

Differences in the scale of innovation implementation in financial services organizations in Austria

A Master's Thesis submitted for the degree of
“Master of Business Administration”

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Affidavit

I, **OLGA RYABTSEVA**, hereby declare

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ABSTRACT

This Master Thesis analyses the influence of the company's current innovation strategy on its innovative project portfolio, as well as examines which further factors play an important role when it comes to the choice of innovative projects. In the variety of available innovative solutions on the market, it is not an easy task for the market players to balance their innovative ambitions and capabilities and, at the same time, offer unique products and services to the customers. The dilemma about the healthy mix of the projects in the innovative portfolio has high relevance for the market players in the circumstances of the COVID-19 pandemic when many organizations have been forced to change their business and operating models, to turn towards digitalization and online business, to promote new ways of collaboration for their employees and customers. Choosing a suitable way to embed innovative solutions into the company's existing landscape and corporate culture is not an easy and obvious task. This challenge cannot be mastered without putting in enough effort and following a clear strategy.

For understanding the motivations for the choice and scale of the innovative projects, a framework has been developed to cover the main cornerstones of the research: innovation strategy, innovative projects portfolio, and the factors influencing the composition of the innovative projects' portfolio and their scale. In the next step, a questionnaire has been developed to cover the framework-relevant questions. In the course of the interviews with representatives of the banks operating in Austria and a FinTech start-up, a list of twenty-one factors relevant for the innovative portfolio decision-making has been developed and grouped into five categories. The results of the research disclosed the fact that not only the innovation strategy and goals play an important role but numerous further factors as well. These factors can be considered directly or indirectly as elements of the innovation strategy construct: resources and capabilities, as well as factors relevant for the customers, market, and stakeholders' interaction. The conducted interviews delivered answers to the research questions and helped to discover the motivations behind the decision-making related to innovative portfolio management and the role of the innovation strategy.

Keywords: innovation, innovation strategy, innovative portfolio

ACKNOWLEDGMENTS

To Igor, Theodor Fyodor, and my family for their love and incredible support that helped me to stay motivated.

A special „thank you” goes to the interviewees for sharing their opinions and helpful insights.

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The approved original version of this thesis is available in print at TU Wien Bibliothek.

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LIST OF ABBREVIATIONS

AI – Artificial Intelligence

API – Application Programming Interface

BMI – Business Model Innovation

CFO – Chief Finance Officer

COVID-19 - Coronavirus disease 2019

DNA – Deoxyribonucleic Acid

EIS – The European Innovation Scoreboard

FTE – Full-Time-Equivalent

IRR – Internal Rate of Return

ML – Machine Learning

NLP – Natural Language Processing

NPV – Net Present Value

OCR – Optical Character Recognition

OECD – Organisation for Economic Co-operation and Development

RoI – Return on Investment

TBL - The Triple Bottom Line

TI – Technological Innovation

1 INTRODUCTION

1.1 Problem formulation

Nowadays it is hard to imagine a company that is not having innovation on its agenda. Big corporations employ innovation officers and establish organizational units or teams focusing on elaboration of innovation strategy and driving innovative projects. Start-ups have innovation in their DNA as the product or service they bring to market is innovative per definition. What they share in common is that the ability to innovate is vital for survival in the market in the VUCA world (characterized by Volatility, Uncertainty, Complexity, and Ambiguity).

Especially in this day and age, when many companies have been forced by the COVID-19 pandemic to shift their activities towards online business and had to rapidly change and digitalize the processes, innovative solutions are required everywhere. And innovation implementation has been seen as the only possible way for business survival. To be well prepared for the changing circumstances for business activities the companies have to analyze the landscape in advance and plan innovation implementation following their innovation strategy. Innovation strategy and thoughtful portfolio management of innovative projects are needed to mitigate the risks and be in a position to cope with unexpected events, moves from other market players, or market changes.

Innovation strategy determines the vector of organizational development and serves as guidance for the management of the innovative projects portfolio. To fulfill the goals, these goals have to be clearly formulated and go in hand with the company's strategy. In real life, corporations allowing enough autonomy for business departments may face a situation when different departments solely implement similar solutions, even when they are aligned with the company's goals and strategy. While lacking alignment within the organization, the efforts may be too extensive and, in the end, the real potential of the innovation implementation not completely fulfilled. To avoid such situations, innovation strategy should be set up as a clear direction and foresee roles or mechanisms in the organization to avoid unnecessary efforts duplication and, at the same time, allow maximization of innovative potential.

The novelty and relevance of this work lie in the analysis of the link and interrelation of the scale of innovative projects and the company's innovation strategy. Portfolio management of

innovative projects has been analyzed by several researchers however, none of the scrutinized studies puts enough emphasis on the influence of innovation strategy on the difference in scale of innovation implementation.

The focus of this Master Thesis lies in qualitative, not quantitative analysis. For the empirical part of the Master Thesis, the interviews served as the method for information gathering. Semi-structured deep-dive interviews have been conducted with representatives from financial organizations in Austria. This Master Thesis is of high relevance for business practitioners dealing with innovative projects and involved in the decision-making and innovative projects portfolio management.

As a reaction to the limitations caused by the pandemic, many companies started looking for changes in their business models and the application of innovative solutions. It has always been a bit of a challenge to align goals and strategic actions across parties and stakeholders in traditional organizations, having all departments physically present in one office building. Under COVID-19 pandemic conditions, when the majority of employees worked from their home offices, the alignment became even more complicated. At the same time, the need for innovative solutions increased due to the same reason, and companies had to become more flexible, digital, and innovative. Further impact of COVID-19 can be observed in customers' behaviour as the preferences have changed dramatically toward the digital experience.

Researchers Luo and Galasso summarized the pandemic effect on the customers' behaviour and businesses by saying: "differences in consumer preferences may generate valuable business opportunities. The demand for new digital products, formats, and the content will intensify. This will speed up automation and digitization investments and generate new products, services, and business models." (Hong Luo, Alberto Galasso, 2020, Harvard Business School Working Knowledge). Even when the companies are forced to change their business models and adapt rapidly to the new circumstances, in the long run, these changes with the introduction of innovative solutions may have a positive effect on all business areas, resulting in new business opportunities, better working conditions, and better customer experience.

The theoretical framework presents a summary of different views on innovation and its nature disclosed by researchers in the last decades: technological and business model innovations, types and dimensions of innovation (routine, disruptive, radical, architectural), different levels

of product innovativeness for the company vs. for the customers and market. It also covers researchers' views on innovation strategy and cornerstones in its development, as well as such concepts as “The Innovation Landscape Map”, “The Innovation Ambition Matrix”, “The Innovation Value Chain”. Furthermore, it provides the researchers with an outline for the importance of the alignment of business and innovation strategies. The cornerstones in the management of innovative portfolio and choice of innovative projects have been covered in this Master Thesis as well.

1.2 Research aims, objectives, and research questions

In this Master Thesis, we plan to analyze differences in the scale of implementation of innovative projects depending on the innovation strategy of companies, based on the examples from financial services organizations in Austria.

For research purposes, there are two groups of terms that have to be defined and differentiated: **innovation strategy and innovative portfolio**. The characteristics of both terms are summarized in the table below. In the course of the studies, we consider „innovation strategy” as the independent variable, and “innovative portfolio” and “scale of projects implementation” as the dependent variables.

The main research question is:

- **How does the current innovation strategy of a company influence its future innovative portfolio?**

The main research question is divided into two specific research questions:

- **Research question 1:** To what degree company’s Innovation portfolio is determined by its innovation strategy?
- **Research question 2:** What are the factors that influence the scope and scale of innovation implementation?

| | Innovation Strategy | Innovative Portfolio |
|--|---|---|
| Definition | <p>“Strategy is a set of related actions that managers take to increase their company’s performance”.</p> <p>“Innovation strategy” is a set of decisions and actions of a company related to the innovation generation and/or implementation.</p> | <p>All innovative initiatives and projects together build up an innovation portfolio of a company.</p> <p>“Innovation is a practical implementation of an idea into a new device or process”, however, there are further classifications as well: business model innovation, marketing innovation, product innovation.</p> |
| Main cornerstones of the concept | Course of action to achieve long term goals by applying company’s resources and capabilities. | <p>Different classifications of innovation types and initiatives: radical versus incremental innovation, innovation from customers’ or firms’ perspective, scope of implementation:</p> <ul style="list-style-type: none"> • enhancement of company’s core business offerings • adjacent opportunities • transformational initiatives. |
| Realization in the business context | Setting a course and frame for innovative actions in the organization in a form of goals fixed in the innovation strategy paper | Already implemented or future/ planned for implementation innovative projects, e.g. realized Artificial Intelligence initiatives |

TABLE 1 - RESEARCH VARIABLES, THE DEFINITION OF THE MAIN TERMS

To answer the research questions a framework has been developed based on the practices applied at the leading financial organizations in Austria for the management of their innovation portfolio. The insights have been gathered through interviews with project managers and employees from the respective departments which deal with innovative solutions and projects’ implementation. Interviews have been conducted in a semi-structured interview format to gather qualitative results. The research framework includes questions, grouped into three logical parts, resulting from the comprehensive literature review. Interviews were aimed at gathering insights from the real businesses on the main elements of the research construct of this Master Thesis:

- Innovation strategy
- Innovative projects portfolio
- Factors, influencing the scale of the innovation implementation

The previously conducted researches on the topic of innovation and innovation strategy do not cover the interrelation between the innovation strategy and portfolio of innovative projects the

companies are running. This Master Thesis aims at filling this gap by analyzing the link between the two terms, as well as investigating the influence of further factors on the innovative portfolio setup. The need for further elaboration on this topic comes from the business context, so it has high applicability and value for business practitioners in financial organizations.

1.3 Structure of the Master Thesis

The chapter layout of the thesis contains the following main parts:

- Introduction to the Master Thesis research background and research questions
- Literature review of the terminology and relevant issues
- Research methodology framework definition
- Description of the research findings
- Summary of the research results



FIGURE 1 - STRUCTURE OF THE MASTER THESIS

2 LITERATURE REVIEW

2.1 Introduction

The results of the conducted literature review are presented in this chapter and cover the main terminology mentioned in this paper: innovation, types of innovation, business strategy, and innovation strategy, as well as a digression into innovation portfolio and management of the innovation portfolio. Innovation can be found everywhere, and it is considered by many enterprises as a vital source for their existence. However, just having an innovative product or service does not automatically mean that a company has a solid innovation strategy, and, vice versa, just having an innovation strategy does not guarantee any company to become immediately an innovation pioneer. The literature review chapter presents a deep dive into terminology and the patterns of the innovation, innovation strategy, and its link with the overall business strategy of a company. Moreover, it makes a digression into the innovative project portfolio management because an “effective portfolio management is vital to successful product innovation” and “having the right balance between numbers of projects and the available resources or capabilities is key” (Cooper et al, 1999).

The detailed literature review not only covers the main terms that are in focus for this Master Thesis and its classifications formulated by various authors but also clearly differentiates between the main research variables presented in the introduction chapter of this Master Thesis (innovation strategy and innovative portfolio).

2.2 Definition of innovation

The term “innovation” is often simplified in the daily language and is misused just as a “buzzword” and synonym for something new. The newness can spread over technologies, organizational setup, products, services, processes, so there is a broad palette for innovation categories.

In simple words, „innovation is a practical implementation of an idea into a new device or process” (Schilling, 2020, p.19). Many definitions circulating in the literature have the word „idea” as a starting point for the innovation definition. To be truly qualified as an innovation, the use of an idea has to be ensured and it has to be brought to the market

(“commercialized”). Another building block of the innovation definition is the application field of the innovation phenomenon: it can be a process, a product, or a business model. The novelty of an idea may differ and can present a slight change to the existing product, or solution only (incremental innovation), or may be a breakthrough compared to the existing products, or solutions (radical innovation).

Varadarajan (2018) conducted a detailed literature and definition review of the innovation term, and proposed a more enhanced definition when considering additional attributes, thus, the innovation definition expands into “creation of value by using relevant knowledge and resources for conversion of an idea into a new product, process or practice or improvements of an existing product, process or practice” (Varadarajan, 2018, p.154).

Scientific literature proposes a classification of the types of innovation, where the “end-user” or recipient of innovation plays a “differentiator role” for the classification: some topic can be seen as innovative by customers or by a company. In the literature, this classification can be found as a “typology of new products, distinguished customer and firm perspectives on product newness” proposed by Booz, Allen, and Hamilton (Booz, Allen, Hamilton, 1982, cited by Danneels and Kleinschmidt, 2001). Newness to customers vs. newness to firms can be illustrated by the following example: for some company introduction of the new features to its products or services may be seen innovative as this company does not have it yet in the portfolio and would need to change the production processes and products for its implementation. At the same time, these products or services cannot be considered as innovation for the customers anymore because customers may already get it from other companies, which already possess it in their portfolios. This example discloses another dimension – the market. What is new to the company is not necessarily new to the market. However, according to Danneels and Kleinschmidt (2001, p. 360), the newness to market in the Booz, Allen, and Hamilton typology can be interpreted as “the innovativeness of the product to its potential customers”, so the definitions are aligned or even overlapping.

It is worthwhile to mention the definitions of technological innovation and business model innovation. Previously an innovation was associated mainly with new technologies and strength of the R&D, some studies argue that today’s innovation must include business models, rather

than just technology and R&D (Chesbrough, 2007) and would consider a better business model to matter more for companies' success than a good idea or unique technology.

Technological innovation is a process "through which industry conceives and develops new products or production processes" (Flynn, 2018). During the literature review, the Master Thesis author recognized that there is not much differentiation between "innovation" and "technological innovation" in the literature. The term „technological innovation" is used for most innovations, except there is a clear reference to some other type of innovation, e.g., business model innovation, marketing innovation, product or process innovation. The reason could be a strong association of something "new" with the introduction and exploitation of some new technology, so it appears to be a "technological innovation".

Business model innovation (BMI) means changes in the way of doing business. Business models can be seen both as „a vehicle and a source of innovation" (Foss, Saebi, 2015, p.5). There are several approaches on the role of the business model for innovation, i.e. business models can be seen "as enablers of innovation" and "focusing device that mediates between technology development and economic value creation" (Foss, Saebi, 2015 citing Chesbrough, Rosenbloom, 2002, "The Role of the Business Model in Capturing Value from Innovation: Evidence from Xerox Corporation's Technology Spinoff Companies." *Industrial and Corporate Change*, 11 (3): pp. 529–555. p. 532).

While "...business model is a system made up of the interdependent activities that allow the company to address the "What?," "Who?," "How?," and "How much?" questions" (Foss, Saebi, 2015, p.107), the business model innovation deals with the changes related to the business model components, in particular, organizational design, value proposition, "firm boundaries" (owned and controlled firm's productive assets)" (Foss, Saebi, 2015, p.120 citing Hart, O. 1995. *Firms, Contracts, and Financial Structure*. Oxford: Clarendon Press.).

Christensen et al (2016, p.33) highlight four elements of a business model: value proposition, resources, profit formula, and processes, and depending on the maturity of a business model on every stage in the "BMI journey" (three stages in total according to Christensen classification), it is accompanied by specific types of innovation.

