STRATEGY-BASED COMPETENCY MANAGEMENT IN INNOVATION MANAGEMENT

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ABSTRACT

STRATEGY-BASED COMPETENCY MANAGEMENT IN INNOVATION MANAGEMENT

This study involves creating a comprehensive list of competencies derived from both literature and industry sources, as well as analyzing the correlation between the competencies in the list and companies' innovation strategies. It has been identified that competency management should be included in the innovation management chain system (mission-vision-strategy-innovation strategies), which is culturally ingrained in innovative companies. Competency management is crucial in organizations, particularly in areas such as recruitment processes, talent retention, rotation, performance, and project management. Although competency management is often associated with human resources departments or innovation/R&D departments within companies, it should actually be a topic that concerns all departments of the company within the scope of the definition of innovation. Therefore, this thesis aims to identify the critical competencies for strategic decisions made by top management for the entire company, which will lead to more efficient utilization of human resources, increased employee motivation, and more effective planning in terms of training and competency development. This approach integrates competency management into the innovation management system, taking a holistic approach. The integration of competency management with strategies is the unique contribution of this thesis.

Furthermore, it is observed that companies primarily focus on technical competencies in competency management, and these competencies are often defined based on positions/roles within the companies and may not be up to date. Another unique aspect of this thesis is the inclusion of soft competencies in addition to technical competencies in the created competency index. Out of the 7 categories and 55 competencies in the list, 5 categories primarily consist of soft competencies. The study utilized survey research and case study methods, obtained radar charts based on strategies, and reported the analyses.

Keywords: *Innovation Management, Competency Management, Organization, Competency Index, Strategy*

ÖZET

İNOVASYON YÖNETİMİNDE STRATEJİ TABANLI YETKİNLİK YÖNETİMİ

Bu çalışma, literatürden ve endüstriden elde edilen yetkinliklerle kapsamlı bir liste oluşturmayı ve şirketlerin inovasyon stratejileriyle oluşturulan listedeki yetkinliklerin ilişkilendirilmesine yönelik analizleri içermektedir. Özellikle inovatif firmalarda kültürleşmiş olan inovasyon yönetiminde zincir sisteminde (misyon-vizyon-strateji-inovasyon stratejileri) yetkinlik yönetiminin de bulunması gerektiği tespit edilmiştir. Yetkinlik yönetimi, kurumlarda özellikle işe alım süreçleri, yeteneği elde tutma, rotasyon, performans, proje yönetimi gibi çalışmalarda önemli olmaktadır. Yetkinlik yönetimi özellikle kurumların insan kaynakları departmanları ya da inovasyon / Arge departmanlarında çalışılan bu konu olmasına rağmen, aslında inovasyonun tanımı kapsamında tüm şirketin departmanlarını ilgilendiren bir konu olmalıdır. Bu sebeple, bu tezde şirketin geneli için üst yönetimi tarafından alınan stratejik kararlar için hangi yetkinliklerin kritik olduğunun tespit edilmesi, şirketin insan kaynağını daha verimli kullanmaya, çalışanların daha motivasyonlu çalışmasına, eğitim veya yetkinlik kazanım anlamında daha etkili bir planlama yapılmasına neden olacaktır ve inovasyon yönetimi sisteminde yetkinlik yönetimi içeriyor olacaktır. Bütünsel bir yaklaşıma sahip olmasıyla birlikte, yetkinlik yönetiminin stratejilerle ilişkilendirilmesi bu tezin özgün çalışmasıdır. Ek olarak, şirketlerin yetkinlik yönetiminde ağırlıklı olarak teknik yetkinlikler çalışılmaktadır ve bu yetkinlikler şirketlerdeki pozisyon/rollere göre tanımlanmış, çok da güncel olmayan yetkinliklerdir. Bu tezdeki bir diğer özgün çalışma ise, oluşturulan yetkinlik indeksinde teknik yetkinliklerle birlikte, davranışsal yetkinliklerin de oluyor olmasıdır. 7 kategori, 55 yetkinlikten oluşan listenin 5 kategorisi, ağırlıklı olarak davranışsal yetkinlikleri içermektedir. Çalışmalarda, anket çalışmaları ve vaka analizi yöntemleri kullanılmış, stratejilere göre radar grafikleri elde edilmiş ve analizler raporlanmıştır.

Anahtar Kelimeler*: İnovasyon Yönetimi, Yetkinlik Yönetimi, Organizasyon, Yetkinlik İndeksi, Strateji*

In the symphony of life, coincidences are the harmonious notes that create unforgettable melodies

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CHAPTER 1

INTRODUCTION

Creating and implementing a culture of innovation has become one of the important priorities for companies that plan and think about their future. The business world is getting more competitive, and technology is advancing. Companies need to be competent and constantly improve their technological skills while implementing innovations (Riyanti et al. 2022). Another research conducted that the companies are facing difficulties in enhancing their competitiveness in today's fast-changing global market (Hwang, Choi, and Shin 2020) In a dynamic and constantly changing environment, competency management plays a crucial role in companies by providing a comprehensive and broad-level definition of jobs or tasks (Gangani Noordeen, n.d.) Organizations often adopt universally applicable competencies, but successful competency models also prioritize competencies aligned with corporate strategy for a competitive advantage (Campion et al. 2011a).

1.1. Definition of Problems

In today's business world, competency lists used internally by companies serve multiple purposes and are particularly valuable in particular areas such as recruitment, rotation, performance improvement, and project management. While competencies are important for all functions and highly valued by companies, their utilization and management are often limited, and they are generally under the responsibility of the human resources department. According to article, the major areas in developing a competency driven HRD strategy are recruitment and hiring, learning and education, organizational growth, and performance management (Gangani, McLean Garry N., and Braden 2006). When the scientific literature and industrial applications are examined, the observations are obtained that competency lists are rarely updated and tailored to specific job profiles. While competencies in companies are generally planned according to job positions, the competency requirements assigned to positions can also change over time

due to factors such as social culture, nature of the business, work environment, organizational culture, organizational structure, duties and responsibilities, nature of processes and assigned activities, as well as the attitudes and motivations of colleagues (Kaur and Kumar, n.d.). Clearly, competency lists vary extensively depending on the industry, organizational culture, and functions, highlighting the importance for companies to base their competency management on a systematic approach in order to stay competitive.

Moreover, there is a limited amount of research that emphasizes the importance of competency management in the mission, vision, strategy, and innovation strategy chain, which are fundamental in innovation management. In the article (Campion et al. 2011b) the researcher emphasizes the following points "Although many organizations will adopt competencies that are similar in content and can be applied universally regardless of the organizational context (e.g., adaptability, communication skills), successful competency models also identify com-potencies that align to corporate strategy and foster competitive advantage."

1.2. Aim of The Study

The research proposes a general competency list that aims to create a strategic-based competency management approach and systemic in innovation management for especially innovative companies. The list includes competencies that combines technical and soft competencies and it takes a broad approach to competency management by incorporating concepts such as holistic approach, cross-functional collaboration, cooperation-oriented focus, and ownership of an innovative mindset, which are important in innovation management. This index is developed by incorporating information & competencies from literature review and insights from professionals in the industry and academia. The study focuses on identifying the critical competencies for innovation project portfolios in terms of technical and soft competencies that aligned with innovation strategies and analyzes their relationship in the systematic establishment process.

1.3. Research Questions

The primary focus of this study is to investigate the following research questions:

- What are the critical individual competencies that are important in innovation management, especially for innovative companies?
- Is it possible to establish a relationship between the innovation strategies of companies and the competency index constructed after the study?

1.4. Methodology

The thesis study includes 3 different research methods. The first one is an open-ended survey conducted with professionals from the industry. In the next step, the competencies gathered from the literature review and the open-ended survey were analyzed for frequency, resulting in the finalization of the index.To ensure cross-validation, a closed-ended survey was conducted with professionals from academia to evaluate the final list. As the final method, the index was further refined through two online interview sessions with professionals from the industry. A case study was conducted with two selected companies to understand the relationship of the index with strategies, and survey and interview studies were implemented. The details of the methodology are explained in Chapter 3.

1.5. Structure of the Study

The first chapter consists of the problem statement, research purpose, and a brief description of the research questions. It provides an overview of the overall framework of the study.

The second chapter includes a literature review and presents research related to the general understanding of competency management. It provides a comprehensive understanding of competency management, covering various aspects and perspectives related to the topic. One of the aim of the research is understanding relationship between competencies and strategy, and includes relevant content on the research topic.

Chapter three consists of the methodology section and provides an overview of the application of qualitative and quantitative methods used in the study. It summarizes how these methods were implemented in the research.

Chapter four presents the framework of the study, which includes the taxonomy of the competency list created from the literature and survey studies, as well as a detailed description of the sources obtained. Additionally, it provides the objectives and propositions of the research.

The fifth chapter is dedicated to providing a detailed account of the research outcomes. It includes a comprehensive presentation of descriptive statistics for each section, accompanied by insightful interpretations. Moreover, the critical expressions from the interviews are presented in conjunction with the findings from the literature.

The concluding chapter focuses on the comprehensive discussion of the research's overall concept and the findings obtained.

CHAPTER 2

LITERATURE REVIEW

2.1. General Understanding of Competency Management

The development of technology, the growth of market share, and the volatility of the economy are some of the factors that are increasing the competitive environment. As a result of this increase, it has become easier and quicker for customers to access products, but this process also has its disadvantages. The increase in competition has led to an increase in options, which has made them more accessible, and there is a need for a systematic approach to manage this process. Competency mapping can be defined as the process of identifying the key competencies of a company or institution, as well as the jobs and functions within it, and the competencies required for a particular job depending on many factors (Kaur and Kumar, n.d.). Another research conducted that competencies are necessary not only to meet current demands but also for future planning. Mapping competencies is connected to thinking about potential risks, career advancement, and growth within the organization (Singhal 2018).

2.2. Strategic Approach to Competency Management in Innovation

In the current innovation management system, there are business strategies that come after the mission and vision, followed by innovation strategies. However, research has revealed a systematic deficiency in managing competencies within project portfolios identified under innovation strategies. According to (Campion et al. 2011a) "Although many organizations will adopt competencies that are similar in content and can be applied universally regardless of the organizational context (e.g., adaptability, communication skills), successful competency models also identify competencies that align to corporate strategy and foster competitive advantage." The mission and vision statements developed for each strategy defined in innovation management are distinct and aligned with the company's overall strategy. The research (Snow and Hrebiniak 1980) is conducted that

there is a general belief that various strategies could be viable in a specific industry, but to achieve excellent results, each strategy needs to be accompanied by the appropriate distinguishing competencies. Another research (Singhal 2018) conducted that achieving the mission and objectives successfully for an organization, it requires a particular set of competencies. Linking competencies to potential risks, career progression, and organizational growth is the basis of competency mapping.

The implementation of competency management may differ among companies operating in diverse sectors. Its significance is particularly highlighted in recruitment, promotion, and job transition processes. While its administration is typically centralized within the human resources department, other departments also utilize it. A thorough investigation into whether competency management is differed among the companies and aligned with a company's strategy. Although it is generally concluded that competency-based strategies have significant potential value, it is also acknowledged that different organizations have achieved varying levels of success in implementing them (Cerinšek and Dolinšek 2009)

CHAPTER 3

METHODOLOGY

The research commenced with a literature review on the subjects of competency and innovation management, starting in February 2021. Over the span of two years, various tasks have been accomplished, and a set of empirical studies have been conducted as part of the framework's evolution process. The summary of the framework utilized for the studies conducted during a two-year period can be found in Table 3.1, which provides an overview of the research conducted. Table serves as a helpful reference point for gaining an understanding of the studies and their framework.

Table 3. 1 The overview of the research study

Study	Date	Description
Literature Review	February 2021	At the beginning of the study, articles from different databases were examined, and the treatment of competencies in terms of organizational and innovation strategies was investigated.
Open-End Questionnaire	April 2022	7 Professionals specializing in human resources and innovation units from innovative companies were requested to respond to 3 open-ended questions ranging from general to specific, and to provide 10 competencies in their responses.
Frequency analysis	April-May 2022	The number of competencies obtained from the literature review was initially 2240 and 169 competencies from open-ended survey, through the application of a frequency analysis method by Academicians group 1, this was reduced to 228 competencies.
Survey (part1&2)	May 2022	The 228 competencies that were formed were shared with 4 academicians (Academicians Group 2) who are experts in their respective fields, and their evaluations were gathered through a survey study. The final index was constructed by Academicians Group 1 by reducing to 65 competencies.
Focused Group Study	October 2022	A list consisting of 65 competencies in 7 categories was presented in an online meeting to a focus group consisting of X individuals, allowing them to share their ideas and gather their opinions. The number of competencies in the list was reduced to 52 by the academic group 1. The 7 categories remained unchanged.
Real Case Study	February 2023	The index was applied in a selected two companies, and it was examined whether the index is aligned with the company's strategies.

Below, Figure 3.1. presents a visual representation of the connections between these studies.
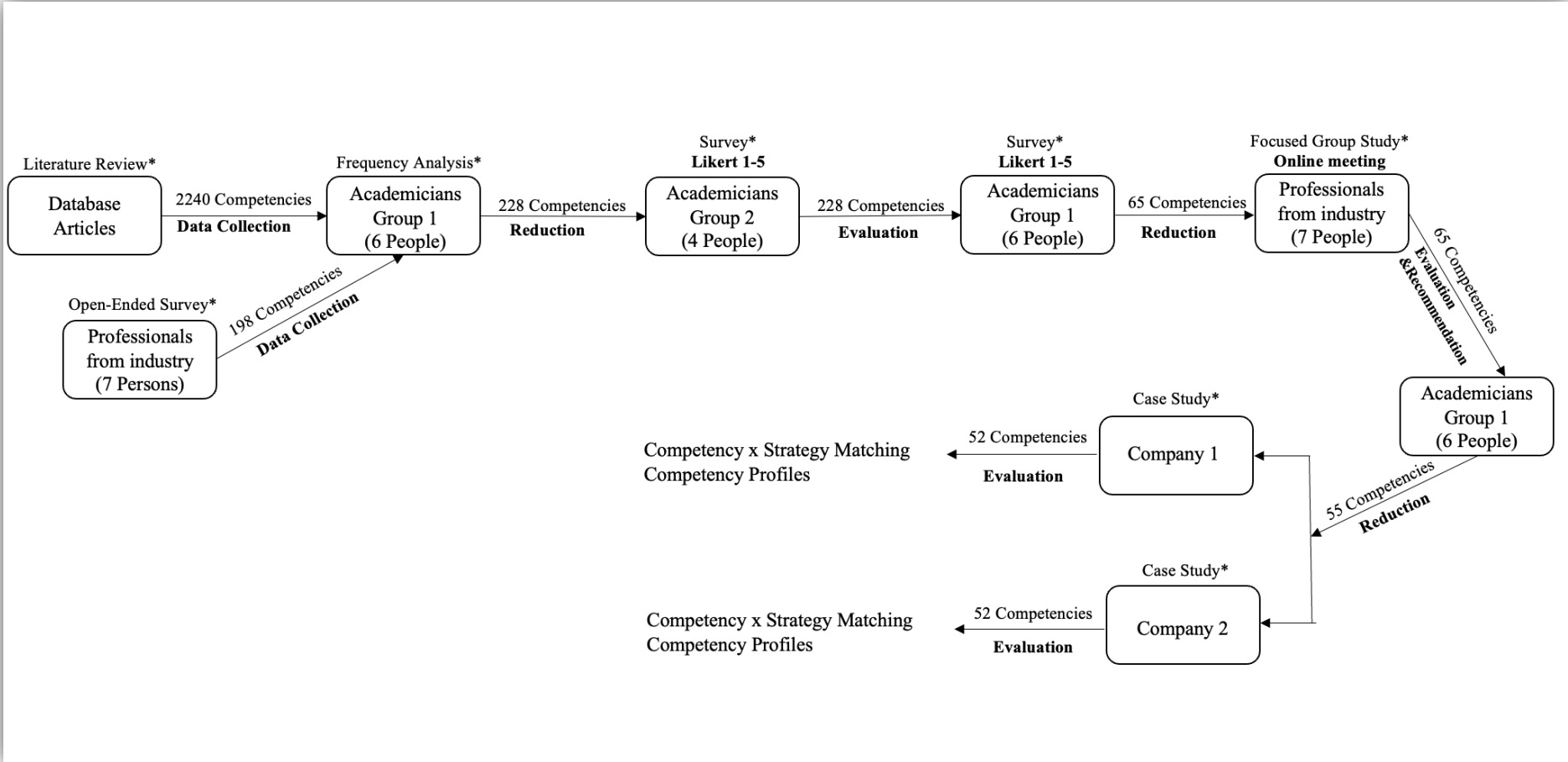
Figure 3. 1. Study Diagram

The study aimed to establish a thorough list of competencies by searching various databases and gathering input from industry professionals through open-ended questions. The resulting list was streamlined through the input of experts and frequency analysis. Experts provided input to simplify the list, which was also analyzed for frequency. The simplified version was presented to academicians for feedback and further refined through consultations with industry professionals and experts. The final version of the competency list was applied to a case study of an innovative company to evaluate its compatibility with innovation strategies.

3.1. Open-Ended Questionnaire

Firstly, an open-ended questionnaire set was prepared for 7 selected professionals, whose literature research is close to completion. 7 professionals were selected from the human resources or experts in the field of innovation/entrepreneurship of the innovative companies. The reason why it is started with the professionals working in companies firstly was to analyze how well the competency index created based on the literature matches the competencies adopted in the industry, and whether there are similarities or not. In the open-ended questionnaire study, which asked 3 questions in total, we first asked the professionals a general question to determine the competencies that are important in the company. In our next questions, our goal was to provide a flow from general to specific and to identify individual competencies. In our last question, we went a little more specific and asked to determine the competencies required for innovation. It is expected for professionals to give 10 answers to all questions. Table 3.2. includes the questions that are prepared for professionals work in the innovative companies.

Table 3. 2. The question set for Open-Ended Survey for 7 Professionals

Question 1	What will be the most important competencies that the successful companies of the future should have / should adapt to? Specify for which function these competencies will be needed in the company.
Question 2	What will be the competencies (individually) need to adapt (digital transformation / pandemic / global competition / new business models, etc.) in order to catch up with change and transformation?
Question 3	What would be the individual competencies required for innovation? For example: Creativity, teamwork, problem solving.

Table 3. 3. The open-ended survey history of professionals about competencies

Participants	Gender	Department	Title	Sector	Duration
1	Male	Human Resources	Group HR Manager	packaging sector	00:48
2	Male	Human Resources	Global Human Resources Director	furniture sector	00:13
3	Male	Human Resources	Human Resources Manager	metal industry	01:01
4	Male	Human Resources	Human Resources & Corporate Communication General Manager	electronic	00:14
5	Female	Human Resources	HR Manager	automotive accessories	01:36
6	Female	R&D	HR Manager	technology	01:13
7	Male	Administrative	Chief Operations Officer	technology	00:19

The study's initial question asked participants to identify the competencies that successful companies of the future should possess, with 10 areas provided for open-ended responses. To identify the essential competencies for successful companies, participants were prompted to indicate which business function (such as production or marketing) each competency pertained to. The responses were recorded in 10 fields. The objective was to further classify the competencies and determine if they varied in importance across different business functions. The second question focused on identifying the specific competencies that employees need to possess to adapt to changes and transformations. Participants were asked to provide 10 responses in two main categories: "behavioral competencies" and "technical competencies" This was done to compare the competencies identified by participants with those from the literature review and to aid in the categorization of competencies based on their respective categories. The goal was to ensure a fair comparison and a more organized classification of competencies. As our research topic is competency management in line with innovation strategies, the third question asked about the competencies individuals need to have for innovation. The aim was to determine which

competencies from the previous questions are relevant to innovation and compare them with the innovation competencies identified in the literature.

3.2. Frequency Analysis

A wide range of competency list was obtained as a result of literature research and the frequency analysis method was used to simplify the list by eliminating repeated competencies and grouping competencies with similar meanings under a single competency. A list was created of all competencies found in the literature and a pivot table was used to obtain results on how many times they appeared in articles. A separate list was then created for all competencies that appeared in at least 2 articles. Initially, the focus was only on the competencies in this list, and each selected competency was examined one by one in the articles. This process was carried out in parallel with expert opinions, and the competency list was simplified. In the next step, competencies that were mentioned only once in the articles were examined, and necessary competencies were selected from among them and added to the new simplified list. In parallel, competencies from the open-ended survey conducted in the first stage were also examined, and additions were made to the list based on frequency analysis. Thus, competencies were simplified based on frequency analysis under the following 3 categories:

- Competencies found at least 2 and up to 29 times in the literature review.
- Competencies obtained from experts in HR and innovation in the surveys.
- Competencies found only once in the literature review.

3.3. Survey

3.3.1. Survey with Academicians Group 2

With the frequency analysis, main competencies and sub-competencies from literature survey were eliminated and listed. In order to ensure the appropriateness of the list and to carry out a double-check, 4 academicians were selected, and their opinions were obtained through a survey. In the survey, which was sent via e-mail, participants were asked the following basic questions that is presented in Table 3.4.

Table 3. 4. The question set for Survey for 4 Academicians

Question 1	Is the main competency name appropriate? (Appropriate/Inappropriate) (If there are any suggestions, please share them)
Question 2	If this sub-competency is not under the correct main competency category, which main competency category would you suggest it to be under? Please write your answer below. If you believe that it is under the correct main competency category, leave it blank.
Question 3	How important do you think this competency will be in the next 5 years in the business world? (Click on the arrow button on the right side of the cell and select one of the options.) Level of Importance: 5 is critically important, 1 is not important.

Table 3. 5. Demographic of The Academician Group 2

Participants	Gender	University	Title
1	Male	University 1	Dean of Graduate School | Associate Professor of Marketing | Consultant
2	Female	University 2	Assistant Professor
3	Male	University 3	Director of Technology Transfer Office Research and Application Center
4	Male	University 4	Assistant Professor

For question 3, participants were requested to provide a rating for each competency. The aim here was to simplify the list of competencies further and eliminate irrelevant ones. Participants were asked to assign a score between 1 and 5 to each competency. The purpose of this study was to identify the standard deviation and mean values, and to gain insights into which competencies the participants agreed on and which ones they disagreed on. The Table 3.6. serves as a useful reference for understanding the meaning or implications of the scores.

Table 3. 6. The explanation of the scores that the provided to participants to rate

Importance Level	Degree of Importance
Critically Important	5
Important	4
Neutral	3
Unimportant	2
Irrelevant	1

The survey study was sent separately to the participants and necessary environment was provided to prevent them from being affected by each other's results. The accuracy of the identified main categories and their relationship with competencies was analyzed. The aim of the last question was to understand whether the correct choices were made for the competencies of the future.

3.3.2. Survey with Academicians Group 1

In a survey of academicians, an index of 228 skills in 8 categories was evaluated and scored using weighted averages. To make the index usable for industry and combine similar competencies, it was simplified by an expert team to 66 skills in 7 categories. The detailed information of the expert team is shown in Table 3.7. The expert team evaluated the simplified index through a similar survey and clarified its final version for the upcoming online sessions with industry professionals. More information about this simplification is available in the results section.

Table 3. 7. The demographic of Academicians Group 1

No	Gender	University	Title
1	Female	University 1	Assistant Professor
2	Male	University 2	Assoc. Prof. Dr.
3	Male	University 3	Assistant Professor | Consultant
4	Female	University 4	Assoc. Prof. Dr.
5	Female	University 5	Master Student
6	Female	University 6	Master Student

3.4. Focused Group Study

The competency list, that had been simplified through various survey studies, was prepared for presentation to seven industry professionals who had been surveyed in open-ended earlier. An online session was arranged, and the individuals were invited to attend. To help the participants prepare for the session, they were given access to the competency list before the session. Once the participants had introduced themselves individually, a moderator provided a summary of the aims, objectives, and work that had been done on the thesis topic. The moderator then asked the participants questions and proceeded to discuss the first main group of competencies and the specific sub-competencies under it. The final version of the list was presented to the participants in Table 3.8, and they were asked to provide feedback on the alignment of the competencies and main groups. Specifically, they were asked for their opinions on whether the competencies were compatible with innovation strategies. The purpose of this feedback was to gather their perspectives on how well the competencies aligned with innovation strategies.

Table 3. 8. The information of participants of the online meeting

No	Gender	Company	Title
1	Male	Company 1	Organizational Development Manager
2	Male	Company 2	R&D and Innovation Manager.
3	Male	Company 3	Global Director of Human Resources
4	Male	Company 4	Innovation Leader
5	Male	Company 5	HR Organizational Development Leader
6	Female	Company 6	R&D Leader
7	Male	Company 7	HR Manager

The participants shared their comments throughout the session and another session was planned to be held. In the Findings chapter, the outcomes of the study conducted with the participants from industry will be outlined.

3.5.   Evaluation of the Academicians Group 1

Before the second-round online session, modifications were made based on the feedback received from the participants in the first session. A list was created that includes descriptions of each competency, some of which were quoted from definitions in articles, and presented to them for discussion during the session. The objective was to provide feedback on three aspects related to the competencies listed: whether they have a consistent interpretation among people, whether they are correctly grouped into categories, and whether they fit well with their respective categories. Additionally, comments were requested on how well these competencies align with innovation strategies.

3.6.   Case Study with two Companies

After conducting surveys and interviews to align the competency index with company strategies, the index has been finalized. To ensure the index's compatibility with companies, a pilot company from the metal industry was selected. The aim is to associate the competencies with their innovation strategies identified by this chosen company. Pilot company has 5 main innovation strategies and 20 sub-strategies approved by its top management that align with its vision and mission. Competency index that was finalized has been shared with HR innovation team and asked them to match the strategies with the right competencies. They used a measurement technique with 3 scales and scores of 1-3-5 to assign a score for each competency for each strategy. The scale and their explanations are shown in the Table 3.9.

Table 3. 9. The explanation of the scores for evaluation

Evaluation Rating / Score	Explanation
1	Represents a lack of competency in the relevant field and subject.
3	Represents basic competency knowledge in the relevant field and subject and may serve as a starting point for application.
5	Represents conceptual competency knowledge in the relevant field and subject and may serve for application.

An example of the study conducted by the company is shown in Table 3.10. In this study, the company indicates that analytical thinking skills are not a critical competency needed for strategy 4.3.

Table 3. 10. An Example Study conducted by the Company

| | STRATEGIES | | |
COGNITIVE CATEGORY	1 Not Relevant	2-3 Required	4-5 Critical
Analytical Thinking Explanation: ● Can establish cause-and-effect relationships between concepts and topics. ● Analyzes necessary information in detail for problem-solving and categorizes topics. ● Pays attention to details and specifics rather than general effects.	S4.3	S1.1 S1.2 S2.1 S3.4 S3.5 S3.7 S4.1 S4.2 S5.1	S1.3 S1.4 S2.2 S2.3 S3.1 S3.3 S3.6 S5.2 S5.3 S5.4

After aligning strategies with competencies, an online meeting was arranged by the company to review the table. Detailed insights will be provided in the results section.

