 1991). Innovation processes involve a huge number of choices companies need to make, from stage-gate process' decisions to decisions about how to experiment, what data to collect and how to act on findings of the processes. This complexity can lead to issues in not identifying risks, misallocation of resources and neglecting actual big opportunities. Hill et al. (2021) propose that engaging into agile and lean principles in decision making with regards to innovation, can lead to considerable benefits.

In addition to innovation impacting cultural factors, Hill et al. (2021) propose organizational capabilities that have the biggest impact on innovation. They claim that companies which are trying to become more innovative, do better in cultural aspects like shared value, shared purpose, rules of engagement in interaction and rules of engagement in thinking, but lack skills in capabilities such as decision making.

Hill et al. (2021) continue to propose innovation capabilities which many include aspects of decision-making and in which many companies lack expertise (Table 8).

Table 8. Innovation capabilities of an organization (Hill et al., 2021)

Innovation capability	Description	Characteristics
Creative abrasion	Ability to generate a marketplace of ideas through discourse and debate	• Marketplace of ideas • Diversity of thought* • Constructive debate & conflict*
Creative agility	Ability to do discovery-driven learning	• Pursue • Reflect • Adjust

Innovation capability	Description	Characteristics
Creative resolution	Ability to make decisions that combine disparate and opposing ideas	• Pace of decision-making* • Locus of decision-making* • Idea integration*

* Decision making capabilities

Additional factors: Decision making basics*, customer intimacy, innovation investment

4.3 Leading creativity

While openness to ideas, freedom to experiment, tolerance for risk taking and failures, together with processes to develop talents and ideas, combined with adequate resources and sensible metrics are the hallmarks of innovative cultures, an environment where ideas and people are treated with respect is an important precursor (Rehn, 2019).

Rehn (2019) proposes four elements of innovative cultures that deepen the prerequisite psychological safety in an organization and in turn each will also create additional engagements in the innovation culture of a corporation. They also act as values for leading creativity. Truly innovative culture may not have all of these in equal measure, but lack of even one is a clear predictive indicator or troubles in innovative performance. These cultural values are *respect, reciprocity, responsibility* and *reflection.*

Respect is not just an issue of people, but it can also be considered from organizational perspective. If employees of an organization do not feel respected or they do not respect each other, the innovative culture of the organization is in trouble. According to Rehn's (2019) personal observation, in about 80% of organizations that faced problems in their innovation culture, the main issue was that employees felt their ideas or inputs did not get the respect that they felt they deserved, which consequently has led to problems in innovation performance. According to Rehn (2019), respect has been identified as the most desired leadership behavior among studied employees.

While the culture of respectfulness can take years to develop, leaders of the organization can exhibit certain behaviors, that according to Rehn (2019), should facilitate the development of such culture. Leaders should lead by example, and they should allow civil dissent within the organization (as identified by Dyer et al. (2023) also). Leaders should also consider how to reward kindness in the organization and how micro-behaviors (words, body language etc.) and other respectful

gestures might foster the respectful culture. As Rehn (2019) summarizes: “without an attitude of respect towards ideas and people, the former won’t develop, and the latter won’t engage”.

One important aspect of respectful culture is the engagement into productive criticism. It signals that one has listened to the person coming up with an idea, that one has cared enough to think about the idea and prepared to engage with the originator of the idea (Rehn, 2019). To engage into productive criticism, the organization shall ensure that every idea raised receives at least some feedback and questions, the criticism that an idea faces must be qualified and that the people should always be afforded the right to respond.

Reciprocity refers to the innate understanding of an organization that one cannot demand innovation without giving people the support that it requires. Deep innovation cultures have understood that if the organization wants more innovation, it should give people what they need in order to innovate (Rehn, 2019).

Reciprocity also influences the innovation culture of an organization. Leaders can for example, ensure that every idea gets a response of some sort and that not one idea is left dying without any one even engaging them. In building the organization and eventually coaching it, leaders should promote those members who are ready to help, support ideas and promote generosity within the organization. Rehn (2019) claims that the more the organization has such people, the easier it will be to build behaviors of respect and reflection into the organization.

Leaders should also answer to the demands of the employees in their innovative endeavors – be it time, material resources or encouragement. Rehn also claims that deep innovation cultures ensure that indifference is rooted out from the organization by “punishing” behaviors that are detrimental to reciprocity. In practice this means that behaviors such as neglecting support, engagement into new ideas etc. are punished by denying promotions or bonuses from people exhibiting such behaviors. To summarize, without reciprocity, in both deeds and resourcing, a culture can’t turn ideas into innovations (Rehn, 2019).

Responsibility for innovation, innovation culture and people’s role in these is a must for deep innovation culture according to Rehn (2019). The author claims that lack of responsibility is the root cause of many ideas dying early on, instead of passivity or lack of response. To embed responsibility into innovation culture, leaders need to show responsibility in calling out empty or nonsensical innovation talk and to make sure that everyone feels that they have a place in the innovation culture. Leaders need to respect uncertainty and doubt brought up to them by the employees feeling insecure. Responsibility is also about balancing the organizational efforts; to balance the innovative efforts to serve existing customers, leaders need to make sure that someone also thinks the future

customers. Honesty and showing insecurities are also important for showing responsibility. According to Rehn, deep innovation cultures flourish in organizations where members feel secure in expressing their insecurities about new technologies, “disruptions” etc. topics that are important to the innovativeness of the organization. In summary, deep innovation cultures value taking responsibility against direct action or radical honesty (Rehn, 2019).

Reflection is the most difficult element of deep innovation cultures. Cultures of deep innovation do not just “do innovation”, but they reflect, continuously challenge, and question their innovation culture. By doing so, the organization keeps learning and developing rather than engaging into shallow endeavors (Rehn, 2019).

Embedding such elements into culture of an organization, leaders should celebrate questions and challenges that are brought to them. This includes questioning the organization’s competencies and rewarding those who raise the most disturbing questions. Leaders should also incentivize intelligent self-doubt to support people knowing what they do not know to go on and innovate. Supporting this, leaders need to ensure that the organization is constantly experimenting with new ideas and be very open to these experiments failing. And as the self-reflection of the organization never ends, it is leaders’ responsibility to make sure and communicate that the organization is in constant dialogue with itself and that new innovations should be treated as new openings for the future (Rehn, 2019).

At the heart of productive reflection is the capacity to unlearn. As people and organizations have learned to innovative in one way, they tend to protect this way and this tendency could be detrimental to innovation capacity of the organization (Rehn, 2019). Deep innovation cultures celebrate unlearning and are prepared to reflect even on the negative and painful aspects of innovation.

4.4 Leading innovation

Oluwafemi et al. (2020) claim that no particular leadership style is consistently related to employee innovation behaviors. Leading innovation is a complex and paradoxical task, requiring corresponding leadership styles. Also, ambidexterity is a central feature of innovation, which must be considered by innovation leadership (Rosing, Frese and Bausch, 2011). Rosing et al. (2011) propose that to foster employee innovation behaviors, leadership needs to show and flexibly switch between opening and closing leadership behaviors to increase or decrease employee innovation behaviors, respectively. Opening leadership behaviors are hypothesized to encourage explorative innovation behaviors in employees by expanding their range of behaviors (variance of behavior). By these opening behaviors, standard routines are broken down and new ways of thinking and doing things are encouraged (Oluwafami et al., 2020).

By increasing variance in employee behaviors, a leader supports the adoption of generative and explorative thinking processes, as expertise is usually spread across employees. Additionally, opening behaviors support error learning and allow employees to think independently and critically, creating a conducive culture that supports experimentation and creativity that challenges the status quo (Oluwafami et al. 2020). Edmondson (1999) claim that these opening behaviors provide psychological safety, which encourages employees to engage in error learning and risk-taking behaviors without fear of punishment in the case of failure.

Closing leadership behaviors are hypothesized to encourage exploitation innovation behaviors in employees and decreasing variance in employee behavior. Directive approach of the closing behaviors ensure alignment of employee's behaviors to standard work routines. By demonstrating closing behaviors, leaders signal that employees should accomplish work in a routine but efficient manner and limit employees' efforts to pursue opportunities outside existing capabilities (Oluwafami et al. 2020). While Oluwafami et al. (2020) write that small and medium sized enterprises' leaders have been shown to display autocratic approaches to leadership and high bureaucratic stance, it is crucial for leaders in innovative settings to demonstrate these closing behaviors because they are necessary to transform creative ideas to commercial goods and services.

Switching flexibly between these opening and closing behaviors according to changing demands of innovation and the environment marks out the ambidextrous leader and triggers employee ambidextrous innovation behaviors. They are complementary behaviors as they individually can meet the requirements that the other is unable to meet. For example, in a team that engages in radical innovation or product development, the leader may need to place more focus on opening behaviors to motivate, stimulate intellectually and support behavior of employees in conducive environment. In the same setting, but in another stage, the leader may need to act in establishing common focus that integrates the best ideas of the team (Oluwafami et al. 2020) The task of the leadership is to know when and how to adjust between opening and closing behaviors. Consequently, switching between these behaviors fosters employee ambidextrous innovation behaviors (explorative and exploitative behaviors). These opening and closing behaviors are presented in Table 9.