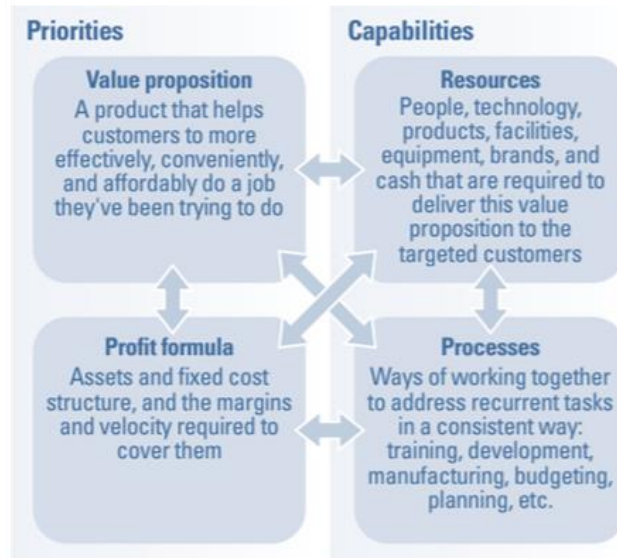


FIGURE 2 - THE ELEMENTS OF A BUSINESS MODEL, CHRISTENSEN, BARTMAN, AND VAN BEVER (2016)

An exhaustive overview of innovation dimensions is proposed by Pisano in an „innovation landscape map” (Pisano, 2015, p.50). It can be used for the categorization of the innovation types and evaluation of their fit into companies’ business by assessing the effect of innovation introduction into business and whether it requires leveraging of the existing capabilities or requires new ones. „Innovation landscape map” described by Pisano covers the following innovation categories:

- Routine (results in enhancement of existing technological competencies and fits with existing business model),
- Disruptive (“an innovation that fundamentally transforms the way the value gets created and distributed in an industry”¹ (Pisano, 2014); it leverages existing technological competence and requires a new business model),
- Radical (requires new technological competence and leverages an existing business model),
- Architectural (combination of technological and business model disruptions).

¹<https://hbr.org/2014/06/in-defense-of-routine-innovation> „In Defense of Routine Innovation” by Gary P. Pisano June 10, 2014, assessed on 18th of April 2021

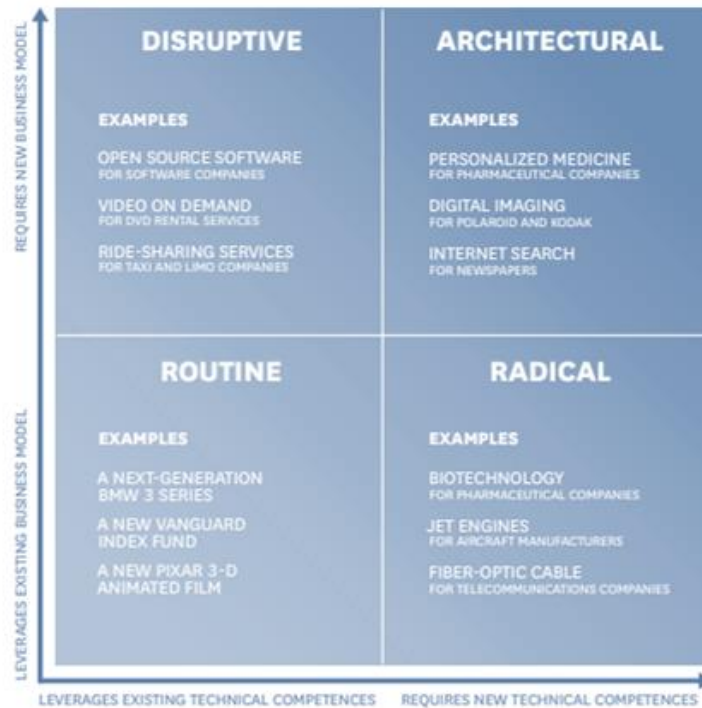


FIGURE 3 - THE INNOVATION LANDSCAPE MAP, PISANO (2015)

Danneels and Kleinschmidt (2001, p.361) examine one more perspective by continuing the idea of differentiation between customers' and the company's perspectives to innovation. They are focusing on the firm's perspective. In their work, they emphasized the "multidimensionality" of the product innovativeness and suggested evaluation of new products on their degree of fit with their firm technological and marketing competence, saying that both dimensions – fit with technological and marketing competencies – are crucial. Garcia and Calantone (2002) came to a similar conclusion, by saying that both technological and marketing perspectives have to be considered for innovations identification. Both mentioned studies - Danneels and Kleinschmidt vs. Garcia and Calantone - have been focused on product innovativeness and conducted an analysis using a "multilevel" or "multidimensional" approach for product innovativeness.

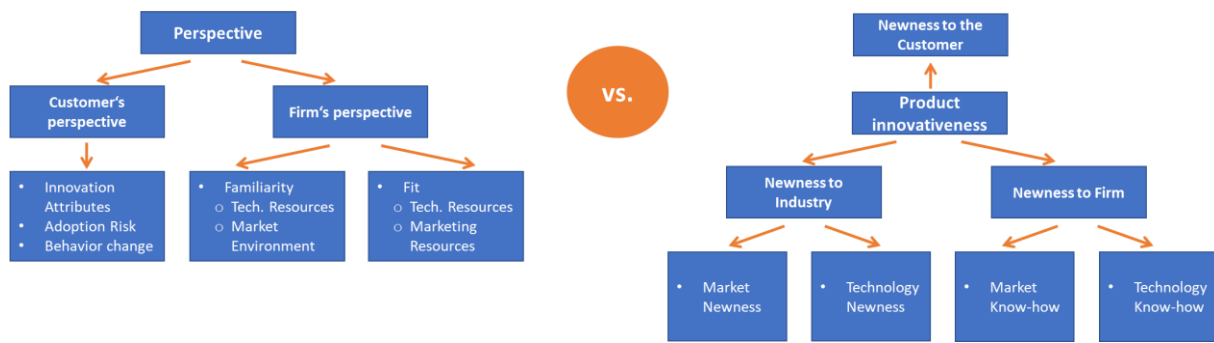


FIGURE 4 – DIMENSIONS OF PRODUCT INNOVATIVENESS”, DANNEELS AND KLEINSCHMIDT (2001) (GRAPH ON THE LEFT) VS. “OPERATIONALIZATION OF INNOVATIVENESS”, GARCIA AND CALANTONE (2002) (GRAPH ON THE RIGHT)

In the literature, there can be often found a link between a company’s innovativeness and R&D spending. However, as highlighted by the study „Global Innovation 1000”² published in strategy+business by Jaruzelski, Chwalik, and Goehle (2018), companies that count to the “Top R&D spenders” are not automatically Top-Innovators. Moreover, financial organization (banks, insurance companies) that are in the focus of this Master Thesis, historically do not count to the prominent R&D spenders and there is usually no R&D department in financial organizations. However, there might be a role of a Chief Innovation Officer, leading a respective department and provided a dedicated innovation budget.

Gault (2018) in his work provides the definitions of the four types of innovation which are used by OECD in the Oslo Manual:

- “Product innovation is a product, made available to potential users, that is new or significantly changed for its characteristics intended uses”.
- “A production or delivery innovation is the implementation of a new or significantly changed production or delivery process. This includes significant changes in inputs, infrastructure within the institutional unit, and techniques”.

² [What the top innovators get right \(strategy-business.com\)](https://www.strategy-business.com/article/What-the-top-innovators-get-right), assessed on 25th of April 2021, strategy+business survey „Global Innovation 1000” by Jaruzelski, Chwalik and Goehle (2018)

- “An organizational innovation is the implementation of a new or significantly changed organizational method in the business practice, workplace organization or external relations of the institutional unit”.
- “A marketing or communication innovation is the implementation of a new or significantly changed method for promoting products”.

Some researchers focus on the approach of measuring the inputs and outputs of innovation activities when studying the innovation phenomenon. „Innovation requires the transformation of knowledge capital or innovation inputs into innovation outputs, such as the introduction of new products or processes, increased quality of existing products or processes, and marketing or organizational changes. (Cirera, 2020 referring to Gault 2013)

2.3 Management of innovative portfolio

Companies usually run not just one initiative or innovative project but several initiatives simultaneously in different business fields or conducted by different departments, so all innovation initiatives build up an innovative portfolio of a company. The business term “innovative portfolio” is not widely spread in the scientific literature but is highly applicable in the business practice so for the sake of this Master Thesis we will use this term to define the set of projects for the introduction of innovative solutions. It’s crucial for the success of innovation ambitions and sustainable growth not just to run ad hoc innovation projects but manage the company’s efforts by running the innovation portfolio following the goals and directions in the company’s innovation strategy. The relation between these two terms (= variables) will be covered in more detail in the following subchapter and research chapter subsequently.

Nagji (2012) argued that there are three “levels of innovation ambition” which have to be in the scope of the innovation portfolio management. The key for success lies in the creation and

balance of the innovation mix of all those levels (Nagji, Tuff, 2012, p.69) by differentiating on the “level of distance from the company’s current bottom-left reality”³:

- enhancement of core offerings,
- working on adjacent opportunities, and
- transformational initiatives.

The level of risk differs accordingly: slight incremental changes to the core products are considered less risky than transformational initiatives. Meaning, the further the initiative is from the company’s core competence the riskier the investment is, and the less its proportion in the portfolio should be (Figure 6).

Nagji (2012, p.69) pointed out in their work that the “best practice”⁴ for resource allocation in percentual values is 70% - 20% - 10%, where 70% of the investments in innovation goes for enhancement to the core offerings, 20% to adjacent opportunities and 10% to transformational initiatives. Thus, the returns on investment show the “inverse” behaviour: 10% - 20% - 70%, where 10% contribution comes from core innovation efforts, 20% from adjacent opportunities, and 70% from transformational initiatives. However, the crucial finding of the study is that the balance of three innovation categories (core, adjacent and transformational) should be healthy and fit the company’s nature, and at the same time require a clear understanding of the company’s innovation ambition and respective management of the total innovation system.

³ Nagji, Tuff, Managing Your Innovation Portfolio. Harvard Business Review., 90(5), 66–73, p.68

⁴ Authors agree that this allocation breakdown is not a “one size fits all” rule and represents an average allocation as a result from cross-industry and cross-geography analysis

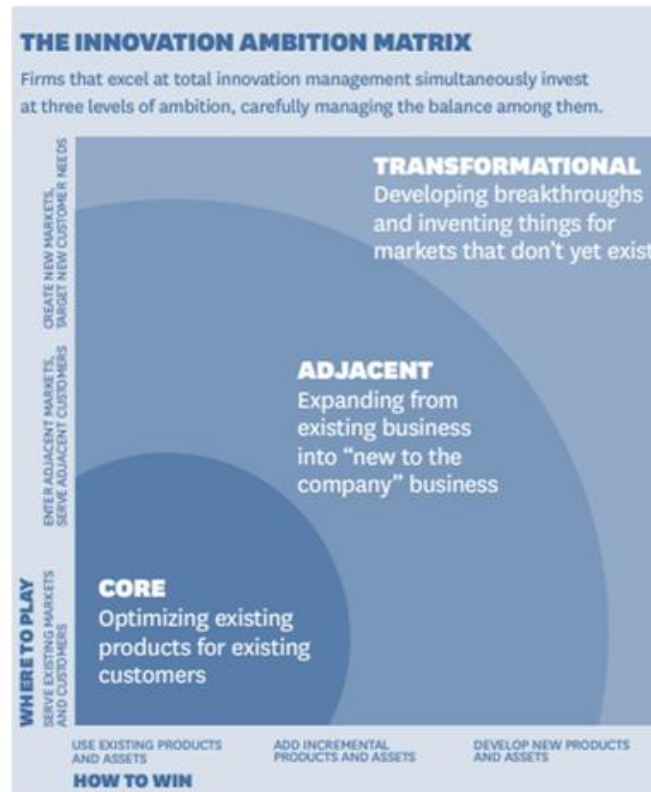


FIGURE 4 - "INNOVATION AMBITION MATRIX", NAGJI AND TUFF (2012)

The alignment of business and innovation strategies is crucial for the success of the company's future innovation portfolio management. The strategy+business study „Global Innovation 1000" (Jaruzelski, Chwalik, and Goehle, 2018) names the "alignment" factor as one of six characteristics of high-leverage innovators. "Respondents who told that their companies were out-performing their industry groups were far more likely to report strategic alignment"⁵ (Jaruzelski, Chwalik, and Goehle, 2018).

The strategy+business study authors differentiate among the three innovation models and sort the companies in one of the three categories depending on their market behaviour: need seekers, market readers, and technology drivers. Each category follows different approaches when it comes to strategic alignment. For example, "need seekers engage customers directly to generate new ideas, then develop original products and services and get them to market first". The

⁵ [What the top innovators get right \(strategy-business.com\)](https://www.strategy-business.com/article/What-the-top-innovators-get-right) assessed on 25th of April 2021, strategy+business survey „Global Innovation 1000" by Jaruzelski, Chwalik and Goehle (2018)

second category, market readers, “typically generate ideas by closely monitoring their markets, customers, and competitors, focusing largely on creating value through incremental innovations to current products”. Technology drivers, as the name says, “depend heavily on their internal technological expertise to develop new products and services, driving both breakthrough innovation and incremental change, in hopes of meeting the known and unknown needs of their customers via new technology” (Jaruzelski, Chwalik, and Goehle, 2018).

Another important point about the innovation portfolio is its compilation. In the next subchapter, we will screen the methods for choosing innovative projects, prioritize and measure them, however, before this step the pallet of projects has to be set together. Search for innovative ideas within an organization can be done in two ways: top-down or bottom-up (or as a combination of both). While deciding on the implementation of innovative solutions, use cases have to be gathered through the whole organization. The driving unit may collect use cases in advance, or while some department raises the need or presents an innovative solution for a business process or product, this may be used as a trigger for the rest of the organization to provide further use cases. Usually, the implementation of additional use cases where the same technology is applied does not cause high additional costs compared to a brand-new solution that has not been applied yet in the organization and needs to be built up from scratch. In this situation, the classical understanding of “economies of scale” is applicable in the context of innovation rollout. For instance, for a Machine Learning solution, the training of the algorithm for additional processes requires less effort than implementing a new solution from scratch.

An external idea sourcing is an option too and can be integrated as one of the steps in the new idea generation process. As illustrated by Hansen and Birkenshaw in the “The innovation value chain” (2007), the companies following an “integrated approach” in the idea generation phase usually come to a greater number of high-quality ideas. That is because, in the end-to-end process, ideas are coming from the own organizational unit, cross-organization, as well as from the outside world as a result of a collaboration with parties outside the company. Overall “the innovation value chain” approach covers three phases of innovation: idea generation, conversion, and diffusion of the developed solution. Going through the three phases listed above, a company considers its own weaknesses and strength but faces challenges that are unique for the particular organization, so the developed solutions are unique too.