CHAPTER 4

FRAMEWORK

4.1. Competency Index for Innovation Taxonomy

At the beginning of the research, innovation competencies were sought by conducting a literature review, and a comprehensive competency index was aimed to be achieved. Taking into considering that competencies are particularly used in areas such as recruitment, talent retention, rotation, performance management, and project management in companies, the views of experts in these fields selected from innovative companies in the industry were also sought in creating the index, and a survey was conducted. In this original study, a final competency index was created. The latest version of the competency list shown in Figure 4.1, which has been simplified.

The letter "L" in parentheses indicates the competencies obtained from the literature review, while the letter "S" indicates the competencies mentioned by industry experts in the survey.

The final competency list consists of 7 main categories: Cognitive, Social & Emotional, Innovation, Leadership, Communication, Digital, and Technical. There are a total of 52 competencies under each main category.

Competency Index

Communication
Ability To Persuade (L)(S)
Active Listening (L)
Intercultural Communication Competence (L)
Cross-Cultural Collaboration And Cohesion (L)

Technical / Methodic
Machine Learning (L)(S)
Updating job knowledge with technology advancements(L)(S)
Optimizing/improving business processes (L)(S)

Digital
Big Data Analytics (L)(S)
Coding (L)(S)
Cybersecurity (L)
Programming (L)(S)
Technology Design (L)(S)
Artificial Intelligence (L)(S)
Digital literacy (L)(S)

Leadership
Achievement Orientation (L)
Conflict Negotiation (L)
Create Vision And Strategy (L)(S)
Mobilize People & Motivating Others (L)
Plan (L)
Researching And Reading (L)(S)
Role Modelling (L)(S)
Self-Discipline (L)
Self- Confidence (L)(S)

Innovation & Creativity
Failure Tolerance (L)
Creativity (L)(S)
Critical Thinking (L)(S)
Networking (L)(S)
Research Skills (L)(S)
Teamwork /Cross Functional Teamwork(L)(S)
Reflecting Customer Expectations /Customer Focus(L)(S)

Cognitive
Analytical Thinking (L)(S)
Curiosity (L)(S)
Imagination (L)
Active Learning Skills / Lifelong Learning (L)(S)
Multi-Tasking (L)
Proactivity (L)(S)
Complex Problem Solving (L)(S)
Self-Efficacy (L)
Strategic Thinker (L)
System Thinking (L)(S)
Reskilling/ upskilling (S)

Social & Emotional
Adapting And Responding To Change (L)(S)
Cooperation (L)(S)
Empathy (L)(S)
Ethic (L)
Resilience (L)(S)
Self-Awareness (L)
Flexibility (L)(S)
Stress Management / Tolerance (L)(S)
Time Management (L)
Tolerance To Change And Uncertainty (L)(S)

Figure 4. 1. Taxonomy Details of Competency List

Table 4. 1. Competencies and related articles

Competency	Literature
Analytical Thinking	(Grzesik & Piwowar-Sulej, 2018; Hrabal et al., 2021a; Kurmanov et al., 2021a; Meduri, n.d.-a, 2021a; Pang et al., 2019a; Shanujas & Radha Ramanan, 2023a)
Curiosity	(Kurmanov et al., 2021b; Low et al., 2021a; Viale et al., 2022a)
Imagination	(Kubátová & Kročil, 2022a; Müller & Turner, 2010a; Sampaio et al., 2022a)
Active Learning Skills / Lifelong Learning	(Blanka et al., 2022a; Jerman et al., 2020a; Kubátová & Kročil, 2022b; Lee & Meng, 2021a; Nguyen, 2022a; Pang et al., 2019b; Plawgo & Ertman, 2021a; Stacho et al., 2021a)
Multi-Tasking	(Maisiri & Van Dyk, 2021a; Meduri, n.d.-b, 2021b; Podmetina et al., 2018a; van der Waldt et al., 2021a)
Proactivity	(Karácsony & Bokor, 2021a; Kurmanov et al., 2021c)
Complex Problem Solving	(S. Kannan et al., n.d.-a; Ngayo Fotso, 2021a; Viale et al., 2022b; Walas et al., 2021a)
Self-Efficacy	(Blanka et al., 2022b; Kurmanov et al., 2021d; Okolie et al., 2021a; Stenholm et al., 2021a; Wu et al., 2022a)
Strategic Thinker	(Götz, 2019a; Kurmanov et al., 2021e; Ngayo Fotso, 2021b; Podmetina et al., 2018b; Tiruneh & Fayek, 2022a; Valk, 2021a)
System Thinking	(Hrabal et al., 2021b; Kubátová & Kročil, 2022c; Pang et al., 2019c; van der Waldt et al., 2021b)
Adapting And Responding to Change	(Amoah & Marimon, 2021a; Fontes & Menegon, 2022a; Götz, 2019b; Jerman et al., 2020b; S. Kannan et al., n.d.-b; Kurmanov et al., 2021f; Low et al., 2021b; Ngayo Fotso, 2021c; Nguyen, 2022b; Pang et al., 2019d; Plawgo & Ertman, 2021b; Podmetina et al., 2018c; Santoso et al., 2020a; Souto & Rodríguez-López, 2021a; Walas et al., 2021b)
Cooperation	(Flores et al., 2020a; Pang et al., 2019e; Rakowska & de Juana-Espinosa, 2021a; Riyanti et al., 2022b)

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Table 4.1. (cont.)

Competency	Literature
Empathy	(Fernandez-Perez & Martin-Rojas, 2022a; Flores et al., 2020b; Hrabal et al., 2021c; Low et al., 2021c; Meduri, n.d.-c; Pang et al., 2019f; Plawgo & Ertman, 2021c; Shanujas & Radha Ramanan, 2023b; Valk, 2021b; Wu et al., 2022b)
Ethic	(Blanka et al., 2022c; Kubátová & Kročil, 2022d; Kurmanov et al., 2021g; Li et al., 2021a; Sampaio et al., 2022b; Souto & Rodríguez-López, 2021b; Tiruneh & Fayek, 2022b)
Resilience	(Alvarenga et al., 2020a; Diaz Vidal et al., 2021a; Müller & Turner, 2010b; Neumeyer & Santos, 2023a; Pang et al., 2019g; Plawgo & Ertman, 2021d; Sampaio et al., 2022c)
Self-Awareness	(Alvarenga et al., 2020b; Asghar et al., 2021a; Blanka et al., 2022d; Fernandez-Perez & Martin-Rojas, 2022b; Flores et al., 2020c; S. Kannan et al., n.d.-c; Müller & Turner, 2010c; Ngayo Fotso, 2021d; Pang et al., 2019h; Plawgo & Ertman, 2021e; Podmetina et al., 2018d, 2018e; Stenholm et al., 2021b; Tiruneh & Fayek, 2022c; Walas et al., 2021c)
Flexibility	(Alvarenga et al., 2020c; Flores et al., 2020d; Fontes & Menegon, 2022b; Hrabal et al., 2021d; Jerman et al., 2020c; K. S. P. N. Kannan & Garad, 2021a; Lee & Meng, 2021b; Ngayo Fotso, 2021e; Nguyen, 2022c; Pang et al., 2019i; Podmetina et al., 2018f, 2018g; Rakowska & de Juana-Espinosa, 2021b; Tiruneh & Fayek, 2022d; Valk, 2021c; Walas et al., 2021d; Wu et al., 2022c)
Stress Management /Tolerance	(K. S. P. N. Kannan & Garad, 2021b; Kubátová & Kročil, 2022e; Meduri, n.d.-d, 2021c; Podmetina et al., 2018h; Rakowska & de Juana-Espinosa, 2021c; Sampaio et al., 2022d; Valk, 2021d)
Time Management	(Alvarenga et al., 2020d; Amoah & Marimon, 2021b; Barac et al., 2021a; Souto & Rodríguez-López, 2021c)
Tolerance To Change and Uncertainty	(Blanka et al., 2022e; Kubátová & Kročil, 2022f; Ngayo Fotso, 2021f; Pang et al., 2019j; Rakowska & de Juana-Espinosa, 2021d; Stenholm et al., 2021c)
Failure Tolerance	(Diaz Vidal et al., 2021b; Korzynski et al., 2021a; Podmetina et al., 2018i; Putri et al., 2021a)

Table 4.1. (cont.)

Competency	Literature
Creativity	(Blanka et al., 2022f; Götz, 2019c; Hrabal et al., 2021e; Jerman et al., 2020d; K. S. P. N. Kannan & Garad, 2021c; Kipper et al., 2021a; Kubátová & Kročil, 2022g; Kurmanov et al., 2021h; Lee & Meng, 2021c; Li et al., 2021b; Maisiri & Van Dyk, 2021b; Nguyen, 2022d; Plawgo & Ertman, 2021f; Podmetina et al., 2018j; Sampaio et al., 2022e; Souto & Rodríguez-López, 2021d; Stacho et al., 2021b; Stenholm et al., 2021d; Viale et al., 2022c; Walas et al., 2021e)
Critical Thinking	(Amoah & Marimon, 2021c; Kurmanov et al., 2021i, 2021j; Lee & Meng, 2021d; Nguyen, 2022e; Pang et al., 2019k; Plawgo & Ertman, 2021g; Putri et al., 2021b; Stacho et al., 2021c; Viale et al., 2022d)
Networking	(Diaz Vidal et al., 2021c; Flores et al., 2020e; K. S. P. N. Kannan & Garad, 2021d; Li et al., 2021c; Neumeyer & Santos, 2023b; Ngayo Fotso, 2021g; Okolie et al., 2021b; Pang et al., 2019l; Podmetina et al., 2018k, 2018l; Putri et al., 2021c; Santoso et al., 2020b; Valk, 2021e; Viale et al., 2022e)
Research Skills	(Fontes & Menegon, 2022c; Götz, 2019d; K. S. P. N. Kannan & Garad, 2021e; Kipper et al., 2021b; Lee & Meng, 2021e; Quartier et al., 2020; Santoso et al., 2020c; Souto & Rodríguez-López, 2021e)
Teamwork /Cross Functional Teamwork	(Alvarenga et al., 2020e; Flores et al., 2020f; Götz, 2019e; Hrabal et al., 2021f; Kipper et al., 2021c; Li et al., 2021d; Pang et al., 2019m; Plawgo & Ertman, 2021h; Shanujas & Radha Ramanan, 2023c; Souto & Rodríguez-López, 2021f; Tiruneh & Fayek, 2022e; Viale et al., 2022f)
Reflecting Customer Expectations /Customer Focus	(Alvarenga et al., 2020f; Ngayo Fotso, 2021h, 2021i; Pang et al., 2019n; Santoso et al., 2020d; van der Waldt et al., 2021c; Viale et al., 2022g)
Achievement Orientation	(Alvarenga et al., 2020g; Pang et al., 2019o; Shanujas & Radha Ramanan, 2023d; Tiruneh & Fayek, 2022f; Wang et al., 2022)

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Table 4.1. (cont.)

Competency	Literature
Conflict Negotiation	(Alvarenga et al., 2020h; Amoah & Marimon, 2021d; Flores et al., 2020g; Föhrer et al., 2021; Götz, 2019f; K. S. P. N. Kannan & Garad, 2021f; Karácsony & Bokor, 2021b; Kubátová & Kročil, 2022h; Kurmanov et al., 2021k; Li et al., 2021e; Meduri, 2021d; Pang et al., 2019p; Podmetina et al., 2018m; Shanujas & Radha Ramanan, 2023e; *THE DEFINITION AND SELECTION OF KEY COMPETENCIES Executive Summary*, n.d.; Tiruneh & Fayek, 2022g; van der Waldt et al., 2021d)
Create Vision and Strategy	(Alvarenga et al., 2020i; Amoah & Marimon, 2021e; Blanka et al., 2022g; Crossan et al., 2021; Fontes & Menegon, 2022d; Korzynski et al., 2021b; Kubátová & Kročil, 2022i; Low et al., 2021d; Müller & Turner, 2010d; Neumeyer & Santos, 2023c; Ngayo Fotso, 2021j; Okolie et al., 2021c; Stenholm et al., 2021e)
Plan	(Amoah & Marimon, 2021f; Asghar et al., 2021b; Blanka et al., 2022h; Kurmanov et al., 2021l, 2021m; Lee & Meng, 2021f; Ngayo Fotso, 2021k; Pang et al., 2019q; Riyanti et al., 2022c; Santoso et al., 2020e; Shanujas & Radha Ramanan, 2023f; Souto & Rodríguez-López, 2021g; Stenholm et al., 2021f; van der Waldt et al., 2021e; Walas et al., 2021f)
Researching And Reading	(Flores et al., 2020h)
Role Modelling	(Kubátová & Kročil, 2022j)
Self- Confidence	(Diaz Vidal et al., 2021d; Fernandez-Perez & Martin-Rojas, 2022c; Kubátová & Kročil, 2022k; Pang et al., 2019r; Valk, 2021f)
Active Listening	(Barac et al., 2021b; Kubátová & Kročil, 2022l; Ngayo Fotso, 2021l; Pang et al., 2019s)
Cross-Cultural Collaboration and Cohesion	(Ivanović et al., 2021a; Kurmanov et al., 2021n, 2021o; Li et al., 2021f; Maisiri & Van Dyk, 2021c; Ngayo Fotso, 2021m; Nguyen, 2022f; Plawgo & Ertman, 2021i; Podmetina et al., 2018n, 2018o; Valk, 2021g, 2021h; Wu et al., 2022d)

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Table 4.1. (cont.)

Competency	Literature
Machine Learning	(Maisiri & Van Dyk, 2021d)
Updating job knowledge with technology advancements	(S. Kannan et al., n.d.-d)
Optimizing/improving business processes	(Götz, 2019g; Kubátová & Kročil, 2022m; Ngayo Fotso, 2021n; Plawgo & Ertman, 2021j)
Big Data Analytics	(Flores et al., 2020i; Li et al., 2021g; Maisiri & Van Dyk, 2021e; Nguyen, 2022g; Rakowska & de Juana-Espinosa, 2021e)
Coding	(Flores et al., 2020j; K. S. P. N. Kannan & Garad, 2021g; Maisiri & Van Dyk, 2021f; Plawgo & Ertman, 2021k)
Cybersecurity	(Flores et al., 2020k; Li et al., 2021h)
Programming	(Flores et al., 2020l; Hrabal et al., 2021g; Ivanović et al., 2021b; Plawgo & Ertman, 2021l; van der Waldt et al., 2021f)
Artificial Intelligence	(Maisiri & Van Dyk, 2021g)
Digital literacy	(Ngayo Fotso, 2021o)

4.2. Research Framework and Questions

The thesis employs 5 different research models (surveys, frequency analysis, interviews, case study, taxonomy) starting with a literature review and then being supported by surveys and interviews to conduct taxonomy. Afterward, a case study model was selected for understanding the relationship the innovation strategies with competencies and understand importance level of roles in project portfolios. The literature review provides propositions to begin constructing the research framework based on feedback received from companies. The research objectives and propositions are listed in Table 4.2.

Table 4. 2. Objectives and Propositions

Objectives	Propositions
To investigate the critical individual competencies in innovation management, especially for innovative companies	To examine the critical innovation competencies based on the literature, then an original competency index will be created by combining surveys and interviews will be conducted with industry professionals and academicians.
The identification of critical competencies required for strategic decisions taken by the top management of the company as a whole.	Using the case study method in a selected 2 companies, the alignment between the competency index and the innovation strategies of the company will be analyzed.

CHAPTER 5

FINDINGS

5.1. Open-Ended Survey

While scanning competencies in the literature review, open-ended questions were conducted to professionals primarily working in human resources and innovation departments, selected from matured companies in the field of innovation management. The goal was to obtain 10 responses for each of the three questions. The question set was designed to gather competencies, starting from general competencies and moving towards individual competencies. The survey aimed to explore the critical competencies valued by the company, the competencies individuals should possess, and then the innovation competencies within individuals. As the study was related to strategic competency management, it was important to understand the expected competencies of the organization. Because in innovation management, after the company's overall mission and vision, innovation strategies come into play, moving from the general to the specific. This would enable a meaningful transition from strategic priorities and competencies within the organizational culture to individual competencies. The first question, "The competencies that successful companies of the future should have," was answered by half of the participants, with three out of seven providing their responses. As for the second question, "The competencies that employees should have individually," only one person completed all ten expected answers. The last question, "The individual competencies required for innovation," had a higher response rate compared to the other questions. When examining the details of the second question, it is observed that competencies mentioned under the Behavioral Competencies category, such as *Adaptation to Change, Technology Development, Lean Approach, Visionary Management, and Digital Aptitude,* were also provided under the Technical Competencies category. Additionally, *Agility and Critical Thinking* competencies were suggested by different participants under

the Behavioral Competencies, indicating their importance.The details can be found in Appendix A.1.

According to correlation analysis (SPSS was used), the correlation coefficient is found as 0,692 which can be drawn that there is a significant relationship between the individual competencies and organizational competencies based on the findings. The correlation analysis results are presented in Table 5.1.

Table 5. 1. SPSS results for correlation analysis

		IC	IIC	OI
Individual Comptencies (IC)	Pearson Correlation	1	-0,047	.692**
	Sig. (2-tailed)		0,829	0,004
	N	60	24	15
Individual Innovation Competencies (IIC)	Pearson Correlation	-0,047	1	-0,341
	Sig. (2-tailed)	0,829		0,334
	N	24	40	10
Organizational Competencies (OI)	Pearson Correlation	.692**	-0,341	1
	Sig. (2-tailed)	0,004	0,334	
	N	15	10	34
**. Correlation is significant at the 0.01 level (2-tailed).				

The responses to the questions, moving from general to specific, were analyzed under two different headings. In the first part, the relationship between the individual competencies valued by the company and the innovation competencies that individuals should possess was examined. As shown in Table 5.2, competencies such as *Creativity, Innovation, Divergent Thinking, Perspective, Research Skills, and Critical Thinking* can be considered critical competencies that individuals should have in line with the company's innovation strategies, which would make an impact for innovation. These competencies can be seen as important for individuals in innovation projects. On the other hand, with zero difference observed in competencies such as *Change, Communication, Self-Development, Lean Approach, Questioning, Conceptual Thinking, Collaboration/Teamwork, Technological Aptitude, Entrepreneurship, Statistical Knowledge, Decision-Making, and Future Awareness*, it can be

interpreted that these competencies are currently prioritized by the company and are also sought after in the context of innovation strategies. In the case *of Learning, Agility, Problem Solving, Emotional Intelligence, Analytical Thinking, and Digitalization* competencies, where a negative difference was observed, it can be concluded that these competencies have a high level of awareness and important within the company but may not have a significant impact in terms of impact in line with innovation strategies.

Table 5. 2. Relationship between the number of individual competencies and the number of innovation competencies

Competencies	Individual Comptencies	Individual Innovation Competencies	Organizational Competencies	Total	Difference
Creativity	1	5	1	7	4
Innovation	2	3	2	7	1
Divergent Thinking	2	3		5	1
Perspective	1	2	0	3	1
Research Skills	1	2	0	3	1
Critical Thinking	1	2	0	3	1
Change	2	2	2	6	0
Communication	2	2	1	5	0
Self Development	2	2	0	4	0
Lean Approach	1	1	1	3	0
Questioning	1	1	0	2	0
Conceptual Thinking	1	1	0	2	0
Collaboration / Teamwork	1	1	0	2	0
Technological Aptitude	1	1	0	2	0
Entrepreneurship	1	1	0	2	0
Statistical Knowledge	1	1	0	2	0
Decision-Making	1	1	0	2	0
Future Awareness	1	1	0	2	0
Learning	2	1	5	8	-1
Agility	2	1	3	6	-1
Problem Solving	3	2	0	5	-1

Table 5.2. (cont.)

Competencies	Individual Comptencies	Individual Innovation Competencies	Organizational Competencies	Total	Difference
Emotional Intelligence	2	1	0	3	-1
Analytical Thinking	3	1	1	5	-2
Digitalization	5	1	6	12	-4

In the second part, the relationship between the competencies that companies should possess and the innovation competencies found in individuals was examined. As shown in Table 5.3. there is a positive difference for competencies such as *Creativity, Innovation, and Communication.* From this, it can be interpreted that these competencies are much more effective, important, and needed for innovation competencies compared to the competencies possessed by the company. For competencies such as *Respect, Change, Lean Approach, and Analytical Thinking,* the difference is 0, indicating that these competencies are critical in both companies and the field of innovation. For competencies such as *Agility, Learning, and Digitalization*, the difference is negative, suggesting that these competencies, although adopted within the company, are not considered as expected competencies in line with innovation strategies.

Table 5. 3. Relationship between the number of individual innovation competencies and the organizational competencies

Competencies	Individual Comptencies	Individual Innovation Competencies	Organizational Competencies	Total	Difference
Creativity	1	5	1	7	4
Innovation	2	3	2	7	1
Communication	2	2	1	5	1
Respect	0	1	1	2	0
Change	2	2	2	6	0

Table 5.3. (cont.)

Lean Approach	1	1	1	3	0
Analytical Thinking	3	**1**	**1**	5	**0**
Agility	2	**1**	**3**	6	**-2**
Learning	2	**1**	**5**	8	**-4**
Digitalization	5	**1**	**6**	12	**-5**

5.2. Frequency Analysis

The competencies collected from the literature review and open-ended survey were extensively analyzed within a group consisting of 5 academics (referred to as Academicans Group 1). The most frequently mentioned competencies were determined using the Keyword Cloud Tool, and visualizations were created. Thanks to the used tool, all the competencies that have been found are compiled in a way that the most frequently occurring words are displayed together. Competencies written in larger font sizes occur more frequently, while skills written in smaller font sizes are repeated at least 1-2 times.The Figure 5.1. represents the frequencies of the collected competencies.

ability (92) accounting (6) accuracy (5) achievement (18) activities (9) acumen (8) adaptability (35) agility (11) ambiguity (13) analyses (8) analysis (24) analytical (37) analyze (6) application (13) apply (13) approaches (8) assertiveness (8) assessment (8) attention (6) audit (9) automation (7) awareness (27) basic (8) behavior (6) building (24) business (44) chain (8) change (27) cloud (6) coaching (8) cognitive (10) collaboration (31) commitment (11) communication (85) company (5) competence (50) competitive (5) compliance (6) computer (23) concern (9) conflict (23) conscientiousness (5) control (16) cooperation (11) coordination (10) creating (9) creation (9) creativity (49) credibility (7) critical (22) cross-functional (7) cultural (29) curiosity (11) customer (19) data (68) databases (7) dealing (11) decision-making (9) decision (25) define (6) delegation (8) design (15) detail (6) determining (8) development (49) different (9) digital (29) diversity (8) documentation (5) drive (5) effective (16) electronic (7) emotional (27) empathy (15) engagement (8) engineering (5) entrepreneurial (15) entrepreneurship (8) environment (11) etc (6) ethics (14) evaluation (11) excellence (5) experience (19) expertise (9) external (11) failure (6) feedback (14) financial (16) firm (5) flexibility (30) focus (9) foreign (6) fostering (5) general (16) global (8) goal (8) group (7) holistic (5) human (5) ideas (19) identify (6) imagination (9) influence (16) information (40) initiative (21) innovation (56) integrity (18) intellectual (5) intelligence (23) interaction (13) intercultural (5) internal (18) internet (6) interpersonal (21) interpret (5) intuitive (5) judgment (6) knowledge (65) languages (13) leadership (57) leading (6) learning (34) listening (9) literacy (18) logistics (5) making (22) management (210) marketing (26) methods (8) microsoft (6) mindset (6) mobilizing (8) modeling (7) motivation (31) multi-tasking (6) negotiation (24) networking (30) openness (14) operational (8) opportunities (23) oral (6) order (6) organisation (6) organization (23) organizational (17) orientation (46) others (21) participants (6) people (8) performance (5) perseverance (9) personal (25) perspective (8) persuasion (6) planning (29) positive (8) practices (9) presentation (14) proactivity (7) problem-solving (12) problem (33) process (42) product (23) professional (11) programming (19) project (35) publishing (5) quality (17) reasoning (5) recognition (7) related (15) relationship (22) reporting (6) research (14) resilience (19) resource (27) responsibility (19) results (19) risk (28) sales (7) search (10) security (8) self-awareness (12) self-confidence (6) self-control (10) self-development (5) self-efficacy (6) self-motivation (6) self (17) sense (6) sensitivity (10) service (18) share (13) skills (169) social (21) software (23) solutions (7) solving (29) sourcing (10) stakeholder (14) strategic (33) strategy (16) stress (9) supplier (5) supply (8) sustainability (10) systems (35) taking (8) task (6) team (31) teamwork (21) technical (22) technology (30) thinking (88) tolerance (11) tools (14) trust (9) types (10) understanding (30) values (16) verbal (7) virtual (6) vision (16) web (12) willingness (6) work (47) written (7)

Figure 5. 1. Visualisation of the competencies according to frequency

The group of academics, examining both the literature review (2240 competencies) and the open-ended survey results (169 competencies), conducted a thorough analysis to reduce the number of competencies and perform a categorization study. Based on the results of the frequency analysis, key competencies such as leadership, innovation, management, and communication were identified as main groups. The 228 competencies identified under these main groups were further classified as sub-competencies. Competencies such as Analytical Thinking, Conceptual Thinking, Curiosity, Proactivity, Empathy, Critical Thinking, Role Modeling, Confidence, Initiative, and Empathy were selected from the open-

ended survey and found to align with the literature in terms of their relevance and importance. The final version of the competency list (has 228 competencies created by Academicians Group 1 is presented in Table 5.4.

Table 5. 4. The competency list created by academicians group 1 after frequency analysis

Core Competency	Competency List
Cognitive	Ability To Conceptualize Ideas
	Ability To Synthesize
	Attention To Details
	Analytical Thinking
	Attentiveness
	Cognitive Compexity
	Conceptual Thinking
	Curiosity
	Decision Making
	Decisive
	Dependability
	Entrepreneurial Mindset
	Fine Manipulative Abilities
	General Knowledge
	Goal Orientation
	Imagination
	Improvement Orientation
	International Affairs
	Judgment
	Lateral Thinking
	Active Learning Skills / Lifelong Learning
	Multi-Tasking
	Organization Of Own Activities
	Pattern Recognition
	Perception Of Criticism And Feedback
	Perseverance In Achieving Goals
	Perspective

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Table 5.4. (cont.)