Table 9. Opening and closing leadership behaviors (Oluwafami et al. 2020)

Opening behaviors	Closing behaviors
- Allowing different ways of accomplishing a task - Encouraging experimentation with different ideas - Motivating to take risks - Giving possibilities for independent thinking and acting - Giving room for own ideas - Allowing errors - Encouraging error learning	- Monitoring and controlling goal attainment - Establishing routines - Taking corrective action - Controlling adherence to rules - Paying attention to uniform task accomplishment - Sanctioning errors - Sticking to plans

5 Development work and methods

Research strategy was case study supported by multi-method research. Research approach leaned towards case study aiming at suggesting new practices for creativity and innovation within the commissioning organization. For quantitative research methods, Google Forms based surveys were selected. With regards to qualitative research methods, observation, and surveys, as well as collaborative idea generation methods were used. The purpose was to analyze current state of creativity and innovation processes of the commissioner, gather supporting information and process this information for subsequent decision-making steps on the future state of the creativity and innovation process.

5.1 Case study as a method

The case study is a very typical research strategy for example in business and administration. It can, for example, be applied to development work when the task is to produce suggestions for development and ideas. The case study produces knowledge about a phenomenon taking place at present in its real situation and operation environment. It also gives space for understanding the diversity of the phenomenon without trying to simplify it too much (Ojasalo et al., 2022).

In case studies, there are only few research targets, usually only one. The most essential point about the target is that it's understood as a certain entity, a case. In development work, the target is chosen based on the needs and the goals set for the development project (Ojasalo et al., 2022)

A case study always leans on theories, methods, and previous studies. The starting point usually is the case to be analyzed or studied, not only general theories. Often it is also necessary to get familiar with the subject matter before it is possible to know what can be asked about it and what the real development task is (Ojasalo et al., 2022)

5.2 Methods for data collection

As in all development work, case study can also be done using several data collection methods. Whatever the method, it should support the aims of the research and development work. In this thesis I used qualitative and quantitative methods for data collection. Qualitative methods included observation, open-ended questions in surveys and collaborative idea generation methods. Quantitative methods were represented in the survey.

Quantitative methods collect numerical data, and these methods are used to generate answers to questions "how many?", "how much?" and "how often?", and they are often targeted to large number of people. Qualitative methods are targeted to smaller group of people and, the purpose of

these methods is to gather information from a rather narrow subject as much as possible to understand a phenomenon better and more thoroughly. In qualitative research, the researcher's understanding of the topic can affect how he/she interprets the data and makes observations from it (Ojasalo et al. 2022)

Using several data collection methods supports the gathering of different kinds of information, viewpoints and ideas. These methods support each other, and they also increase the probability that correct conclusions are made in the decision-making process that utilizes the data.

5.2.1 Observation

Observation is a very useful method for all development work (Ojasalo et al., 2022). For example, it is often possible to get good ideas about customers' behavior or personal conversations. When observations are collected systematically, for example by keeping a diary during the development process, observation becomes the central method of development. (Ojasalo et al., 2022).

Observation must be systematic in development work. The observer may follow first the situations as an outsider but is also possible to participate in the action and observe at the same time. (Ojasalo et al., 2022). I observed the ongoing innovation strategy workshops of the commissioner and collected my observations during those two meetings.

5.2.2 Surveys

Surveys enable researchers to ask many people many questions and collect research data (Ojasalo et al., 2022). Surveys are fast to conduct, and they produce data that can be analyzed statistically, for example. They are feasible data generation methods for multitude of topics but as a basic requirement, it is good to have some kind of basic knowledge about the topic to be able to design an effective survey. Surveys can nowadays be completed using electronic forms and they can be designed so that quantitative and qualitative data can be generated (Ojasalo et al., 2022).

I chose survey as one of the data gathering methods and target group consisted of people working in the commercial and operative organizations of the commissioner. The first survey questionnaire was developed together with my thesis supervisor from the commissioner, and it is modified from the ISO 56002 based survey used by Celukanows and Björk (2019). The justification for such a broad approach was that we wanted to understand the elements of the commissioner's innovation process better and focus the subsequent development efforts to those elements. At the same time, the survey collects information about the principles of managing the innovation process as well as the barriers the organization faces while implementing it. There were also elements about culture, creativity as well as management commitment, which will all aid in answering the research

questions set for this thesis. The 23 questions of the first survey are based on the elements of the ISO 56002 and the correspondents ranked the company's current level of each element on a scale from 1 to 5, where 1 "does not describe our organization at all" and 5 "describes our organization well". The survey was built into Google Forms platform in Finnish. The questions for survey 1 are presented in appendix 1.

In the second survey, the inquiries were centered on identifying obstacles to creativity and innovation, with a particular emphasis on factors like resource allocation, communication, and the organization's innovative efforts. While these factors can be considered from the perspective of innovation, they are also critical factors for creativity. Also, the idea generation and implementation phases of the commissioner are somewhat overlapping and thus improvements to these areas would benefit the whole process. Additionally, the survey sought to gather insights on the commissioner's envisioned future state of the innovation process. The secondary objective of this second survey was to compile data for an upcoming workshop, where participants would collaboratively generate practical strategies to enhance the creativity and innovation process. Questions of Survey 2 are presented in appendix 3.

5.2.3 Collaborative idea generation methods

Creativity is essential for developing methods, and enhancing creativity requires the ability and daring to change perspectives. For example, brainstorming is one of the standard methods of creative problem solving in which ideas are generated in groups (Ojasalo et al., 2022).

A brainstorming session starts with goal setting, after which the process is reviewed and the facilitator reminds the team about getting rid of unnecessary prejudices and mental limitations, as creative problem solving requires an atmosphere of openness and lack of haste. In the ideation phase evaluation of the ideas is forbidden and the idea is to collect as much ideas as possible, regardless of their quality. In the following idea selection stage, the ideas are examined critically and evaluated. Usually, group members take turns in telling their opinions and the ideas that get the greatest number of positive evaluations are the most feasible ones. (Ojasalo et al., 2022).

In the brainstorming session of this thesis, I acted as the facilitator and the group members were from commercial and product development teams of the organization. The session started with the review of the rules and objective of the session. The objective of the session was to ideate practices that would develop the identified areas for improvement that came up in the surveys and would move the organization's creativity (and innovation) process towards a more ideal state. The "ideal state" was drafted based on cultural and technical aspects assembled from the theoretical framework of this thesis:

- The organization’s culture fosters openness and creativity
- Members of the organization are encouraged to experiment and learn
- Ideating and innovating is encouraged throughout the organization
- Failures are taken as lessons for learning, risk-taking is encouraged
- Processes are in place to support creativity and learning
- Adequate resources are given for creativity and innovation
- Ideas are evaluated together, openly and impartially
- Clear goals and management practices are set for ideation and innovation
- Success is rewarded

The platform for the brainstorming session was built into Miro a board and the assignment was built based on the observations and survey results. The leading questions towards fulfilling the objective were:

- What kind of practices should be implemented to improve the collection and further processing of ideas?
- What kind of practices should be implemented to give more time for ideating and innovating?
- How should the organization communicate about creativity and innovation?
- What kind of practices should be implemented to improve the management of ideating & innovating practices?

The brainstorming sessions lasted for about one hour and thirty minutes. I took notes during the session to be able to use the background discussions as supportive information in evaluating the data generated on the Miro board.

6 Results and analysis

In this chapter I will present the results observed and generated in the surveys and workshop. After this I will analyze the results and present proposal for further development work.

6.1 Observations of the current innovation process

Based on the materials reviewed and observations made, the current innovation process can be pictured as below (figure 10).

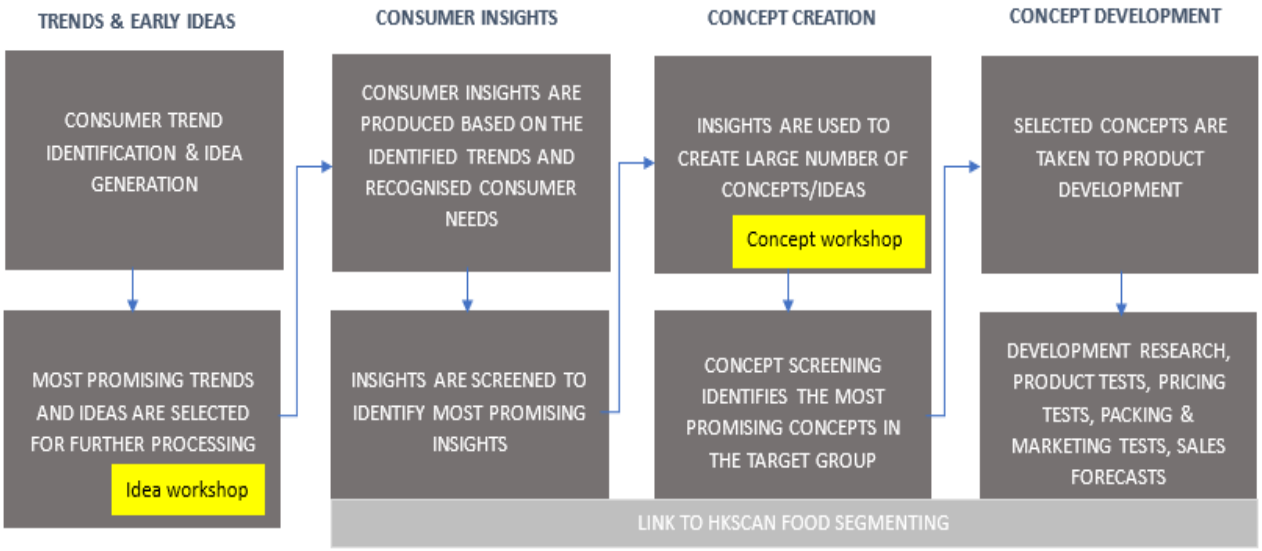

Figure 10. Innovation process description of the commissioner

The innovation strategy of the commissioner acts as a framework for the management of the early ideas. These early ideas, or “themes” form a project portfolio that includes, for example, prototyping, research projects, targeted ideating around a topic, technological and conceptual research work and so on.