Finding the sources for financing the innovative projects is a delicate question, influenced by several factors. Scope and the novelty level of the innovative idea and the related changes in business processes to adopt the changes are just some of them. In practice, different approaches for innovation funding can be followed. Dedicated innovation budget is rather a rare case, and is not available in every organization, so often the funding is ensured by “innovation tax” (Nagji, Tuff, 2012) being imposed on all departments when they have “to contribute a percentage of their budgets to transformational initiatives”. Therefore, these costs may be considered negative, just as loads on the budgets without or minor positive effect. A traditional budgeting cycle for innovative initiatives is not a good solution too, because innovative projects may fail to fulfill the business case requirements and, as a result, not qualify for a budget allocation. Therefore, for a better attitude towards costly transformational initiatives within the organization allocation of a dedicated CEO or CIO budget is a better solution.

2.4 Methods for choosing innovative projects

Development and implementation of innovative projects require all types of company’s resources: time, financial investments, human resources (project team, external consultants). In the situation of resource constraints companies are facing a dilemma: which innovative projects to choose and fund and how to build up and manage the innovation portfolio. Several methods are available for managers choice to help them to evaluate and make decisions about innovation projects: quantitative, qualitative, or a combination of both.

Quantitative methods are based on mathematical or statistical evaluation of the projects. The most widespread methods for evaluation of investment decisions are discounted cash flow analysis (Net Present Value and Internal Rate of Return) and real options (Schilling, 2020, p.149).

Qualitative methods focus on the analysis of qualitative information to evaluate potential costs and benefits coming from innovative projects, in particular, by answering questions related to the role of customers, the role of the company’s capabilities, project timing, and costs. However, using only the quantitative methods for the assessment of transformational projects is misleading due to the nature of these projects: they present completely new solutions for

business problems. Therefore, it is hard to find any benchmarks and expertise inside and outside the company to compare with.

Nagji and Tuff (2012) suggested an approach for managers to decide, for which project or project stage economic and non-economic metrics (as well as the external and internal metrics) are most appropriate. Their argumentation is based on the thought, that traditional financial metrics are not appropriate for transformational projects and may kill good ideas. Thus, a combination of noneconomic and internal metrics to assess transformational innovation in the early stages is more appropriate. And in later project stages (closer to the project launch), the approach can be adjusted towards the usage of the economic metrics.

In this Master Thesis, we share the view of researchers arguing for the combination of evaluation methods with a greater focus on qualitative parameters, saying that they are more applicable for the evaluation of innovative projects rather than quantitative evaluation. Taking into consideration the nature of the innovative projects, a combination of quantitative and qualitative evaluation methods may be reasonable. Managers may apply further methods combining both methodologies. For example, conjoint analysis techniques enable assessment of the weights, individuals put on different attributes for an innovative project. Another method - data envelopment analysis – ranks the projects based on several criteria and compares them to a „hypothetical efficiency frontier” (Schilling, 2020, pp. 159, 161).

Cooper, Edgett, and Kleinschmidt propose to apply a „hybrid approach” - multiple portfolio methods, such as financial, strategic, scoring models, and bubble diagrams (Cooper et al, 1999, 351). As discovered in a study conducted by Cooper, Edgett, and Kleinschmidt, a combination of financial and business strategy methods is widely used by companies with positive innovation portfolio performance (Cooper et al, 1999, p.346). Additionally, the “benchmark” companies, “whose portfolio methods are rated as high quality and they fit management well” (Cooper et al, 1999, p.349), share the perception of portfolio management being “very important”. Portfolio management in the “benchmark” companies follow “established formal methods” and the management buys into these methods.

Effective portfolio management process is crucial to avoid mistakes, such as “poor-quality projects, too many short-term and lower-risk projects, too many projects for the resources at hand,

ultimately resulting in pipeline gridlock, and an investment portfolio that does not mirror the strategic priorities of the business”. (Cooper et al, 1999, 351)

“Portfolio management is about making *strategic* choices which markets, products, and technologies to invest in” and “how to find a balance between innovative ambitions of a company and its resources and capabilities” (Cooper et al, 1999). The point highlighted by Cooper allows us to make a bridge to the next building block for the Master Thesis research – **strategy component**.

2.5 Innovation strategy

Before diving deeper into the definition of the innovation strategy, it is worth understanding the generic term „strategy” because subsequently, the definition of the term “strategy” serves as an important element for the research framework construct of this Master Thesis.

“Strategy is a set of related actions that managers take to increase their company’s performance” (Hill et al, 2017). According to Porter (1996), “strategy is the creation of a unique and valuable position, involving a different set of activities. The essence of strategic positioning is to choose activities that are different from rivals”. Porter’s understanding of strategy is closely tightened to the idea of competitive advantage. “To have a competitive advantage, the company must position itself in the industry as a unique player, offering a unique set of values to carefully selected customers, with a tailor-made value chain to support its value offerings” (Iruthayasamy, 2021, referring to Porter, 1996).

Yu (2021) sums up common elements of the strategy definitions done by the “four gurus” – Chandler, Andrews, Porter, and Mintzberg, depicting the definitions and unique elements in the terminology.

| Literature | Definitions | Terms describing | |
|----------------------------|--|---|------------------------------------|
| | | Development goal | “Something” |
| Chandler 1962: p. 13 | The basic long-term goal of an enterprise, the adjustments of route made to reach the goal and the necessary allocation of resource | Long term goal, Goal | Course of action |
| Andrews (1965; 1971) | ...objectives, purposes, or goals, produces the principal policies and plans... | Objective/purpose | Principal policies and plans |
| Porter (1996) | “choosing to perform activities different than rivals do” | Competitive advantage | Different from rivals |
| Mintzberg (1987a) | ...model in the past and plan of the future | Future | Plan |
| Mintzberg (1987b) | “strategy is a plan - some sort of consciously intended course of action, a guideline (or set of guidelines) to deal with a situation” | Development goal | Development issue |
| | | Plans, course of actions, guideline, or a set of guidelines | A situation |

FIGURE 5 - STRATEGY ELEMENTS – DEFINITIONS SUMMARY, YU (2021)

A Strategy construct includes resources and capabilities. The concept of the „resource-based view of the firm” (Barney, 1991) emphasizes the firm resources and capabilities that are the primary sources of the competitive advantage. “Resources are the productive assets owned by the firm. Capabilities are what the firm can do with its resources. Individual resources do not confer competitive advantage” and to build up to the organizational capabilities, resources have to work together (Pidun, 2019)

Companies strive for providing innovative services and manufacturing innovative products because it gives them a sustainable competitive advantage and makes their offering unique on the market. By introducing innovation, “companies deliberately decide for a strategic step, because innovation may provide organizations with strategic advantages in the marketplace” (Flynn, 2018). Thus, it is appropriate to mention the term “innovation strategy” as a set of decisions and actions of a company related to innovation generation and implementation. Competitive advantage in the marketplace may arise from internal or external effects: innovation introduction allows a company to differentiate its offering in the market or to improve internal processes, resulting in production cost reduction. The introduction of an innovative product is not a one-moment-action but requires “commitment to innovation” (Hill et al, 2017, p.132). A solid and explicit innovation strategy is the best reflection of this commitment or at least a good first step in the company’s innovation journey.

Varadarajan (2018, p.161) proposes the definition of innovation strategy as a "firm's relative emphasis on different types of innovations and the associated pattern of resource allocation, in alignment with its strategy at the corporate, business unit and functional levels".

Pisano (2015) highlights the point about the alignment of the overall business and innovation strategies by linking it to the need for a clear articulation of the strategy within the organization, alignment among departments, as well as objectives of the organization. Indeed, the introduction of innovative solutions within an organization may require changes in the rest of the company's innovation system, that without a strategy, transparency, and alignment within the organization it may be problematic to realize the full potential from innovation if it works only for a specific application field and is ignored in the rest of the organization.

Pisano points out the need for linking the company's innovation strategy to its core value proposition and recommends answering three major questions about the innovation strategy development:

- How innovation will create value for potential customers,
- How the company will capture the value its innovations generate,
- What types of innovation will allow the company to create and capture value, and what types of innovation to pursue based on the answers to the previous question.

Answers to these questions have to be considered for the innovation strategy definition and management of the innovative portfolio, which will be described in more detail in the next subchapter.

Thus, the focus of this Master Thesis lies not on the development of an innovation strategy but on the steps which have to be completed to formulate a company's innovation strategy. Schilling (2020) suggests a two-step approach:

- 1) Assessment of the company's current position: understanding the "as-is" situation is always a good starting point for reaching a desired "to-be" state. A clear understanding of the company's core competencies and competitive advantages serves as a basis for further definition of the next steps.

- 2) Definition of a strategic direction for the future, by being clear about the “strategic intent” (Hamel, Prahalad, 2005) ambitious long-term goals which would imply a “sizable stretch” (Hamel, Prahalad, 2005) for an organization, meaning it would need to stretch existing core competencies and be inventive to close the gap between current capabilities and limited resources versus ambitious goals.

As already referred to the “innovation landscape map” in the previous subchapter, organizations have to decide on a mix of different types of innovations, and innovation strategy should specify how they fit into the business strategy and which resources should be allocated to each type. This can be seen as one approach for the definition and management of a company’s innovation portfolio. How to balance the four types of innovation (Routine, Disruptive, Radical, and Architectural) is a strategic decision and has to be met per the company’s overall business strategy.

2.6 Conclusion

Looking back at the results from the strategy+business study⁶ of the most innovative companies, we can conclude that there is a close connection between the innovative capability of a company and its performance in the marketplace. In the conducted literature review, we observed different approaches on the nature of innovation, as well as methods on how to balance the company’s innovation ambitions with its capabilities and overall business strategy. Innovative strategy, however, plays a crucial role in the determination of the innovation development, so it has to be a first step, followed by a selection of projects for the innovation portfolio. Several approaches for project selection have been proposed by researchers and they share in common a leitmotiv appealing to a balance of companies’ innovation ambition. The alignment with its capabilities as well as a healthy mix of projects in the innovative portfolio are further cornerstones of successful innovation management. In the literature review chapter, we have presented the views on the main terms – the variables we came across in this Master Thesis.

⁶ [What the top innovators get right \(strategy-business.com\)](https://www.strategy-business.com) assessed on 11th of May 2021, strategy+business survey „Global Innovation 1000” by Jaruzelski, Chwalik and Goehle (2018)

AI and automation present a wide range of opportunities for application in financial services companies and attracted even more attention from business representatives in pandemic circumstances. AI may be seen as a way, how to overcome the negative effects of the business decline, and, in the long run, subsequently benefit from the changing business climate and customer preferences towards online offerings. However, there is not a magic “one size fits all” solution, therefore it needs customization and may be implemented in different fields and ways in the organization. In the next chapter, we are looking for results from the interviews with business representatives to analyze the interrelation of the company’s innovation and scope of innovative projects implementation. The next chapter is dedicated to the description of the research and data gathering methodology.

3 METHODOLOGY

3.1 Introduction

The literature review chapter covers the main terminology around innovation, innovative portfolio, and innovation strategy. In the next step, we have analyzed these terms in the business context of the implementation of the innovative project. This chapter explores the approach used for the data collection for the research purpose to answer the main and two sub-questions. This work refers to qualitative data collected from representatives of financial organizations operating in Austria.

The method used for data collection is semi-structured interviews. This analysis aims to collect empirical evidence and the data gathering serves for answering the research questions (*“How does the current innovation strategy of a company influence its innovative portfolio?”*). Furthermore, it may introduce some clearance for issues not covered by other studies on the research topic, in particular, on the factors that influence the choice and scale of implementation of the innovative projects.



FIGURE 6 - MASTER THESIS RESEARCH STAGES

3.2 Selection of methodology

For data collection purposes, interviews with representatives of the financial services industry have been conducted. This industry was selected out of the personal and professional interest of the author of this Master Thesis and personal contacts to the experts involved in the implementation of innovative projects. The financial services industry is historically not the one with high R&D spending or innovation budgets. However, nowadays the technology is an inevitable instrument for a successful company, and under the pressure and continuous disruption of the market, even financial services organizations are looking for innovative solutions. Therefore, innovation implementation represents a challenge for financial organizations which is worth analyzing in the Master Thesis work.

Methods used in research for measuring innovation have been studied for figuring out the gaps and identifying potential points to contribute to the novelty of this work.

The intention to measure innovation has been observed already decades ago and one of the most comprehensive surveys worked out was a result of the “Oslo manual” OECD guide for the measurement of innovation, allowing comparison of the innovation performance across countries. The mechanism is described as follows: “statistical information on innovation in Europe captured from the approach is gathered in The European Innovation Scoreboard (EIS), the instrument developed in the European Commission initiative in 2000, to provide an annual assessment of the innovative performance for European Union member countries and other groups of innovative leaders (European Commission, 2008)” (Camisón, Monfort-Mir, 2012). EIS covers 29 innovation indicators and refers to three categories: enablers, company activities, and outputs; innovation input (capacity) and outcome (as technological and non-technological innovations). The European innovation scoreboard assesses innovation systems on the country level. According to the latest study completed in 2021, Austria as a country counts as a strong innovator.⁷ Despite the EIS assessed innovation performance on a country level, and the focus of this thesis is innovation performance on the enterprise level, a look into the survey methodology and indicators was helpful to derive questions about the innovation portfolio management.

On the enterprise level, innovation performance is one of the measurement categories used in strategic management and aimed to evaluate the success and health of a business. “The innovation activities include, but are not limited to, inhouse and external research and development (R&D), capital expenditure, human resource development, design, and market development” (Gault, 2018).

R&D Investment (or proportion of R&D expenses as a percentage of total operating expenses) is a popular way to measure the firms` innovativeness. According to Gault (2018), “measuring innovation in the business sector and the engagement of the firm in innovation activities, of

⁷ <https://ec.europa.eu/docsroom/documents/45904> European innovation scoreboard 2021 For Austria, accessed on 30th of June 2021

which R&D is one, shows that more firms innovate than do R&D". Number of patents is usually used as an indicator for being innovative as well, however, this factor is not very applicable for the financial services industry where patents registration is not a typical way of innovating.

For the data analysis, a research framework has been developed to cover the main cornerstones relevant for the research question: innovation strategy, innovative projects portfolio, and the factors influencing the composition of the innovative projects' portfolio and their scale. The first part – innovative strategy – has a strong link to the research conducted for the "total innovation system" paper (Nagji, Tuff, 2012). The second part has a link to the "portfolio management survey" (Cooper et al, 1999). The third part has a link to the "three levels of innovation ambition" (Nagji, Tuff, 2012) for the initiative scale classification. The relation between the factors and the scale of innovative projects implementation has been worked out in the course of the research and presents the novelty of this Master Thesis for the area of research.