Core Competency	Competency List
Cognitive	Proactivity
	Complex Problem Solving
	Responsibility, Risk-Taking
	Self-Efficacy
	Strategic Thinker
	System Thinking
	Training Setup
	Vision
	Willingness To Change
	Result Orientation
	Ambiguity Tolerance
Social & Emotional	Achievement Orientation
	Adaptability/Flexibility
	Adapting And Responding To Change
	Autonomy
	Coach And Mentor
	Conflict Management
	Conscientiousness And Responsibility
	Concern For Others
	Cooperation
	Discipline And Focus
	Emotional Self-Awareness
	Emotional Self-Control
	Empathy
	Enthusiasm
	Ethics
	Influence
	Initiative/Proactivity
	Interpersonal Sensitivity
	Integrity
	Intuitiveness

Table 5.4. (cont.)

Core Competency	Competency List
Social & Emotional	Learning And Researching
	Organizational Awareness
	Patience
	Persuading
	Physical Strength Abilities
	Resilience / Endurance
	Self Awareness
	Self Control
	Self Regulation
	Self-Motivation
	Self Tolerance
	Sensivity
	Stress Management /Tolerance
	Social Perceptiveness
	Time Management
	Tolerance To Change And Uncertainty
Innovation	Failure Tolerance
	Communication Competencies
	Creating A Win-Win Situation
	Creativity
	Critical Thinking
	Curiosity
	Idea Generation
	Inspires
	Mindset For Change
	Networking
	Openness
	Project Management
	Research Skills
	Teamwork /Cross Functional Teamwork
	Share Knowledge And Ideas Externally /Internally
	Reflecting Customer Expectations /Customer Focus
	Opportunity Recognition

Table 5.4. (cont.)

Core Competency	Competency List
Communication	Ability To Communicate At Multiple Levels
	Ability To Compromise
	Ability To Persuade
	Active Listening
	Attention
	Behavioural Flexibility
	Debate And Discussion Diversity And Intercultural Orientation
	Handling Ambiguity
	Holistic Thinking
	Increased Virtual Communication Capabilities
	Interactive Involvement
	Intercultural Communication Competence
	Inviting Action
	Listening
	Mastery Of New Media Technologies
	Negotiation
	Open Communication
	Oral Communication
	Persuasion
	Presentation Skills
	Respect For Cultural Differences
	Role Modeling
	Verbal Skills
Cross-cultural	Cross-Cultural Collaboration And Cohesion
	Cross-Cultural Empathy
	Cross-Cultural Relationship Building
	Cultural Empathy
	Emotional Stability
	Flexibility
	General Self Efficacy
	Non-Ethnocentrism
	Open-Mindedness
	Relational Skills
	Social Initiative

Table 5.4. (cont.)

Core Competency	Competency List
Leadership	Achievement Orientation
	Active Listening
	Change Management
	Coaching
	Collaboration
	Commitment
	Confidence
	Coordination
	Conflict Negotiation
	Create Vision And Strategy
	Creating Change
	Critical Anaylsis And Judgment
	Decision-Making
	Demonstrating Initiative
	Empathy
	Enthusiasm
	Ethical/Moral Reasoning
	Evaluation
	Excellence
	Inclusion
	Initiative
	Intelligence
	Instructing
	Loyalty
	Managing Diversity
	Managing Resources
	Mentoring
	Mindfulness
	Mission
	Mobilize People

Table 5.4. (cont.)

Core Competency	Competency List
	Motivating Others
	Monitoring
	Perception Management
	Persuasion
	Plan
	Presentation Skills
	Problem Solving
	Promote Innovation And Guide Change
	Providing Feedback
	Receiving Feedback
	Relationship Development
	Researching And Reading
	Resiliency
	Respect
	Responding To Ambiguity
	Review And Analysis Of Results
	Role Modeling
	Self-Assessment
	Self-Awareness
	Self-Development
	Self-Discipline And Self- Confidence
	Social Justice
	Social Responsibility
	Stakeholder Management
	Strategic And Action Planning
	Synthesis
	Team Development
	Time Management
	Tolerance For Uncertainty And Risk-Taking
	Uphold Integrity And Respect
	Vision Creation

Table 5.4. (cont.)

Core Competency	Competency List
Technical skills	Increased Job Knowledge Due To Automated Processes
	Awareness Of Data Security
	Equipment Maintenance
	Equipment Selection
	Higher Technical And Media Skills For New Technologies
	Installation
	Job Related
	Repairing
	Operation And Control
	Operation Monitoring
	Understanding It Security
Digital	Advanced Robotics
	Big Data Analytics
	Cloud Computing
	Coding
	Computer Usage
	Cybersecurty
	Data Analytics
	Programming
	Technology Design
	Yani Nesnelerin İnterneti, Büyük Veri
	Using 3D Printing
	Using Different Programming Languages, Including Java, Php, Xml
	Data Migration
	Using Electronic Bibliographic
	Using Internet Search Engines
	Using Semantic Web Applications
	Using Simulation And Agumented Reality Applicaitons
	Using Synchronous And Asynchronous Communication Tools
	Using Various Types Of Digital Networks
	Using Web2 Applications
	Web Development

5.3. Survey

The survey study was conducted in two different stages, aiming to obtain participant ratings on a Likert scale ranging from 1 to 5 for each competency in the created competency list. To gather diverse perspectives on the competency list developed by Academicians Group 1 (228 competencies, 8 groups), a survey was planned to be conducted among a separate group (Academicians Group 2) consisting of 4 different academicians from the first group (Academicians Group 1). The next step was analyzing the survey conducted on Academicians Group 2 by Academicians Group 1. Academicians Group 2 also addressed the issue of the competency list being too extensive and some competencies overlapping. To address this, Academic Group 1 conducted an internal simplification process, reducing the list from 228 competencies to 65. They then conducted an internal survey using a 1-5 Likert scale.

5.3.1. Survey with Academicians Group 2

To obtain opinions from different individuals, a separate group of 4 academics (referred to as Academicians Group 2) was conducted independently from the first group (Academicians Group 1). A survey with a Likert scale ranging from 1 to 5 was conducted among these participants. They were asked to rate each of the 228 competencies on a scale of 1 to 5. The survey was sent via email, ensuring that participants did not have access to each other's responses. The analysis of the survey results is presented in Table 5.5. and Table 5.6.

Table 5. 5. Descriptive statistics of the first step of survey

Competency Main Group	Count of Competencies	Average of StdDEV	Average of Total	Min of Total	Max of Total
Soft Competencies	96	0,38	16,07	11	19
Hard	33	0,43	17,12	12	19
Management and Communication	99	0,16	16,20	14	18
Grand Total	228	0,29	16,28	11	19

Table 5. 6. The detail descriptive statistics of the first step of survey

Competency Main Group	Competency Group	Count of sn	Average of StdDEV	Average of Total	Min of Total	Max of Total
Behavioural/Soft Competencies	Cognitive	40	0,45	15,68	11	19
	Innovation and Creativity	18	0,32	16,89	16	19
	Social and Emotional	38	0,34	16,11	11	18
Behavioural/Soft Competencies Total		96	0,38	16,07	11	19
Hard Competencies	Digital	22	0,52	17,68	16	19
	Technical	11	0,23	16,00	12	18
HARD Total		33	0,43	17,12	12	19
Business and Management	Communication	25	0,29	16,16	14	18
	Cross-cultural	11	0,14	16,36	16	18
	Leadership	63	0,11	16,19	15	17
Business and Management Total	99	0,16	16,20	14	18	
Grand Total		228	0,29	16,28	11	19

The category with the lowest standard deviation value (0,11) is determined to be "leadership," indicating that participants generally agree on the competencies under the leadership category.

The category with the highest standard deviation value of 0.59 is analyzed as the "digital" category. This indicates that there is a lack of consensus among participants regarding the evaluation of digital competencies. The possible reason for this could be the varying industry sectors, organizational cultures, and strategies of the participants' respective organizations. As digital competencies may vary in their specific job requirements, different evaluations might have been given within this category.

5.3.2. Survey with Academicians Group 1

The survey results from Academicians Group 2 were reviewed by Academicians Group 1, and based on the feedback was reviewed again, the list was revised. In accordance with the feedback from Academicians Group 2, efforts were made to reduce the number of competencies in the list, resulting in the removal of 1 category and 163 competencies. The competencies that have been removed are listed in Appendix A.2. The final version of the list has been organized to consist of 65 competencies and 6 categories. Table 5.7. displays the list created after the survey conducted by Academicians Group 2.

Table 5. 7. The competency list after evaluation by Academicians Group 2

Main Competency Group	Competency
Cognitive	Analytical Thinking
	Conceptual Thinking
	Curiosity
	Entrepreneurial Mindset
	Imagination
	Active Learning Skills / Lifelong Learning
	Multi-Tasking
	Proactivity
	Complex Problem Solving
	Self-Efficacy
	Strategic Thinker
	System Thinking
	Reskilling/ upskilling
Social & Emotional	Adaptability/Flexibility
	Adapting And Responding To Change
	Cooperation
	Empathy
	Ethics
	Initiative/Proactivity
	Resilience / Endurance
	Self Awareness
	Self Control

Table 5.7. (cont.)

Main Competency Group	Competency
Social & Emotional	Stress Management / Tolerance
	Time Management
	Tolerance To Change And Uncertainty
	Trustworthiness
Innovation	Failure Tolerance
	Communication Competencies
	Creativity
	Critical Thinking
	Idea Generation
	Networking
	Research Skills
	Teamwork /Cross Functional Teamwork
	Entrepreneurial And Commercial Thinking
	Reflecting Customer Expectations /Customer Focus
Communication	Ability To Persuade
	Active Listening
	Behavioural Flexibility
	Holistic Thinking
	Intercultural Communication Competence
	Cross-Cultural Collaboration And Cohesion
Leadership	Achievement Orientation
	Conflict Negotiation
	Create Vision And Strategy
	Mobilize People
	Motivating Others
	Plan
	Promote Innovation And Guide Change
	Researching And Reading
	Role Modeling
	Self-Development
	Self-Discipline And Self- Confidence
Digital	Advanced Robotics
	Big Data Analytics
	Cloud Computing

Table 5.7. (cont.)

Main Competency Group	Competency
Digital	Coding
	Computer Usage
	Cybersecurty
	Programming
	Technology Design
	Digital Literacy
Technical	Machine Learning
	Increased Job Knowledge Due To Automated Processes
	Process optimization / understanding?

The competency list, which has been reduced to 65 competencies, was re-evaluated by Academicians Group 1 using a Likert scale ranging from 1 to 5 before being presented to industry professionals in a group work session. The descriptive statistics of the conducted survey is shown in Table 5.8. Only the analysis of the main competency groups is provided in the table. The detailed analysis of each competencies can be found in Appendix A.2.2.

Table 5. 8. The descriptive statistics of the survey by Academicians Group 1

Main Competency Group	Count of Total	Average of Total	Average of StdDEV	Min of Total	Max of Total
Cognitive	13	21,08	0,50	17	25
Digital	9	19,33	0,55	12	25
Communication	6	19,50	0,23	16	21
Innovation	10	22,00	0,50	18	25
Leadership	11	21,45	0,34	19	25
Methodic / Technical	3	20,33	0,15	20	21
Social / Emotional	13	19,23	0,53	10	23
Grand Total	**65**	**20,49**	**0,45**	**10**	**25**

According to the analysis, it is evident that participants reach a consensus on the competencies within the Communication, Leadership, and Technical/Methodological main groups based on their standard deviation values (0.23, 0.34, 0.15, respectively). This indicates a consensus among participants regarding these competencies.

In the section where open-ended comments were allowed, participants shared their opinions about certain competencies. For instance, they provided feedback on the similarity or appropriate categorization of competencies such as "Entrepreneurial Mindset" under the "Cognitive" category and "Initiative/Proactivity" under the "Social & Emotional" category.

"The competency "Initiative/Proactivity" under the "Social & Emotional" category appears to be sufficient. As for the competency under the "Cognitive" category, it can be eliminated as it carries a similar meaning." (GA, Teaching Assistant)

"There is a repetition of the competency "Initiative/Proactivity" under the "Social & Emotional" category." (MA, Assoc. Prof. Dr.)

"The competency "Entrepreneurial Mindset" under the Cognitive category seems efficient. The competency under the Social & Emotional category can be removed as it carries a similar meaning." (CO, Assoc. Prof. Dr.)

When the average values of the survey were calculated and sorted from smallest to largest (2,33 to 5.00), the groups and competencies in Table 5.9. were identified as potential competencies for removal from the list by Academicians Group 1. These competencies have been flagged for further evaluation during the future focused group study with industry professionals.

Table 5. 9. Potential Competencies for removal from the list according to mean value

Main Competency Group	Sub Competency	Mean
Social & Emotional	Self Control	2,33
Digital	Cloud Computing	3,00
Digital	Advanced Robotics	3,17
Cognitive	Entrepreneurial Mindset	3,33
Social & Emotional	Self Awareness	3,33
Social & Emotional	Stress Management /Tolerance	3,50
Innovation & Creativity	Entrepreneurial And Commercial Thinking	3,50
Digital	Programming	3,50
Social & Emotional	Empathy	3,67

(cont. on the next page)

Table 5. 10. (cont.)

Main Competency Group	Sub Competency	Mean
Social & Emotional	Resilience / Endurance	3,67
Cognitive	Self-Efficacy	3,83
Social & Emotional	Ethics	3,83
Digital	Coding	3,83

5.4. Focused Group Study

The table presented in Table 5.7, as shown in the previous sections, has been finalized by Academician Group 1 after the survey studies, and the preparations for the focused group work have been completed. The competency list, which was reduced to 65 competencies, was finalized after the survey studies. As the next step, the objectives of the online Zoom meeting arranged with 7 industry professionals are provided below:

- Conducting a detailed analysis of each competency and discussing its significance in innovation management.
- Deciding whether each competency should be included or excluded from the list.
- Ensuring consensus among participants regarding the appropriate categorization of each selected competency.

In the meeting that lasted approximately 2 hours, only the competencies of 2 categories could be assessed, and it was concluded that another session is required to proceed further. In the first session, participants expressed the need to have the meanings of the competencies clearly stated for everyone to understand. Therefore, for the second session, the list was presented to the participants with the meanings of each competency included.

5.4.1. Competencies based on innovation management taxonomy details and focused group study examples.

The competencies mentioned below involve sharing the most debated data in the group work and sharing the findings encountered during the literature research. The

commented competencies have been reviewed again by Academic Group 1 after focused group study. The details are provided in Section 5.4.2.

- **Conceptual Thinking :**

Although conceptual thinking is a competence that is mentioned less frequently in the literature survey, it was decided by Academicians Group 1 to include it under Cognitive in the list of competencies due to its recommendation by industry professionals in the initial open-ended survey. The research (Pang et al. 2019) included that the conceptual thinking is included in the category of "Hard Skills" and its meaning is described as pattern recognition, insight, critical thinking, problem definition, hypothesis generation, and linking.

In another article (Grzesik and Piwowar-Sulej 2018a) , conceptual thinking is mentioned under the cognitive category and described as a critical competency that project managers should possess in terms of leadership qualities. In another article that was reviewed, conceptual thinking was defined as the act of bringing together and comprehending the components in a situation or problem.(Y. T. Lee 2010). During the focused group study, 5 out of 7 participants provided positive feedback and agreement regarding the suitability of the conceptual thinking competency under the cognitive category. However, 2 individuals expressed their opinion that conceptual thinking could be a subcategory of analytical thinking or could be related to imagination. Their thoughts during the session are presented below :

"When I consider imagination and conceptual thinking together, I believe they can both be classified under the cognitive category." (SÇ, Global Director of Human Resources ,Furniture Sector)

"I think it should not be under the "Cognitive" category because it should have subcategories based on logic. Analytical thinking appears to be a subcategory of conceptual thinking, which is based on logic." (SK, R&D Leader, Plastic Package Sector)

- **Entrepreneurial Mindset & Entrepreneurial And Commercial Thinking :**

The competency of "Entrepreneurial Mindset" under the "Cognitive" category and the competency of "Entrepreneurial and Commercial Thinking" under the "Innovation and

Creativity" category were extensively discussed by Academicians Group 1 during the survey studies, and both were included in the previous list before the focused group study (as detailed under section 5.3.2, see Table 5.9). According to literature survey, Entrepreneurial skills comprise the knowledge and abilities that contribute to success in generating and developing business opportunities or ideas, and it requires having an entrepreneurial mindset. (Low, Gao, and Ng 2021; Plawgo and Ertman 2021). In some articles, entrepreneurial competencies have been expressed alongside the concepts of innovation and leadership. Project managers should have essential competencies including leadership, commitment, creativity, entrepreneurship, teamwork skills, and individuals with entrepreneurial competence are capable of realizing a specific vision and possess core abilities in creativity and innovation. (Viale, Ruel, and Zouari 2022a; Igielski 2020).

> *"Do we need to be entrepreneurs in order to be innovative? While innovation is undergoing a cultural change as a cultural entity within organizations, some companies may not necessarily engage with an entrepreneurial mindset in their journey towards innovative transformation. There is a connection between the two that complements each other but doesn't necessarily have the same goal, in my opinion. Entrepreneurship can generally be described as bringing something into existence without necessarily taking action, but being innovative doesn't appear to be closely associated with that definition." (MU, R&D and Innovation Manager, Banking Sector)*

> *"Entrepreneurial mindset is essential for a startup, but it is not necessarily a requirement for innovation." (SÇ, Global Director of Human Resources ,Furniture Sector)*

> *"When we combine proactiveness with curiosity and imagination, it significantly represents the competency of an entrepreneurial mindset." (EA, HR Manager,Nutrition Sector)*

> *"When we associate it with innovation, it implies taking action. The entrepreneurial mindset can be seen differently in this context. After the idea emerges, when work related to innovation is conducted, there is a risk of both success and failure. The decision of whether to proceed or not is predominantly encompassed within the entrepreneurial mindset. I believe it is closely related to innovation." (SC, HR Org. Development Leader, Packaging)*

- **Initiative / Proactivity :**

During the survey studies, proactivity was identified as one of the competencies discussed by Academicians Group 1. Although there were concerns about its association with entrepreneurship and the possibility of repetition in the list, it was included in the list under the social/emotional category to gather feedback from the focused working group. In literature research, it is apparent that in some examples, entrepreneurship is associated with the proactivity, while in others, it is separately addressed under different categories.

In an article (Viale, Ruel, and Zouari 2022b) that aims to understand the individual competencies that PSM professionals need to have in order to contribute added value to innovation, proactivity is listed under the category of "Internal Enterprise Competencies". In another article (RezaeiZadeh et al. 2017), the most important entrepreneurship competencies list includes the category of "Motivation". In the competencies defined for innovation managers in the context of innovative economic development, proactivity is included under the cognitive category.(Kurmanov et al. 2021). In the focused group study, the concept of proactivity has been extensively compared to entrepreneurial mindset, and similarities have been observed. According to the opinions of some participants, it has been suggested that the competency of taking action can be associated with proactivity.

> *"I consider proactivity as the ability to take initiative and act independently, rather than considering it as foreseeing." (EA, HR Manager,Nutrition Sector)*

> *"Being proactive in the cognitive category shows similarities with entrepreneurship/proactivity in the social-emotional category." (SC, HR Org. Development Leader, Packaging)*

- **Self Control :**

It is a competency that has been encountered in the literature review, but it has the lowest average value in survey studies. Academics Group 1 aimed to gather opinions in the focused group study due to the examples found in the literature, and it was included in the list. The competency of self-control is found under the "emotional intelligence" category in the article

(Sampaio et al. 2022), and it is described as the ability to accurately perceive and express emotions, perform well under pressure, and control emotions. This definition is supported by references from various sources. In another article (Bonesso, Gerli, and Bruni 2020), self-control competency is defined as the control of emotions in difficult and stressful situations.

In project management, especially for innovation projects, self-control is included under the category of "personal effectiveness". (Grzesik and Piwowar-Sulej 2018b). The participants in focused group study, agreed unanimously on the removal of self-control from the list and they didn't share any additional comments regarding this.

- **Trustworthiness :**

In the literature, trust has been highlighted as a significant factor, especially in the context of entrepreneurship and leadership. As mentioned in article (Podmetina et al. 2018a) , it is important to include the competency of trust alongside entrepreneurial and leadership skills for a successful innovation project manager. Trust plays a crucial role in external collaborations and is vital for building trustworthy relationships, which are highly critical in innovation efforts. In a study examining competencies in the banking sector, the competency of trustworthiness was found to be included under the "emotional competencies" category and was identified as having a high factor analysis score. (Shanujas and Radha Ramanan 2023). The participants in the focused group study extensively compared trustworthiness with ethics. Additionally, they mentioned that trustworthiness is already considered as a required characteristic in individuals within the existing projects and that it is included in HR policies.

> *"I couldn't find much mention of innovation. Why should I seek trustworthiness? When I think about innovation, I'm not entirely sure how much ethics and trustworthiness are needed for innovation. Can there be innovation without ethics? Similarly, can there be innovation without trustworthiness? (SC, HR Org. Development Leader, Packaging)*

> *"Internal integrity is defined as trust in oneself. I can't say directly whether it should be present in someone who will innovate. I will search for it, but I'm not sure if it is according to the literature. I understand the perspective on what trust and ethics mean for innovation. Sometimes even negative things can be innovative. For example, if we have an idea, we need*

to be trusted for others to believe in us. Similarly, if an investor is going to invest money, they need to have trust in us." (SÇ, Global Director of Human Resources ,Furniture Sector)

"The competency of trust should be approached differently when considering the company's policy, especially in the context of innovation management, whether it should be included in the list or not." (MU, R&D and Innovation Manager, Banking Sector)

- **Communication Competencies :**

Another competency frequently encountered in literature research was communication. It was included in the list by Academic Group 1 as both a main competency under the category of "Communication" and as a sub-competency under the category of "Innovation" titled "Communication Skills". To gather opinions in the focused group study, two approaches were employed, considering both categories. In an article (Kipper et al. 2021) analyzing the competencies required for Industry 4.0 and based on literature reviews, communication competency is included as one of the critical 16 competencies identified. In a article (Viale, Ruel, and Zouari 2022c) assessing the current competency profile of senior managers in the South African local government sector, communication competency is found under the "core competency" category.In a study aiming to develop a competency model for open innovation, the research findings revealed that communication competencies were selected as the most highly important competency among the participants. (Podmetina et al. 2018b) In focused group study, the participants associated teamwork and networking competencies with communication competencies and expressed that there could be a relationship between them. Although they noted that it should not be categorized under "innovation and creativity", they suggested that communication is a separate competency that can be supported by various sub-competencies.

"When we consider innovation as a 360-degree perspective on creativity, communication becomes essential. To ask the right question, one must have strong communication skills. In innovation, it is the teamwork rather than individual effort that brings results. Communication is indispensable in innovation and creativity. Examples also demonstrate its importance. Without communication skills, teams struggle to progress." (SC, HR Org. Development Leader, Packaging)

"Before we begin, I would like to mention that communication skills were already included within the categories of innovation and creativity. Why were they not placed under the communication competency below? The communication competency seems to be overshadowed by innovation and creativity. I would suggest placing it under the communication category below." (SC, HR Org. Development Leader, Packaging)

"I completely agree, communication is an essential competency." (ZM, HR Manager)

"Being a team player is a highly important competency. It can be related to communication, but it is not solely dependent on it. You can have excellent communication skills, but still be a poor team player." (MU, R&D and Innovation Manager, Banking Sector)

- **Holistic Thinking :**

The competency of holistic thinking was encountered in literature survey and included under the Communication category by Academic Group 1. In a study conducted in the field of purchasing and supply management, aimed at identifying the competencies of buyers for enabling innovation, buyers are required to have a comprehensive perspective on their supply chain partners and the market. This competency enables them to think and act holistically, improve their negotiation abilities, and choose the most suitable suppliers for an innovation project. (Viale, Ruel, and Zouari 2022d). This refers to the ability to comprehensively assess the situation and generate creative solutions to communication problems while ensuring that the cultural sensitivities of others are not harmed. (Kumari and Nirban 2018). In group study, participants were unsure whether the competency of holistic thinking was placed in the correct category. The discussions generally revolved around this point.

"I found it difficult to associate the competency of holistic thinking with the Communication category." (SÇ, Global Director of Human Resources ,Furniture Sector)

"I also believe that holistic thinking should not be categorized under communication competency group." (MU, R&D and Innovation Manager, Banking Sector)

"In my opinion, it can be considered under the innovation categoy." (SK, R&D Leader, Plastic Package Sector)

"I agree with you and MU, it should not be under the communication category." (ZM, HR Manager)

- **Mobilize People and Motivating Others :**

In literature research, competencies related to inspiring and motivating others have been encountered, and Academic Group 1 has placed both competencies under the "Leadership" category while creating the list. The competency of mobilizing people means to inspire, energize, and involve others. In addition it includes the skills such as interacting with others, building consensus, collaborating and involving stakeholders in assignments. (Stenholm et al. 2021; Blanka, Krumay, and Rueckel 2022). In another article (Korzynski et al. 2021), the competency referred to as the ability to inspire employees to put an extraordinary effort into their work. For classification examples, in the article (Crossan, Côté, and Virgin 2021) focused on identifying key leadership competencies for federal public service executives, one of the identified competencies is the mobilizing others. When examining the list of elements of managers' competencies in modern organizations, the category of Leadership includes managing, motivating, and developing others. (Nikitina and Lapiņa 2019a). These are important competencies for which participants were asked to provide their comments in the focused group study are as follows. Participants sometimes believed that the two concepts had similar meanings, but different opinions were also shared emphasizing the need for their separation. When questioned about whether the separate competencies of mobilizing People and Motivating Others create confusion in terms of concepts, the participants shared their opinions sequentially.

"In my opinion, they should be separate. Being able to mobilize others to take action does not necessarily mean being proficient in providing motivation." (MU, R&D and Innovation Manager, Banking Sector)

"I find motivation and mobilizing to be closely related. In my view, motivating others may also involve stakeholders, and I see it as a separate concept from being a role model.