So called “idea / trend workshops” review these themes and select the most promising ones for further development. These themes are then processed further and supplemented by consumer and market insights.

In the concept workshops, early concepts are then built to meet these insights. Most promising concepts are then selected for further development. In the concept phase, the selected concepts can be linked only to one or several food categories or sales channels. In this phase, the most promising concepts, the “breakthrough concepts” are separated as their own projects.

Concepts are sanity checked and ranked, after which the most promising ones are taken to project portfolio (G0). Actual product development then kicks off after approval of the concepts (G1).

The presented model of the innovation process highlights how the process works as a funnel starting from a large number of possible data and then refining that data to insights, concepts and finally viable (and edible) products.

Working with such a big number of ideas creates challenges to prioritization in each stage or step of the process. At the strategic level, these ideas will eventually need to be aligned with business objects and strategy. Similarly, optimizing the portfolio requires consideration with regards to risk versus reward, and balance of different types of ideas. Eventually these ideas will need prioritization for effectively allocate resources between them. As Martinsuo and Anttila (2022) wrote, strategic alignment should not be done in the context of a single project, but also over the whole project portfolio and between portfolios. This is because projects and portfolios might share same management, tools, guidelines and resources. Such alignment requires flexibility in, and as Hyland and Karlsson (2021) propose, a common management system that provides principles for all aspects of an innovation management system might guide the organization more effectively in selecting its ideas for further processing.

In one of the workshops, the current state of innovating within the organization was described as team effort: "HKScan’s innovation culture is outdated, and the work is siloed. There would be significant benefits from synergy between consumer and Food Service sides and across different categories. At the same time, HKScan is expanding into new categories and production facilities (technologies) through subsidiaries and partner networks, leading to a significant resource shortage. From an innovation perspective, there is also a risk of increased internal competition, for example, in grill sausages and meatballs. The innovation culture would need sufficient financial resources and a broader research partner network for support. There is a considerable amount of expertise in-house, and this should be utilized more efficiently."

6.2 Survey to understand current state

The survey questions were selected as they covered the elements of an innovation management system described in ISO 56002 and as they overall were important aspects to understand for further development work. Following chapter presents the results of the survey.

The survey was sent out to 49 persons, of which 25 answered (51%). The correspondents represented white-collar employees from commercial, product development and operational organizations and were included in the target group as recommended by the commissioner and on their responsibilities in the innovation process. All answers are presented in appendix 2. The survey asked

to rate the elements of ISO 56002 on a scale from 1 to 5 (where 1 does not describe the organization at all, and 5 describes the organization accurately). Figure 11 shows how the answers distributed on this scale.

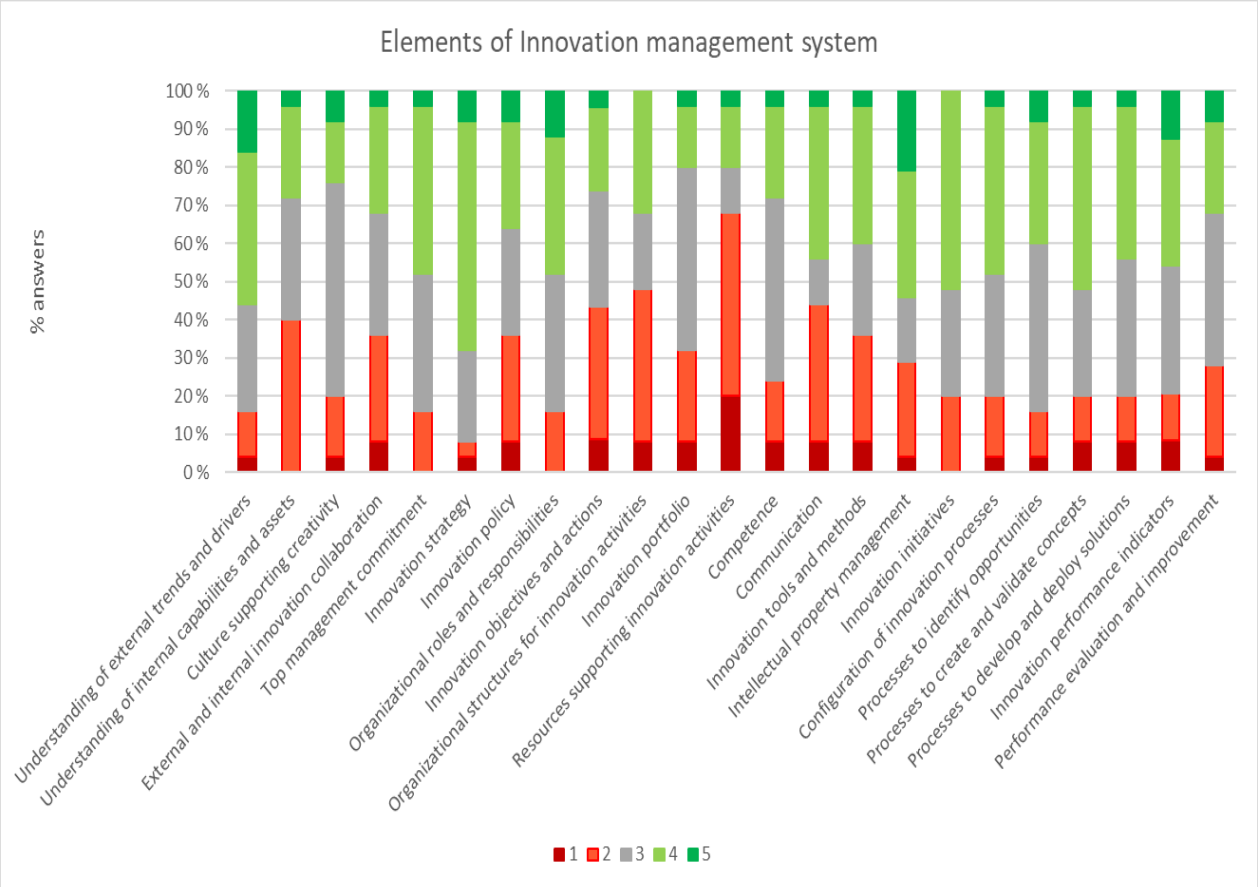

Figure 11. Current state of commissioner's innovation management system's elements

Figure 12 describes the mean values for each element of the innovation management system. The most highest-ranking elements (top 3) were innovation strategy of the company, understanding of external trends and drivers and organizational roles and responsibilities. The lowest ranking elements (bottom 3) were **innovation objectives and actions**, **organizational structures for innovation activities** and **resources supporting innovation activities**. The average of all answers was 3,1.

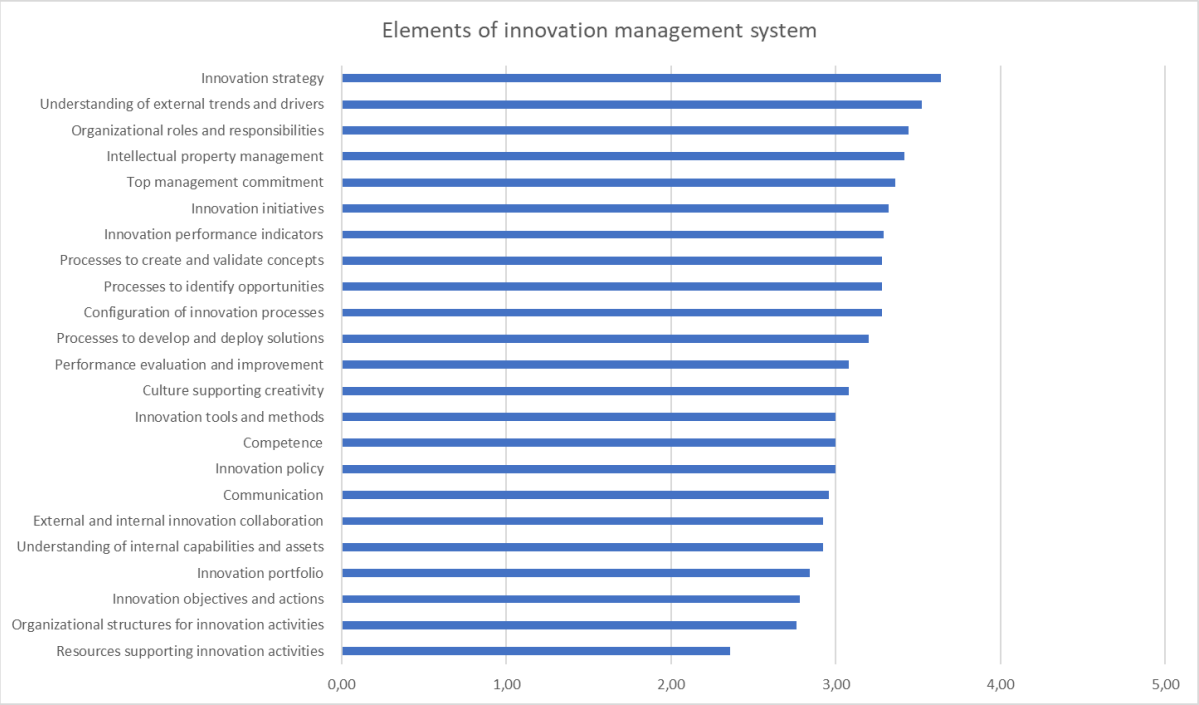

Figure 12. Mean values for each of the elements of the innovation management system

At the end of the survey, an open comment section was left for respondents to answer. Ten (10) answers were collected. The comments were:

- “Innovating is valued and a requirement, but adequate resources are not available (e.g., time). Creative work requires a dedicated time and an environment, and to effectively innovate, one needs to have factual knowledge from e.g., consumer behavior

- “Innovation strategy and processes have not been communicated throughout the organization. Employee potential is not adequately utilized in innovating.