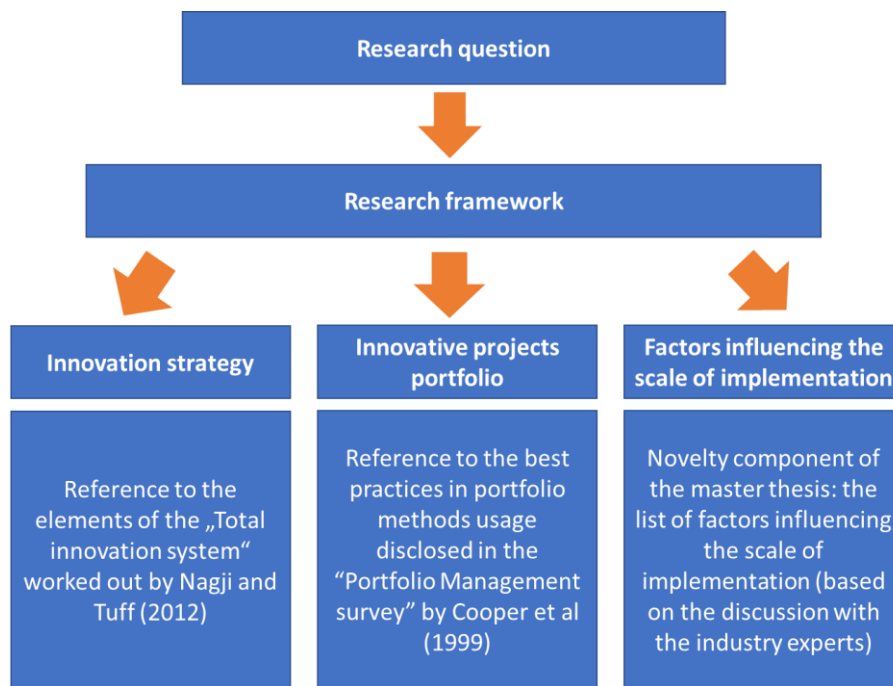


FIGURE 7 - RESEARCH FRAMEWORK

3.3 Research instrument

To collect data for the empirical analysis, the authors decided to use qualitative (not quantitative) analysis due to several reasons. The interviews have been conducted with the respondents who are directly involved in innovative projects and deal with this kind of project daily, thus they know the stages of developing the innovative solutions the best. They are in the core roles

in the companies and have the best insights about the nature of the business they companies are operating in. Not all of them are directly involved in process of the innovation strategy development but they „live“ it and know the real business cases and factors that influence the decision making in their companies. Moreover, all of them are passionate about innovative solutions for solving customer problems, strive for changing the everyday operations and disrupting the market with better solutions, and are engaged for their companies with all their energy. They have declared their willingness to discuss the innovation strategy and innovative portfolio of their companies and elaborate on the factors influencing the innovative portfolio compilation and project scale.

For this Master Thesis, the data was collected by conducting semi-structured interviews with the industry experts. Each interview lasted between 40 and 60 minutes, depending on the depth of discussion and provided answers. This method was chosen to set the frame for discussion and gather the respondents´ opinions on the topic, and enable an open discussion with the interviewees for a better understanding of their position.

The survey respondents fulfill one of two criteria in their professional profiles:

- They are either experts working directly for the business line and implementing innovative solutions within their departments, or for the customers, or
- They are experts in a central role, responsible for innovation implementation or innovation strategy within the company.

Among the nine respondents, two are in management positions, three are in business line middle management (head of a department), and four are in a central role (e.g. innovation management department, project management, strategy development department) without direct managerial responsibility. In terms of their work experience, the participants have ten to seventeen years of relevant work experience in financial services companies.⁸

⁸ Appendix 1 contains more information about the respondents´ professional background

The questionnaire is divided into three logical parts, aiming to collect evidence for the research question and sub-questions and discover further factors that may influence the scope of innovation implementation.

The first part is dedicated to the innovation strategy, covering questions related to the organization of the innovation, with a reference to the categories of the „total innovation system” (Nagji, Tuff, 2012).

- Talent/skills
- Skills integration
- Innovation funding
- Pipeline management
- Metrics for innovation performance measurement

The goal of the first part of the interview is to get insights into the innovation strategy of the company, how far it is aligned with the business strategy, and how transparent it is within the organization. The first part contains the following questions:

- Q1.1.: What are the goals of the innovation strategy? Does your organization differentiate between primary and secondary goals?
- Q1.2.: Who in the organization is responsible for innovation (central unit, chief innovation officer)?
- Q1.3.: How transparent is the innovation strategy in the organization? Have the goals been communicated across the organization?
- Q1.4.: Do you think that your innovation and business strategies are aligned? Why?
- Q1.5.: Is there a dedicated innovation budget, or an "innovation tax" (all departments need to participate by allocating a part of their budget to innovative projects), or sponsorship from the C-level for the innovative initiatives?
- Q1.6.: Which metrics are used for the innovation performance measurement (financial metrics - NPV, IRR, or qualitative metrics, or a combination of both)?

The second part is dedicated to portfolio management and types of innovative projects implemented in the organization. Here, the authors refer to some questions and findings from the “portfolio management survey” (Cooper et al, 1999), especially appealing to the best practices

and references to “benchmarks” businesses, the most successful in the portfolio method selection according to the study done by Cooper et al. The second part contains the following questions:

- Q2.1.: How does the sourcing of innovative ideas/projects work (internal, external)?
- Q2.2.: Who is managing the innovative projects portfolio? How the selection of innovative projects is done?
- Q2.3.: How is the project implementation working, is it fully covered by the internal staff or external companies?

Finally, we look for links between the innovation strategy and the innovative projects, how the goals and the way the innovation strategy is applied in the organization influence its innovation appetite and scale of conducted innovative projects. In addition, we focus on the questions about the factors influencing the scope of innovative projects.

One of the studied research works by Taalbi (2017) suggests “four types of sources of innovation incentives: problems, technological opportunities, market opportunities, and institutionalized search for improved performance”. For the sake of our research, the authors have drawn a parallel of the incentives used as a synonym for influencing factors and considered it for developing a list of factors. We assumed, the following factors influence the choice the organizations make for building their innovation portfolio and further initiative scaling:

- Available budget
- Company’s capabilities/resources
- Prestige, Reputation (PR)
- New clients` attraction
- Market and competition position
- Business strategy and goals (project scope selection is closely linked to the business strategy; spendings mirror strategic priorities)
- Innovation strategy and goals (goals fixed in the innovation strategy)
- Company’s innovation ambitions
- Current challenges requiring immediate action

In addition, the interviewees have been asked to mention further factors important from their point of view, or that have a high weight in their organization.

The third part contains the following questions:

- Q3.1.: Which factors influence the composition of the innovative portfolio in your organization? (ranking on a scale from 1 to 5, for a list of factors mentioned above)
- Q3.2.: Which factors influence the scale of implementation of the projects in your organization? (ranking on a scale from 1 to 5, for a list of factors mentioned above)
- Q3.3.: What is the proportion of projects of each type in the portfolio (pilot, mid-size, transformational)?
- Q3.4.: How often do you scale a successful pilot to the next size/level?
- Q3.5.: To your opinion, what are the reasons why the pilots are not scaled to the next level?

To get more insights about the spread of innovation in the Austrian banking sector, we have raised an additional question about the innovative solutions implemented in the interviewees`:

- Q3.6.: Which innovative projects have been implemented in your organization so far? (List of possible answers: Process automation, Robotics, AI, Analytics, Big Data, Machine Learning, others – to be named by the respondents).

3.4 Data analysis

As a first step in the data analysis, a questionnaire has been developed based on the insights gathered through the literature review. Potential interviewees have been contacted to fix the interviews dates, provide an introduction of the study and explain the setup of the interview. In the next step, the interviews have been conducted and transcribed. Next, the findings have been derived based on the similarities or differences among the answers. Moreover, the findings illustrate the patterns and business practices from the real business environment, and the unique insights relevant to the research questions have been documented as study findings. In the last step, the visual presentation of results has been prepared for findings illustration.

Several interview questions have been prepared using a Likert scale⁹, a well-established tool used for attitude measurement. It has been used for measuring respondents' attitudes to the factors influencing the composition of the innovation portfolio as well as scaling. This method highlights the interviewees' perception of the factor's importance. A five-point scale has been used to rate the importance and impact of the factors for the raised statement. Interviewees have been asked to assess the importance of each factor on the scale:

- Very low importance/impact (1)
- Low importance/impact (2)
- Medium importance/impact (3)
- High importance/impact (4)
- Very high importance/impact (5)

In addition, interviewees have been asked to list additional factors, having an but not being included by the authors in the initial list of factors.

3.5 Conclusion

The research framework has been developed to cover the cornerstones of the research and its' interrelation among each other: innovation strategy, innovative portfolio, and factors that influence the scope and scale of innovation implementation. The concepts discovered during the literature review have been applied to develop the research framework and the questionnaire for the qualitative interviews. The structure of the questionnaire facilitated open discussion and allowed a smooth passage between the main research cornerstones. The interviewees have been encouraged for an open discussion on the innovation topics relevant to this Master Thesis. The qualitative research through interviews enabled the gathering of the business insights and deriving relevant findings for the Master Thesis study and business practitioners.

⁹ ScienceDirect , <https://www.sciencedirect.com/topics/psychology/likert-scale> , assessed on 15th of June 2021

4 RESULTS AND DISCUSSION

4.1 Introduction to the results interpretation

As each interview started with the definition of the innovation strategy respondents had their own definitions of what the innovation and innovation strategy of the particular companies is. For example, some organizations differentiate between customer-facing innovation (all initiatives related to digitalization) and data-driven innovations tight to technology application for non-customer facing activities (AI, Analytics). Others differentiate between innovations related to enhancements of their core products or services vs transformational initiatives, also using the terminology „exploitative vs explorative” types of innovation. It is worth mentioning that the general bias and tuning of the responses differed a lot depending on the rope of the respondent, whether it is someone working directly in a line of business or having a central role, e.g. in a Strategy Development department. The answers differed a lot depending on the type of innovative projects as well (enhancements to the core business vs transformational brand-new ideas). Moreover, we have considered 2 views on innovation – through the lens of a “corporate world” – big international banks and on the opposite of a successful FinTech start-up.

4.2 Findings related to the innovation strategy

Finding 1: Definitions of innovation and innovation strategy differ across organizations and are strongly linked to the goals in the overall corporate strategy. Some respondents called the innovation strategy of their organization an “innovative business strategy” because there are no separate innovation goals defined. Perception of the innovation is very different, and it reflects in the level of innovativeness of the conducted projects. Digitalization initiatives are considered as innovations by the respondents working directly for the business lines. For the interviewees representing some central role, the view on the innovation is different and often goes beyond the incremental innovation. Under innovation, they mean breakthrough or transformational initiatives and were mentioning examples of services or solutions not yet existing on the market.

Finding 2: The definitions of the goals of the innovation strategy differ very much and depend on the “origin” (position in the organization) of the interviewees whom we have talked to. For some interviewees, the corporate strategy department defines strategic fields or focus areas

for the bank, “delivers strategic guidance for people in the organization who want to innovate, and defines focus areas where to innovate”. And the goal of the innovation strategy is to provide guidance and enable the organizations to innovate. All respondents agreed about the importance of the goal definition because “just trying little things out and seeing whether it is working is not a strategy” and not a sustainable way of doing business. The others see some specific corporate initiatives as innovation goals. This approach brings a new perspective for the following research on a question about the primary role (and what to consider as dependent and independent variable) – defined goals or ongoing initiatives.

As an “opposite” to a corporate world, a FinTech start-up sees everything that is performed by them as an innovation. “Anything that we are doing – products, services are because want to change the market. We see ourselves as an innovator on the market and the ultimate goal of the organization is to be innovative and disruptive”.

Finding 3: The high-level innovation goals on a very high level apply to the whole organization. For them to fit better in the business context of every department, the overall innovation strategy and goals are translated top-down from the main goals into sub-goals for every department/area. It is done by the department heads and results in sub-goals as well as guidance for the employees on what has to be done to project the goal for the particular field of work.

Finding 4: Organizations can innovate on different levels, and therefore a clear **differentiation of the types of innovation is required** for the teams. The differences in the typologies may take origin from the fact that not everyone in the organization may know about the different types of innovations or has a clear differentiation of the types of innovation so can even think that there is no activity in the area of radical innovation. The interviews where the respondents had a clear classification of innovation types in mind (e.g. exploitative, close to the core business, vs. explorative, more disruptive things) were better structured and had a clear leitmotiv. Since the nature of these two types of innovations is very different, different approaches have to be followed. For example, core teams should work on exploitative innovations that are close to the

core business. And separate teams should work on radical explorative innovations. In the reality, the teams are organized in a “skunk approach”¹⁰.

Finding 5: The way of working on innovative initiatives differs from the usual project work – dedicated teams or even new structures or organizations are organized for working on innovative projects. New teams are staffed with representatives from different departments: IT department technicians, experts from Marketing, Legal, Process, and Product management departments, project managers. An example of a new organization built outside of the organization is the founding of an “innovation lab” that deals with the topics not fitting in the bank’s core business, but believed in the long run to have enormous potential.

Finding 6: Horizon of the strategic planning for innovative actions of a company is different and varies from weeks and months to two to five years periods. In the FinTech start-up, long-term planning is 1 year, short term is counted just in weeks and months. In traditional banks the short-term strategic planning is done for 2 to 5 years, however, because of the disruption from other market players, it is becoming shorter. Because of the pressure of financial KPIs used for performance measurement of the projects, the planning horizon is very often just 1 year because “the results are expected to be delivered within 1 year”, thus innovation planning is closely linked to the budgeting cycles of an organization.

Finding 7: Responsibility for the innovation is perceived differently, even when the hierarchy of innovation activity management is similar in the interviewed organizations. Some respondents share the view that „everybody in the organization is responsible for innovation“, and just the “communication of innovation strategy goals lies within the responsibility of department heads who translates the goals top down to each employee”. As an answer to the question “who in the organization is responsible for innovation” most of the respondents said that division or department heads have innovation on their agenda and are responsible for the

¹⁰ Skunk work stands for a way of working when “small groups of scientists, engineers and other personnel who tackle specific problems and try to commercialize the solutions”, which can be applied by financial services organizations as well to develop “advanced technological ideas”; Peter Gwynne (1997) Skunk Works, 1990s-Style, Research-Technology Management, 40:4, 18-23, DOI: 10.1080/08956308.1997.11671138

communication to their team. However, in all companies selected for the interview (apart from the FinTech start-up), there is a central body that directly or indirectly structures the innovation work, defines the strategic direction for innovation work, and is responsible for the alignment of the innovative initiatives among departments. Interestingly, the respondents have not been saying that this department or body is responsible for the innovation but rather the answer was that “everyone in the organization is responsible for innovation”. It can be explained by a lack of operational business in the central departments, e.g. for strategy development, being responsible for the overall strategy and innovation topics. But innovation itself lies in the business lines that are close to the end customers, knowing the nature of the business, customer’s needs, and pain points.

The responsibility of the central strategy development department or strategic office (depending on the setup in the particular organization) is to control strategy fulfillment and impose the adjustments if required.