However, I agree that mobilizing people and motivating them are similar concepts in terms of inspiring action." . (SC, HR Org. Development Leader, Packaging)

"I agree with SC as well. The two competencies should be merged." (ZM, HR Manager)

"Mobilizing means taking the lead in a significant action, while motivating is about uplifting someone's spirits, especially when they are feeling down. For example, someone can be good at motivating others without being skilled at mobilizing them. Similarly, social media influencers may inspire their followers to buy a certain outfit, but that doesn't necessarily mean they are mobilizing them. Both competencies are important and should be considered separate abilities." (MU, R&D and Innovation Manager, Banking Sector)

"Mobilizing others" to me implies increasing or initiating an action, while "motivating" feels like a slightly more passive activity. I agree with MU,, they are separate competencies." (SK, R&D Leader, Plastic Package Sector)

- **Self-Development and Researching & Reading**

Along with the analysis of the results of previous survey studies, another commonly encountered competencies in the literature are self-development and research & reading. These competencies are often placed under the leadership category, mainly due to their inspiring nature. In the focus group study, the aim was to gather opinions about these two competencies and then decide, based on the comments, whether to eliminate one of them or keep both. In the article that identifies the critical competencies for guiding curriculum developers of engineering education programs in the innovative and dynamic working environment of the big data industry, which is based on a highly qualified workforce, the competency of self-development is listed, and its meaning is described as self-improvement, career development, individual growth, creating an environment, and fostering growth (Gurcan 2019). In a research conducted to define the competencies of a manager in an organization, self-development has been identified as one of the top 10 essential competencies and placed under the category of personality traits. (Nikitina and Lapiņa 2019b). "Research" competency has been identified in various articles as well. In the articles analyzing leadership competencies and understanding of communication professionals

regarding the digital changes brought by the Industry 4.0 revolution, the "research" competency has been identified and placed under the cognitive category. (Seemiller 2021; J. J. Lee and Meng 2021).

In the focus group study, participants shared their thoughts on the competencies of "self-development" and "research and reading" under the leadership category. They unanimously agreed that these competencies should be included under the leadership category. Considering that the competency of research and reading is believed to be a part of self-development, they suggested merging these two competencies together.

> *"When we talk about leadership, I think of it as managing a team. I asked myself if research and reading should be part of leadership. I also think the same thing for self-development."* *(SC, HR Org. Development Leader, Packaging)*

> *"Research and reading can be considered as part of self-development. I believe they should be included under the category of leadership, in the right place. I believe that leaders should continuously work on self-improvement." (MU, R&D and Innovation Manager, Banking Sector)*

> *"To lead innovation, it is necessary for the person to engage in research in order to broaden their team's horizons. I believe that all 11 items under the leadership category should be included here. However, we can place the competency of research and reading under the "self-development" category." (SÇ, Global Director of Human Resources ,Furniture Sector)*

- **Computer Usage :**

Due to the development of technology, digital skills have become crucial in today's world. As many tasks are now performed using computers, the skill of "computer usage" has been included in the list of digital competencies identified by Academic Group 1. In the article (Siddiqui, Thaheem, and Abdekhodaee, n.d.) aiming to develop a taxonomy of digital skills needed to digitalize the construction industry, computer usage is included under the Digital Literacy category. The participants in the focus group study extensively questioned the digital competencies, including computer usage, under the digital category. They mentioned that digital competencies for innovation activities tend to be highly technical and

require specific expertise. Further details regarding this will be provided in Section 5.4.2. The participiants unanimously agreed that computer usage should be removed from the list as it is now considered a fundamental skill expected from all employees, assuming that everyone has already acquired it.

"Even those who are technically strong will know it. However, in innovation, we rely on everyone's knowledge. Therefore, it is useful to consider these competencies in a functional manner. I think the computer usage competency can be eliminated. Everyone knows it." (SC, HR Org. Development Leader, Packaging)

"It's not easy to measure these subjects, and it's challenging to expect people to have immediate knowledge of cloud computing and similar topics. However, having awareness is crucial. Even if someone engaged in innovation is not familiar with these competencies, they should still have a sense of awareness." (SÇ, Global Director of Human Resources ,Furniture Sector)

"In this age, these competencies act as supportive tools for fostering innovation. While we cannot say that innovation is impossible without them, being familiar with these competencies and raising awareness about them serves as a catalyst for introducing new ideas. We cannot deny the significance of these competencies in driving innovation." (SÇ, Global Director of Human Resources ,Furniture Sector)

"In the digital age, education has moved towards a digital platform. There is a need for individuals who can adapt to these changes. Within the next 2 years, local curricula will be changing. Even human resources department needs to be knowledgeable about these updates. They are trying to incorporate artificial intelligence and other technologies into their internal processes. According to the literature, I can understand that these topics will become prominent in the coming days." (SK, R&D Leader, Plastic Package Sector)

5.4.2. Evaluation of The Competency List by Academicians Group 1 After Focused Group Study

The list of competencies, consisting of 65 competencies, created by Academic Group 1, was evaluated in a focus working group consisting of 7 industry experts through 2 online meetings. After taking notes on the evaluations and re-examining the literature, Academic Group 1 decided to eliminate the competencies of Conceptual Thinking, Entrepreneurial Mindset, Initiative/Proactivity, Self Control, Trustworthiness, Communication Competencies, Idea Generation, Behavioural Flexibility, Holistic Thinking, Mobilize People, Promote Innovation And Guide Change, Self-Development, Advanced Robotics, Computer Usage, Entrepreneurial And Commercial Thinking. Some competencies were directly excluded, while others were excluded based on their similarity to other competencies in the list. For example, the Mobilize People competency was associated with the "motivating others" competency. The Self-Development competency was linked to the "Research/Reading" competency. The competencies of Trustworthiness and Computer Usage were excluded as they were considered to be skills that everyone already possesses. The excluded competencies "communication" and "behavioral" were thought to be not individual competencies but rather competency groups. The "self-control" competency had the lowest average score in the survey studies, and based on the comments from the focus working group, it was determined that it should be excluded. It was believed that some of the consolidated competencies should be evaluated separately. For instance, the competency "reskilling/upskilling" was split and positioned as two separate competencies within the cognitive category. Similarly, the competency "Stress Management/Tolerance" was simplified to "stress management" as there was already a competency called "Tolerance To Change And Uncertainty" on the list. Likewise, the competencies "Self-Discipline And Self-Confidence" were separated and categorized as two distinct competencies under the Leadership category. As a result, the list has been reduced to 52 competencies while keeping the 7 category sections' name unchanged. Table 5.10 illustrates the list presented during the focus group study, the revised version prepared by Academic Group 1, and the actions taken based on these revisions.

Table 5. 11. The actions of the competency list for reorganization by Academic Group 1

Main Competency Group	Competency List-1*	Competency List-2**	Action
Cognitive	Analytical Thinking	Analytical Thinking	**No change**
	Conceptual Thinking	-	**Eliminated**
	Curiosity	Curiosity	**No change**
	Entrepreneurial Mindset	-	**Eliminated**
	Imagination	Imagination	**No change**
	Active Learning Skills / Lifelong Learning	Active Learning Skills / Lifelong Learning	**No change**
	Multi-Tasking	Multi-Tasking	**No change**
	Proactivity	Proactivity	**No change**
	Complex Problem Solving	Complex Problem Solving	**No change**
	Self-Efficacy	Self-Efficacy	**No change**
	Strategic Thinker	Strategic Thinker	**No change**
	System Thinking	System Thinking	**No change**
	Reskilling/ upskilling	Reskilling Upskilling	**Seperated**
Social & Emotional	Adaptability/Flexibility	Flexibility	**Seperated**
	Adapting And Responding To Change	Adapting And Responding To Change	**No change**
	Cooperation	Cooperation	**No change**
	Empathy	Empathy	**No change**
	Ethics	Ethics	**No change**
	Initiative/Proactivity	-	**Eliminated**
	Resilience / Endurance	Resilience / Endurance	**No change**
	Self Awareness	Self Awareness	**No change**
	Self Control	-	**Eliminated**
	Stress Management /Tolerance	Stress Management /Tolerance	**Seperated**
	Time Management	Time Management	**No change**
	Tolerance To Change And Uncertainty	Tolerance To Change And Uncertainty	**No change**
	Trustworthiness	-	**Eliminated**
Innovation	Failure Tolerance	Failure Tolerance	**No change**
	Communication Competencies	-	**Eliminated**
	Creativity	Creativity	**No change**

(cont. on the next page)

Table 5.10. (cont.)

Main Competency Group	Competency List-1*	Competency List-2**	Action
Innovation	Critical Thinking	Critical Thinking	**No change**
	Idea Generation	-	**Eliminated**
	Networking	Networking	**No change**
	Research Skills	Research Skills	**No change**
	Teamwork /Cross Functional Teamwork	Teamwork /Cross Functional Teamwork	**No change**
	Entrepreneurial And Commercial Thinking	-	**Eliminated**
	Reflecting Customer Expectations /Customer Focus	Reflecting Customer Expectations /Customer Focus	**No change**
Communication	Ability To Persuade	Ability To Persuade	**No change**
	Active Listening	Active Listening	**No change**
	Behavioural Flexibility	-	**Eliminated**
	Holistic Thinking	-	**Eliminated**
	Intercultural Communication Competence	Intercultural Communication Competence	**No change**
	Cross-Cultural Collaboration And Cohesion	Cross-Cultural Collaboration And Cohesion	**No change**
Leadership	Achievement Orientation	Achievement Orientation	**No change**
	Conflict Negotiation	Conflict Negotiation	**No change**
	Create Vision And Strategy	Create Vision And Strategy	**No change**
	Mobilize People	-	**Eliminated**
	Motivating Others	Motivating Others	**No change**
	Plan	Plan	**No change**
	Promote Innovation And Guide Change	-	**Eliminated**
	Researching And Reading	Researching And Reading	**No change**
	Role Modeling	Role Modeling	**No change**
	Self-Development	-	**Eliminated**
	Self-Discipline And Self-Confidence	Self-Discipline Self- Confidence	**Seperated**

(cont. on the next page)

Table 5.10. (cont.)

Main Competency Group	Competency List-1*	Competency List-2**	Action
Digital	Advanced Robotics	-	**Eliminated**
	Big Data Analytics	Big Data Analytics	**No change**
	Cloud Computing	-	**Eliminated**
	Coding	Coding	**No change**
	Computer Usage	-	**Eliminated**
	Cybersecurty	Cybersecurty	**No change**
	Programming	Programming	**No change**
	Technology Design	Technology Design	**No change**
	Digital Literacy	Digital Literacy	**No change**
		Artificial intelligence	**Addition**
Technical	Machine operation skills	Machine operation skills	**No change**
	Increased Job Knowledge Due To Automated Processes	Increased Job Knowledge Due To Automated Processes	**No change**
	Process optimization / understanding	Process optimization / understanding	**No change**

__Competency List-1 :__ After survey studies and literature research reviews, the competency list that was finalized by Academic Group 1 prior to the focus group study

**__Competency List-2 :__ After focus group study and literature research reviews, the competency list that was finalized by Academic Group 1 prior to the Case Study with industries*

5.5. Case Study with two Companies

Through survey studies and focus group research, a competence list, fed off the literature, was finalized. To understand its connection with innovation strategy, case studies were conducted within two selected innovative companies. While the first selected company operates as a global solution partner for international brands, providing brass, aluminum, magnesium, and stainless steel parts, the second company is active in the wood-based panel industry sector. The companies carried out an exercise to align the competencies listed in the shared list with their respective strategies. The participants were asked to match each

competency with their strategies using the evaluation metrics of critical, required, and not relevant. The strategies of the companies are presented in Table 5.11.

Table 5. 12. The strategies of Company 1 and Company 2

No	Strategies of Company 1	Strategies of Company 2
S1	Sustainable Growth*	Sustainable Growth*
S2	Innovation and R&D Activities*	Innovation and Sustainability*
S3	Investing in People*	People and Nature-Focused Approach*
S4	Digitization and Institutionalization*	Digital Transformation*
S5	High Added Value	Customer and User Focus
S6	-	Global Thinking
S7	-	Operational Excellence and Agility

*The similar strategies identified for the two companies have been highlighted.

Following the alignment of strategies with competencies, the responses of the companies were analyzed. The weighted average of competencies was calculated for each company's strategies, and radar charts were created based on these averages especially for similar strategies. The analysis of the strategies where the companies differentiate from each other is provided in Appendix A.4. in detail.

5.5.1. Strategy 1 - Growing Continuously & Sustainable Growth

The competencies aligned by the companies themselves within their respective industries for the purpose of growth were analyzed, and the radar charts of the two companies were examined. Table 5.12 presents a detailed overview of the sub-strategies that contribute to main strategy.

Table 5. 13. Strategies and Sub-Strategies of Company 1 & 2

Name	Strategies	Sub-Strategies
Company 1	Growing Continuously	S1.1 Ability to sell products as a team externally, serving external customers S1.2 Capability to serve different sectors with 4 different raw materials and technologies S1.3 Conducting strategic review meetings with customers in line with portfolio optimization S1.4 Increasing operational efficiency and profitability through continuous process improvement activities"

(cont. on the next page)

Table 5.12. (cont.)

Name	Strategies	Sub-Strategies
Company 2	Sustainable Growth	S1.1 Strengthening our position among the world's largest companies in our industry by evaluating global growth opportunities S1.2 Continuing the strategy of investing in sustainable raw material sources and high-potential markets S1.3 Managing growth processes and risks in a rational manner

Below, you can see the analysis of two companies regarding the growth strategy. The competency list was provided to the companies in 7 categories, and they matched the competencies. The weighted average scores of the competencies they rated were calculated for each category. Table 5.13, 5.14, 5.15, 5.16, 5.17, 5.18, 5.19 provides a detailed overview of the analysis for the two companies in relation to the growth strategy and the Figure 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8 displays the radar graphic of the distribution of competencies based on the calculations.

Table 5. 14. Weighted average score of both companies in Cognitive Category

Competencies of Cognitive Category	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Learning Skills / Lifelong Learning	1,13	2,00	0,08	0,11
Analytical Thinking	1,63	2,00	0,11	0,11
Reskilling	1,13	1,63	0,08	0,09
Upskilling	1,13	1,13	0,08	0,06
Multi-Tasking	0,75	0,75	0,05	0,04
Imagination	0,38	0,38	0,03	0,02
Complex Problem Solving	1,63	1,00	0,11	0,05
Curiosity	1,13	2,00	0,08	0,11
Self-Efficacy	1,13	1,75	0,08	0,09

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Table 5.13. (cont.)

Competencies of Cognitive Category	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Proactivity	1,38	2,00	0,09	0,11
System Thinking	1,63	2,25	0,11	0,12
Strategic Thinker	1,88	2,00	0,13	0,11
Total	14,88	18,88		
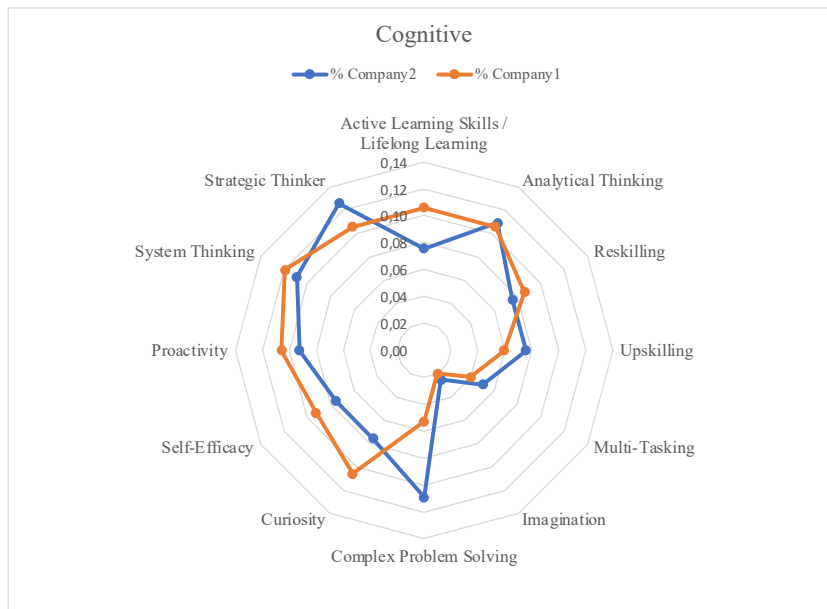
Figure 5. 2. The radar graph of Company 1 & 2 shows the distribution of competencies under Cognitive category

When looking at the competencies under the Cognitive category, it is observed from the radar chart that both of the companies have generally similar results. In the context of the growth strategy, Imagination is identified as the least critical competency for both companies The high criticality of complex problem-solving competency for Company 2 indicates that Company 2 operates with a more technical approach, likely due to the nature of its industry, and takes firm steps forward. For Company 1, the high criticality of Curiosity signifies its more exploratory and open-minded culture towards new projects.

Table 5. 15. Weighted average score of both companies in Social & Emotional Category

Competencies of Social&Emotional Category	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company 1
Tolerance To Change And Uncertainty	1,63	1,38	0,11	0,10
Resilience / Endurance	1,13	1,63	0,08	0,12
Adapting And Responding To Change	1,38	2,00	0,10	0,14
Empathy	1,38	1,50	0,10	0,11
Flexibility	1,38	2,00	0,10	0,14
Ethics	1,88	0,38	0,13	0,03
Cooperation	1,38	1,75	0,10	0,12
Self Awareness	1,13	0,38	0,08	0,03
Stress Management /Tolerance	1,88	1,38	0,13	0,10
Time Management	1,13	1,75	0,08	0,12
Total	14,25	14,13		
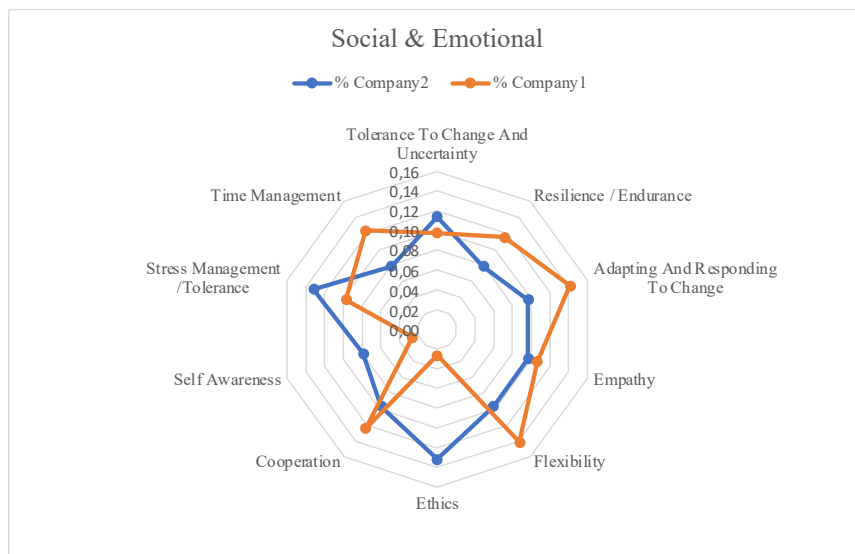
Figure 5. 3. The radar graph of Company 1 & 2 shows the distribution of competencies under Social & Emotional Category

When examining the Social & Emotional category, differences can be observed compared to the Cognitive category. Company 2 places much greater importance on individuals being Ethical compared to Company 1. This difference may result from a change in corporate culture. Empathy and Collaboration competencies are considered important for both companies, and their scores are similar. Flexibility and Adaptability competencies have lower scores for Company 2, indicating that the company embraces a slightly more rigid and inflexible structure. For Company 1, the lower rating of the Self-Awareness competency may be attributed to the high support of training programs and the expectation that individuals have confidence in acquiring competencies at any given moment.

Table 5. 16. Weighted average score of both companies in Innovation

| Competencies of Innovation	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Networking	1,63	2,00	0,16	0,16
Research Skills	1,88	1,75	0,18	0,14
Failure Tolerance	1,38	2,00	0,13	0,16
Critical Thinking	1,13	1,75	0,11	0,14
Reflecting Customer Expectations /Customer Focus	1,38	2,25	0,13	0,18
Teamwork /Cross Functional Teamwork	1,88	1,75	0,18	0,14
Creativity	1,13	1,00	0,11	0,08
Total	10,38	12,50		
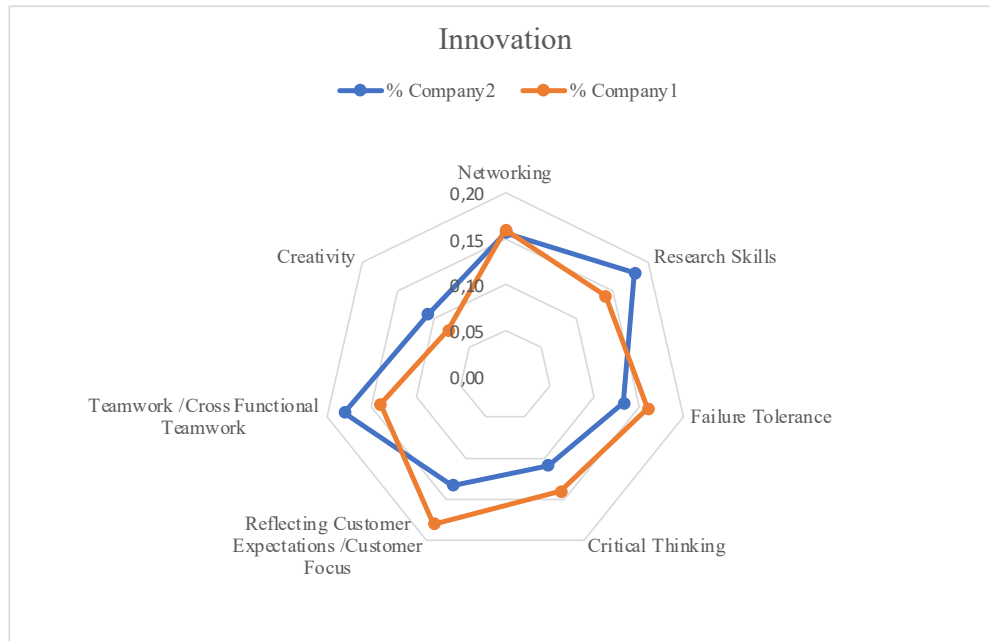
Figure 5. 4. The radar graph of Company 1 & 2 shows the distribution of competencies under Innovation Category

The distribution of competencies under the Innovation category in the radar chart is found to be similar for both companies. When considering that both companies have high innovation scores, it was expected to see a similar outcome. It appears that research skills are expected more in Company 2, indicating the company's emphasis on the development of innovative ideas and the expectation of a higher number of patented projects in their growth strategies. While it is somewhat interesting that Creativity has the lowest score for both companies among the innovation competencies, it is important to note that in the context of innovation, which is considered as "value-adding innovation," creating value for customers or buyers is much more crucial. Therefore, the high emphasis on "Customer Focus" competency explains this situation.

Table 5. 17. Weighted average score of both companies in Communication

Competencies of Communication	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Listening	1,88	1,50	0,25	0,18
Ability To Persuade	1,88	2,25	0,25	0,27
Intercultural Communication Competence	1,88	2,25	0,25	0,27
Cross-Cultural Collaboration And Cohesion	1,88	2,25	0,25	0,27
Total	7,50	8,25		
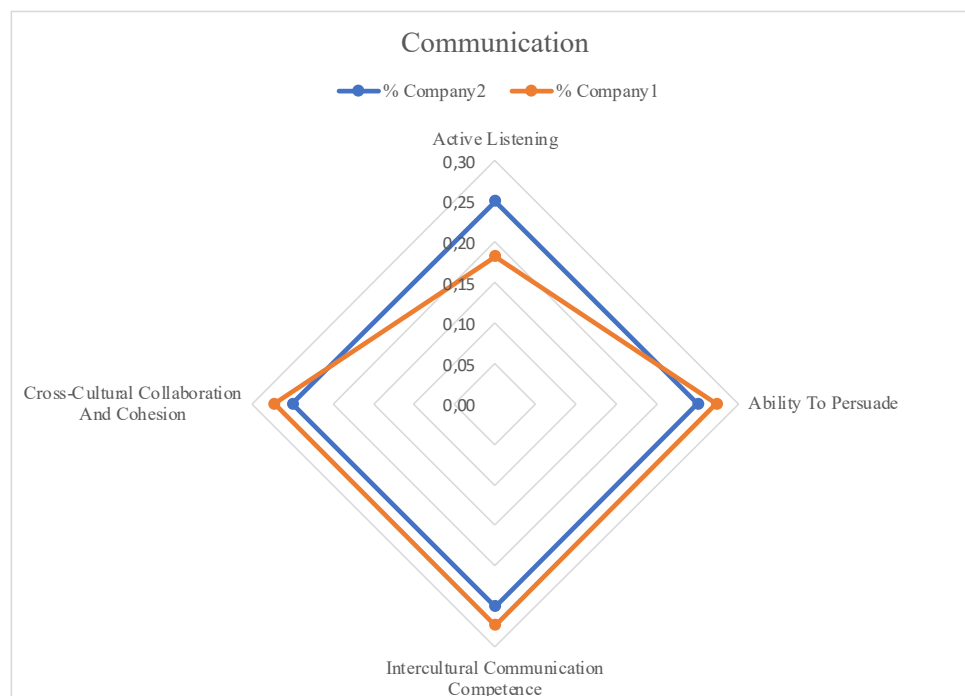
Figure 5. 5. The radar graph of Company 1 & 2 shows the distribution of competencies under Communication Category

While there is generally parallelism in the communication competencies within the growth strategy, the skill of active listening seems to be more critical for Company 2. The higher scores in the ethical and teamwork competencies in previous categories explain this observation for the company. Other competencies (Cross-cultural collaboration and cohesion, ability to persuade, intercultural communication competence) , on the other hand, have slightly higher scores for Company 1.

Table 5. 18. Weighted average score of both companies in Leadership

| The competencies of Leadership	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Researching And Reading	1,13	0,38	0,12	0,03
Achievement Orientation	1,13	1,75	0,12	0,13
Conflict Negotiation	0,00	2,50	0,00	0,18
Motivating and Mobilizing Others	1,38	0,75	0,14	0,06
Self-Discipline	1,13	1,75	0,12	0,13
Self- Confidence	1,38	1,50	0,14	0,11
Plan	1,13	1,75	0,12	0,13
Role Modeling	1,13	1,50	0,12	0,11
Create Vision And Strategy	1,38	1,75	0,14	0,13
Total	9,75	13,63		
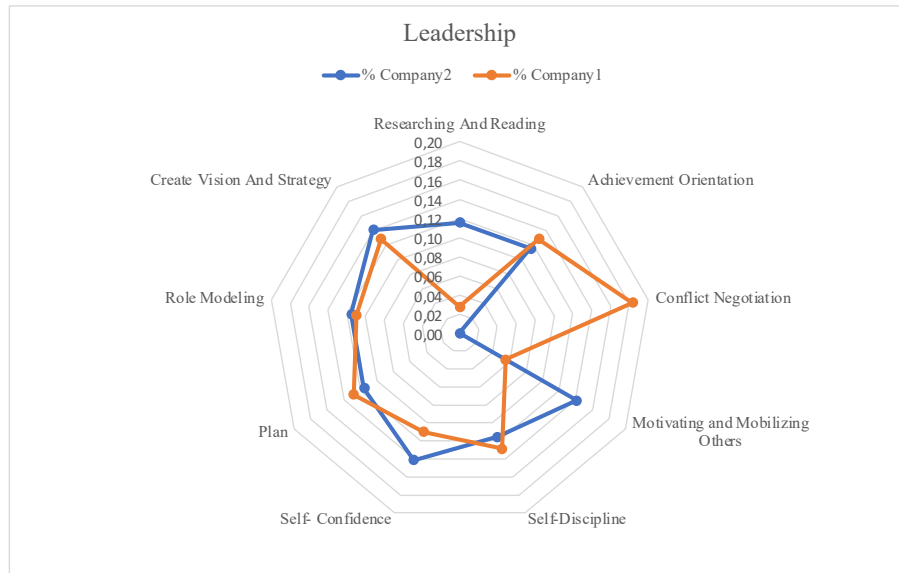
Figure 5. 6. The radar graph of Company 1 & 2 shows the distribution of competencies under Communication Category

The growth strategy shows the most distinct representation among categories in the Leadership category. The competencies that have the most significant differences are "Researching and Reading," "Conflict Negotiation," and "Motivating and Mobilizing others". In the leadership competencies, the competency of "Researching and Reading" was included in the list due to its criticality in inspiring leadership. For Company 1, the low scores for the competencies of "Motivating and Mobilizing others" and "Researching and Reading" in a similar manner indicate that these results are as expected here.