- “Innovation strategy was introduced in fall 2022. New working model is being implemented, including new resources and re-organization and funding of the R&D work.

- “We have started discussing many things, but regular analysis and consistent operating models that would be familiar to everyone are missing."

- "To some extent, innovation is guided from the top level, but resources are not provided to implement it across organizations. Some organizations are in better shape regarding this matter than others. The tools are unclear, and the "training" and implementation of the process are stumbling."

- “Areas for improvement: in organizing innovation, meeting practices, budgeting, initiative activities, or utilizing proactiveness (involving one's own staff). Preventing siloing requires appropriate development of information flow without causing a risk of information leakage.”

- "In my opinion, the organization does not fully encourage ideation and innovation. The annual innovation days are heavy days. I believe the innovation organization should be nourished more often by providing opportunities for ideation and testing the results of ideation. Currently, the ideas for new products simply come to Inno (software), and they are not thoroughly considered together."

- "Transparent communication and clear delineation of responsibilities facilitate successful innovation processes. I am confident that our company possesses the necessary resources and tools; the implementation of the strategy and change management are crucial."

- "The innovation function has been developed, and attention has been given to resourcing and organizational structure this year. In my opinion, we are still in the early stages of development. We launch a lot of new products, but a very small proportion of them meet the set targets. So-called breakthrough innovations have not emerged. There is research data, but we don't quite know how to condense the findings into concise and, more importantly, commercially viable strategies. Innovation is our shared responsibility, and it should be encouraged in our culture."

6.3 Analysis of the survey results

When reviewing the results based on the average rating, all survey questions received quite similar results. Innovation strategy and external partnerships received the highest rankings, whereas resources for innovation and organizational structures received the lowest ratings. Obviously simple ratings do not tell too much about the pain points experienced by the staff and thus the open comments needed to be reviewed to understand the current state better.

The open comments supported the findings of the ratings. Resource allocation and availability were highlighted as an area for improvement. Also, practices of reviewing the process outcome were highlighted in some answers as missing. Informal processing of ideas and unclear communication about set targets lead to misunderstandings and confusion and cannot result into efficient innovation process. When ideas are processed further without clear feedback of the outcome, the process does not support itself in learning. Similarly, lack of process definition does not encourage in cross-organizational idea development or efficient portfolio management. Similarly, deficiency in process definition results into lack of clear goals for the process and steers organizational members away from common goals. Both aspects have been highlighted as creativity obstacles for organizational innovation according to Amabile and Pratt (2016).

6.4 Barriers of ideating and innovating

A second survey was drafted based on the first survey. The survey was sent to 33 persons of which 11 answered (33 %). The target group consisted of roughly the same people as in the first survey, but this time more focused in the commercial and product development organization. In the second survey, the questions focused on the barriers for creativity and innovation, especially around resourcing, communication and organizing for creativity and innovation. Also, ideas for the perceived future state of the innovation process of the commissioner were collected. The purpose of the second survey was also to collect information for the workshop, where practices to improve the creativity and innovation process were to be brainstormed.

The results of the second survey's main questions are presented in figure 13. Eleven answers were recorded.

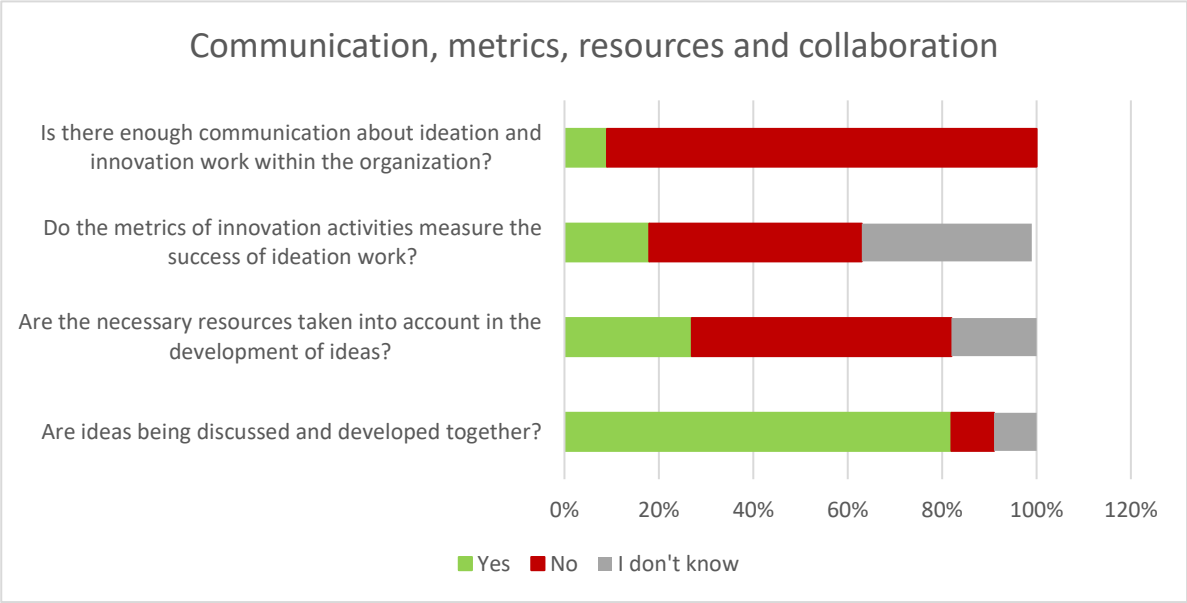

Figure 13. Results of the second survey investigating creativity and innovation barriers.

91% of the respondents answered negatively about communication about ideation and innovation work within the organization. Majority of answers, 45 % and 55 % were negative also in subsequent questions about measurement of success in the innovation work and resourcing, respectively. 82 % of the respondents answered that ideas are being discussed and develop further together.

When surveying the barriers to innovation a bit further, few issues were highlighted (all answers are presented in appendix 4).

With regards to question about issues hindering creation and processing of ideas, the highlighted issues were:

- Hurried work culture at HKScan hinders ideation, with a need for a more encouraging atmosphere.
- Challenges include broad or unclear project scopes, slow decision-making, and limited organizational openness.
- Time constraints, lack of proper briefings, and absence of concept testing are identified as barriers to effective ideation.

When asking about how ideation work should be organized, for example, to improve communication, the answers can be summarized into following bullet points:

- Emphasize internal communication and storytelling to share innovation progress and results.
- Establish clear responsibility roles, regular reporting, and designated forums for monitoring ideation efforts.
- Provide dedicated time for ideation beyond special innovation days and encourage consistent use of ideation tools.

With regards to question about resourcing ideation work, the results can be summarized as follows:

- Allocate dedicated time for ideation, emphasizing that it should be integrated into everyone's work.
- Consider employing a full-time facilitator to support cross-border ideation efforts and various innovation methods.
- Implement structured ideation days at regular intervals, tailoring project assignments based on complexity, and encourage active participation from different teams and departments.

To gain ideas for improving the development of ideas further, the answers can be summarized as:

- Utilize a dedicated platform or intranet for collecting and refining organization-generated ideas.
- Conduct workshops and team meetings within the organization for idea development.
- Consider using electronic tools to ensure ideas are not lost in spreadsheets and emails and explore the possibility of Innovation workshops for further refinement.

With regards to the success of innovation work, a question was set up to gain understanding how the respondents would improve measuring the innovation work and its success:

- Rate of ideas converted into final products.

- Sales or gross margin-based metrics.
- Rate of proposed ideas vs. accepted ideas.

6.5 Brainstorming session to draft ideating & innovation practices

Invitation to the session was sent to same target group as in the surveys. 11 persons participated into the session (5 present, 6 in Teams), consisting of members from commercial and product development teams. The brainstorming session aimed at giving answers to fourth research question “What kind of practices should be implemented into the front-end of the innovation management process to make it more efficient?”. The leading questions were presented to the participants and ideas for improvement were recorded on the Miro board. Ideas were categorized under the leading questions.