Finding 8: The activities of the project teams have to be aligned not only from the content point of view. It has to be ensured by the organization that the frame for cooperation culture is created as well. Innovation teams and business teams (traditional project teams or teams performing the business line operational activities) are different and it is not just about the strategic guidance but a communication challenge to promote a partner-like attitude between the teams. **Partnership culture has to be promoted within the organization** because it contributes to the creation of a healthy working environment and culture in the organization, instead of rivalry between the teams. The innovation teams that are working in a skunk approach have different skills, capabilities, and mindsets rather than the core teams. The overall approach towards the innovation projects may differ and follow another budgeting or KPI measurement rules, so it may lead to biased and negative opinions from the organization’s core teams. Therefore a need for collaboration between the teams instead of competition increases.

Finding 9: Responsibility for the innovation includes “the **management of the innovation ecosystem**” – all elements which are necessary to innovate to ensure a suitable creative environment and innovation culture to the supervision of collaboration with third parties (e.g. FinTech start-ups). Thus, these activities lie with a central role in the organization and following this logic the ultimate responsibility for innovation cannot be up to any business line department head.

Finding 10: We faced different answers about the allocation of **the responsibility for the innovation** in the organization. To sum up, all respondents, regardless of their position (management, business line, central unit) identified themselves with the innovation implementation in their organizations. Therefore, it brought us to the conclusion that each manager has “innovation” on his or her agenda and every single piece in an organization is involved in the innovation process, directly or indirectly. We have observed that hierarchy for the innovation exists even when there is no dedicated role in the organization to manage or control innovative efforts (e.g. Chief innovation officer, or innovation manager).

Innovative handling **is not a sprint but a marathon** and requires **respective planning and innovative culture**. The innovation should be in the organizations’ DNA, requiring eligibility and power for the employees to act innovative, conduct “try and error projects in small areas” and have a “safe environment” for being innovative.

Finding 11: The questions about the **Alignment of the innovation and business strategy** was answered by the respondents ambiguously. For a FinTech start-up, it was clearly stated that the “innovation and business strategy is one”, its highest goal is to be innovative and disruptive in the market. Any product which the startup is doing is because they want to change in the market. The startup cannot differentiate between business strategy and innovation strategy, to track different goals and have different agendas also due to the lack of resources. As in a start-up, there is no dedicated innovation strategist role, there are not enough personnel and material resources for this differentiation.

In the traditional banks, the situation is different: often there is no clear differentiation between innovation and business strategy but the reasons for this are different:

- a) the innovative strategy is not communicated properly on all levels of the organization (e.g. there is innovative agenda on the management board level and it is considered to be far away from the end recipients within the organization)
- b) the organization define its own strategy as an “innovative business strategy”
- c) the process of formulation of an innovation strategy is constantly ongoing because the bank is rethinking the business model or undergoing organizational transformation, or

new management board members introduce their agenda, so the current strategic focus areas have to be adjusted.

Finding 12: There was even an opposite opinion expressed saying that **“the business and innovation strategy cannot have the same goals”** otherwise there will be no innovative moves if it is stick to the daily business routine. have to be linked but if innovation and business strategy are too close to each other, it may have a “destructive” effect on the organization, because all the initiatives will not go further than PoC / pilot, will not have any transformational scale. But in most cases, the interviewees shared the opinion, that the business and innovation strategy has to go hand in hand.

Finding 13: Another finding about the alignment of the **innovation and business strategies** is that these **two terms can be put in the dependence relation:** the business strategy should allow innovation as well as accept the results from the innovative activities. Moreover, it has to create a frame to enable the fulfillment of the business goals using innovation. Innovation can be also be seen as a “trigger” for the strategy because it has a “growing and exploring” character. Innovation is about finding new ways of solving business problems that lead the organization to the business goals fulfillment and help to stay on the strategic path of the company.

Finding 14: “Big organizations live the strategy in silos, thus it is not easy to align among departments”. **Alignment among departments is hard even though there is a central body responsible for innovation.** And since departments are innovating in their own way, as a result it is hard to scale to reuse the pre-work conducted by other departments”.

Finding 15: The answers to the question **“how transparent is the innovation strategy in the organization” differed a lot.** This question was aimed to understand whether the innovative goals have been clearly communicated across the organization. Some respondents have been concerned that even when the overall innovation strategy is not transparent enough and not communicated well on the enterprise level, on the functional (department) level it is communicated very well. However, currently, nearly every department or line of business has its own innovation agenda. This brings us to the conclusion that even when the main innovation strategy goals are not transparent on all levels of the organization but the particular innovation goals are communicated on the department level, and the departments have the power and capacity for the innovation, the lack of communication is not a burden for innovation.

Finding 16: The level of **transparency of the innovative strategy** tells a lot about the corporate culture of the organization. As already mentioned in *Finding 8* above, in the context of innovation the organizations face communication challenges that are not limited to the promotion of the partnership culture but also innovative corporate culture. E.g. in a FinTech start-up, there is a monthly meeting series where every employee is invited to get updates on the goals of the company but also contribute by proposing his ideas so as a result gets a feeling of being a part of the company and its strategy. The big corporations physically do not have a capacity for organizing such meetings, even in an online format due to their size. Also, the innovative agenda for the real transformational initiatives, not just usual core business enhancements, may appear limited to the selected departments and employees due to the secretive nature in the highly competitive market.

Finding 17: As we were talking to the representatives from the international banking groups, we discovered one similarity in innovation governance: **decentralization** (group strategy vs how it is lived on the department level). The in the big organizations, innovation strategy may be shaped by some central unit, however, it is up to every single department to define “own north star” for the innovation strategy and own innovation ambition. This could not be centralized and there is no ambition for centralization. A similar situation is observed in the organizations operating in several countries: there is a general target given from the company and how to reach it is up to the countries.

Finding 18: **Metrics used for innovation performance measurement** were in the focus of the interview questions as the next element of the "Total innovation system". The answers differed depending on the type of innovation the respondents are working on (exploitative vs explorative) and resulted in **qualitative or quantitative KPIs usage**. Those respondents who are in a central innovation governance role pointed out, that it is very much dependent on the type of innovation – small adjustment to the core business (which are mainly technology-driven) vs. completely new solutions, where something new will be set up and there is no benchmark to compare to.

Among the interviewees, those dealing with explorative innovations responded that there are special innovation-related metrics used for the performance measurement of the innovative projects. Some examples of specific KPIs used by the banks are:

- adoption rate (to which extent some new solution is used in the bank internal processes or by the clients)
- response or engagement rate for new customer value proposition
- failure rate in the Analytics projects: whether the failure rate in the use case has changed and in which direction.

Quantitative measurements are used for the innovations related to the core business because there is what to compare to, the existing business, e.g. cost reduction KPIs in the Robotics projects. A frequent answer about the usage of the quantitative financial KPIs was “because the banks are driven by the financial KPIs to a large extent, financial metrics are used for measuring the success” and the projects “have to deliver a positive business case”.

The performance metrics have a strong link to the investment pay-off horizon and, in the banks, it is usually up to one year, after one year the innovative projects need to deliver results. The respondents brought up an issue about innovation pay-off timeframe, in particular calling it as a „weak point of innovation in CFO driven companies” which are focusing much on the efficiency of the activity. Most financial metrics are used for measurement of the success of the innovative initiatives, time horizon for payback is relatively short, 1 year (rarely up to 2 years) and if the initiative does not bring the result within 1 year then it will be skipped, and not be scaled. The business case and RoI should be positive within 1 year.

Finding 19: Nowadays most of the renowned organizations have **sustainability** on their agenda, and some organizations even put the innovative goals and innovative projects performance in relation with it, in particular with the “Triple Bottom Line”. The Triple Bottom Line (TBL) stands for the economic, social, and environmental elements of business sustainability (Svensson et al, 2018). It seems that the questions around sustainability are being put by the business leaders not only on their agenda but are gaining importance in the strategic planning of their innovation efforts. An example of KPIs and objectives for the Triple Bottom Line for one of the interviewed organizations is a decrease in cloud consumption cost.

Finding 20: As innovation per definition is linked to novelty and creativity, in addition to the traditional KPIs and performance metrics, one of the questionnaire respondents formulated the **success measurement of innovation** in a nutshell in the following creative way: “when after

several years something which is considered as an innovative solution becomes traditional, is fully integrated, accepted by the market and already became a part of the company's DNA then the innovation implementation and integration in the business were successful."

Finding 21: In the discussion about **innovation budget**, the interviewees disclosed the fact that almost in every interviewed organization there is a Board-level sponsorship for extraordinary innovative topics which are of special interest for certain board members. "Attention from the decision-makers" and "**Sponsorship from the board is the most important success factor for the exploratory innovation**" because it also means power and legitimacy to innovate granted by the business sponsors from the board level. But in general, there are dedicated innovation committees who decide about the financing of the innovative initiatives and are responsible for innovative portfolio management (details to follow in the next part of the interview findings description).

Finding 22: However, when it comes to financing an innovative project, not every organization has a **dedicated innovation budget** that is devoted to specific innovation targets. In the case of the innovations related to the core business – those are usually covered by the IT budget. Another source is the budget for the key operational topics, e.g. processes to be adjusted from the Legal perspective. And the third source is a dedicated budget of the business lines reserved for the innovative topics. In an international organization the global initiatives, which can be defined as transformational initiatives, may have their own budgets.

A FinTech start-up foresees a yearly budget for the project's portfolio where every project is treated as an innovative one and the allocation of the resources is done based on the project manager's estimates. We will elaborate on the management of the innovative project portfolio in more detail in the next subchapter.

4.3 Findings related to the innovative portfolio

Finding 23: There are different approaches on how to classify **sources for the** innovation which are in use in the organizations which we have interviewed. In fact, the innovation is driven from all sides, and out of the interviews three approaches have been crystallized:

- 1) Internally vs Externally: All respondents confirmed that their organizations use different sources while looking for innovative ideas, both internally and externally. Following examples have been mentioned:
 - Internally: ideation sessions within own department
 - Externally (all of the known Porter's five forces are being approached):
 - Within the organization but outside the own department, e.g., special meeting series for gathering "high impact ideas"
 - Market, competitors (e.g. to become a fast follower or finding new ways and use cases for implementing existing solutions or combining them to some specific use field for the company)
 - Suppliers, third party providers: e.g. White Papers from the Consulting companies, Gartner innovation survey
 - Customers
- 2) Origin of the solution or trigger for the problem solving: customer-centricity (customer business or customer pain points) vs. organizations' own pain points, e.g. in the process management area looking for paperless digital solutions.
- 3) Origination from different hierarchical ends: top-down and bottom-up. With these regards a mixed approach can be used: focus areas where to innovate, where the organization sees the business opportunities are defined top-down by the Strategy department together with the business lines. But it doesn't have any certain solutions in it. The ideas for the actual innovations come bottom-up from the business lines.

Finding 24: The **innovation sourcing in a startup is predominantly an own development**, meaning the external sourcing is rather an exception. The software, infrastructure, platform, and services innovations are all their own development. Implementation of the new products and features is performed internally as well. The reasons are on the one hand shortage of financial resources for the attraction of external parties, and on the other hand, the introduction of new features is happening under high secrecy to keep the competitive position on the market.

Finding 25: Since the Austrian banking market is not that big, the temptation to implement the same new services or products as the competitors is high, especially when the innovative features are coming from external providers and are easy to copy. However, the interviewees pointed out that their approach comes "from the problem to solution and they are not just

buying the solution because the market has it". Even when some respondents admit that after noticing that an innovative service or product appears on the market they may become "fast followers" and introduce it as well. But it is happening only in cases when they see the real business case behind it and suits the portfolio and not only because the competitors have it.

Finding 26: The difference of a corporate world to the startup company «why FinTechs are more successful in innovation implementation» (from the point of view of the startup representative which we have interviewed) is **shorter ways for ideas sourcing and decision-making**. The innovative portfolio management is performed based on the needs of the product, customer, competition, market, and the executive management team's decision-making per the product development strategy. So there is no specific project teams or dedicated unit for innovation management but every line manager manages his own projects (which are innovative by the definition in the FinTech start-up).

Finding 27: Not only formalized processes but also **differences in corporate culture** play an important role in the internal sourcing of innovative ideas. In a FinTech start-up, there is an initiative where each employee of the company can come up with an innovative idea to the management, (the idea may be related to the company's internal processes, product, market, or customers). If the idea is in line with the overall strategy, out of the idea a project will be generated immediately.

Finding 28: Nowadays big corporations are eager to **cooperate with other market players**, in particular FinTech start-ups. One of the cooperation forms is called "innovation scouting" and is widely applied by banking groups operating on an international level. To have a platform for collaboration and co-creation with external players and attract high potential startups, different solutions are applied, e.g. special elevator labs or funds created which offer the place for collaboration. In addition, the organizations apply a methodology for testing innovative solutions and processes with FinTechs in a "sandbox" - a safe test environment. It allows organizations to comply with banking regulations but at the same time for these sandbox activities, there are some exceptions - not all reporting rules apply for a certain time (however have to be reported separately as a sandboxing activity). It gives the organizations a chance to try out and test the potential innovative solutions with their customers.

Finding 29: Many organizations have a **central body governing the innovative efforts**. This entity is responsible for innovative portfolio management. In the interviewed organizations this role is fulfilled by the dedicated innovation committees that are evaluating the ideas and then approve or decline the projects. In case if several departments present similar ideas, it will be reviewed critically to avoid duplication of efforts and be appealed to another already ongoing initiative on this topic. There is a frame available for scoring the projects and checking their fit into the portfolio and the innovation focus areas, whether it is suitable and corresponding with the business goals. Depending on the business case and on the score value, the committee is deciding whether the project is approved for implementation or not.

Finding 30: In some cases, the **responsibility for the alignment or avoidance of duplication of efforts** is with a coordination body, committee (e.g. “change management committee” or an “innovation board” which reviews the ongoing innovative projects and initiatives. Often, it is represented by C-level management and “Board-1”, division heads. To ensure that the innovative activities are on track all projects report the status of the initiatives regularly. Once new ideas are being raised by the business lines, the innovation board or committee can assess whether a similar initiative is already being run by some other team as well as assess the potential of the idea. As we were talking to the international banks operating in several countries, an innovation board may be composed of the CEOs from the regional banks and have regular sessions, e.g. quarterly.

On the other hand, one of the interviewees expressed an idea that for “strategic areas there might be several projects running on a similar topic simultaneously. There might be up to five to ten small teams, having different insights about the customers so that they can adapt the value proposition better” and it is not seen as duplication but on the contrary as a value-adding activity.

Finding 31: There might be **several steering bodies** in the organization which influence the innovation portfolio compilation – some are focused on the content, on the customer-facing activities (e.g. Retail Business-driven). The others are focused more on technology and are driven by the IT technical budget. Synchronization of these bodies is driving innovation. The innovation portfolio is managed and compiled at a minimum once a year and it can be reshuffled during the year, then a relocation of resources is required. And while the synchronization process

between these steering bodies is ongoing there might come to a dilemma whether completely new initiatives to be included in the portfolio or “old” ones to be continued. However, as mentioned in the *Finding 18* nowadays the project duration is kept short and a positive business case from the implemented innovations is expected already within one year.