Table 5. 19. Weighted average score of both companies in Digital

Competencies of Digital	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Big Data Analytics	0,8	0,38	0,40	0,50
Digital Literacy	1,1	0,38	0,60	0,50
Coding	0,0	0,00	0,00	0,00
Programming	0,0	0,00	0,00	0,00
Cybersecurty	0,0	0,00	0,00	0,00

(cont. on the next page)

Table 5.18. (cont.)

Competencies of Digital	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Technology Design	0,0	0,00	0,00	0,00
Artificial intelligence	0,0	0,00	0,00	0,00
Total	1,9	0,75		
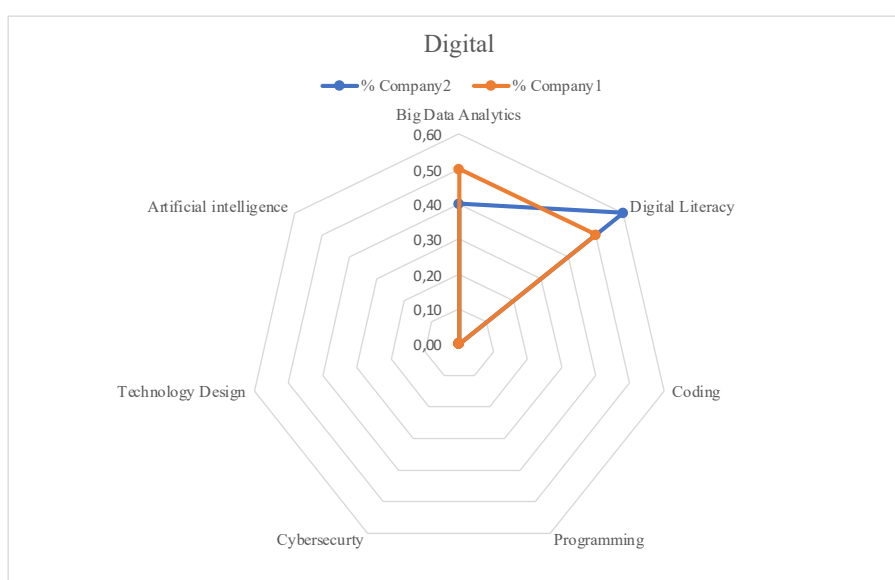
Figure 5. 7. The radar graph of Company 1 & 2 shows the distribution of competencies under Digital Category

The participants in the focus group study found the digital competencies to be highly technical. They had concerns about seeking these competencies in everyone. However, Academic Group 1 decided to include them in the list because they knew that these types of competencies would be required for projects created in line with innovation strategies. In their growth strategies, the companies marked "not relevant" for competencies such as artificial intelligence, technology design, cybersecurity, programming, and coding. While Company 1 considered Big data analytics competency to be more critical, Company 2 viewed digital literacy competency as critical.

Table 5. 20. Weighted average score of both companies in Methodic / Technic

Competencies of Methodic / Technic	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Process optimization / understanding	1,13	0,63	1,00	0,50
Machine operation skills	0,00	0,00	0,00	0,00
Increased Job Knowledge Due To Automated Processes	0,00	0,63	0,00	0,50
Total	1,13	1,25		
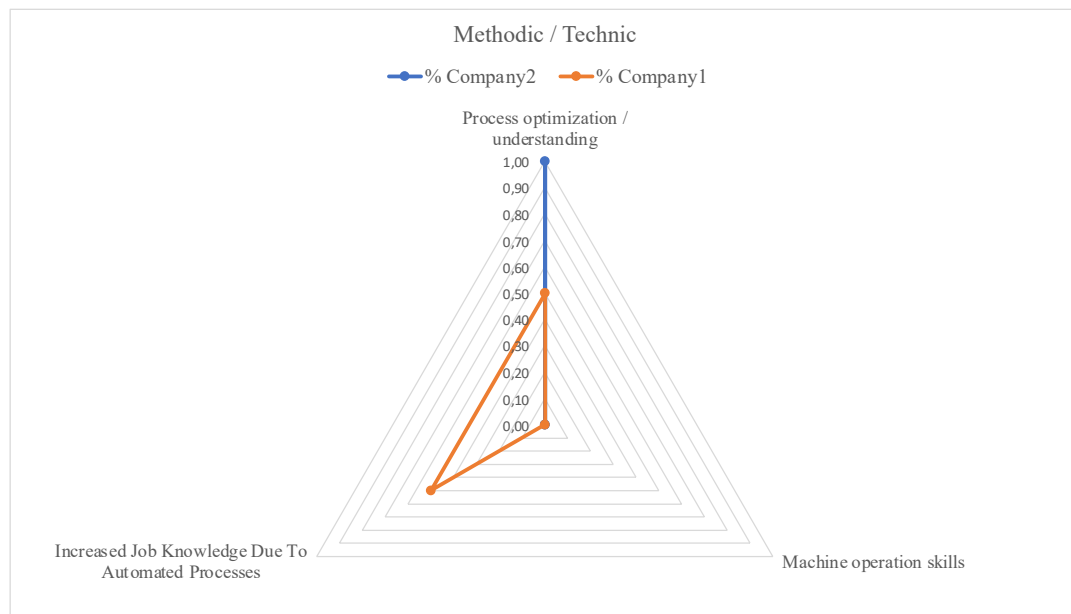
Figure 5. 8. The radar graph of Company 1 & 2 shows the distribution of competencies under Methodic / Technic

Regarding methodical/technical competencies, similar observations were made as in the digital category. In line with their growth strategies, both companies consider machine learning skills as "not relevant." While both companies have the same score for competency "Increased job knowledge due to automated process", competency process optimization / understanding is perceived as more critical for Company 2.

5.5.2. Strategy 2 - Innovation and R&D Activities & Innovation and Sustainability

The competencies aligned by the companies within their industries for the innovation and R&D activities strategy were analyzed, and the radar charts of the two companies were reviewed. Table 5.20. provides a detailed overview of the sub-strategies that contribute to the main strategy.

Table 5. 21. Strategies and Sub-Strategies of Company 1 & 2

Name	Strategies	Sub-Strategies
Company 1	Innovation and R&D Activities	S3.1. Establishing joint R&D and development projects with stakeholders S3.2. Embracing open innovation S3.3. Actively utilizing innovative manufacturing methods S3.4. Supporting domestic machinery suppliers and fostering collaborations to increase the use of domestic machinery S3.5. Patenting and commercializing internally developed production equipment S3.6. Increasing involvement in external national and international R&D and collaboration projects S3.7. Engaging in international academic and technological clusters and actively participating.

Table 5.20. (cont.)

Name	Strategies	Sub-Strategies
Company 2	Innovation and Sustainability	S5.1 Collaborating with our stakeholders to develop innovative products, services, and business models that differentiate our company and enhance our competitiveness based on the needs of customers and users. S5.2 Implementing R&D projects that can bring competitive advantage to the company in line with technological developments and innovations in the industry. S5.3 Continuing to reduce resource usage and improve our economic, social, and environmental sustainability performance in accordance with the "Sustainability Strategy." S5.4 Developing projects that generate shared value in collaboration with our suppliers.

In the analysis of the innovation strategy for the two companies, a competency list was given to them in 7 categories, and they matched the competencies accordingly. The weighted average scores were calculated for each category based on the competencies they rated. Table 5.21, 5.22, 5.23, 5.24, 5.25, 5.26 and 5.27 provide a detailed overview of the analysis for the two companies in relation to the innovation strategy. Figure 5.9, 5.10, 5.11, 5.12, 5.13, 5.14, and 5.15 display the radar graphics illustrating the distribution of competencies based on the calculations.

Table 5. 22. Weighted average score of both companies in Cognitive Category

Competencies of Cognitive	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Learning Skills / Lifelong Learning	2	2,75	0,09	0,09
Analytical Thinking	2	3	0,09	0,10
Reskilling	2	2,25	0,09	0,08

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Table 5.21. (cont.)

Competencies of Cognitive	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Upskilling	2	2,25	0,09	0,08
Multi-Tasking	2	1,875	0,09	0,06
Imagination	1,5	1,125	0,07	0,04
Complex Problem Solving	2	1,75	0,09	0,06
Curiosity	2	3	0,09	0,10
Self-Efficacy	1,5	2,25	0,07	0,08
Proactivity	2	3,25	0,09	0,11
System Thinking	1,5	2,75	0,07	0,09
Strategic Thinker	1,5	3	0,07	0,10
Total	22	29,25		

Figure 5. 9. The radar graph of Company 1 & 2 shows the distribution of competencies under Cognitive Category

Table 5. 23. Weighted average score of both companies in Social & Emotional

Competencies of Social & Emotional	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Tolerance To Change And Uncertainty	2,00	3,5	0,10	0,15
Resilience / Endurance	2,00	2,125	0,10	0,09
Adapting And Responding To Change	2,00	2,125	0,10	0,09
Empathy	1,50	1,5	0,08	0,07
Flexibility	2,00	2,75	0,10	0,12
Ethics	2,50	2	0,13	0,09
Cooperation	2,25	3	0,12	0,13
Self Awareness	1,50	0,75	0,08	0,03
Stress Management /Tolerance	2,00	2,25	0,10	0,10
Time Management	1,50	2,75	0,08	0,12
Total	19,25	22,75	1	1

Figure 5. 10. The radar graph of Company 1 & 2 shows the distribution of competencies under Social & Emotional Category

Table 5. 24. Weighted average score of both companies in Innovation Group

Competencies of Innovation	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Networking	2,25	3	0,15	0,16
Research Skills	2	3	0,14	0,16
Failure Tolerance	2	3	0,14	0,16
Critical Thinking	2	3	0,14	0,16
Reflecting Customer Expectations /Customer Focus	2,25	2,375	0,15	0,13
Teamwork /Cross Functional Teamwork	2,25	3,25	0,15	0,17
Creativity	2	1,375	0,14	0,07
Total	14,75	19	1,00	1,00

Figure 5. 11. The radar graph of Company 1 & 2 shows the distribution of competencies under Innovation

Table 5. 25. Weighted average score of both companies in Communication Group

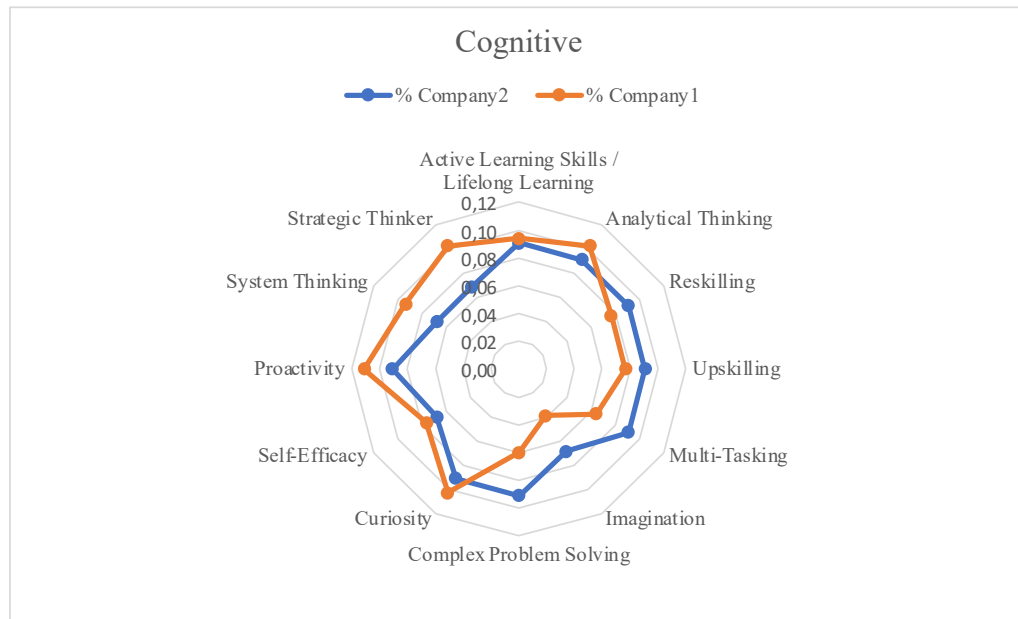| Competencies of Communication	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Listening	2,25	2,75	0,33	0,24
Ability To Persuade	1,5	2,875	0,22	0,25
Intercultural Communication Competence	1,5	3	0,22	0,26
Cross-Cultural Collaboration And Cohesion	1,5	3	0,22	0,26
Total	6,75	11,625	1,00	1,00

Figure 5. 12. The radar graph of Company 1 & 2 shows the distribution of competencies under Communication Category

Table 5. 26. Weighted average score of both companies in Leadership Group

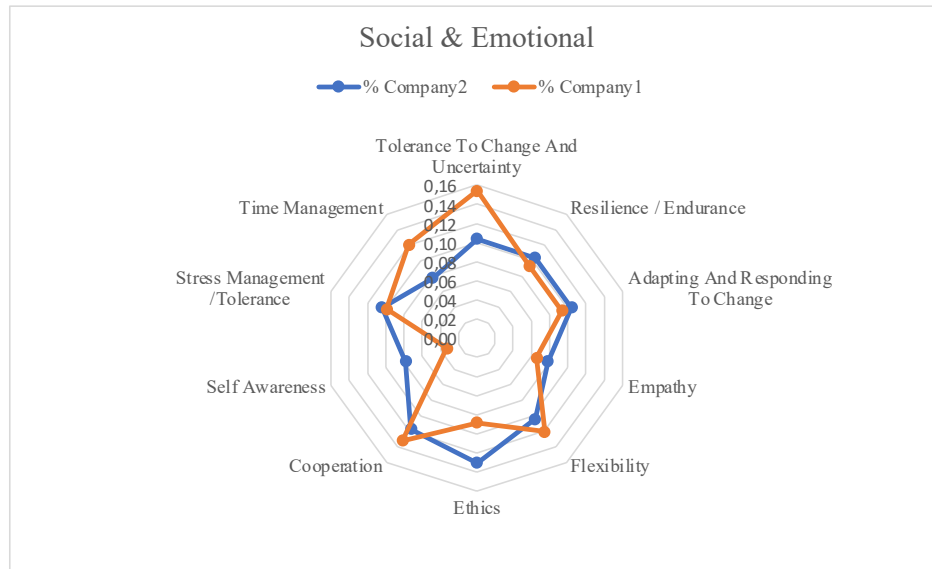| Competencies of Leadership	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Researching And Reading	1,75	3	0,14	0,14
Achievement Orientation	1,5	2,5	0,12	0,12
Conflict Negotiation	0	2,5	0,00	0,12
Motivating and Mobilizing Others	1,5	2,5	0,12	0,12
Self-Discipline	1,5	2,25	0,12	0,11
Self- Confidence	1,5	2,5	0,12	0,12
Plan	1,5	2,75	0,12	0,13
Role Modeling	1,5	1,125	0,12	0,05
Create Vision And Strategy	1,5	2	0,12	0,09
Total	12,25	21,125	1,00	1,00
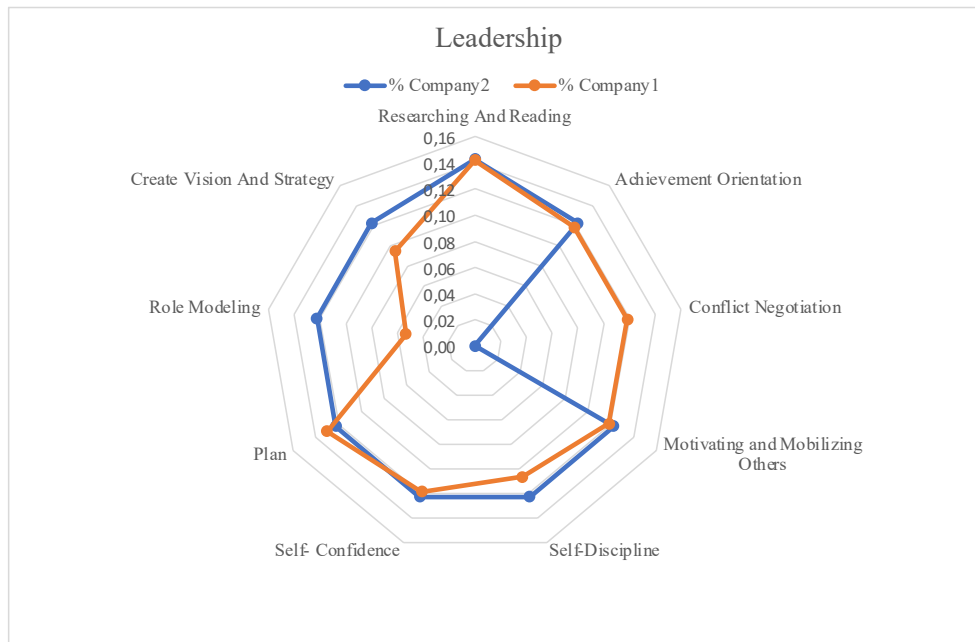
Figure 5. 13. The radar graph of Company 1 & 2 shows the distribution of competencies under Leadership Category

Table 5. 27. Weighted average score of both companies in Digital Group

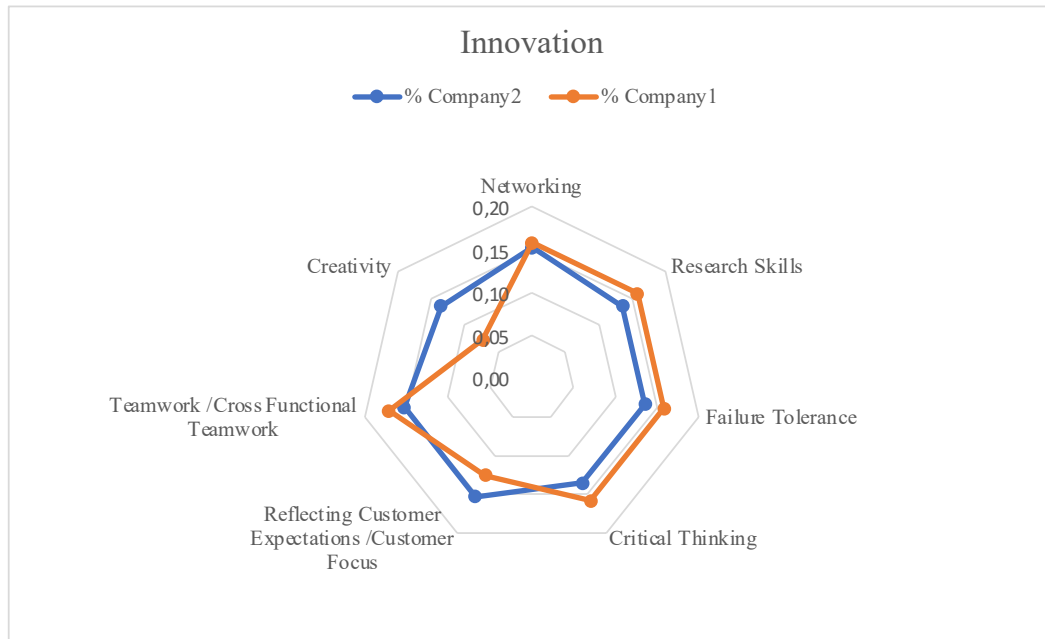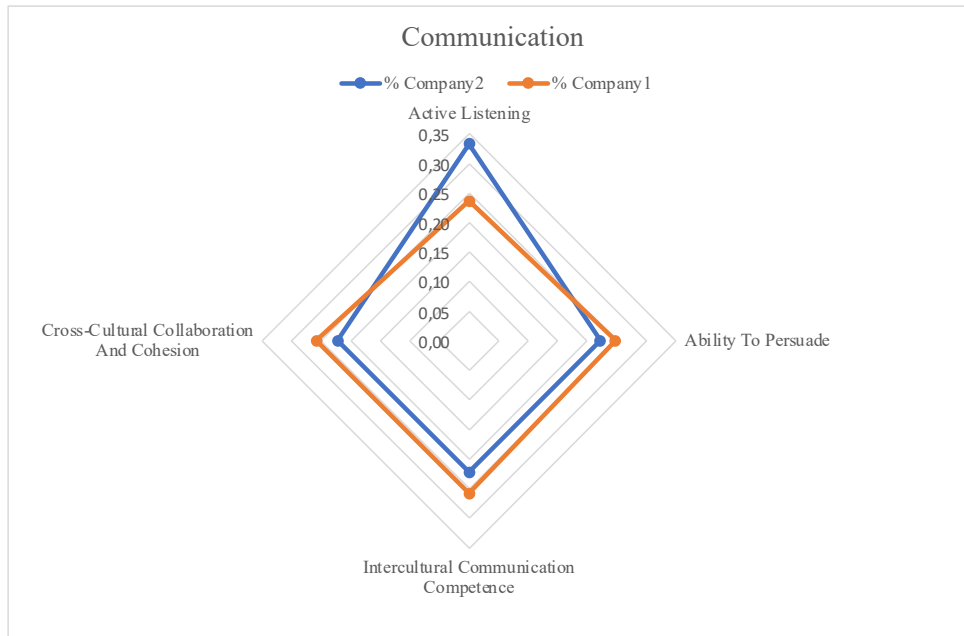| Competencies of Digital	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Big Data Analytics	1,50	0,62	0,40	0,19
Digital Literacy	1,50	0,62	0,40	0,19
Coding	0	0,37	0,00	0,11
Programming	0	0,37	0,00	0,11
Cybersecurty	0	0,37	0,00	0,11
Technology Design	0,75	0,37	0,20	0,11
Artificial intelligence	0	0,62	0,00	0,19
Total	3,75	3,37	1,00	1,00

Figure 5. 14. The radar graph of Company 1 & 2 shows the distribution of competencies under Digital Category

Table 5. 28. Weighted average score of both companies in Methodic / Technic Group

Competencies of Methodic / Technic	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Process optimization / understanding	1,5	1,875	0,50	0,42
Machine operation skills	0	0,75	0,00	0,17
Increased Job Knowledge Due To Automated Processes	1,5	1,875	0,50	0,42
Total	3	4,5	1,00	1,00
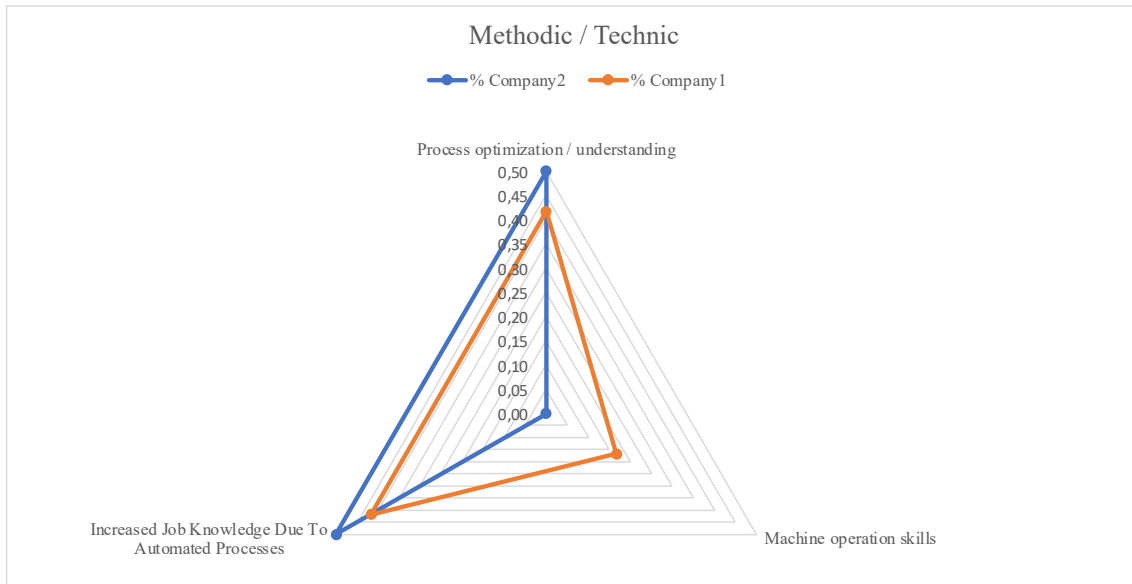
Figure 5. 15. The radar graph of Company 1 & 2 shows the distribution of competencies under Methodic / Technic Category

5.5.3. Strategy 3 - Digitization and Institutionalization & Digital Transformation

An analysis was conducted on the competencies that the companies identified and aligned with their respective industries for the strategy of digitalization. Additionally, the radar charts for both companies were examined. Table 5.28. provides a detailed overview of the sub-strategies that contribute to the main strategy.

Table 5. 29. Strategies and Sub-Strategies of Company 1 & 2

Name	Strategies	Sub-Strategies
Company 1	Digitization and Institutionalization	S5.1. Establishing a sustainable and systematic approach through project management processes. S5.2. Automating and transferring manual processes to engineering SAP through RPA. S5.3. Adapting digital R&D and engineering products to business processes (ARGEsoft). S5.4. Digitizing selected engineering processes (Paperwork, SAP).

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Table 5.28. (cont.)

Name	Strategies	Sub-Strategies
Company 2	Digital Transformation	S4.1. Implementing digitalization projects that support our company's priorities and strategies to make our processes smart and digital. S4.2. Implementing projects that add value to our company in areas such as big data, Industry 4.0, artificial intelligence, etc.

The competencies aligned by the two companies within the digitalization strategy were analyzed. They were provided with a competency list in 7 categories, and they matched the competencies accordingly. Weighted average scores were calculated for each category based on their ratings. Detailed analysis of the results for the two companies in relation to the digitalization strategy can be found in Table 5.29, 5.30, 5.31, 5.32, 5.33, 5.34, and 5.35. The radar graphics in Figure 5.16, 5.17, 5.18, 5.19, 5.20, 5.21, and 5.22 visually represent the distribution of competencies based on the calculations.