With regards to the issues around time allocation for ideating the participants highlighted that while recurring calendar slots for ideating may easily get overrun, there is still room for improvement around how people are brought together to spend time around ideating. Additional sessions outside “Innovation days” were highlighted as a requirement to effectively review trends and consumer insights. Several participants highlighted the need for these joint sessions, but also need for further education and development of competences around ideating was raised. Locally, the participants wished to see physical spaces in the office that would encourage people for creative thinking and innovating.

Stimulating environment was also raised under topic “What kind of practices should be implemented to collect and process ideas?”. The participants wished to see other people’s ideas in a common “innovation space” that would collect people to innovate also outside from the core team. A common platform for collecting ideas across the organization was highlighted as a need and supporting this platform, a team would be needed to set to review the ideas. Also, use of technology in the form of AI and virtual reality / augmented reality was discussed as a mean to testing ideas and further concepts. With regards to how and from where ideas are collected, it was noticed that use of consumer data and other networks needs improvement. One interesting highlight was made about how to collect “silent signals” and how these should be brought into the process. Collaborative aspects of collecting ideas outside of one's own "bubble" was discussed as well as increasing cross-organizational collaboration practices. One of the most discussed areas for improvement was the channels for giving feedback about ideas and how these channels could be utilized in making the whole process of innovation more transparent.

Communication and management of the ideating and innovation work did not get so many ideas. The team highlighted the need to improve communication about technological advancements in

the field of food business. The firm is also expanding to new food categories through partnerships, and it was discussed that the advancements these partnerships open should be communicated more openly within the organization to boost ideating.

If an organization does not have clear goals for its innovation work, it cannot measure its progress towards those goals. While concrete practices for measuring the success of the innovation process were not brought up, the team discussed about using soft versus hard measures for measuring the process. These measures could include the number of ideas or ideas processed through the pipeline to final products as hard measures. With regards to soft measures cultural aspects were highlighted as areas for investigation.

The ideas developed are available for HKScan's organization for further use. Based on the results from previous stages of this thesis and the workshop, I made proposals to improve the innovation process of the commissioner. The proposals were reviewed with supervisor from the commissioner. The process and proposals are presented in the next chapter.

7 Conclusions and discussion

In this chapter, I will reflect the generated results against the research questions set at the beginning of this thesis.

Question 1: What influences creativity and innovation in organizations?

Traditionally, leadership practices and cultural elements have been highlighted as major contributors to creativity and innovation. Encouraging leadership and culture that promotes openness create an environment, where experimentation and idea-sharing foster creativity. Adequate resources, diversity, and tolerance to failure are also well-known attributes of a creative organizational culture. From the organizational capability perspective, Teece (2007) raises the dynamic capability of sensing and shaping opportunities as a key input to creativity and innovation process. Within the commissioning organization, the innovation process acts as a funnel, where sensing is done within the consumer base to detect early ideas and trends. As stated in the commissioner's strategy, the company is aiming to become a versatile food company, which references the firm's desire to recombine its resources and operating capabilities to meet this goal. Explorative actions across markets are required to effectively sense new opportunities and threats, and thus also ambidextrous leadership as described by Oluwafami et al. (2020) is required. During the development work, the responses to survey questions gave hints that while the commissioning organization has plenty of market data, the innovation process does not necessarily encourage to explorative behaviors, but rather directive orders on "what to create" lead employees to exploit existing and readily processed ideas to concepts that resemble previous products.

Amabile and Pratt's dynamic componential model (2016) posits that effective innovation requires three key elements: basic resources, a set of processes and skills, and a driving force. At the individual level, the intrinsic motivation to engage in a task serves as the driving force behind generating creative ideas. Skills in the specific task domain, including expertise and technical proficiency, constitute the foundational resources. Creative thinking skills are then employed to combine these raw materials in novel ways. The components at the organizational level mirror those at the individual level, with the driving force being a genuine commitment to innovation. This entails an organizational predisposition towards risk-taking, a sincere receptivity to novel concepts, a framework for nurturing creative ideas, and a proactive strategy for leading the organization into the future (Amabile and Pratt, 2016).

In the development work, it came clear that the organization has a clear innovation strategy. However, in the open comments of the development section, it was occasionally brought up that the organization could encourage ideation and innovation more regularly and that experimenting should

also be done outside predefined Innovation days. Also, employee engagement across the organization and subsequent training in creativity and innovation can be raised as means to increase organization's capability for creativity and innovation.

The commissioning organization can be considered engaging into routine (Pisano, 2015) or continuous incremental innovation (Tidd, 2001). While this serves especially the existing portfolio, the recommendations made by Nagji and Tuff (2012) about managing the "total innovation" of the firm with appropriate allocation of resources to adjacent innovations (leveraging business) might bring benefits to the organization and drive the motivation to innovate even more. As stated in the beginning, food business operators are under constant pressure from globalization, regulative and nutritional requirements. The situation is no different for the commissioning organization and for it to remain competitive, it continually needs to test its innovation strategy by experimenting, learning and adapting against these requirements.

The fundamental resources or raw materials at the organizational level consist of task-specific resources that facilitate creative endeavors: individuals possessing ample expertise, skills, and enthusiasm; funding for innovative initiatives; adequate infrastructure and access to essential information. Additionally, Amabile and Pratt (2016) underscore the importance of allowing sufficient time for exploring creative solutions and implementing them as an organizational resource. Proficiency in innovation management is then employed to creatively combine these raw materials.

Many of the survey answers highlighted the need for better resourcing. While time constraints were the most common issue, comments were also made about prioritization, communication, budget, tools and capabilities to utilize collected data. Importance of creativity and innovation is communicated in the organization, and it can be concluded that more structured processes, better utilization of employee potential and a focus on turning research data into actionable objectives could increase creativity and innovation in the commissioner's organization.

Question 2: How are the existing innovation management practices within the commissioning organization perceived?

In the surveys and observations performed, the practices around defining innovation strategy and understanding external drivers and trends received the most positive evaluation amongst the respondents. While organizational roles and responsibilities received also good rankings, it seemed that internal communication, lack of clear targets for innovating and subsequent resourcing for these vague targets were considered problematic in the organization (figures 11 and 12). As recorded in table 6 (Amabile and Pratt, 2016) these all have their effect on creativity and in this case negatively. Unclear organizational goals affect the motivation to innovate, whereas insufficient

resources create obstacles for creativity as people do not have time or funding to explore or implement new solutions.

With regards to managing and leading creativity, open comments were brought up that not much autonomy is given to idea development, but rather ideas come readily developed. Amabile and Pratt (2016) claim that such practice is an obstacle to innovation, and Oluwafami et al., (2020) add that such leadership behaviors are “closing behaviors” and while important in implementation of ideas into innovation, they might be of hindrance especially in the early stages of creativity. Pisano (2015) concluded that an innovation strategy should manage the trade-offs presented to the organization. The commissioning organization is well known for its classic meat-based products, and understandably trade-offs between the existing product portfolio and new, creative products need to be made. This issue was also highlighted in the surveys. Similarly, the commissioning organization should consider the trade-off between formality and adaptability in managing its innovation process. As Hyland and Karlsson (2021) note, when entering to territory outside of routine innovation, organizations can face barriers to change without a management system for the innovative endeavors. Need for consistency in managing innovation came up in the open comments of survey 1. Hill et al. (2021) and Mir et al. (2016) also highlighted the need to find the correct balance in managing creativity and innovation either as a controlled process or more freely flowing, non-linear process. With regards to the commissioning organization, the new innovation strategy will require adaptation to organization’s processes and competences, further highlighting the need for a solution to address these challenges.

When the results from the first survey were investigated a bit deeper, it came clear that cooperation in handling and developing ideas was well practiced (creativity stimulant according to Amabile and Pratt, 2016), but majority of answers around communication, measuring or analyzing creativity and resourcing were negative. It came obvious during the workshop that the organization does not have clear metrics, and consequently it cannot create metrics if it does not have clear goals for its innovation process. Meeting practices, consistent operating models and stimulating employees’ proactiveness to creativity were also highlighted as areas for improvement. As Hansen and Birkinshaw (2007) posit, firms should keep an eye on the stages of its innovation process and especially on those stages where performance gaps exist. It’s there that effective monitoring and measuring should take place to effectively develop the process. Following Hansen and Birkinshaw (2007), the organization should ask questions at all stages of its innovation process to understand its performance. In the surveys, internal communication was brought up on few occasions as a form of coming up with “innovation stories” that would encourage other staff in innovating. This has a direct link to innovation value chain proposed by Hansen and Birkinshaw (2007), where one of the key questions is about collaboration across units not only during idea generation stage, but also at later

stages of spreading developed ideas across the organization. Haefner et al. (2021) add, that information processing is central activity in innovation in organizations and that effective management practices around communication are key to successful decision making.

Question 3: What are the common challenges or barriers faced by the organization in the front-end of innovation?

Based on the answers provided and observations made, a culture of “hurry” at HKScan may be hindering effective ideation. The organization organizes specific “Ideation days”, but few participants noted that it's essential to recognize that ideation should be integrated into everyone's responsibilities, not confined in the Ideation days. Tight schedules and prioritization issues exacerbate these challenges, leaving little room for thoughtful ideation during regular work hours. The process of generating ideas is often rushed, and product development may not have sufficient influence on shaping new concepts.