Finding 32: In addition to the described portfolio management practices, to decide about the distribution and volume of the investments some banks consider the insights and best practices about three “**levels of innovation ambition**” (Nagji, Tuff, 2012) which have to be in the scope of the innovation portfolio management. The investment is distributed between 3 categories: enhancement of core offerings, adjacent opportunities, and transformational initiatives.

Finding 33: The question about the resources involved in the **project implementation** (internal staff or external companies/consultants) has been raised. For the sake of the data analysis, this question is important because it provides insights on how the companies solve the issue with lacking internal resources or capabilities for the innovative topics they are implementing from scratch. If the unique knowledge or capabilities within the company are missing, the external companies can be involved to build up the capability, educate the experts within the organization, and after hand over the work to the organization’s internal resources. It is a usual practice applied in all interviewed banks – all have responded that the project teams are mixed from internal and external resources (apart from the start-up which does it with own staff only).

Finding 34: The innovation strategy provides guidance, sets the frame, and enables employees to implementation of innovative ideas. The process for selection of the projects which together build up the innovation portfolio is usually managed by a committee or innovation board which is following the innovative strategy in their decision making. On the other hand, even when there is such a central body in the organization and formalized processes, there is always an opportunity for the **direct board management sponsorship** for the ideas which fit in the innovative agenda of the management board. Therefore we can conclude that the strategy plays an important role, but not the ultimate one, and is not the only factor that influences the innovative portfolio setup.

4.4 Findings related to the factors influencing the innovative portfolio

In the last part of the interview, we have discussed with the interviewees the factors which in their opinion influence the compilation of the organizations' portfolio of innovative projects and reasons for the volume of implementation (low vs. high) of the projects. For the categorization of the projects by their size we have proposed the following three types of projects:

- pilot (1 department involved and 1-2 use cases/fields of application covered)
- mid-size (2-4 departments involved, 3+ use cases/fields of application covered)
- transformational (5+ departments involved, large scale initiatives; E2E process, cross-organization)

In the course of the interviews, we have realized that depending on the interviewees' position in the organization and the level of involvement in innovative initiatives they deal with different types of projects („exploitative vs. explorative" types of innovation). Some interviewees suggested their own categorization of the innovative projects they are implementing, differentiating between easy and medium complex projects, where "pilot" from our categorization corresponds with "easy", and "medium complex" with "mid-size" type of projects.

We have asked the interviewees to answer the questions about the factors influencing the innovation portfolio in their organization using a Likert scale, by ranking each factor on the scale from 1 to 5, where 1 is "low impact", 5 - "very high impact".¹¹

Due to the reasons mentioned above, not all of the interviewees were able to provide a ranking for all three categories of projects, that's why they have provided the ranking for the types of projects they are dealing with (e.g. pilot and mid-size) or they provided just the aggregated scores for the factors with the argumentation that the role of a factor is the same for every size of the innovative initiative they were dealing with. Where possible the factors have been evaluated for all three types of projects. Aggregated rankings are presented in the visual form in the next sub-chapter.

¹¹ The complete list of factors with scoring can be found in Appendix 2

Finding 35: The factor „**innovation strategy and goals**” has the highest score (average score 4,2) out of all factors suggested by the authors for the ranking of factors for the question “which factors influence the composition of innovation portfolio in your organization”. This means that the goals fixed in the innovation strategy and the innovation strategy itself have a high influence on the composition of the innovative portfolio in the interviewed organizations. For the research question, it leads us to an unambiguous conclusion that this factor has a clear and solid influence on the innovation portfolio. The scoring was not biased because the interviewees were not aware of the explicit formulation of the research question. Moreover, all interviewees came from different backgrounds, have different roles and positions in the financial services companies, and at the same time, their answers were very similar in the scoring of this factor. All of them have admitted the importance of having and following the innovation strategy by granting this factor the highest score.

Finding 36: The factor **company’s capabilities** has the lowest score (average score 3,2). It can be explained by the fact that nowadays there is always a way how to gain knowledge from the „outside world”, attract third-party providers or experts and build up the missing knowledge. As described in the *Finding 33*, it is nowadays a usual practice to involve third-party experts, consultants, or service providers in the innovation implementation projects. Since capabilities and resources can be seen as elements of a company’s innovative strategy as well, the way how the lack of required expertise, capabilities, and resources can be solved via involvement of external experts is an important strategic decision.

Finding 37: The highest score (average score 4,8) has the “other” category where the interviewees named **specific factors, typical for their organizations**, and which they **consider to be important**. It seems logical because interviewees named the characteristic “pain points” for their organizations, the factors which have the highest relevance personally for them. In the “other” category the following versions have been mentioned by the interviewees:

- Availability of internal resources
 - people, knowledge, and talent
 - time which can be invested in innovative solution finding and implementation,
- Capability to innovate
- Innovation culture

- Buy-in from stakeholders
- Expectation management towards stakeholders and sponsors
- Customer problem
- Increase of the customer experience
- Market acceptance
- Time-to-market

Finding 38: For the question „which factors influence the scale of implementation of the projects in your organization” the ranking looks differently. The “**attraction of new clients**” has the highest score (average score 4,4) out of all factors suggested by the authors for the ranking. This means that as soon the innovative solution is worth scaling to attract new clients and expand the business horizon, the innovative product or service gains in importance in the face of the organization and is worth rolling out across the organization.

Finding 39: **Prestige and reputation factor** has the lowest score (average score 3,2) when it comes to scaling decisions. Our assumption for the reason is when the companies search for some ways to attract the attention from the outside to their innovative activities, even a small pilot would be enough to be mentioned in the respective reports and public or investors` meetings. Therefore there is not much sense behind scaling some solution if it was originally introduced with a primary goal to gain attention in the media or improvement of the reputation as an innovative actor in the market.

Finding 40: Similar to the previous question from the questionnaire, the “**other**” category where the interviewees named **specific factors** which they consider to be important has a very high score (average score 4,4) and has disclosed several factors which have not been mentioned in the previous answers to the question Q3.1. For example:

- Potential for monetization of the introduced innovative solution
- Scalability and reusability (possibility for adoption for another use case) of the introduced innovative solution

All the listed factors – originally suggested by the authors and additionally named by the interviewees - can be grouped into the **5 categories: Strategy, Resources, Customers, Market, Stakeholders.**

| Strategy | Resources | Customers | Market | Stakeholders |
|--|--|-------------------------------------|---|--|
| Business strategy and goals | Available budget | Customer problem | Time-to-market | Buy-in from stakeholders |
| Innovation strategy and goals | Capability to innovate | Increase of the customer experience | Market acceptance | Expectation management towards stakeholders and sponsors |
| Company's innovation ambitions | Company's capabilities | New clients attraction | Market and competition position | |
| Innovation culture | People, knowledge and talent | | Current challenges requiring immediate action | |
| Potential for monetization | Time which can be invested in innovative solution finding and implementation | | | |
| Prestige, Reputation (PR) | | | | |
| Scalability and reusability (possibility for adoption for another use cases) | | | | |

TABLE 2 - CATEGORIES OF FACTORS INFLUENCING THE INNOVATIVE PORTFOLIO SETUP

Finding 41: Before rolling out an initiative to the broader customer base it is usually being **tested**. For the innovative initiatives, one of the interviewed organizations applies a “speed boats” way of testing, when the initiatives are piloted across business areas and domains. During these tests, the project teams have a certain goal (e.g. to improve some process efficiency) and it is done in a pilot mode. Depending on the outcome the solution is being scaled or not. However, as the latest Covid-19 pandemic showed if there is a real urgent business need for some solution in the organization, instead of going through all traditional phases of a project and several rounds of alignments with all involved stakeholders just a short pilot test is done and then the solution is rolled out to the affected divisions or applicable use cases.

Fining 42: As we tried to figure out what are the **reasons for scaling** or not scaling the small innovative initiatives (or pilots) to the next level and to become transformational initiatives across the organization we came up with several reasons. For example one of the reasons is “when the piloted projects do not **reach the expected targets or are far away from the targets**”. It means that in the decision-making process about scaling in most cases there is a check of the performance metrics of the initiative before deciding about further scaling or rollout in the organization. The check against the performance metrics is very characteristic for the

organizations where the strongest driver is the available budget. This practice can be seen as „a weak point of the innovation process in the CFO-driven companies, which primarily focus on the efficiency of the activity“. This means that it is simply about the budget in the question about the scaling.

Finding 43: The scaling depends on the fact whether there is an **immediate business need** for the initiative at a large scale or not. After successful completion of a pilot project, the project will be assessed again by the central innovation body/committee – the budget and added value will be checked and further critical assessment will be made. In case there is no immediate business need for a rollout, the organization will wait until the need will appear (even when the pilot was successful). Moreover, not every initiative is strategically relevant and at the same time is aligned with the business line goals. The interviewees mentioned a situation when some initiatives may be strategically relevant but not aligned with the current goals of a business line. And as there is no clear structure yet on how to handle the topics which are not in the interest of the business line but in general are strategically relevant for the organization, for the moment such initiative would not be scaled up. However, in a long run, this initiative would make sense to be taken onto the agenda and planned for an extensive rollout throughout the organization.

Finding 44: Not every innovative solution is meant to be scaled. Some solutions may exist for the local markets only, and there are not always global initiatives that have to be scaled. Important is that the employees involved in the innovation management share the understanding in the organization that not everything should be scaled – the pilots are done for figuring out what is a good idea (what will fit in the business portfolio, what will be accepted by the market, etc). “It is a typical situation that some initiatives are overfunded, and some – underfunded“¹².

Finding 45: Some interviewees admitted that in their organizations there is simply **little or no risk appetite** and the organization is not ready for larger implementation of the innovative solution because this move is seen as too risky. Some organizations may avoid scaling of innovative solutions which lie not directly in their core competence, even when it makes sense from

¹² Sidenote from the authors: as it is a quote from one of the interviewees and the authors not necessarily share this opinion because it represents a very subjective evaluation of the degree of importance of some projects.

the business growth perspective because they are afraid to lose the focus which they have on their traditional business and revenue generation streams.

Finding 46: By answering the question “what are the reasons why the pilots are not scaled to the next level” the interviewees referred mainly to the **factors mentioned above** but in the opposite direction, e.g. lack of budget, lack of resources, time-to-market is too long, the market is not accepting the solution, high failure rate, etc. Further reasons which deserved attention of the respondents and have not been discussed above are:

- technical issues with the innovative solutions (e.g. APIs not working)
- wrong timing and some competitor on the market has already launched what you wanted to do

Finding 47: For a FinTech start-up, the “overall business strategy means to be innovative and not just doing what the others are doing”. At the same time, the banking sector is still **missing the innovative attitude and readiness to admit**, that the investments in innovative solutions may not pay off within one year or even ever, and the initiative will have to be stopped. What the banks are doing in the innovative fields, is placing technology-related elements into the business model and in small steps changing the industry. However, financial organizations are still highly fixed to the approach of measuring financial KPIs and looking for positive business cases. Therefore it is hard to go for big innovation steps without having an attitude to try out innovative solutions and avoid being so much fixed on the financial KPIs of the investments into these innovations. And to the interviewees' opinion, in general, not only the Austrian market but the whole European banking sector is not ready for big innovation steps because it is very much focused on the positive financial results out of the innovative activities.

Finding 48: The **reasons for not scaling the innovative solutions have been grouped into the same 5 categories**, applied for grouping the answers in the question Q3.1.: Strategy, Resources, Customers, Market, and Stakeholders. It is remarkable that no „Customer“-driven reasons have been mentioned in this interview section. The reasons for not scaling a pilot type of project to a bigger size often root back to the organization's strategy elements.

| Strategy | Resources | Customers | Market | Stakeholders |
|---|-------------------------------------|-----------|--|---|
| Lack of innovation culture | Lack of budget | - | Wrong timing and the solution is already launched by competitors | Pilot fell short of the expectations, targets or KPIs |
| Lack of risk appetite | Lack of resources | | Local market solutions (not suitable for the global market) | No sponsorship from C-level managers |
| No immediate business need | Technical issues with the solutions | | The market has not accepted the pilot | |
| Not every innovative solution is meant to be scaled | | | Time-to-market | |
| Risk to loose business focus | | | | |

TABLE 3 - CATEGORIES OF FACTORS INFLUENCING THE "NO"-DECISION FOR PROJECT SCALING

Finding 49: The answers to the question about **the proportion of projects of each type in the portfolio (pilot, mid-size, transformational)** have been influenced to a large extent by the position of the interviewee in the organization and the nature of the innovative projects the interviewees are dealing with („exploitative vs. explorative” types of innovation). Even two respondents working for the same organization but in different roles could have answered very differently. In a consolidated view, the authors have observed the following distribution patterns in the interviewed companies:

| Interviewed Company / Project size | Pilot | Mid-size | Transformational |
|------------------------------------|-------|----------|------------------|
| FinTech Start-up | 10% | 60% | 30% |
| Banking Group 1 | 40% | 40% | 20% |
| Banking Group 2 | 70% | 30% | 0% |
| Banking Group 3 | 30% | 0% | 70% |

TABLE 4 - CONSOLIDATED VIEW ON THE PROPORTIONS OF THE PROJECTS OF DIFFERENT SIZES (PILOT, MID-SIZE AND TRANSFORMATIONAL) IN AN INNOVATIVE PORTFOLIO

We could derive the following conclusions from this consolidated view:

- It is uncommon for a FinTech start-up to keep its innovative projects at a low scale, and in most cases (90%) the projects are scaled up to mid-size or large-size transformational initiatives.
- The portfolio compilation presented on the graph “Banking Group 1” illustrates a point of view of a project manager involved in different types of projects, however, he admits

that there are not many transformational innovative activities driven by his business unit, at least not by the Austrian entity of the Banking Group.

- The portfolio setup of the “Banking Group 2” presents a view of a manager of a department often involved in innovative projects, however, not observing initiatives being scaled up to the “transformational” size and whose portfolio compilation is rather risk-averse (trying out innovative solutions without further scaling).
- The setup presented on the graph “Banking Group 3” illustrates a view of an interviewee working for a central department in the organization developing innovative solutions (AI, Analytics) to be implemented across the organization. It explains the portfolio project setup distribution 30% pilot and 70% transformational, where around two-thirds of the projects are implemented at a large scale: several departments and multiple use cases. This specific role in the organization means power and eligibility to go for volumes, scale and roll out innovative solutions across the organization.