Table 5. 30. Weighted average score of both companies in Cognitive

Competencies of Cognitive	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Learning Skills / Lifelong Learning	0,75	2,50	0,07	0,10
Analytical Thinking	1,00	2,25	0,09	0,09
Reskilling	1,25	2,25	0,11	0,09
Upskilling	1,25	2,25	0,11	0,09
Multi-Tasking	0,75	1,75	0,07	0,07
Imagination	0,75	1,50	0,07	0,06
Complex Problem Solving	1,25	2,25	0,11	0,09
Curiosity	0,75	1,50	0,07	0,06
Self-Efficacy	0,75	1,50	0,07	0,06
Proactivity	0,75	2,25	0,07	0,09

(cont. on the next page)

Table 5.29. (cont.)

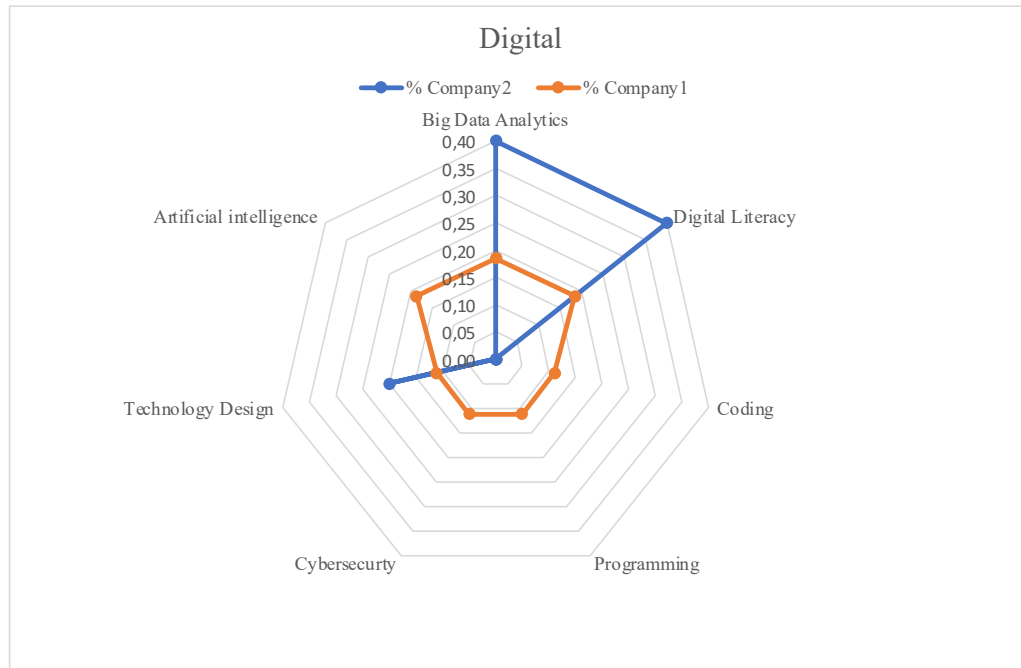| Competencies of Cognitive	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
System Thinking	1,25	2,50	0,11	0,10
Strategic Thinker	0,75	1,75	0,07	0,07
Total	11,25	24,25	1,00	1,00

Figure 5. 16. The radar graph of Company 1 & 2 shows the distribution of competencies under Cognitive Category

Table 5. 31. Weighted average score of both companies in Social & Emotional

Competencies of Social & Emotional	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Tolerance To Change And Uncertainty	0,75	2,25	0,09	0,13
Resilience / Endurance	0,75	1,50	0,09	0,09

(cont. on the next page)

Table 5.30. (cont.)

Competencies of Social & Emotional	Weighted average score of Company 2	Weighted average score of Company 1	% Company 2	% Company 1
Adapting And Responding To Change	0,75	2,50	0,09	0,14
Empathy	0,75	1,50	0,09	0,09
Flexibility	0,75	1,50	0,09	0,09
Ethics	1,25	1,75	0,16	0,10
Cooperation	0,75	1,75	0,09	0,10
Self Awareness	0,75	1,50	0,09	0,09
Stress Management /Tolerance	0,75	1,50	0,09	0,09
Time Management	0,75	1,75	0,09	0,10
Total	8	17,50	1,00	1,00

Figure 5. 17. The radar graph of Company 1 & 2 shows the distribution of competencies under Social&Emotional Category

Table 5. 32. Weighted average score of both companies in Innovation

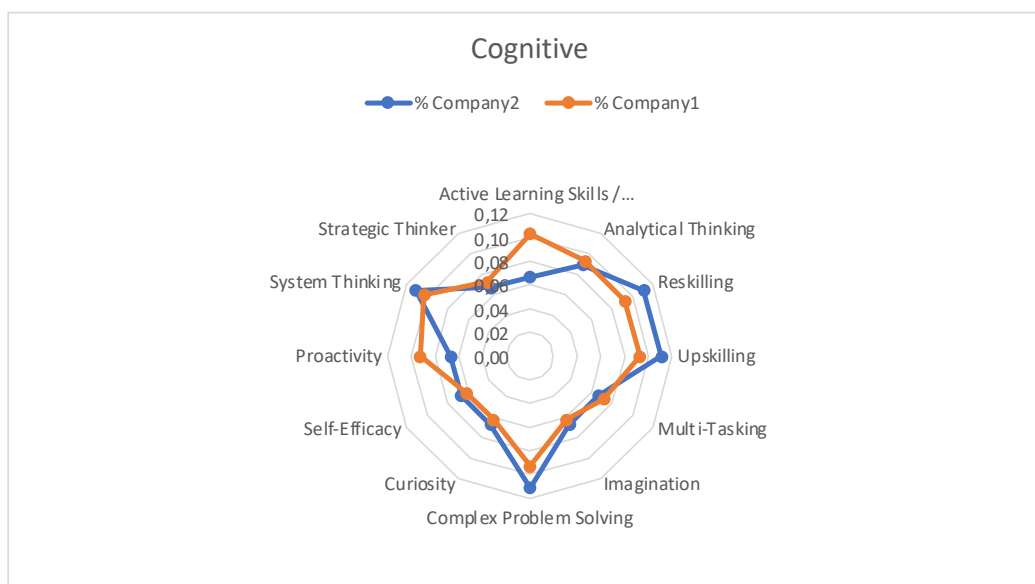| Competencies of Innovation	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Networking	0,75	1,75	0,14	0,12
Research Skills	0,75	2,25	0,14	0,16
Failure Tolerance	0,75	1,50	0,14	0,11
Critical Thinking	0,75	2,50	0,14	0,18
Reflecting Customer Expectations /Customer Focus	0,75	2,25	0,14	0,16
Teamwork /Cross Functional Teamwork	0,75	1,75	0,14	0,12
Creativity	0,75	2,25	0,14	0,16
Total	5,25	14,25	1,00	1,00

Figure 5. 18. The radar graph of Company 1 & 2 shows the distribution of competencies under Innovation Category

Table 5. 33. Weighted average score of both companies in Communication

Competencies of Communication	Weighted average score of Company 2	Weighted average score of Company 1	% Compan y2	% Compan y1
Active Listening	0,75	1,75	0,25	0,27
Ability To Persuade	0,75	1,75	0,25	0,27
Intercultural Communication Competence	0,75	1,50	0,25	0,23
Cross-Cultural Collaboration And Cohesion	0,75	1,50	0,25	0,23
Total	3,00	6,50	1,00	1,00

Figure 5. 19. The radar graph of Company 1 & 2 shows the distribution of competencies under Communication Category

Table 5. 34. Weighted average score of both companies in Leadership

Competencies of Leadership	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Researching And Reading	0,75	2,25	0,11	0,14
Achievement Orientation	0,75	1,50	0,11	0,09
Conflict Negotiation	0,00	1,75	0,00	0,11
Motivating and Mobilizing Others	0,75	1,50	0,11	0,09
Self-Discipline	0,75	1,50	0,11	0,09
Self- Confidence	0,75	1,50	0,11	0,09
Plan	1,25	1,75	0,19	0,11
Role Modeling	0,75	2,50	0,11	0,15
Create Vision And Strategy	1,00	2,25	0,15	0,14
Total	6,75	16,50	1,00	1,00
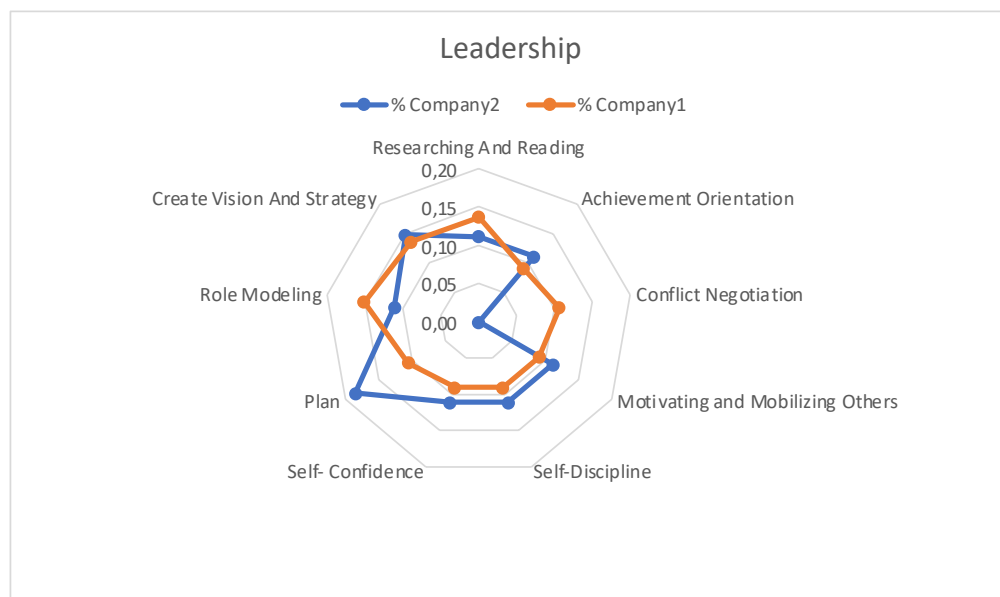
Figure 5. 20. The radar graph of Company 1 & 2 shows the distribution of competencies under Leadership Category

Table 5. 35. Weighted average score of both companies in Digital

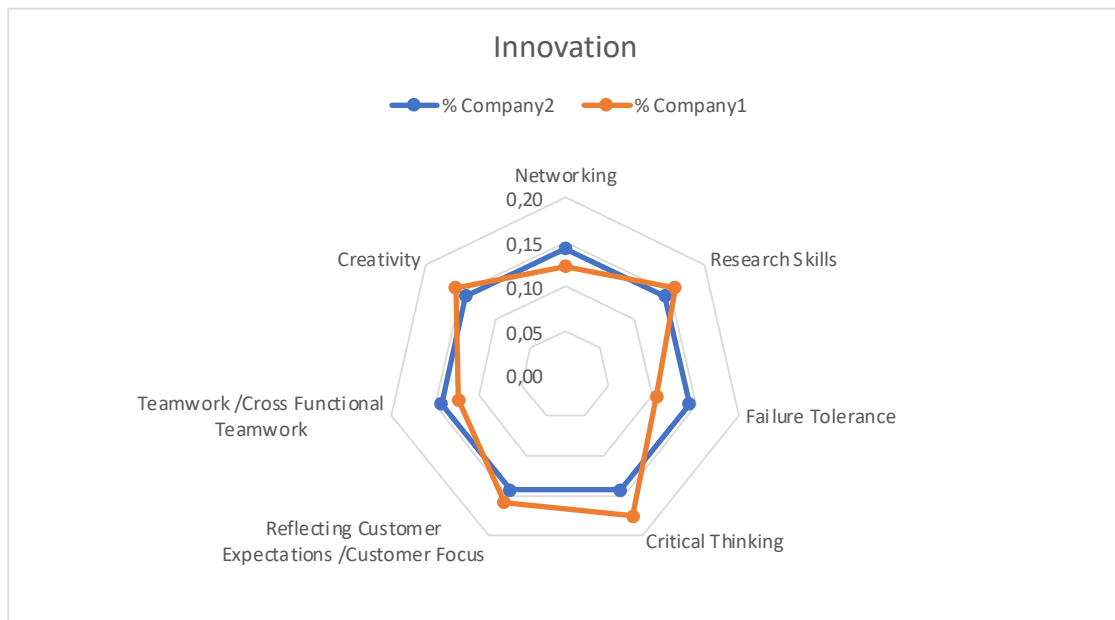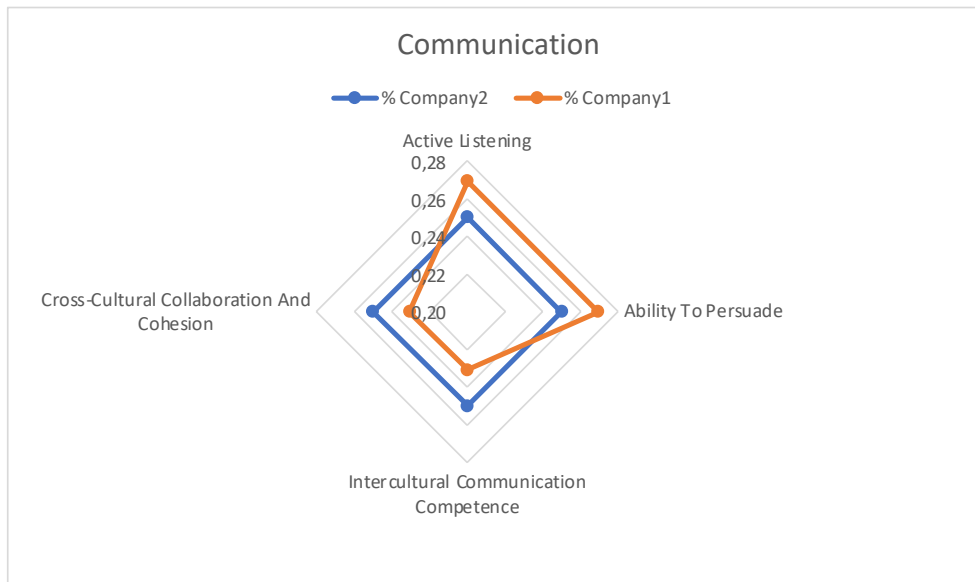| The competencies of Digital	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Big Data Analytics	1,25	2,25	0,19	0,15
Digital Literacy	1,25	2,25	0,19	0,15
Coding	0,75	2,25	0,11	0,15
Programming	0,75	2,25	0,11	0,15
Cybersecurty	0,75	1,13	0,11	0,08
Technology Design	0,75	2,25	0,11	0,15
Artificial intelligence	1,25	2,25	0,19	0,15
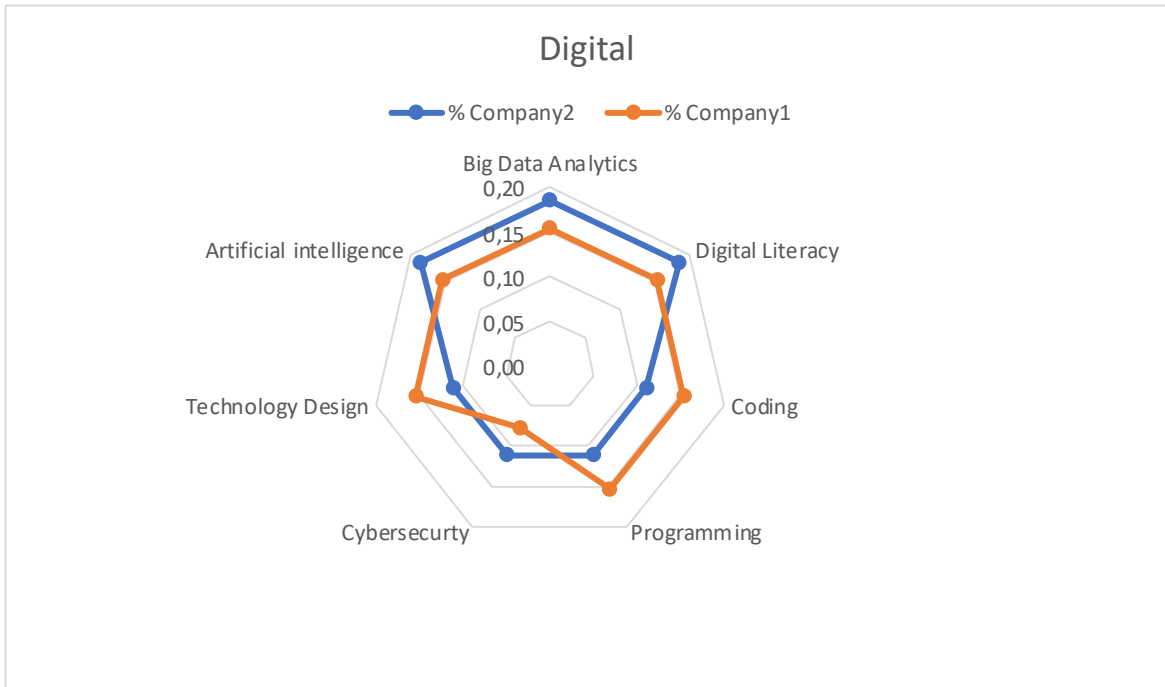
Figure 5. 21.The radar graph of Company 1 & 2 shows the distribution of competencies under Digital Category

Table 5. 36. Weighted average score of both companies in Methodic / Technic

Competencies of Methodic / Technic	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Process optimization / understanding	1,25	2,50	0,38	0,53
Machine operation skills	0,75	0,00	0,23	0,00
Increased Job Knowledge Due To Automated Processes	1,25	2,25	0,38	0,47
Total	3,25	4,75	1,00	1,00
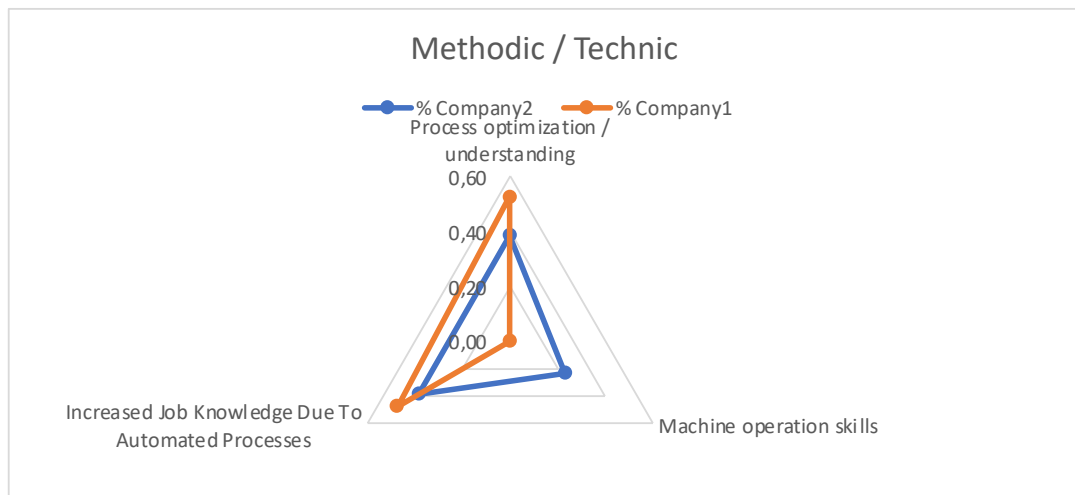
Figure 5. 22. The radar graph of Company 1 & 2 shows the distribution of competencies under Methodic / Technic Category

5.5.4. Strategy 4 - Investing in People & People and Nature-Focused Approach

The competencies that the companies identified and matched with their respective industries for the people strategy were analyzed. The radar charts of both companies were also reviewed. A comprehensive overview of the sub-strategies that contribute to the main strategy can be found in Tabke 5.36.

Table 5. 37. Strategies and Sub-Strategies of Company 1 & 2

Name	Strategies	Sub-Strategies
Company 1	Investing in People	S4.1. Efforts to develop innovative competencies identified in line with our innovation strategies (Innovation Academy). S4.2. Increasing awareness of lean production practices (6S and Kaizen) and developing competencies in this area. S4.3. Motivational initiatives aimed at promoting an innovation culture. S4.4. Support for master's and doctoral students.
Company 2	People and Nature-Focused Approach	S7.1. Focusing on the development of our stakeholders with an equal opportunity approach. S7.2. Maintaining a team spirit and working climate based on trust and respect. S7.3. Valuing the ideas of our stakeholders and respecting cultural differences. S7.4. Creating healthy and safe working environments. S7.5. Engaging with our stakeholders through social projects.

An examination was conducted on the competencies that the two companies aligned with their people strategy. The companies were provided with a list of competencies in 7 categories, and they matched the competencies accordingly. Weighted average scores were calculated for each category based on their assessments. Detailed analysis of the findings for the two companies regarding the people strategy can be found in Table 5.37, 5.38, 5.39, 5.40, 5.41, 5.42, and 5.43. The distribution of competencies based on these calculations is visually represented by radar graphics in Figure 5.23, 5.24, 5.25, 5.26, 5.27, 5.28, and 5.29.

Table 5. 38. Weighted average score of both companies in Cognitive

Competencies of Cognitive	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Learning Skills / Lifelong Learning	1,88	1,38	0,09	0,09
Analytical Thinking	1,50	0,75	0,08	0,05
Reskilling	1,88	1,63	0,09	0,11
Upskilling	1,88	1,63	0,09	0,11
Multi-Tasking	0,75	1,38	0,04	0,09
Imagination	0,38	1,00	0,02	0,07
Complex Problem Solving	2,13	0,38	0,11	0,03
Curiosity	1,50	1,13	0,08	0,08
Self-Efficacy	1,88	1,13	0,09	0,08
Proactivity	2,13	1,38	0,11	0,09
System Thinking	2,13	1,13	0,11	0,08
Strategic Thinker	1,88	1,63	0,09	0,11
Total	19,88	14,50	1,00	1,00

Figure 5. 23. The radar graph of Company 1 & 2 shows the distribution of competencies under Cognitive Category

Table 5. 39. Weighted average score of both companies in Social & Emotional

Competencies of Social & Emotional	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Tolerance To Change And Uncertainty	1,875	1,13	0,09	0,09
Resilience / Endurance	1,875	1,38	0,09	0,11
Adapting And Responding To Change	1,875	1,63	0,09	0,13
Empathy	2,875	1,13	0,13	0,09
Flexibility	2,375	1,38	0,11	0,11
Ethics	3,125	1,38	0,15	0,11
Cooperation	2,875	1,88	0,13	0,14
Self Awareness	1,875	0,38	0,09	0,03
Stress Management /Tolerance	1,875	1,63	0,09	0,13
Time Management	0,75	1,13	0,04	0,09
Total	21,375	13,00	1,00	1,00

Figure 5. 24. The radar graph of Company 1 & 2 shows the distribution of competencies under Social & Emotional Category

Table 5. 40. Weighted average score of both companies in Innovation

Competencies of Innovation	Weighted average score of Company 2	Weighted average score of Company 1	% Company 2	% Company 1
Networking	2,125	1,63	0,15	0,18
Research Skills	1,875	1,13	0,13	0,12
Failure Tolerance	1,875	1,13	0,13	0,12
Critical Thinking	2,125	1,38	0,15	0,15
Reflecting Customer Expectations /Customer Focus	2,125	1,00	0,15	0,11
Teamwork /Cross Functional Teamwork	2,125	1,88	0,15	0,20
Creativity	1,875	1,13	0,13	0,12
Total	14,125	9,25	1,00	1,00

Figure 5. 25. The radar graph of Company 1 & 2 shows the distribution of competencies under Innovation Category

Table 5. 41. Weighted average score of both companies in Communication

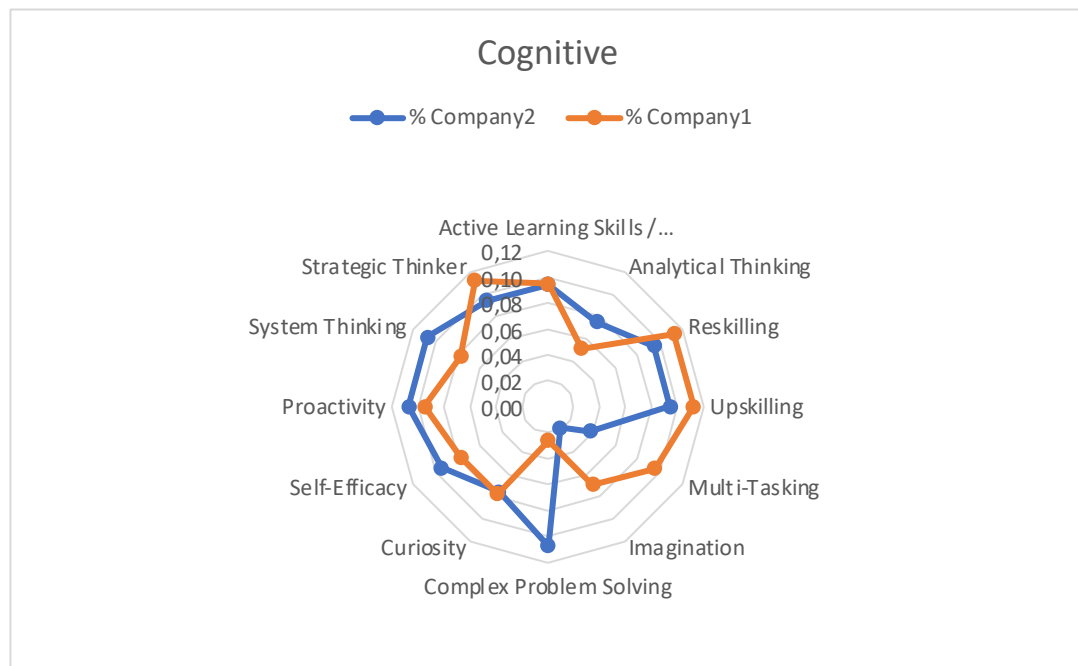| Competencies of Communication	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Active Listening	2,63	1,63	0,27	0,27
Ability To Persuade	1,88	1,63	0,19	0,27
Intercultural Communication Competence	2,63	1,38	0,27	0,23
Cross-Cultural Collaboration And Cohesion	2,63	1,38	0,27	0,23
Total	9,75	6,00	1,00	1,00

Figure 5. 26. The radar graph of Company 1 & 2 shows the distribution of competencies under Communication Category

Table 5. 42. Weighted average score of both companies in Leadership

Competencies of Leadership	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Researching And Reading	1,88	1,13	0,11	0,09
Achievement Orientation	1,88	1,13	0,11	0,09
Conflict Negotiation	1,50	1,88	0,09	0,14
Motivating and Mobilizing Others	2,38	1,88	0,14	0,14
Self-Discipline	1,88	1,13	0,11	0,09
Self- Confidence	1,88	1,13	0,11	0,09
Plan	1,88	1,63	0,11	0,12
Role Modeling	2,38	1,63	0,14	0,12
Create Vision And Strategy	1,88	1,63	0,11	0,12
Total	17,50	13,13	1,00	1,00