Culturally, a supportive environment for ideation is lacking, with ideas often being dismissed without adequate refinement. Interestingly, the lack of supportive culture did not actually pop up in the surveys performed, but in the comments section this observation was made on few occasions. Edmondson (1999) and Dyer et al. (2023) have highlighted the importance of psychological safety and intellectual honesty in supporting a creative and innovative culture and according to classification made by Dyer et al. (2023), the commissioner’s organizational culture can be considered a distressed with low psychological safety and intellectual honesty, leading to poor learning and innovation. The organization's unfamiliarity with openness to one another is a notable barrier. Rehn’s (2019) four Rs of deep innovation culture highlight the importance of Respect, Reciprocity, Reflection and Responsibility behaviors in organizations. No idea should go unnoticed, demands of the employees should be answered and the organization should constantly question their creativity and innovation culture for continued success.

With regards to tools and processes of managing ideas and innovation, ambiguities in project scopes and target audiences, along with slow decision-making and implementation challenges, further impede ideation efforts. The sharing of ideas among a broad audience without a secure platform poses risks of information leaks. The absence of a designated space for idea storage has hindered the effective utilization of an idea bank, and there is uncertainty about where to document ideas within the organization. During the workshop an idea was presented that new tools such as AR/VR or artificial intelligence could and should be utilized in the innovation process. With regards to AI, the idea was that AI could be used to search for the underlying insights in the consumer data the company possesses. Similar use of AI was highlighted in literature, as Haefner et al. (2021)

proposed using AI in overcoming *information processing constraints* in search for new opportunities.

Many of the resource and cultural elements written above are identified as creativity obstacles of the work environment by Amabile and Pratt (2016). One way or the other they negatively impact the resources in the task domain or motivation to innovate. Unclear project goals and inadequate tools to innovate are creativity obstacles of the innovation management skills domain. On some occasions, organization's capability to make decisions based on data was considered slow or otherwise rigid. Hill et al. (2021) identified creative resolution, i.e., ability to make decisions that combine disparate and opposing ideas as key organizational innovation capability.

Question 4: What kind of practices should be implemented into the front-end of the innovation management process to make it more efficient?

While the commissioning organization does not have a clearly defined process or tools in place to collect and process ideas for further development, I tried to capture the ideas brought up into a canvas that would support developing the cultural elements and management practices of the front-end of the innovation process. All ideas are presented in appendix 5.

The practices ideated within the scope of this thesis do not amend the current innovation process of the commissioner, but rather they propose "best practices". First, the process should be able to capture not only trends but also early ideas from across the organization. A common platform should be in place to capture and process these inputs. Culture of ideating should be incorporated into the whole organization and people should be encouraged into creativity by enabling creativity sessions or spaces for idea processing. The organization should be more transparent and utilize cross-functionality more in all its creativity and innovation work.

Further, the process should have a clear ownership defined. The innovation process should have clear goals defined and progress towards those goals could then be measured with appropriate metrics. A feedback loop should be established, and the organization should be made responsible in providing feedback for every idea. The leadership of the organization should come up with protocols for rewarding for success, but also for communicating about the innovation process and its outcomes. A facilitator is recommended to oversee the whole process and use all the tools available nowadays.

Finally, the organization should communicate and support its innovation process according to its values. Values Rehn (2019) proposes: Respect, Reciprocity, Reflection and Responsibility are in harmony with commissioner's values of: Inspire, Lead, Care and Deliver.

The proposed canvas is presented in figure 14.

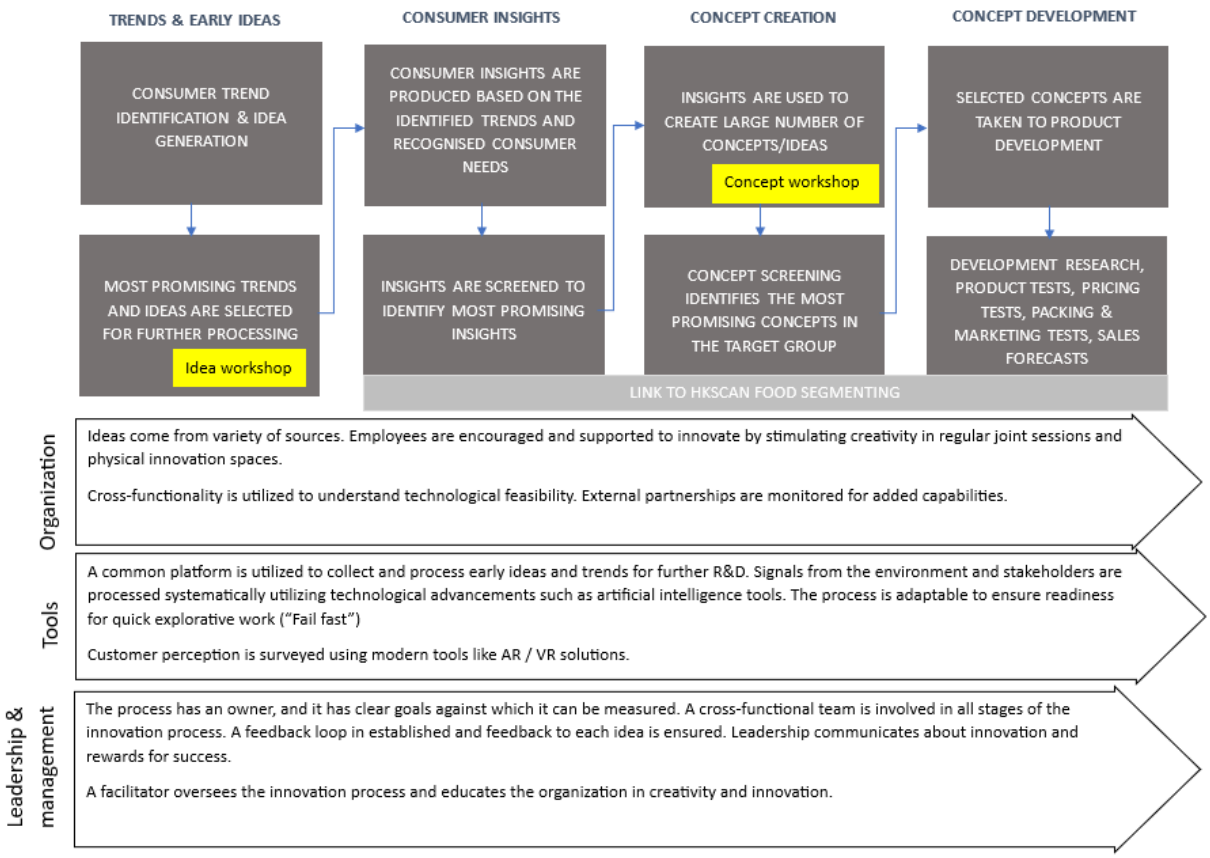

Figure 14. Commissioner's innovation process and proposed practices for further development.

By developing the process, the commissioning organization ensures that the innovation process:

- ensures commitment to creativity and innovation across the organization
- develops individual and organizational creativity
- further strengthens the culture of creativity and learning
- supports its corporate strategy in becoming a versatile food company

7.1 Further development recommendations

Internal cooperation of the organization cannot be emphasized too much when considering about creativity and innovation processes. While this thesis focused on practices and aspects of managing creativity and innovation, it is the people that matter.

The commissioning organization is implementing its renewed strategy in becoming a versatile food company and the innovation strategy is being reconsidered simultaneously. At the same time, the

innovation organization is being reshaped. Before implementing any new practices or processes, the cooperation of people and openness of the culture should be in focus. To have an efficient innovation process, all development of the system should be done by considering the voice of the people working with the processes. Internal cooperation is achieved by empowering people to take part in the development of the processes/systems. Shared efforts and common goals will lead to positive synergies and collaborative working methods will become way of doing things instead of working in siloes.

7.2 Reliability of the development work

A case studies is set up to solve a problem that an organization has perceived or alternatively, produce suggestions for development by doing research (Ojasalo et al., 2022). A case study usually gives answers to the questions “why?” and “how?”. The case is studied by considering the local and social situations and connections at the time. The purpose is to produce new knowledge to support development work. It is typical for case studies that several different data acquisition methods can be used, as the purpose is to gain an in-depth understanding of the case (Ojasalo et al., 2022). Both qualitative and quantitative methods can be used, based on what the purpose is.

For example, surveys generate quantitative or semi-quantitative data, that can be analyzed statistically, after which the results can be generalized over a larger population. Quantitative methods are appropriate when testing the validity of a theory. Qualitative methods, such as open-ended questions or interviews, collaborative methods etc. are always affected by the relationship between the interviewer and interviewee. Also, the target group taking part in the development work could affect the overall results. In this study, the target group consisted of white-collar workers, which are at least somewhat familiar with innovation. Had the target group consisted of blue-collar workers or included employees widely from other organizations than the commercial organization, the results of the surveys and workshop might have been slightly different. The person analyzing the data makes conclusions based on the answers and thus justification for the research questions is vital when considering the validity of the conclusions made from the data (Ojasalo et al., 2022).