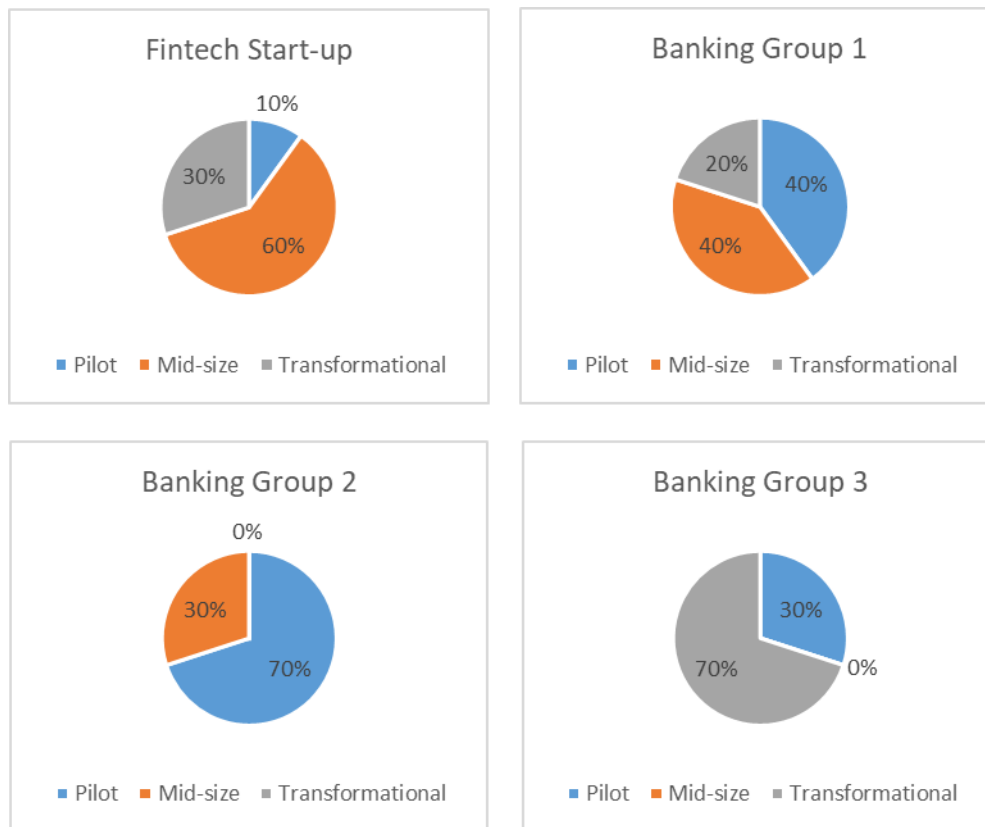


FIGURE 8 - COMPARISON OF PROPORTIONS OF THE PROJECTS IN DIFFERENT SIZES (PILOT, MID-SIZE AND TRANSFORMATIONAL) IN AN INNOVATIVE PORTFOLIO

In the last part of the interview, we asked the respondents about the nature of the innovative projects their organizations implement to gain insights and make a deeper dive into the innovative projects presented in the Austrian banking sector. To initiate the discussion, we have provided some examples and the interviewees have been asked to provide a “Yes or No” answer, whether this type of project has been ever conducted in their organizations. Following examples have been provided by the authors:

- Process automation
- Robotics
- AI
 - Analytics
 - Big Data
 - Machine Learning

Respondents have been asked to enhance the list with innovative projects examples from their business life. We came up with the following extensions to the original list of innovative projects in the interviewed financial organizations:

- Voice-assistance technology
- Speech recognition technology
- Chatbots
- Implementation of biometrics (fingerprint signature)
- Digital/electronic signature (allowing the customers to sign the documents without coming in the bank branch)
- APIs / open APIs
- Cloud technology
- Data lakes
- Blockchain
- Intelligent OCR (a combination of ML and NLP)
- Business Intelligence

Finding 50: As interviewees have been asked to provide **examples of innovative projects**, we have realized that only a handful of examples have been named by each interviewee. The

reason could be that the innovative solutions have already assimilated in the business landscape and are not seen anymore as innovation. In addition, some interviewees admitted that the nature of innovative projects in banking is very often a “re-use of technical capabilities available in some other business fields” (e.g. fingerprint signature technology applied for signing transactions in mobile banking is widely applied in other mobile apps).

4.5 Visual presentation of the findings

In this subchapter, we provide illustrations of the findings collected in the interviews in a graphical form. The first graph illustrates aggregated scoring (average of the 9 interviews) of the factors ranked on a scale of 1 to 5, resulting from the following questions:

- Q3.1.: Which factors influence the composition of the innovation portfolio in your organization? (blue line below “portfolio composition”)
- Q3.2.: Which factors influence the scale of implementation of the projects in your organization? (orange line below “projects’ scale”)

The list of factors has been originally provided by the authors and in addition, the interviewees were able to add any factors which are important from their point of view under the “other” category.

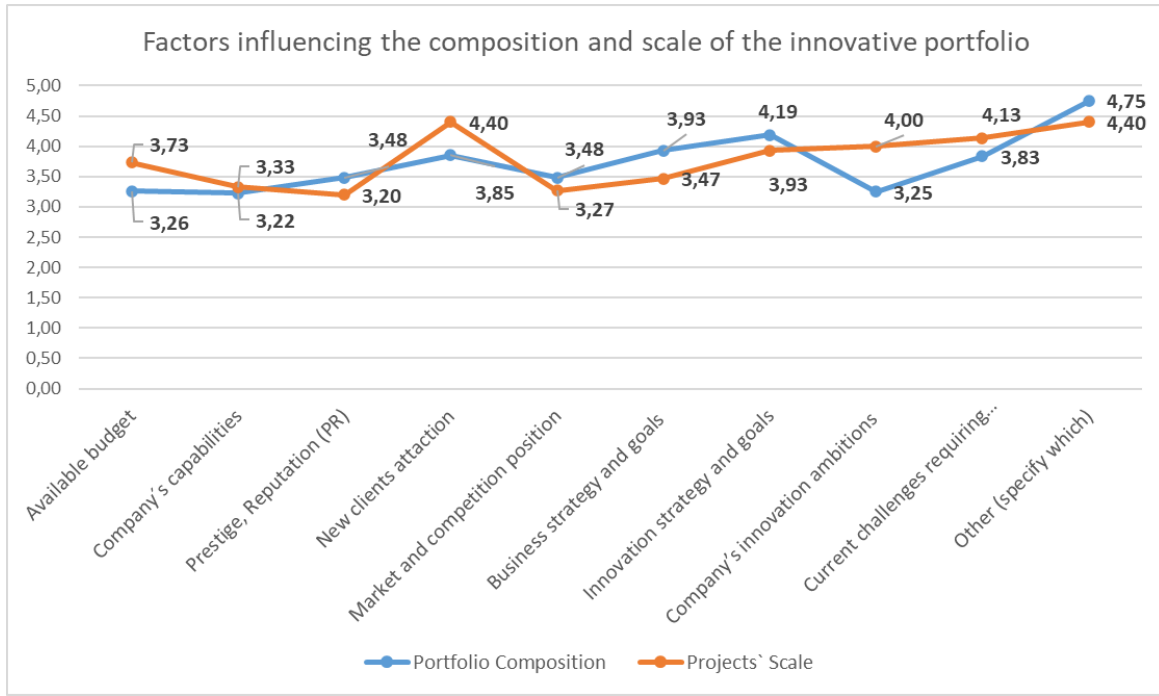


FIGURE 9 - FACTORS SCORING FOR PORTFOLIO COMPOSITION AND PROJECTS' SCALE

The next two graphs illustrate the answers to the two questions mentioned above (Q3.1. – Figure 10 and Q3.2. – Figure 11) as an aggregated average score and grouped into four behavioral patterns: FinTech start-up and 3 Banking Groups. They demonstrate different attitudes of the market players towards the factors and illustrate the ranking based on their importance on a scale of 0 to 5.

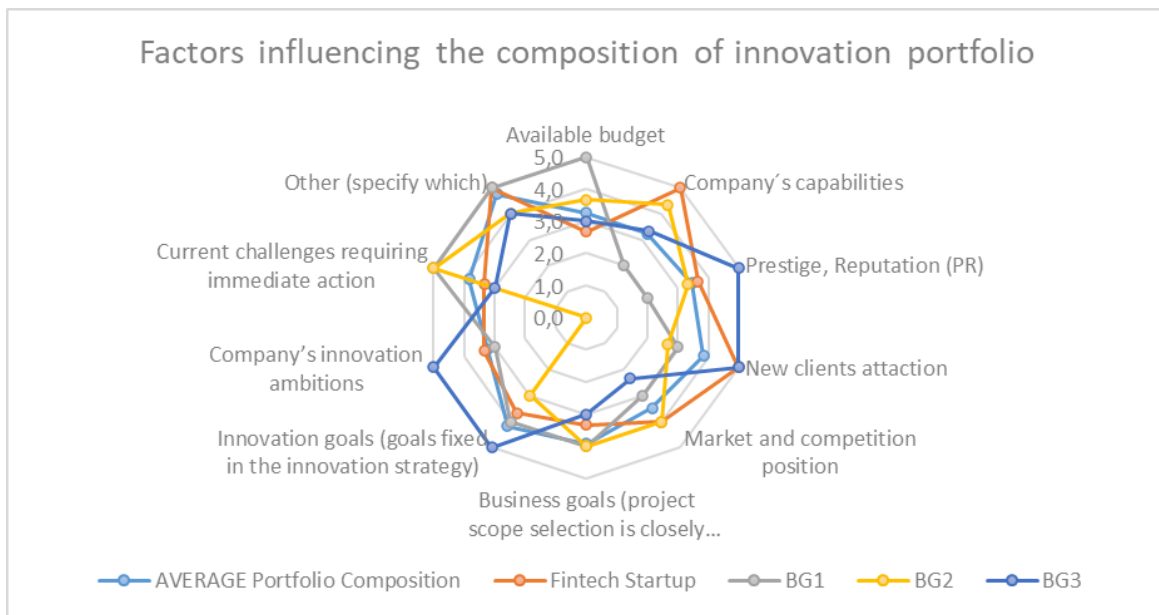


FIGURE 10 - AGGREGATED SCORING FOR THE QUESTION Q3.1.

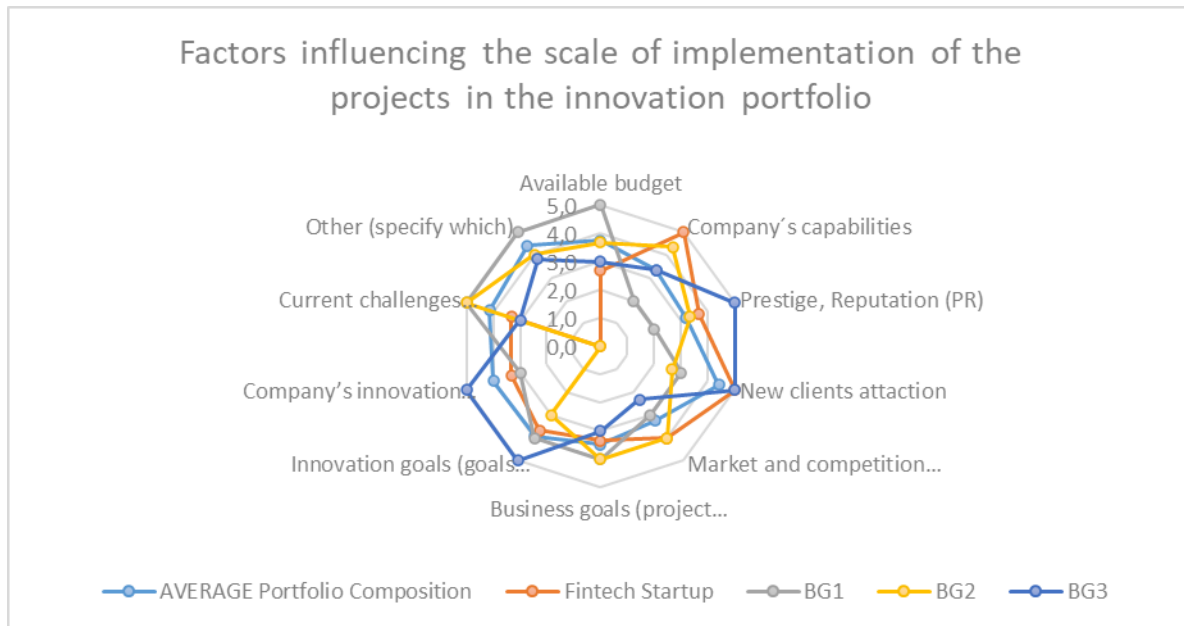


FIGURE 11 - AGGREGATED SCORING FOR THE QUESTION Q3.2.

The following two graphs represent a **start-up view and answers** to the questions about factors influencing innovative portfolio composition and scaling. The differences in scoring for the two questions are not essential. In both questions, for the pilot type of projects, the factors do not play a big role as for the projects of a large scale. It corresponds with the interviewee's statement that almost "every good idea can be launched when the corporate culture and overall pro-innovative environment in the organization encourage it". In addition, there is always some budget reserved for innovative ideas to be started ("piloted") and there is less "bureaucracy" from steering bodies compared to the traditional baking groups. And the higher the volume and scale of the projects are getting, the higher importance the factors are gaining. Available budget plays a minor role in starting an initiative as a pilot and gains importance with the growing scale of a project. This tendency can be observed for every factor apart from those, ranked with "5" for all types of projects. The same behaviour can be observed for the factors "innovation strategy and goals" and "business strategy and goals".

For a FinTech start-up, the factors "company's capabilities" and "new client's attraction" have a major role for all types of projects (scored with 5 for both questions for all types of projects). It is understandable because according to the interview statements from the FinTech start-up manager the most of the projects are conducted by the company's personnel (no third-party consultants) and "changing the market" and new clients acquisition is the highest business goal of the company.