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Figure 5. 27. The radar graph of Company 1 & 2 shows the distribution of competencies under Leadership Category

Table 5. 43. Weighted average score of both companies in Digital

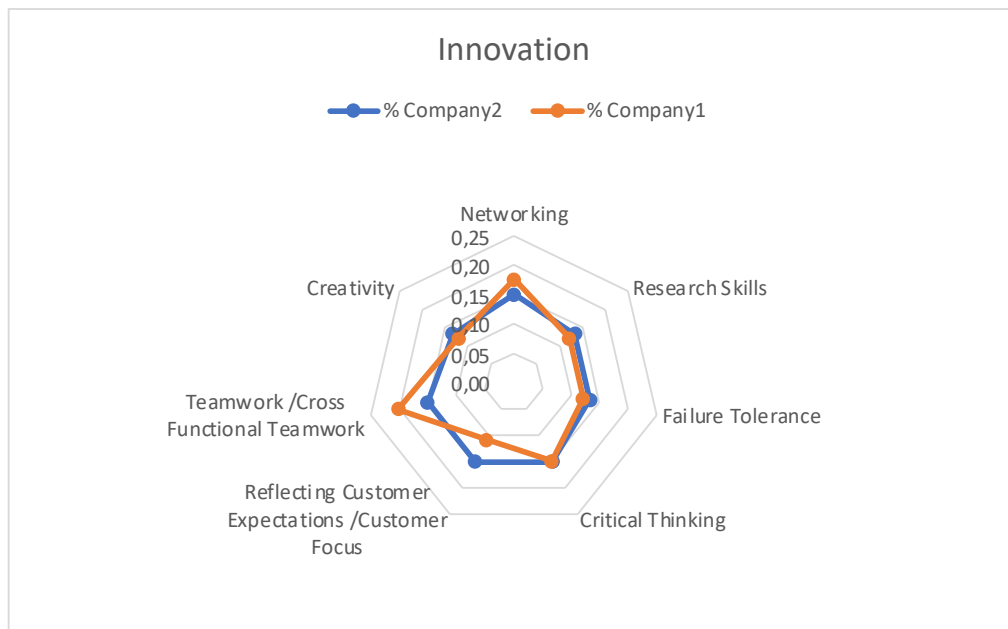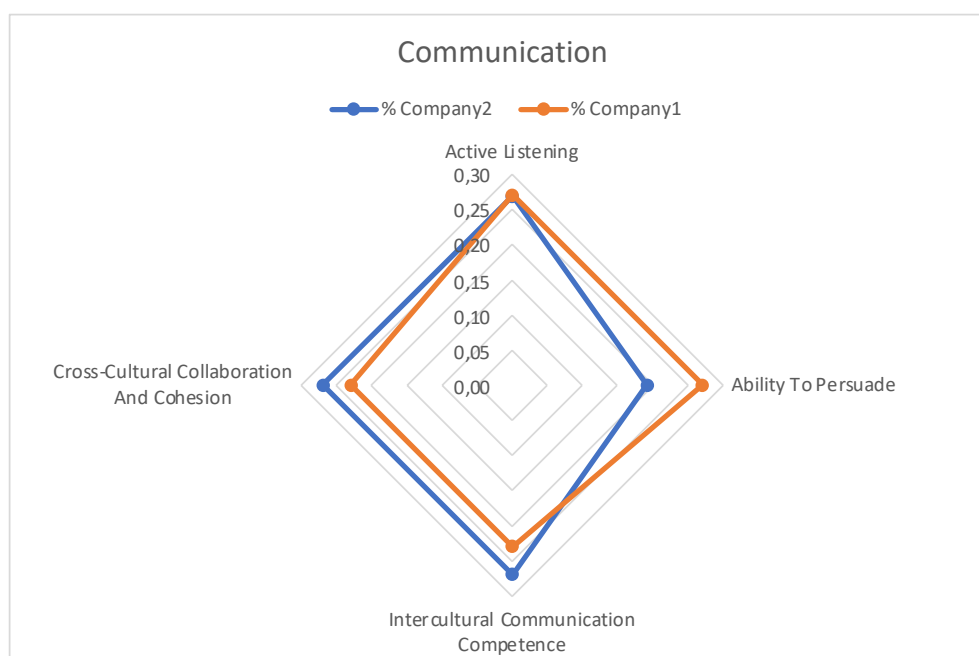| Competencies of Digital	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Big Data Analytics	0,38	-	0,33	-
Digital Literacy	0,38	-	0,33	-
Coding	0	-	0,00	-
Programming	0	0,00	0,00	0,00
Cybersecurty	0	-	0,00	-
Technology Design	0,38	-	0,33	-
Artificial intelligence	0	-	0,00	-
Total	1,125	0,00	1,00	-
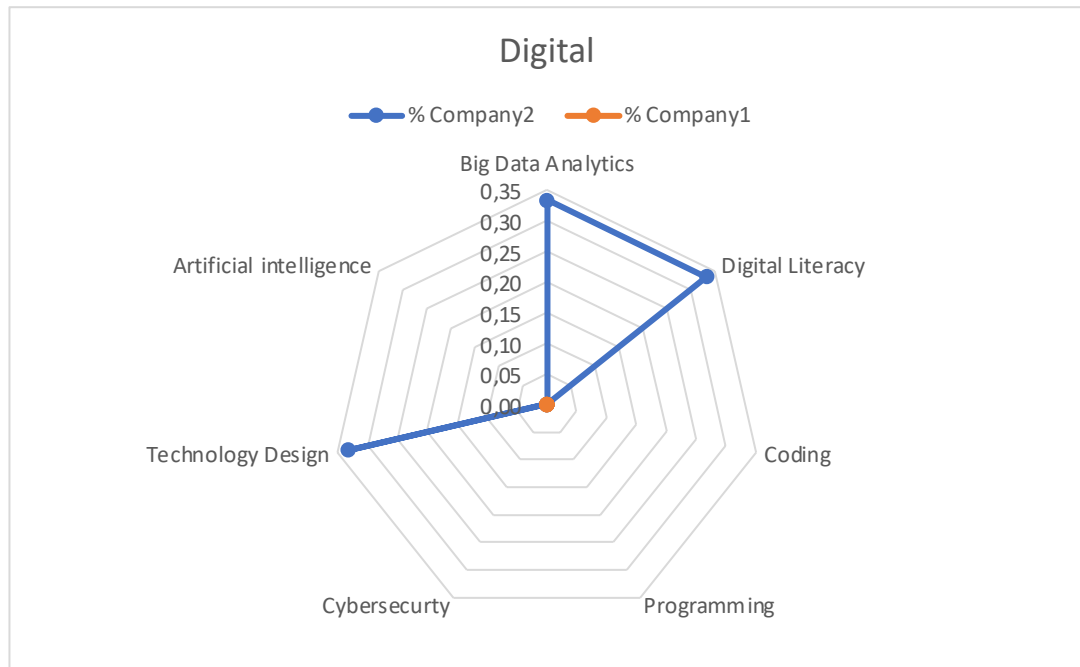
Figure 5. 28. The radar graph of Company 1 & 2 shows the distribution of competencies under Digital Category

Table 5. 44. Weighted average score of both companies in Methodic / Technic

The competencies of Methodic / Technic	Weighted average score of Company 2	Weighted average score of Company 1	% Company2	% Company1
Process optimization / understanding	0,38	1,88	0,50	0,42
Machine operation skills	0	0,75	0,00	0,17
Increased Job Knowledge Due To Automated Processes	0,38	1,88	0,50	0,42
Total	0,75	4,50	1,00	1,00
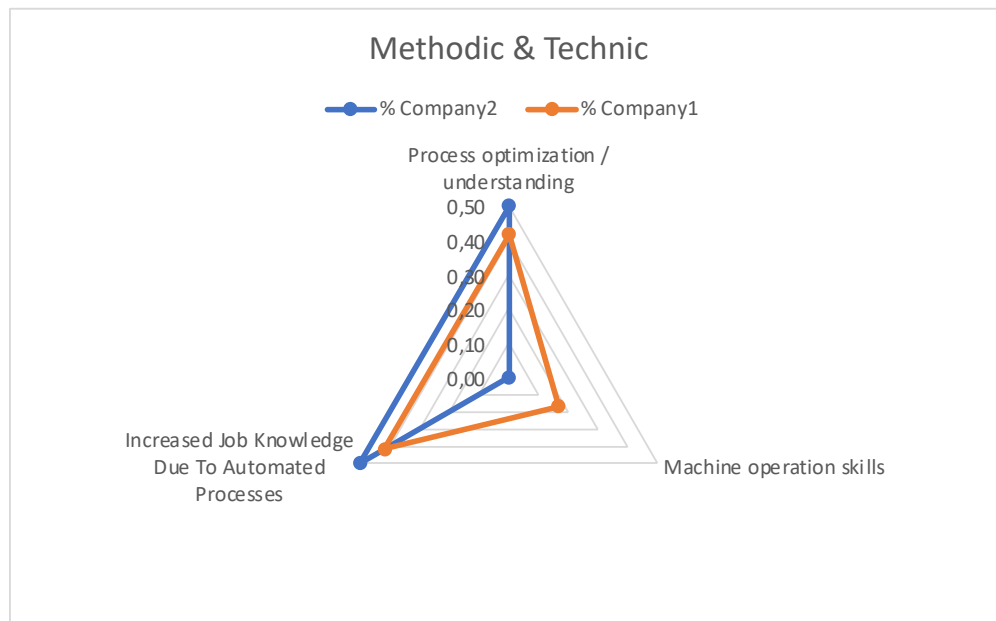
Figure 5. 29.The radar graph of Company 1 & 2 shows the distribution of competencies under Methodic / Technic Category

CHAPTER 6

CONCLUSION

In today's rapidly evolving era of technology and innovation, competencies are being utilized in various fields. Particularly in the industry, competency analyses and mapping studies are conducted in areas such as recruitment, rotation, and project management. It is crucial for these processes, which are generally managed in the human resources department, to affect all employees throughout the company. Within the innovation chain system encompassing mission, vision, strategy, and innovation strategies, it has been determined that competency management should also be incorporated, and the gap in this area has been identified.

In this thesis, within the scope of the identified topic, an extensive list of competencies was sought through suggestions from both the literature and industry experts in the field. With the feedback received, the list was streamlined and finalized as 7 categories and 55 competencies to be used in industries. The next stage was the matching of competencies with strategies in the chain, and case studies were conducted on 2 innovative companies. As a result of evaluating competencies and strategies based on three criteria (critical, relevant, not relevant), radar charts of competencies were obtained for each strategy, and interpretations were made.

The study suggests that it will have a significant impact, particularly in areas such as training/development, cross-functional collaboration in projects, adoption of strategies by all units, more effective job openings, and efficient utilization of talent.

6.1. Implications

In the study, a comprehensive pool of competencies was created by conducting a literature review and surveying professionals in the industry. A crucial step in the thesis was

the detailed analysis conducted by academic Group 1 to classify and categorize the competencies. The final list, consisting of 7 categories and 55 competencies, was categorized into soft and technical skills.

One distinctive aspect of this study was the integration of the competency set with innovation strategies within the innovation management chain. This involved using radar charts to visually represent the alignment of competencies with company strategies. The results provided valuable insights into the critical competencies associated with each strategy.

Based on the findings, companies can benefit in various areas, such as improving employee engagement, optimizing recruitment processes, promoting cross-functional collaboration in projects, and enhancing factors like rotation and performance.

This thesis is unique for two reasons. Firstly, the list was developed based on inputs from professionals in academia, industry, and the literature, distinguishing it from other studies. Secondly, it focused on the relationship between competencies and innovation strategies. There is limited availability of resources on this particular subject.

6.2. Limitations

Although both the literature and companies were considered in determining and finalizing the list of competencies, it was observed that soft competencies were adopted and interpreted for companies participating in surveys or case studies. However, two out of the seven categories (Digital and Technic/Methodic) showed variations based on companies' industries, cultures, and strategies. Therefore, the competencies in these categories were kept limited, and the idea of allowing companies to add or remove competencies was embraced. Based on some survey results (considering that mainly human resources and innovation departments participated in the survey), the competencies in these categories remained too technical and posed challenges for interpretation.

Furthermore, the case analysis of matching competencies with strategies was conducted in two companies, and although it could be applied, it was observed that the differences in sectors (Company 1: plastic, Company 2: wood) and variations in the defined headings under strategies and innovation success levels could lead to different results when evaluated in more companies.

6.3. Further Works

As understood from the case studies, one of the companies intends to use the list created in the thesis to identify competency gaps and adjust their training plans accordingly, particularly for competency development purposes.

Furthermore, the thesis emphasized the importance of determining which competencies are critical for specific strategies, and a case study was conducted in this regard. In the future, there is potential for further research to be conducted on aligning project profiles, created based on innovation strategies, with the necessary competencies and identifying competencies based on specific roles.

Additionally, the list created within the scope of the thesis, which was derived from both literature and industry sources, can be distributed to a larger number of companies. It can be integrated into competency management systems, and survey studies can be organized to compare the results once again. This would enable a broader validation of the list and provide further insights into the required competencies across different organizations.

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APPENDIX A

SURVEY

A.1. Open-Ended Survey

Figure A.1. 1 Open Ended Survey Questions by Zotero

Figure A.1.1: Open Ended Survey Questions by Zotero (cont.)

Table A.1. 1. The responds of the questions

				1.SORU		
1.	2.	3.	4.	5.	6.	7.
dijitalleşme	**Esneklik**	**Yapay Zeka Çalışmaları**	**Yaratıcılık**	**Değişim Yönetimi**	**İnnovasyon**	**Dijital pazarlama**
üretim, ik, pazarlama	Tüm fonksiyonlar	Bilgi Teknolojileri	Tüm fonksiyonlar	Üst Yönetim	Ar-ge	Pazarlama
esneklik	**Çeviklik**	**Dijital Teknoloji Yetkinliklerinin artırılması**	**Yalın yönetim yaklaşımı**	**Belirsizlikle Baş Etme**	**Organizasyon yönetimi**	**Uyum sağlayabilme**
üretim	Tüm Fonksiyonlar	İnsan Kaynakları	Üretim, arge, pazarlama	Üst Yönetim	Sürdürülebilirlik ve personel refahı	Şirket geneli
otomasyon	**Değişime uyum**	**Sosyal Yetkinliklerin artırılması**	**Öğrenme çevikliği**	**Çeviklik**	**Pazar analizi**	**Hibrit çalışma**
üretim	Tüm Fonksiyonlar	İnsan Kaynakları	Tüm fonksiyonlar	Üst Yönetim	Ar-ge	Şirket geneli
nitelikli iş gücü	**Yeniliğe Açık olmak**	**Çalışan Deneyimi faaliyetleri**	**Analitik zeka**	**Dijital Dönüşüm**	**Dijitalleşme**	**Kültürel çeşitlilik**
tüm fonksiiyonlar	Tüm Fonksiyonlar	İnsan Kaynakları	Tüm fonksiyonlar	Tüm Departmanlar	Pazarlama	Şirket geneli
çeviklik	**Öğrenmeye Açık Olmak**	**Robotik Proses Otomasyonu**	**Öğreticilik**	**Müşteri ihtiyaçlarını iyi analiz edebilme**	**Eğitim**	**İnovasyon**
tüm fonksiyon liderleri	Tüm Fonksiyonlar	Bilgi Teknolojileri	Tüm fonksiyonlar	Pazarlama	Tüm alanlar	Şirket geneli

(cont. on the next page)

inovasyon	Şeffalık	Eğitim Modelinin Yapılanması	Esneklik	Yeteneği Elde Tutma	Sürekli geliştirme desteği
tüm fonksiyonlar	Tüm Fonksiyonlar	İnsan Kaynakları	İnsan kaynakları, satış,pazarlama	IK	Üretim
	Açık İletişim	**Otomasyon çalışmalarının entegrasyonu**	**Dijitalleşme**	**Yeni Çalışma Modelline Adaptasyon**	**Dijital iş süreçleri**
	Tüm Fonksiyonlar	Üretim / Mühendislik	Tüm fonksiyonlar	IK	İnsan kaynakları
	Reskiling/Upskiling		**Çözüm odaklılık**	**Teknoloji Geliştirme**	**Yetenek yönetimi**
	Tüm Fonksiyonlar		Tüm fonksiyonlar	IT	İnsan kaynakları
	Çevreye duyarlı olmak		**Matris yönetim**	**Hızlı Model Değişimi**	
	Tüm Fonksiyonlar		Tüm fonksiyonlar	Üretim	
	İnsana Saygı		**Challenge ruhu**	**Verimlilik**	
	Tüm Fonksiyonlar			Üretim	

(cont. on the next page)

2.SORU						
1.	2.	4.	5.	6.	7.	8.
DAVRANIŞSAL YETKİNLİK						
Çeviklik	Esneklik	Gelecek Farkındalığı	Analitik zeka	Yeniliğe Açık Olmak	Proaktif olma	Bütüncül bakabilme
Yaratıcılık	Değişime uyum	Adapte Olabilme / Değişime Uyum Becerisi	Yalın yaklaşım	Değişim Yönetimi	Eğitime açık olma	Eleştirel bakış
Farklı Düşünme Becerisi	Yeniliğe Açık olmak	Dayanıklılık / Stresle Başa Çıkma	Vizyonlu yönetim	Çeviklik	Özgüven	İletişim
Karmaşık Problem Çözme Becerisi	Öğrenmeye Açık Olmak	Eleştirel Düşünme	Dijital okur yazarlık	Belirsizlikle Baş Etmek	Hedef odaklı olma	Araştırma
Belirsizlikler le Başa Çıkabilme	Açık İletişim	İşbirliği / Takım ile çalışma	Bilimsel bakış açısı	Duygusal Dayanıklılık	Daha iyiyi hedefleme	Kompleks problem çözme
	Reskiling/Upskiling	Rol Model Olma		Araştırmak/Bilgi Toplamak		
	girişimcilik	Esneklik		Kendini Geliştirmek		
	teknolojik yatkınlık	Kendi Kendine Öğrenme		Özgünlük		
	sorgulama	Etkili İletişim / İkna		Karar Verme		
	farklı açılardan bakabilme	Tutarlılık		Kritik Düşünme		

(cont. on the next page)

Table A.1. 4. (cont.)

TEKNİK YETKİNLİK						
Teknolojiye Yatkınlık	Yapay Zeka	Programlama Becerisi	İstatistik bilgisi	Dijital yatkınlık/dijital okuryazarlık	Davranışsal	RPA - Robotic process automation
Bilgisayar Kullanımı	Makine Öğrenmesi	Veri Analitiği Yapabilme	Yalın eğitim	Analitik Düşünmek	Davranışsal	Temel tasarım
Makine Kullanma Becerisi	Digital okur yazarlık	Teknolojiyi Kullanma	Vizyonu yönetici	Verileri Analiz Etme	Davranışsal	Bulut teknolojileri
İş Bilgisi	Derin Öğrenme	Dijital Tasarım Becerisi	Dijital çağ ile iligli eğitimler	Muhakeme Etme/Mantık Yürütme	Davranışsal	Değişim yönetimi
Kodlama ve Programlama	.	Sosyal Medya Kullanım	Makale okuma	Sistem Analizi	Davranışsal	Algoritma kurabilme
	.	.		Karmaşık Problemleri Çözebilme		
	.	.		Makine Öğrenimi		
	.	.		Teknoloji geliştirme		
	.	.		Kavramsal Düşünme		
		.		Finansal Okuryazarlık		

3.SORU						
1.	2.	3.	4.	5.	6.	7.
Teknolojiye yatkınlık	Meraklı olma	Statükoyu Sorgulama / Meydan Okuma	Sanatsal bakış açısı	Yeniliğe Açık Olmak	Sorun çözme isteği	Doğru araştırma yapabilme
Yaratıcı düşünme	Öğrenmeye açıklık	Eleştirel Düşünme	Yaratıcılık	Yaratıcılık	Değişim isteği	Yapıcı tartışma-iletişim
Karmaşık Problem Çözme Becerisi	Yeniliğe açıklık	Girişimcilik	Takım oyunculuğu	Takım Çalışması	İyileşme isteği	Çok yönlülük (sanat, bilim vb)
Kavramsal düşünme	farklı açılardan bakabilme	Yaratıcılık	Tüm fikirlere saygı duyma	Kendini Geliştirmek	Mutlu olmak	Uyarlama
Analitik düşünme	ticari farkındalık	Yeni olanı Başarma İsteği (Kararlılık)	Dijital yetenek	Problem Çözmek	Umutlu olmak	Bütüncül bakabilme
Kendini Geliştirme	değer üretme bakış açısı	Yeni Fikirle Açık Olma (Kabul)	İstatistik bilgisi	Araştırmak/Bilgi Toplamak	Beklenti sahibi olmak	Değişim yönetimi
Farklı Düşünme Becerisi	araştırma yapma	Risk üstlenebilme	Yalın yaklaşım	İletişim		Teknoloji okur-yazarlığı
	alışılagelmiş kalıpların dışında düşünme	Bütünsel Düşünme	Farklı ekiplerle çalışabilme	Değişim Yönetimi		Çizerek anlatabilme
	sorgulama becerisi	Duygusal Zeka kullanımı	İletişim	Çeviklik		
	.		Empati	Sonuç Odaklılık		

A.2. Survey with Academicians Group 1 & 2

DEĞERLENDİRME 1: ANA YETKİNLİK İSMİ UYGUN MUDUR? (UYGUNDUR/UYGUN DEĞİLDİR) (Varsa önerilerinizi paylaşınız)		ALT YETKİNLİK	DEĞERLENDİRME 2: Bu alt yetkinlik doğru ana yetkinlik sınıfında değilse hangi alt yetkinliğin hangi ana yetkinlik başlığı altında olmasını önerirsiniz lütfen yazınız. Doğru ana yetkinlik başlığı altında olduğunu düşünüyorsanız boş bırakınız.	DEĞERLENDİRME 3: Yetkinliğin önümüzdeki 5 yıl içerisinde iş hayatında ne kadar önemli olacağını düşünüyorsunuz? (Hücre içerisinde sağda çıkan ok butonuna basarak seçeneklerden birini seçiniz.) Önem Düzeyi:
BİLİŞSEL	1.	Analitik Düşünme (Analytical Thinking)		
	2.	Kavramsal Düşünce (Conceptual Thinking)		Önemli
	3.	Merak (Curiosity)		
	4.	Girişimci Zihniyet (Entrepreneurial Mindset)		
	5.	Hayal Gücü (Imagination)		
	6.	Aktif Öğrenme Becerileri / Yaşam Boyu Öğrenme (Active Learning Skills / Lifelong Learning)		
	7.	Çoklu Görev Becerisi (Multi-Tasking)		
	8.	Proaktif Olma (Proactivity)		
	9.	Karmaşık Problem Çözme (Complex Problem Solving)		
	10.	Öz Yeterlilik (Self-Efficacy)		
	11.	Stratejik Düşünme (Strategic Thinker)		
	12.	Sistemsel Düşünme (System Thinking)		
	13.	Reskilling/ upskilling		
SOSYAL & DUYGUSAL	1.	Adapte Olma / Esneklik (Adaptability/Flexibility)		
	2.	Değişime Uyum Sağlamak Ve Cevap Vermek (Adapting And Responding To Change)		
	3.	İşbirliği (Cooperation)		
	4.	Empati (Empathy)		
	5.	Etik (Ethics)		
	6.	Girişim / Proaktivite (Initiative/Proactivity)		
	8.	Dayanıklılık (Resilience / Endurance)		
	9.	Öz Farkındalık (Self Awareness)		
	10	Oto Kontrol (Self Control)		
	11.	Stres Yönetimi / Toleransı (Stress Management /Tolerance)		
	12.	Zaman Yönetimi (Time Management)		
	13.	Değişim Ve Belirsizlik İçin Tolerans (Tolerance To Change And Uncertainty)		
	14.	Güvenilirlik (Trustworthiness)		
İNOVASYON VE YARATICILIK	1.	Başarısızlık Toleransı (Failure Tolerance)		
	2.	İletişim Yeterlilikleri (Communication Competencies)		
	3.	Yaratıcılık (Creativity)		
	4.	Eleştirel Düşünme (Critical Thinking)		
	5.	Fikir Üretimi (Idea Generation)		
	6.	Ağ Oluşturma (Networking)		
	7.	Araştırma Becerileri (Research Skills)		
	8.	Takım Çalışması / Çapraz Fonksiyonel Ekip Çalışması (Teamwork /Cross Functional		
	9.	Girişimci Ve Ticari Düşünme (Entrepreneurial And Commercial Thinking)		
	10.	Müşteri Beklentilerini / Müşteri Odağını Yansıtma (Reflecting Customer Expectations		
İLETİŞİM	1.	İkna Yeteneği (Ability To Persuade)		
	2.	Aktif Dinleme (Active Listening)		
	3.	Davranışsal Esneklik (Behavioural Flexibility)		
	4.	Bütünsel Düşünme (Holistic Thinking)		
	5.	Kültürlerarası İletişim Yeterliliği (Intercultural Communication Competence)		
	6.	Kültürlerarası İşbirliği Ve Uyum (Cross-Cultural Collaboration And Cohesion)		
LİDERLİK	1.	Başarı Oryantasyonu (Achievement Orientation)		
	2.	Çatışma Çözümü (Conflict Negotiation)/ yönetimi		
	3.	Vizyon Ve Strateji Oluştma (Create Vision And Strategy)		
	4.	İnsanları Harekete Geçirmek (Mobilize People)		
	5.	Başkalarını Motive Etmek (Motivating Others)		
	6.	Plan (Plan)		
	7.	Yeniliğe Teşvik Ve Değişime Rehberlik (Promote Innovation And Guide Change)		
	8.	Araştırma Ve Okuma (Researching And Reading)		
	9.	Rol Model Olma (Role Modeling)		
	10.	Kendini Geliştirme (Self-Development)		
	11.	Öz Disiplin Ve Özgüven (Self-Discipline And Self- Confidence)		
DİJİTAL	1.	Gelişmiş Robotik (Advanced Robotics)		
	2.	Büyük Veri Analizi (Big Data Analytics) / Veri analitiği		
	3.	Bulut Bilişim (Cloud Computing)		
	4.	Kodlama (Coding)		
	5.	Bilgisayar Kullanımı (Computer Usage)		
	6.	Siber Güvenlik (Cybersecurty)		
	8.	Programlama (Programming)		
	9.	Teknoloji Tasarımı (Technology Design)		
	10.	Dijital Okuryazarlık		
METODİK/ TEKNİK	1.	Makine Kullanma Becerisi		
	2.	Otomatik Süreçler Nedeniyle Artan İş Bilgisi (Increased Job Knowledge Due To Automated		
	3.	Process optimization / understanding?		