In this development work, the surveys acted as methods to collect both qualitative and quantitative data. Ratings for scores were used to generate quantitative data, whereas open-ended questions or open comment sections were used to collect qualitative data. The survey questions were based on elements of known and recognized innovation management system elements, supported by findings made in the observation part of the development work. All results were generated and processed anonymously.

The chosen research methods and procedures were consistent with sound research design. The selection of participants was based on justifiable criteria and was made in collaboration with the commissioning organization. Part taking was voluntary. The anonymous survey was conducted online, and participants received an information email about the background of the study. Personal information was not requested or collected during the development work. All information collected during the development work was just only for the research work. When reviewing the methods for the development work and collected results, I can conclude that the methods were appropriate, and the research was correctly designed to be able to reach the set research objective. Several other focus areas could've been selected based on the results of surveys, but throughout the study the selected focus area was maintained, and the methods used supported each other in generating more confidence into the decision-making process.

7.3 Evaluation of the development work and personal learning

The main objective of this thesis was to develop front-end innovation management practices for the commissioner. Research questions were set to understand factors affecting creativity and innovation in organizations; how the current innovation process is perceived by the organization, what kind of barriers are they facing while implementing it and what kind of practices the organization wishes to implement into the process.

The theoretical framework expanded quite a lot, but partially that was also intentional decision from my perspective. I do not work in the innovation organization, and thus it was for my own benefit to understand "innovation" from different perspectives and generate understanding it also from the outskirts of the scope of this thesis. This was also the will of the commissioner as they currently lack a described innovation management system. This also led to some issues in framing the thesis and the research questions had to be modified to be more precise. To some extent, the initially wide scope made it difficult to maintain focus in the front-end of the innovation process and in some cases the development work slipped towards the back end of innovation processes. Eventually the research questions were drafted so that they supported the main objective of the thesis and answers to the research questions could be concluded based on the theoretical framework and development work.

The thesis did not progress so well at times. I was given topic for the thesis in April 2022. At that time the scope of the thesis was very vague consisting of "drafting a complete innovation management system" for the commissioner. I participated in the workshops the commissioner had around its innovation strategy, but for the remainder of 2022 the thesis was on hold. In January 2023 I was assigned with my thesis supervisor, and it was then that the work was actually started. Theoretical framework was written in Spring 2023 and September – October was used for the development

work. Results and conclusions were presented to the commissioner in November 2023 simultaneously finishing the work and sent for approval.

This thesis has taught me a lot not only from the processes of the commissioner but from the topic itself. Innovation is a quite trendy topic now, but I've never had the opportunity to form a complete picture of this phenomenon. The thesis taught me a lot about development work, I've gained new perspectives, insights, knowledge, and a few gray hairs. I hope that someday I will be able to utilize the learning made during this period in my work life.

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Appendices

Appendix 1. Survey questions to understand current state of the innovation process

1	**Understanding of external trends and drivers** This definition corresponds to level 3: External trends and drivers that are relevant for the purpose of the organization are regularly determined and analyzed. Areas of opportunity for potential value realization are determined.
2	**Understanding of internal capabilities and assets** This definition corresponds to level 3: Internal capabilities and assets that are relevant for the purpose of the organization are regularly determined and analyzed. Areas of opportunity for potential value realization are determined
3	**Culture supporting creativity and deployment** This definition corresponds to level 3: A culture that supports innovation activities, both in terms of creativity and deployment, is promoted in the organization and characterized by e.g., openness, risk taking, collaboration, diversity, and learning.
4	**External and internal innovation collaboration** This definition corresponds to level 3: An approach for the management of internal and external collaboration, e.g., for facilitating the sharing and access to knowledge, competence, and resources, is established, and is based on an understanding of the existing capabilities of the organization.
5	**Top management commitment** This definition corresponds to level 3: Top management is demonstrating leadership and commitment with respect to managing innovation activities, e.g., related to innovation strategy, objectives, culture, support, structures, processes, and communication. Leaders have established an inspiring vision and purpose and are continuously engaging people to achieve those aims.
6	**Innovation vision and strategy** This definition corresponds to level 3: Top management has established, implemented, and is maintaining an innovation vision and an innovation strategy, or several innovation strategies if appropriate. The innovation vision provides the framework for setting the innovation strategy, policy, and objectives. A strategy can include descriptions of why innovation activities are important, the context of the organization, the innovation vision and policy, roles and responsibilities, innovation objectives and plans, as well as the structures, processes and support needed to achieve those objectives.
7	**Innovation policy** This definition corresponds to level 3: Top management has established, implemented, and is maintaining an innovation policy that is appropriate to the purpose of the organization. The innovation policy can describe the commitment to innovation activities and provides the framework for setting innovation strategy and objectives.
8	**Organizational roles, responsibilities** This definition corresponds to level 3: Top management has ensured that the organizational responsibilities for relevant roles are assigned, communicated, and understood in the organization. Responsibilities related to innovation activities can be assigned to existing roles, e.g., project

	manager, business development, or dedicated roles with a focus on innovation management.
9	**Innovation objectives and action plans** This definition corresponds to level 3: Innovation objectives are established at relevant functions and levels in the organization. The objectives are consistent with the innovation policy and are measurable or verifiable. Actions to address risks related to innovation activities are determined.
10	**Organizational structures for innovation activities** This definition corresponds to level 3: Top management has ensured that relevant and adaptable organizational structures are established and that they have the necessary resources and are appropriate to the expected types of innovations to be achieved, e.g., radical or disruptive innovations.
11	**Innovation portfolios** This definition corresponds to level 3: One or more innovation portfolios of innovation initiatives/projects are established, managed, and regularly evaluated. Each portfolio is aligned with the innovation strategy and objectives, and its performance is communicated to top management.
12	**Resources supporting innovation activities** This definition corresponds to level 3: Resources supporting innovation activities are determined and provided in a timely manner, e.g., people are empowered and have the necessary time to innovate, knowledge is effectively managed, and the necessary funding and infrastructures, physical and virtual, are available.
13	**Competence** This definition corresponds to level 3: The necessary competences are developed and managed, e.g., by providing training, for persons involved in innovation activities, and the need for outsourced competence, e.g., academia, consultants, or other partners, is considered
14	**Communication and awareness** This definition corresponds to level 3: Internal and external communications relevant for innovation activities are determined, and all relevant persons are aware of the importance of innovation activities for the organization and the innovation vision, strategy, policy, and objectives.
15	**Innovation tools and methods** This definition corresponds to level 3: Tools and methods for supporting innovation activities are determined, provided, and maintained, including e.g., descriptive, analytical, provocative, and communicative tools and methods.
16	**Intellectual property management** This definition corresponds to level 3: An approach for the management of intellectual property, e.g., patents, copyrights, and trademarks, is established in alignment with the innovation strategy, including the rationale for what intellectual property assets to be, and not to be, protected.
17	**Innovation initiatives/projects** This definition corresponds to level 3: Innovation initiatives/projects, including the necessary processes, structures, and resources, are planned, implemented, and controlled

	to address innovation opportunities. The scope, purpose, decision-making structure, the degree of internal and external collaboration, and roles and responsibilities for each initiative are established.
18	**Configuration of innovation processes** This definition corresponds to level 3: Innovation processes are configured and established to suit each innovation initiative/project depending on, e.g., the type of innovation to be achieved, internal or external collaboration, or other organizational factors. Initiatives can e.g., be implemented internally, in partnerships or through outsourcing or acquisitions.
19	**Processes to identify opportunities** This definition corresponds to level 3: Processes to identify and define innovation opportunities are established, including e.g., the acquisition of insights and knowledge from internal and external sources about stated and unstated needs and expectations as well as the articulation of the value that can potentially be realized.
20	**Processes to create and validate concepts** This definition corresponds to level 3: Processes to create and validate innovation concepts are established, including e.g., the generation, selection and development of ideas and potential solutions from internal and external sources, as well as different validation approaches, e.g., tests and experiments to reduce uncertainties and gain new knowledge.
21	**Processes to develop and deploy solutions** This definition corresponds to level 3: Processes to develop and deploy solutions are established, including e.g., the consideration of the value realization or business model, intellectual property issues, legal requirements as well as the necessary deployment capabilities e.g., promotion, production, supply, and ecosystems. Processes to monitor and learn from the adoption of the innovation and the impact in terms of value realization are established.
22	**Innovation performance indicators** This definition corresponds to level 3: Innovation performance indicators are determined based on what needs to be monitored and measured, e.g., the innovation strategy and objectives. Input-, throughput-, and output-related indicators are considered.
23	**Performance evaluation and improvement** This definition corresponds to level 3: Innovation performance is regularly analyzed and evaluated in relation to e.g., the innovation strategy and objectives. Opportunities for improvement are determined and the necessary actions are implemented.