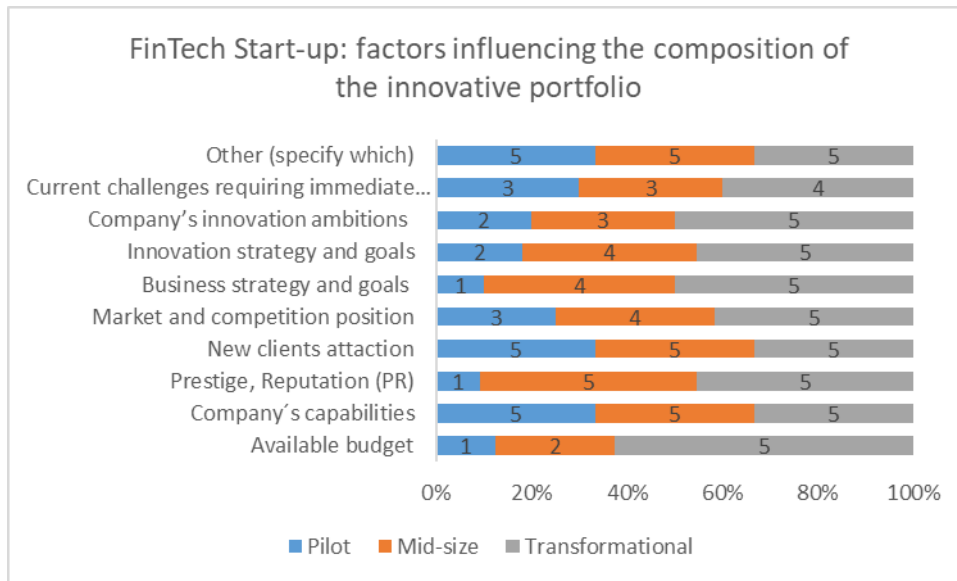


Figure 12 - Fintech View: factors relevant for project portfolio composition

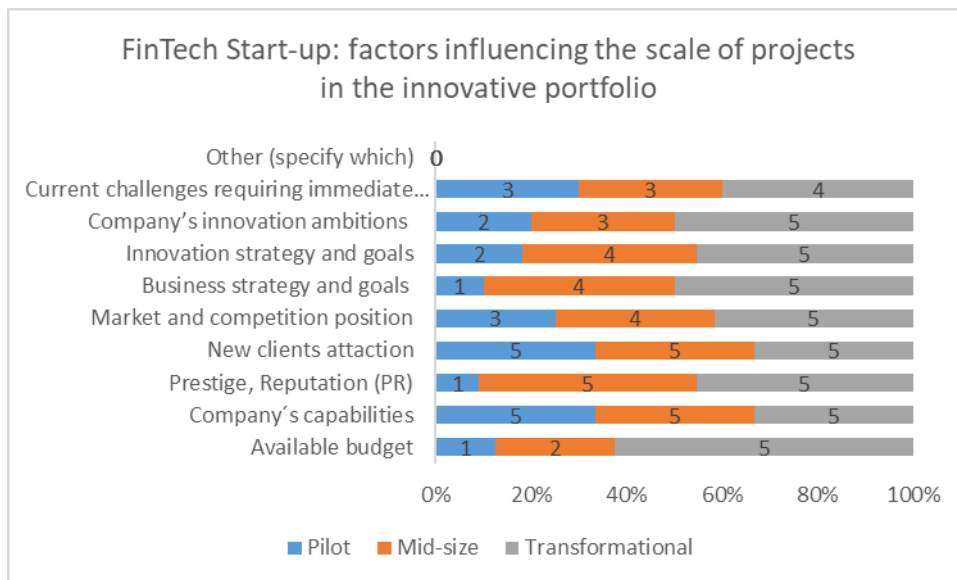


Figure 13 - Fintech View: factors relevant for project scaling

4.6 Conclusion

Innovation strategy plays an important role in structuring the company's internal innovation creation processes, however, it is not the only factor required for the organization to be innovative. Some companies do not have clearly defined and documented innovation strategy but instead have innovative goals already embedded into their core business strategy and this fact does not automatically mean that they are less innovative than the ones with a documented

innovation strategy. While deriving the findings from the interviews we have analyzed them individually and in addition, tried to compare them among each other as well as contradistinguish the position of a FinTech start-up versus international banking groups operating in Austria.

In the course of the interviews, we ended up with a list of twenty-one factors that influence the innovative portfolio of the companies. We have suggested a grouping of these factors into five categories: Strategy, Resources, Customers, Market, and Stakeholders. In addition, the mentioned reasons for not scaling a pilot type of project to a bigger size transformational initiative have been grouped into the same five categories of factors.

The factor „**innovation strategy and goals**” (goals fixed in the company’s innovation strategy) has the highest score out of all factors suggested by the authors. This helps to answer the first research sub-question about the role of the innovation strategy for the composition of the innovative portfolio. It has very high relevance for the portfolio compilation and selection of the project scale (and further scaling of an initiative successfully implemented as a pilot). As it was suggested to the interviewees to mention the unique factors which play an important role in the compilation and scaling of the innovative portfolio from their point of view, they came up with numerous factors which have been ranked by them with the highest scores.

On looking closely, the factors defined by the authors and interviewees directly or indirectly can be seen as elements of the innovation strategy. For example, resources and capabilities per definition are elements of the strategy construct as described earlier in the literature review chapter. The same explanation directly applies to further factors allocated to the category “Resources”. The group of factors under the category “Strategy” are directly related to the strategic goals and objectives according to the authors' option as well. The remaining three groups of factors: “Customers”, “Market”, and “Stakeholders” contain the factors that indirectly can be considered as relevant for the innovation strategy. These three terms are important building blocks of a strategy construct because decisions about customers, market positioning/competitors as well as the involvement of the stakeholders have a high influence on the company’s strategic movements.

The attitude to innovation is very different among the interviewed organizations: while some organizations promote decentralization of the innovation steering and management, others

pointed out a lack of power in decision-making for launching an innovative pilot project (resulting in a lack of budget and resources). What the interviewed organizations share in common is a steering body having an overview of all innovative efforts and managing the portfolio of innovative projects. It may be called differently: change management committee, or innovation board, or just executive management team who has innovation on their radar, but this team is responsible for driving innovative initiatives in the organization. This statement does not diminish the importance of the innovative culture and intrapreneurial thinking among all employees in the organization.

Coming to the question about scaling of innovative initiatives, some interviewees said that „the drop rate of the pilot projects is low”: most of the successful pilot projects are rolled out to further departments or use cases and grow up to mid-size or even group-wide transformational initiatives). On the contrary, another group of the interviewees confirmed that just a minority of the project is being scaled and the most popular reason for it was the lack of internal resources. The sample of the interviews was not large (nine interviews) and the size of the sample implied some restrictions on the studies of the reasoning for the difference in the statements and opinions, and this fact may be considered as studies limitation.

In the next chapter, we derive conclusions and proposals on how to use the findings from the interviews to maximize the value out of the innovative projects and make work pay for growing a pilot into a large-scale initiative.

5 CONCLUSION

5.1 Summary

For answering the research question about the role of the company's current innovation strategy for the innovative portfolio, the authors of this Master Thesis went through all stages of research work. In a first step literature review has been conducted and a framework covering the cornerstones of the research topic has been developed. Afterward, based on the framework and results of the literature review, a questionnaire has been created to conduct the interviews with representatives of the financial services organizations. The derived findings have been analyzed and the factors relevant to the research questions have been categorized into five groups. Visual presentation of the findings in form of graphs and tables enhances the findings and makes them more illustrative. Taking into account the "origin" of the interviewees, two views on the innovation strategy and innovative portfolio are presented in this work: of a corporate world (presented by three major banking groups operating in Austria) and of a successful FinTech start-up, serving over four million customers worldwide.

The role of the innovation strategy for the compilation of the innovative portfolio and the choice of the project size (pilot, mid-size or transformational initiative) has been analyzed as well as the contribution of the further factors, discovered in the course of the interviews. Some factors are hard to influence as they are external, for example, market acceptance or customer behaviour. But the majority of the factors which are relevant for the innovative portfolio can be influenced by the company by carefully managing its strategic focus, ensuring alignment of the business and innovative goals, growing the innovation and partnership culture, working on the expectation management towards stakeholders, and sponsors.

This work analyses in detail and contributes to the knowledge in the fields of "innovation", in particular:

- It analyzes the link between the current innovation strategy and future innovative portfolio
- It discovers the factors influencing the innovative portfolio and grouping them into five categories: Strategy, Resources, Customers, Market, and Stakeholders.

5.2 Implications for relevant stakeholders

The derived findings provide food for thought for the business practitioners in the financial services industry who are considered as the most relevant stakeholders/information receivers and who may make use of the findings. This work discloses real examples from the financial services companies in Austria, how an innovation strategy is embedded in the everyday life, and how their innovative portfolio management is organized. The findings depict useful insights or “best practices” on how an innovation management process and the elements of the “Total innovation system” are organized. The business practitioners willing to influence the current situation and the future innovative portfolio in their organizations, can build up on the findings and work on the pain points relevant for their organizations. In particular, in the first step, a clear innovation strategy and goals have to be formulated. It will help the organization to set the right focus and put together innovation ambitions to reflect in the composition of an innovative portfolio. Moreover, for the project portfolio compilation and sizing, a clear understanding of whether the scaling of innovative initiatives is intentionally desired or not is required.

In addition, the stakeholders may further elaborate on and apply in practice the concepts studied in the literature review section. It is a helpful step to set up a frame in the innovation creation and management process and understand worthwhile elements of the innovative system.

5.3 Future research

Derived findings can be used as a basis for further theoretical research to analyze and measure the influence of each factor on the innovative portfolio in more detail. Since qualitative data has been used for this work, for further research quantitative data may be used, for example, to build a statistical model to find out interdependencies and correlations between the factors, scale of innovative projects, and organizational performance.

For further empirical research, scholars may select a more homogeneous sample of the industry representatives, dealing with the same type of innovative projects („exploitative vs. explorative”) or from similar functions. This may make their answers and findings more comparable among the answers pool. In addition, the applicability of already derived findings and factors

categorization (five groups of factors) can be validated by suggesting further interviewees evaluating/ranking the factors from their perspective and applying these factors in the context of other companies from the financial services industry in Austria.

Since the selected interviews' sample was not large, future research may cover additional financial organizations to collect further opinions and to analyze the difference in the contrasting/opposite opinions.

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APPENDICES

Appendix 1: List of interviewees

An overview of the interviewees' professional backgrounds, organizations they are working for, and positions in the organization.

| Respondent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|--|---|---|--|---|--|---|--|
| Organization | FinTech start-up | Universal Banking Group | International Banking Group | International Banking Group | International Banking Group | CEE Banking Group | International Banking Group | Universal Banking Group | Universal Banking Group |
| Position in the organization and area of responsibility | Director, head of the business operations in Europe | Central role in the Group innovation management | Central role for Group Operations, focusing on Artificial Intelligence and Intelligent Automation | Department head in the Operations area, focusing on Data Analytics | Department head in the area of Cash management | Central unit supporting the business lines in digitalization, working closely with Operations and IT departments | Central role in the innovation management department, focusing on innovation strategy and portfolio management | Department head in the Retail business area | Central role in the Retail business area, focusing on digitalization initiatives and innovative agenda |
| Additional insight / highlight about innovation out of the interview | "The difference of a corporate world and a start-up company why start-ups are more successful in innovation, is shorter ways for decision making and faster implementation of the initiatives". | "We have an innovative business strategy, this is one strategy, not separate strategies (business vs. innovative) and not separate goals (business vs. innovative) which have to be synchronized, it is part of it". | "Innovation strategy is needed in order to avoid a situation of having many innovative projects and not knowing where it goes and what is the expected result". | "Agile way of thinking and delivery is key for success of the innovative projects. The way how the projects are delivered and whether the team shares the innovative culture is a decisive factor for the success". | "Ultimate goal is to increase the customer experience, ease the customer lives and increase efficiencies with banking products and services with the help of innovation and innovative solutions". | "Expectations management is a key. If too high or wrong expectations of the management and stakeholders are not fulfilled, good initiatives and ideas remain on a pilot level only, without further | "For strategic areas there might be projects running on the similar topic: up to 5-10 small teams, having different insights about the customers, thus adapting the value proposition better". | "Brilliant ideas can arise but without immediate business need it will not be started, even not piloted, and have to wait". | "Innovation management process is not a sprint but a marathon and requires thoughtful allocation of resources, strategy and planning". |

Appendix 2: Average factors` scoring out of nine interviews

Average values for the ranking of the factors influencing the innovative portfolio composition and projects` scale resulting out of the nine conducted interviews with financial services industry experts.

| Factor | Portfolio Composition | Projects` Scale |
|---|-----------------------|-----------------|
| Available budget | 3,26 | 3,73 |
| Company`s capabilities | 3,22 | 3,33 |
| Prestige, Reputation (PR) | 3,48 | 3,20 |
| New clients attaction | 3,85 | 4,40 |
| Market and competition position | 3,48 | 3,27 |
| Business strategy and goals | 3,93 | 3,47 |
| Innovation strategy and goals | 4,19 | 3,93 |
| Company`s innovation ambitions | 3,25 | 4,00 |
| Current challenges requiring immediate action | 3,83 | 4,13 |
| Other (specify which) | 4,75 | 4,40 |
| Knowledge and talent | 4,00 | |
| Availability of internal resources | 5,00 | 5,00 |
| Customer problem | 5,00 | |
| Buy in from stakeholders | 5,00 | |
| Increase of the customer experience | 4,00 | |
| Expectation management | 5,00 | 5,00 |
| Market acceptance; time-to-market | 5,00 | |
| Scalability (possibility for adoption) | 5,00 | 5,00 |
| Reusability | | 4,0 |
| Monetization | | 3,0 |

Appendix 3: Factors scoring for portfolio composition and project scale

Scoring values for the four typical representatives of the interview sample: 1 FinTech start-up and 3 Banking Groups (BG), as well as an average value.

| Which factors influence the composition of innovation portfolio in your organization (rank each from 1 to 5, where 1 is "low impact", 5 - "very high impact") | AVERAGE Portfolio Composition | | | | |
|---|-------------------------------|------------|------------|------------|------------|
| | Fintech | Startup | BG1 | BG2 | BG3 |
| Available budget | 3,3 | 2,7 | 5,0 | 3,7 | 3,0 |
| Company's capabilities | 3,2 | 5,0 | 2,0 | 4,3 | 3,3 |
| Prestige, Reputation (PR) | 3,5 | 3,7 | 2,0 | 3,3 | 5,0 |
| New clients attaction | 3,9 | 5,0 | 3,0 | 2,7 | 5,0 |
| Market and competition position | 3,5 | 4,0 | 3,0 | 4,0 | 2,3 |
| Business strategy and goals | 3,9 | 3,3 | 4,0 | 4,0 | 3,0 |
| Innovation strategy and goals | 4,2 | 3,7 | 4,0 | 3,0 | 5,0 |
| Company's innovation ambitions | 3,3 | 3,3 | 3,0 | 0,0 | 5,0 |
| Current challenges requiring immediate action | 3,8 | 3,3 | 5,0 | 5,0 | 3,0 |
| Other (specify which) | 4,8 | 5,0 | 5,0 | 4,0 | 4,0 |
| MAX | 4,8 | 5,0 | 5,0 | 5,0 | 5,0 |
| MIN | 3,2 | 2,7 | 2,0 | 0,0 | 2,3 |

| Which factors influence the scale of implementation of the projects in your organization (rank each from 1 to 5, where 1 is "low impact", 5 - "very high impact") | AVERAGE Portfolio Composition | | | | |
|---|-------------------------------|------------|------------|------------|------------|
| | Fintech | Startup | BG1 | BG2 | BG3 |
| Available budget | 3,7 | 2,7 | 5,0 | 3,7 | 3,0 |
| Company's capabilities | 3,3 | 5,0 | 2,0 | 4,3 | 3,3 |
| Prestige, Reputation (PR) | 3,2 | 3,7 | 2,0 | 3,3 | 5,0 |
| New clients attaction | 4,4 | 5,0 | 3,0 | 2,7 | 5,0 |
| Market and competition position | 3,3 | 4,0 | 3,0 | 4,0 | 2,3 |
| Business strategy and goals | 3,5 | 3,3 | 4,0 | 4,0 | 3,0 |
| Innovation strategy and goals | 3,9 | 3,7 | 4,0 | 3,0 | 5,0 |
| Company's innovation ambitions | 4,0 | 3,3 | 3,0 | 0,0 | 5,0 |
| Current challenges requiring immediate action | 4,1 | 3,3 | 5,0 | 5,0 | 3,0 |
| Other (specify which) | 4,4 | 0,0 | 5,0 | 4,0 | 3,8 |
| MAX | 4,4 | 5,0 | 5,0 | 5,0 | 5,0 |
| MIN | 3,2 | 0,0 | 2,0 | 0,0 | 2,3 |