Appendix 2. Answers to Survey 1.

	n	Average	Median	Stdev
Question 1	25	3,52	4,00	1,05
Question 2	25	2,92	3,00	0,91
Question 3	25	3,08	3,00	0,91
Question 4	25	2,92	3,00	1,04
Question 5	25	3,36	3,00	0,81
Question 6	25	3,64	4,00	0,86
Question 7	25	3,00	3,00	1,12
Question 8	25	3,44	3,00	0,92
Question 9	25	2,78	3,00	1,04
Question 10	25	2,76	3,00	1,01
Question 11	25	2,84	3,00	0,94
Question 12	25	2,36	2,00	1,11
Question 13	25	3,00	3,00	0,96
Question 14	25	2,96	3,00	1,14
Question 15	25	3,00	3,00	1,08
Question 16	25	3,42	4,00	1,21
Question 17	25	3,32	4,00	0,80
Question 18	25	3,28	3,00	0,94
Question 19	25	3,28	3,00	0,94
Question 20	25	3,28	4,00	1,02
Question 21	25	3,20	3,00	1,00
Question 22	25	3,29	3,00	1,12
Question 23	25	3,08	3,00	1,00

Appendix 3. Questions of Survey 2.

Q1: Are ideas being discussed and developed together?

Q2: Are the necessary resources taken into account in the development of ideas?

Q3: Do the metrics of innovation activities measure the success of ideation work?

Q4: Is there enough communication about ideation and innovation work within the organization?

Open Q1: What do you think hinders ideation, developing them together, or implementing ideas?

Open Q2: "How do you think ideation work should be organized, for example, to improve communication?”

Open Q3: "How should ideation work be resourced in your opinion?

Open Q4: "How and where would you like to hear and further develop ideas generated by the organization?”

Open Q5: "How do you think the objectives of ideation work should be monitored?”

Open Q6: "How else would you develop ideation practices?

Appendix 4. Open answers to Survey 2.

Open Q1: What do you think hinders ideation, developing them together, or implementing ideas?

“The mantra of 'hurry, hurry, hurry' that is echoed and diligently implemented at HK. Do we understand that ideation is part of everyone's job, meaning everyone has the opportunity to generate ideas, not just on 'ideation days'? The encouraging atmosphere is lacking; ideas are more often dismissed by explaining why they are not feasible, rather than refining the idea; this way it could work even better.”

“Either the frames are too broad or there is no clarity about what is wanted and for whom.”

“Decision-making is slow. Sometimes it is challenging to implement ideations in practice.”

“The openness of organizations to each other is an unfamiliar operating model at HK.”

“Far too tight schedules and their prioritization.”

“There is no time to ideate during work / ideas come already 'chewed up' / product development itself has little influence on new product ideas, as they come to product developers as preconceived notions. Ideation should involve the resources of various organizations extensively, but there is rarely enough time for ideation that is fruitful in terms of time use. Calendars are full, and last-minute cancellations often occur if ideation is booked well in advance when calendars are still empty. Ideation often happens hurriedly within a day, when a calm time and preferably an external space should be reserved for it. Sharing ideas later among a large audience doesn't seem reasonable to me, as leaks from the organization can occur. Additionally, there has been no agreed-upon common place for storing ideas, so the idea bank has not been able to be utilized.”

“Schedules: New types of products require a longer product development pipeline than traditional line extensions. Background work: Proper briefings, enough (consumer) data in the background. Testing of concepts is completely missing.”

“Time scarcity is challenging in finding common time. Some parts of the organization are unsure where to record an idea.”

“Lack of time, many things take precedence over ideation."

Open Q2: "How do you think ideation work should be organized, for example, to improve communication?”

“Internal communication is important. Sharing information about innovation work and achieved results. Telling stories: where the idea started, how it progressed, what happened next - including the stumbling blocks along the way and either falling or rising from them.”

“Allocation of resources and demand for which innovations are actually needed.”

“Designate responsible persons and conduct regular monitoring/reporting in agreed-upon forums.”

“Have a dedicated channel for ideation and innovation work, visibility, within the limits of what can be disclosed.”

“Everyone uses the agreed-upon ideation tool, currently we use INTO. It should be available for everyone.”

“In my opinion, dedicated time should be given for ideation, not just on innovation days. It would be easier to generate ideas if there were smaller group ideation sessions more frequently.”

“Information about ideation itself could be shared in, for example, the intranet news or blogs. However, I don't support sharing ideas among a larger audience, as we don't want idea leakage to occur. We have a high turnover rate, and publicly sharing ideas within the organization is a risk.”

“Clearly present the category, marketing, and sales desires, so that product development doesn't work alone in generating and advancing ideas.”

“The message could be conveyed through success stories."

Open Q3: "How should ideation work be resourced in your opinion?

“Ideas do not emerge without time. I don't believe specific ideation roles are needed, as ideation should be part of everyone's work, but time must be allocated for it. Ideation work can involve market research, reading articles, etc., not just staring at a wall and waiting for inspiration.”

“Team days are a good way to do ideation together.”

“A full-time facilitator who could work cross-border, supporting different organizations with various innovation methods and processes.”

“Organize ideation days at suitable intervals, as is currently done. Assign a certain number of projects to each based on their level of complexity. Teams have different numbers of people; some have three and 30 products to develop, while in others there are three product developers and four products to develop.”

“Category-based ideation sessions. Could a product developer lead ideation once a year in their own location? Collaboration with production could be a fruitful brainstorming session, knowing the possibilities of their own location and involving different stakeholders in the ideation process.”

“Ideation work currently takes place in an organized manner within product development, categories, and marketing. Factories could be more actively involved in ideation, for example, by organizing an annual ideation competition among the staff.”

“There is already Chef Network, which generates ideas for Kitchen Innovation Day. Here too, category and marketing support is needed. The development of completely new types of products takes more time and technological expertise.”

“Have an owner for ideas and the idea pool.”

“More time should be allocated for this in everyone's calendar."

Open Q4: "How and where would you like to hear and further develop ideas generated by the organization?”

“If there were a platform where ideas could be collected and further developed. Separate innovation workshops also work.”

“Workshops and the intranet.”

“Within my own team.”

“In my organization's weekly/monthly meetings, on the boards in the factories for highlights, etc.”

“In my product development team's own meetings.”

“Team meetings would be a good place.”

“Idea refinement should be handled in some way with electronic tools, so they don't end up stuck in spreadsheets and emails.”

“Perhaps there could be an Innovation workshop to refine ideas further.”

“If one could see others' ideas, it would be possible to further develop them. A list works, but a visual with a short description would be nice.”

“In a separate forum, but still in smaller groups."

Open Q5: "How do you think the objectives of ideation work should be monitored?”

“How ideas are commercialized and subsequently tracking normal commercial metrics.”

“In joint meetings.”

“Quantity, quality (implementation), potential cost, but also benefit in terms of euros.”

“Every few weeks, we review progress. We conduct tastings and record opinions in writing. Taste is also evaluated in writing.”

“Appropriate KPI metrics should be established for parallel monitoring with other indicators.”

“Currently, we only track whether the products are launched in the market on time. It could be monitored how many of the ideas selected in the product development pipeline are ultimately launched.”

“How many percent of the GM was achieved based on ideation...”

“For example, proposed ideas vs. ideas that were implemented."

Open Q6: "How else would you develop ideation practices?

“It's not directly related, but in many locations, we have long corridors where display cases could showcase ideas: packaging development, product development progress, highlights of advertising, production methods, milestones in sustainability, etc. This way, actions and progress would be concretely visible to people, reminding them of achievements.”

“More training and information.”

“Introduce a facilitator who could work in different organizations, thus involving everyone in such formal innovation activities.”

“Stick to schedules and respect each other's work.”

“Ideation should be part of daily activities, not just on innovation days. I believe everyone comes up with ideas while conducting experiments. However, there isn't a designated place to address those ideas. Currently, I think product development doesn't generate many new products; they come from somewhere else. Product development is a recipient that implements someone else's ideas. I would like it to be such that product development receives information about the types of products needed, and they can then come up with ideas and present the finished concepts back to sales/categories.”

“Ideation management should have a clearly designated responsibility, indicating who/which organization is in charge of the ideation process, what stages the process includes, and how responsibilities are distributed. Clear metrics for monitoring.”

“I would schedule it earlier; ideation needs time and space to breathe. It's difficult to generate something very new in a short amount of time because it often requires not only the idea itself but also the technological capabilities for implementation.”

“Prioritizing ideas. Currently, we try to score too many goals at once, and product development resources run out. Definitely separate ideation for product maintenance and process development.”

“Give the entire organization the opportunity to participate in ideation."

Appendix 5. Ideas recorded in the workshop

How practices around allocation of time for ideating could be improved?

“Creative spaces that would encourage for creativity and innovation”

“Joint creativity sessions held regularly”

“Review of trends in regular intervals”

“Increase education in creativity and innovation”

“Theme reviews outside Innovation days”

How practices around collecting and processing of ideas could be improved?

“Empty spaces could be utilized for innovating”

“Insight should be made visible to encourage creativity and innovation”

“Common platform for collecting ideas”

“Ideas should get feedback and transparency of the process should be developed”

“A team should be assembled to review ideas”

“Networks and consumers should be utilized further for collecting ideas”

“Fast lane for certain ideas – Fail fast”

“New technologies could be utilized in testing of ideas and concepts, like AR / VR”

“Collect ideas outside of one’s own bubble”

“Increase collaboration across different functions”

“Collect silent signals”

“AI could be utilized further to understand and harmonize ideas more effectively”

What kind of practices could be implemented to improve communication?

“There should be a forum for communication about new technologies”

“Partnerships and their capabilities should be communicated more broadly”

What kind of practices should be implemented for leading and measuring creativity and innovation?

“Success rate of product launches”

“Hard vs. soft measures”

“Metrics of the culture”