A.2. 1. The template of Survey Form

A.2. 2. Competencies removed from the list by Academicians G1

YETKİNLİK PAKETİ	ANA YETKİNLİK	Çıkarılanlar
DAVRANIŞSAL-SOFT	BİLİŞSEL	Nezaket (Attentiveness)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Hedeflere Ulaşmada Sebat (Perseverance In Achieving Goals)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Fikirleri Kavramsallaştırabilme (Ability To Conceptualize Ideas)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Bilişsel Karmaşıklık (Cognitive Compexity)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Güvenilirlik (Dependability)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Diagnostik Düşünme (Diagnostic Thinking)
DAVRANIŞSAL-SOFT	BİLİŞSEL	İnce Motor Yetenekleri (Fine Manipulative Abilities)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Genel Bilgi (General Knowledge)
DAVRANIŞSAL-SOFT	BİLİŞSEL	İyileştirme Oryantasyonu (Improvement Orientation)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Eleştiri Ve Geri Bildirim Algısı (Perception Of Criticism And Feedback)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Sonuç Oryantasyonu (Result Orientation)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Detaylara Dikkat Etme (Attention To Details)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Karar Verme (Decision Making)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Kararlılık (Decisive)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Bireyse Faaliyetlerin Organizasyonu (Organization Of Own Activities)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Desen Tanıma (Pattern Recognition)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Perspektif (Perspective)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Sorumluluk, Risk Alma (Responsibility, Risk-Taking)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Eğitim Kurulumu (Training Setup)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Vizyon (Vision)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Hedef Oryantasyonu (Goal Orientation)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Uluslararası İlişkiler (International Affairs)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Yargı (Judgment)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Yanal Düşünme (Lateral Thinking)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Matematiksel Beceri (Numeracy)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Belirsizliğe Tolerans (Ambiguity Tolerance)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Sentezleme Yeteneği (Ability To Synthesize)
DAVRANIŞSAL-SOFT	BİLİŞSEL	Değişime İsteklilik (Willingness To Change)

(cont. on the next page)

HARD	DİJİTAL	Endüstri 4.0 Teknolojilerinin Yönetimi (Yani Nesnelerin İnterneti, Büyük Veri) (The Management Of Industry 4.0 Technologies (I.E. Iot, Big Data Analytics, 3D Printing, Simulation, Augmented And Virtual Reality))
HARD	DİJİTAL	3B Baskı Kullanma (Using 3D Printing)
HARD	DİJİTAL	Yapay Zeka Araçları Ve Yazılımını Kullanma (Using Artificial Intelligence Tools And Software)
HARD	DİJİTAL	Elektronik Arşivleme Sistemlerini Kullanma (Veri Göçü) (Using Electronic Archiving Systems(Data Migration))
HARD	DİJİTAL	Simülasyon Ve Akıllı Gerçeklik Uygulamalarını Kullanma (Using Simulation And Agumented Reality Applicaitons)
HARD	DİJİTAL	Senkron Ve Asenkron Iletişim Araçları Kullanımı (Using Synchronous And Asynchronous Communication Tools)
HARD	DİJİTAL	Anlamsal Web Uygulamaları Kullanımı (Using Semantic Web Applications)
HARD	DİJİTAL	Çeşitli Dijital Ağlar Kullanma (Using Various Types Of Digital Networks)
HARD	DİJİTAL	Web2 Uygulamalarını Kullanma (Using Web2 Applications)
HARD	DİJİTAL	Veri Analizi (Data Analytics)
HARD	DİJİTAL	Java, Php, Xml Dahil Olmak Üzere Farklı Programlama Dillerini Kullanma (Using Different Programming Languages, Including Java, Php, Xml)
HARD	DİJİTAL	Elektronik Bibliyografik Kullanma (Using Electronic Bibliographic)
HARD	DİJİTAL	Internet Arama Motorlarını Kullanma (Using Internet Search Engines)
HARD	DİJİTAL	Web Geliştirme (Web Development)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Belirsizlik Taşıma (Handling Ambiguity)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Etkileşimli Tutulum (Interactive Involvement)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Sunum Becerileri (Presentation Skills)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Uzlaşma Yeteneği (Ability To Compromise)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Müzakere Ve Müzakere Çeşitliliği Ve Kültürlerarası Oryantasyon (Debate And Discussion Diversity And Intercultural Orientation)

İŞ (Yönetim ve İletişim)	İLETİŞİM	**Artan Görsel Iletişim Yetenekleri (Increased Virtual Communication Capabilities)**
İŞ (Yönetim ve İletişim)	İLETİŞİM	Herekete Geçirme (Inviting Action)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Dinleme (Listening)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Yeni Medya Teknojilerinde Ustalık (Mastery Of New Media Technologies)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Müzakere (Negotiation)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Sözsüz İletişim (Non-Verbal Communication)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Açık İletişim (Open Communication)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Sözlü İletişim (Oral Communication)
İŞ (Yönetim ve İletişim)	İLETİŞİM	İkna (Persuasion)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Kültürel Farklılıklara Saygı (Respect For Cultural Differences)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Sözel Beceriler (Verbal Skills)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Yazma Becerileri (Writing Skills)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Birden Fazla Seviyede İletişim Kurabilme (Ability To Communicate At Multiple Levels)
İŞ (Yönetim ve İletişim)	İLETİŞİM	Dikkat (Attention)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	İlham Vermek (Inspires)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Proje Yönetimi (Project Management)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Kazan-Kazan Durumu Yaratmak (Creating A Win-Win Situation)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Kritik Düşünce (Critical Thinking)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Değişim Odaklı Zihniyet (Mindset For Change)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Açıklık (Openness)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Bilgi Ve Fikirleri Harici Olarak / Dahili Olarak Paylaşım (Share Knowledge And Ideas Externally /Internally)
DAVRANIŞSAL-SOFT	İNOVASYON(İNOVAYYON VE YARATICILIK)	Fırsat Tanıma (Opportunity Recognition)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Kültürlerarası İlişki Kurma (Cross-Cultural Relationship Building)

İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Kültürlerarası İşbirliği Ve Uyum (Cross-Cultural Collaboration And Cohesion)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	İlişkisel Beceriler (Relational Skills)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Kültürlerarası Empati (Cross-Cultural Empathy)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Kültürel Empati (Cultural Empathy)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Esneklik (Flexibility)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Etnik Merkezci Olmama (Non-Ethnocentrism)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Açık Fikirlilik (Open-Mindedness)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Sosyal Girişim (Social Initiative)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Duygusal Stabilite (Emotional Stability)
İŞ (Yönetim ve İletişim)	KÜLTÜRLER-ARASI	Genel Öz Yeterlik (General Self Efficacy)
İŞ (Yönetim ve İletişim)	LİDERLİK	Etik / Ahlaki Muhakeme (Ethical/Moral Reasoning)
İŞ (Yönetim ve İletişim)	LİDERLİK	İşbirliği (Collaboration)
İŞ (Yönetim ve İletişim)	LİDERLİK	Koordinasyon (Coordination)
İŞ (Yönetim ve İletişim)	LİDERLİK	Güçlendirme Ve Desteklilik (Empowerment And Supportiveness)
İŞ (Yönetim ve İletişim)	LİDERLİK	Değerlendirme (Evaluation)
İŞ (Yönetim ve İletişim)	LİDERLİK	Farkındalık (Mindfulness)
İŞ (Yönetim ve İletişim)	LİDERLİK	Problem Çözme (Problem Solving)
İŞ (Yönetim ve İletişim)	LİDERLİK	Öz-Değerlendirme (Self-Assessment)
İŞ (Yönetim ve İletişim)	LİDERLİK	Öz Eleştiri (Self-Critisism)
İŞ (Yönetim ve İletişim)	LİDERLİK	Değiştirme Yönetimi (Change Management)
İŞ (Yönetim ve İletişim)	LİDERLİK	Koçluk (Coaching)
İŞ (Yönetim ve İletişim)	LİDERLİK	Bağlılık (Commitment)
İŞ (Yönetim ve İletişim)	LİDERLİK	Özgüven (Confidence)
İŞ (Yönetim ve İletişim)	LİDERLİK	Değişim Oluşturma (Creating Change)
İŞ (Yönetim ve İletişim)	LİDERLİK	Kritik Analiz Ve Karar (Critical Anaylsis And Judgment)
İŞ (Yönetim ve İletişim)	LİDERLİK	Karar Verme (Decision-Making)
İŞ (Yönetim ve İletişim)	LİDERLİK	İnisiyatif Göstermek (Demonstrating Initiative)
İŞ (Yönetim ve İletişim)	LİDERLİK	Heves (Enthusiasm)
İŞ (Yönetim ve İletişim)	LİDERLİK	Mükemmelliyetçik (Excellence)
İŞ (Yönetim ve İletişim)	LİDERLİK	Dahil Olma (Inclusion)
İŞ (Yönetim ve İletişim)	LİDERLİK	İnisiyatif (Initiative)
İŞ (Yönetim ve İletişim)	LİDERLİK	Zeka (Intelligence)
İŞ (Yönetim ve İletişim)	LİDERLİK	Eğitme (Instructing)
İŞ (Yönetim ve İletişim)	LİDERLİK	Bağlılık (Loyalty)

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İŞ (Yönetim ve İletişim)	LİDERLİK	Çeşitliliği Yönetme (Managing Diversity)
İŞ (Yönetim ve İletişim)	LİDERLİK	Kaynakları Yönetme (Managing Resources)
İŞ (Yönetim ve İletişim)	LİDERLİK	Mentorluk (Mentoring)
İŞ (Yönetim ve İletişim)	LİDERLİK	Misyon (Mission)
İŞ (Yönetim ve İletişim)	LİDERLİK	İzleme (Monitoring)
İŞ (Yönetim ve İletişim)	LİDERLİK	Algı Yönetimi (Perception Management)
İŞ (Yönetim ve İletişim)	LİDERLİK	İkna (Persuasion)
İŞ (Yönetim ve İletişim)	LİDERLİK	Geri Bildirim Sağlama (Providing Feedback)
İŞ (Yönetim ve İletişim)	LİDERLİK	Geri Bildirim Alma (Receiving Feedback)
İŞ (Yönetim ve İletişim)	LİDERLİK	İlişki Gelişimi (Relationship Development)
İŞ (Yönetim ve İletişim)	LİDERLİK	Esneklik (Resiliency)
İŞ (Yönetim ve İletişim)	LİDERLİK	Saygı Duymak (Respect)
İŞ (Yönetim ve İletişim)	LİDERLİK	Belirsizliğe Cevap Vermek (Responding To Ambiguity)
İŞ (Yönetim ve İletişim)	LİDERLİK	Sonuçların Gözden Geçirilmesi Ve Analizi (Review And Analysis Of Results)
İŞ (Yönetim ve İletişim)	LİDERLİK	Öz Farkındalık (Self-Awareness)
İŞ (Yönetim ve İletişim)	LİDERLİK	Sosyal Adalet (Social Justice)
İŞ (Yönetim ve İletişim)	LİDERLİK	Sosyal Sorumluluk (Social Responsibility)
İŞ (Yönetim ve İletişim)	LİDERLİK	Paydaş Yönetimi (Stakeholder Management)
İŞ (Yönetim ve İletişim)	LİDERLİK	Stratejik Ve Eylem Planlama (Strategic And Action Planning)
İŞ (Yönetim ve İletişim)	LİDERLİK	Sentez (Synthesis)
İŞ (Yönetim ve İletişim)	LİDERLİK	Takım Geliştirme (Team Development)
İŞ (Yönetim ve İletişim)	LİDERLİK	Belirsizlik Ve Risk Alma Toleransı (Tolerance For Uncertainty And Risk-Taking)
İŞ (Yönetim ve İletişim)	LİDERLİK	Dürüstlük Ve Saygı Göstermek (Uphold Integrity And Respect)
İŞ (Yönetim ve İletişim)	LİDERLİK	Vizyon Oluşturma (Vision Creation)
İŞ (Yönetim ve İletişim)	LİDERLİK	Sunum Becerileri (Presentation Skills)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Duygusal Öz Kontrol (Emotional Self-Control)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Bütünlük (Integrity)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Heves (Enthusiasm)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Etkilemek (Influence)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Kişilerarası Hassasiyet (Interpersonal Sensitivity)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Başarı Yönelimi (Achievement Orientation)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	İlkelere Ve Değerlere Bağlı Kalmak (Adhering To Principles And Values)

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DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Özerklik (Autonomy)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Koçluk Ve Mentorlük (Coach And Mentor)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Çatışma Yönetimi (Conflict Management)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Vicdanlılık Ve Sorumluluk (Conscientiousness And Responsibility)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Disiplin Ve Odak (Discipline And Focus)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Başkaları İçin Endişe (Concern For Others)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Duygusal Öz-Farkındalık (Emotional Self-Awareness)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Öğrenme Ve Araştırma (Learning And Researching)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Örgütsel Farkındalık (Organizational Awareness)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Fiziksel Güç Yetenekleri (Physical Strength Abilities)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Dayanıklılık (Resilience / Endurance)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Öz Düzen (Self Regulation)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Sezgisellik (Intuitiveness)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Sabır (Patience)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Kendini Tolerans Etme (Self Tolerance)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Sosyal Algı (Social Perceptiveness)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	İkna Edici Olma (Persuading)
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Hırs Ve Merak (Kendi Kendine Motivasyon) (Ambition And Curiosity (Self-Motivation))
DAVRANIŞSAL-SOFT	SOSYAL&DUYGUSAL	Duyarlılık (Sensivity)
HARD	TEKNİK	Operasyon Izleme (Operation Monitoring)
HARD	TEKNİK	Veri Güvenliğinin Farkındalığı (Awareness Of Data Security)
HARD	TEKNİK	Ekipman Bakımı (Equipment Maintenance)
HARD	TEKNİK	Ekipman Seçimi (Equipment Selection)
HARD	TEKNİK	Yeni Teknolojiler İçin Daha Yüksek Teknik Ve Medya Becerileri (Higher Technical And Media Skills For New Technologies)
HARD	TEKNİK	Kurulum (Installation)
HARD	TEKNİK	İşle İlgililik (Job Related)
HARD	TEKNİK	Tamir Etme (Repairing)
HARD	TEKNİK	Operasyon Ve Kontrol (Operation And Control)
HARD	TEKNİK	Bt Güvenliğini Anlama (Understanding It Security)

A.2. 8. The detailed information of the analysis by Academicians Group 2

Ana Yetkinlik	Count of Total	Average of Total	Average of StdDEV	Min of Total	Max of Total
BİLİŞSEL	**13**	**21,08**	**0,50**	**17**	**25**
Aktif Öğrenme Becerileri / Yaşam Boyu Öğrenme (Active Learning Skills / Lifelong Learning)	1	21,00	0,44	21	21
Analitik Düşünme (Analytical Thinking)	1	25,00	0	25	25
Çoklu Görev Becerisi (Multi-Tasking)	1	19,00	0,83	19	19
Girişimci Zihniyet (Entrepreneurial Mindset)	1	17,00	1,14	17	17
Hayal Gücü (Imagination)	1	20,00	0	20	20
Karmaşık Problem Çözme (Complex Problem Solving)	1	25,00	0	25	25
Kavramsal Düşünce (Conceptual Thinking)	1	22,00	0,54	22	22
Merak (Curiosity)	1	21,00	0,44	21	21
Öz Yeterlilik (Self-Efficacy)	1	19,00	0,447	19	19
Proaktif Olma (Proactivity)	1	21,00	0,44	21	21
Reskilling/ upskilling	1	19,00	1,09	19	19
Sistemsel Düşünme (System Thinking)	1	23,00	0,54	23	23
Stratejik Düşünme (Strategic Thinker)	1	22,00	0,54	22	22
DİJİTAL	**9**	**19,33**	**0,55**	**12**	**25**
Bilgisayar Kullanımı (Computer Usage)	1	24,00	0,44	24	24
Bulut Bilişim (Cloud Computing)	1	12,00	0	12	12
Büyük Veri Analizi (Big Data Analytics) / Veri analitiği	1	21,00	0,44	21	21
Dijital Okuryazarlık	1	25,00	0	25	25
Gelişmiş Robotik (Advanced Robotics)	1	16,00	0,44	16	16
Kodlama (Coding)	1	18,00	0,89	18	18
Programlama (Programming)	1	18,00	0,89	18	18
Siber Güvenlik (Cybersecurty)	1	22,00	0,89	22	22
Teknoloji Tasarımı (Technology Design)	1	18,00	0,89	18	18
İLETİŞİM	**6**	**19,50**	**0,23**	**16**	**21**
Aktif Dinleme (Active Listening)	1	20,00	0	20	20
Bütünsel Düşünme (Holistic Thinking)	1	19,00	0,5	19	19
Davranışsal Esneklik (Behavioural Flexibility)	1	16,00	0	16	16
İkna Yeteneği (Ability To Persuade)	1	21,00	0,44	21	21

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Kültürlerarası İletişim Yeterliliği (Intercultural Communication Competence)	**1**	**21,00**	**0,44**	**21**	**21**
Kültürlerarası İşbirliği Ve Uyum (Cross-Cultural Collaboration And Cohesion)	1	20,00	0	20	20
İNOVASYON VE YARATICILIK	**10**	**22,00**	**0,50**	**18**	**25**
Ağ Oluşturma (Networking)	1	22,00	0,54	22	22
Araştırma Becerileri (Research Skills)	1	22,00	0,54	22	22
Başarısızlık Toleransı (Failure Tolerance)	1	21,00	0,44	21	21
Eleştirel Düşünme (Critical Thinking)	1	25,00	0	25	25
Fikir Üretimi (Idea Generation)	1	24,00	0,44	24	24
Girişimci Ve Ticari Düşünme (Entrepreneurial And Commercial Thinking)	1	18,00	0,89	18	18
İletişim Yeterlilikleri (Communication Competencies)	1	21,00	0,83	21	21
Müşteri Beklentilerini / Müşteri Odağını Yansıtma (Reflecting Customer Expectations /Customer Focus)	1	20,00	0,70	20	20
Takım Çalışması / Çapraz Fonksiyonel Ekip Çalışması (Teamwork /Cross Functional Teamwork)	1	22,00	0,54	22	22
Yaratıcılık (Creativity)	1	25,00	0	25	25
LİDERLİK	**11**	**21,45**	**0,34**	**19**	**25**
Araştırma Ve Okuma (Researching And Reading)	1	19,00	0,5	19	19
Başarı Oryantasyonu (Achievement Orientation)	1	20,00	0	20	20
Başkalarını Motive Etmek (Motivating Others)	1	21,00	0,44	21	21
Çatışma Çözümü (Conflict Negotiation)/ yönetimi	1	20,00	0	20	20
İnsanları Harekete Geçirmek (Mobilize People)	1	22,00	0,54	22	22
Kendini Geliştirme (Self-Development)	1	23,00	0,54	23	23
Öz Disiplin Ve Özgüven (Self-Discipline And Self-Confidence)	1	21,00	0,44	21	21
Plan (Plan)	1	21,00	0,83	21	21
Rol Model Olma (Role Modeling)	1	20,00	0	20	20
Vizyon Ve Strateji Oluştma (Create Vision And Strategy)	1	25,00	0	25	25
Yeniliğe Teşvik Ve Değişime Rehberlik (Promote Innovation And Guide Change)	1	24,00	0,44	24	24

METODİK/ TEKNİK	**3**	**20,33**	**0,15**	**20**	**21**
Makine Kullanma Becerisi	1	20,00	0	20	20
Otomatik Süreçler Nedeniyle Artan İş Bilgisi (Increased Job Knowledge Due To Automated Processes)	1	21,00	0,44	21	21
Process optimization / understanding?	1	20,00	0	20	20
SOSYAL & DUYGUSAL	**13**	**19,23**	**0,53**	**10**	**23**
Adapte Olma / Esneklik (Adaptability/Flexibility)	1	21,00	0,44	21	21
Dayanıklılık (Resilience / Endurance)	1	19,00	0,83	19	19
Değişim Ve Belirsizlik İçin Tolerans (Tolerance To Change And Uncertainty)	1	23,00	0,54	23	23
Değişime Uyum Sağlamak Ve Cevap Vermek (Adapting And Responding To Change)	1	23,00	0,54	23	23
Empati (Empathy)	1	17,00	0,54	17	17
Etik (Ethics)	1	19,00	0,44	19	19
Girişim / Proaktivite (Initiative/Proactivity)	1	20,00	0	20	20
Güvenilirlik (Trustworthiness)	1	19,00	0,44	19	19
İşbirliği (Cooperation)	1	23,00	0,54	23	23
Oto Kontrol (Self Control)	1	10,00	1	10	10
Öz Farkındalık (Self Awareness)	1	16,00	0,44	16	16
Stres Yönetimi / Toleransı (Stress Management /Tolerance)	1	18,00	0,54	18	18
Zaman Yönetimi (Time Management)	1	22,00	0,54	22	22

APPENDIX B

FOCUSED GROUP STUDY

B.1. Transcript of Online Meeting for Focused Group Study

Participant 1 : Bilişsel Yetkinlik ifadelerinden Bazılarını ilk defa duydum, özellikle merak daha önce duymadığım şimdi gördüğüm kavramlar oldu. Bütünsel olarak baktığımızda bazıları iç içe geçiyor. Merak = Araştırma ile ilgili olabilir mi? Girişimci zihniyet bir yere yerleştiremedim. Hayal gücü = İnovasyon tarafında mı olsa daha iyi olur? Önce hayal etmen gerekiyor ki yaratabilesin, o nedenle hayal gücü yetkinliği yaratıcılık tarafında bir yerde olması gerekiyor diye düşünüyorum.

Participant 2 : Kendim yapsam bu kadar olurdu gerçekten düşünülmüş bir çalışma. Döneme bakıldığı zaman, öz motivasyon konusu önemli bir alt yetkinlik olarak düşünüyorum. Öz yeterliliğin altında mı düşündünüz bilmiyorum ama günümüzün önemli bir yetkinliği.

Participant 1 : Herkesin aynı düşünceyi anlaması adına yetkinliklerin tanımları olacak mı? Yeni gördüğümüz şeyler var, altını açıp hepimizin aynı düşünceyi paylaşması adına böyle bir çalışma olacak mı?Örneğin analitik düşünme sistemsel düşünme tanıdık fakat merak ilk defa gördüğüm bir kavram.

Participant 3 : Hayal gücü ile kavramsal düşünceyi bir araya getirdiğimde bilişselin altına hepsi giriyor mu? Kavramsal düşünce oluyor ama hayal gücü farklı bir yerde değerlendirilebilir. Yeniden öğrenme becerisi önerisi geldi ama aktif öğrenmenin içerisinde diye düşündüm. Çoklu görev becerisi daha çok davranışsal harekete geçme ability tarafı yapabilme edebilme tarafında düşünebilir miyiz diye düşündüm. Diğer yetkinliklerin sıralanması ile mütabıkım. Bütün yetkinliklerin hepsini bir kişide beklemek, sahip olmasını beklemek zor olacaktır. 13 bilişsel yetkinliği bir önem sırasına koymak doğru olur.

Moderator 1 : Reskilling / upskilling kavramlarını yetkinlik olarak nasıl görüyorsunuz?

Participant 3 : Olmazsa olmaz iki kavram günümüz için. İnovasyonla bütünleştiğinde bu bilişsel yetkinliğe sahip olmayan insan inovasyon yapması çok zor. Çok ciddi bir soft skill.

Moderator 1 : Genel olarak ortaya sorayım. Upskilling reskilling daha önce değerlendirdiğiniz bir kriter mi yetkinlik olarak?

Participant 1 : Konuştuğumuz bir şeydi fakat yetkinlik olarak değerlendirmemiştik. Eskiyi değiştirmek gerekiyor değerlendirmek gerekiyor.

Participant 3 : Farklı yetkinlikler altında ölçmüştük ama bu isim adı altında ölçmedik.

Participant 2 : Hangi methodla ölçmüştünüz?

Participant 3 : Performans değerlendirme sistemleri içerisinde, bir önceki deneyiminde inovasyon yetkinliğinin altında mevcut becerilerini geliştirme, farkındalığı olma bir üst seviyeye taşıma konularında ölçümleyip değerlendirme ölçeğine sokup çıkarımlarda bulunmuştuk.

Participant 2 : Case study mi amir puanlama mı?

Participant 3 : 360 derece, üstü astı paydaşları ekibi ile birlikte değerlendirme yapmıştı. Kendim de dahil olmuştum. Yönetici etkinlik endeksinde soft skillsler ölçümlendi. Geleceğe taşıyan kişileri belirlemek amaçlı bu yetkinlik önemliydi.

Participant 4 : Çeviklik önemli bir kavram, belki eklenebilir bilişsel ve sosyal duygusal taraftakilerle örtüşen bir yetkinlik göremedim. Eklemekte fayda olabilir.

Moderator 2 : Çeviklik tartıştığımız bir konuydu. Çeviklik nasıl sağlanabilir, ölçümleme çok yok. Deneyimlediğiniz varsa tabi ki ekleyebiliriz.

Participant 4 : Organizasyonel çeviklik ön planda ama org çevik olabilme adına bireylerin çevik olması gerekiyor. Ben ik yönetici değilim daha uzman olanlar var ama kendi ekibimde dikkat ediyorum. Sonuç odaklılık ile kesişebilir ama buradakilerden hepsinden biraz alıp oluşturduğumuz farklı bir yetkinlik olarak değerlendiriyorum. Çevik hareket etmek, son 4-5 yıldır karşımıza çıkan yeni organizasyonlar yapıları içinde var olabilmenin önemli anahtarı gibi sanki.

Moderator 3 : Biz de bu konuyu epey konuştuk, çevikliği hangi seviyede nasıl ölçeriz şeklinde. Birey takım kurum şeklinde değerlendirilebilir. Hepsinin katkı sağladığı bir özellik gibi devreye girdiği için emin olamadık. Bu konuda ayrı bi yetkinlik olarak mı kullanmalıyız yoksa hepsini barındıran bir kavram olarak mı ele almalıyız. Yorumlarınızı merak ediyorum.

Participant 1 : Çeviklik benim de not aldığım bir konuydu. Liderliğin altında yönetsel çeviklik olabilir. İnovasyonu teşvik eden fikirlere açık bir liderlik anlayışı tarzında bir ölçümleme ile olabilir.

Participant 3 : Çevikliği inovasyonla birleştirdiğimde şu an startupları düşünün başarılı ya da başarısız startup ekosisteminin yaratılması için çevik olmaları gerekiyor. Çevik olan ve bunu yönetim anlayışı olarak içselleştiren ekibe aurosına yediren ekipler başarılı oluyor. İnovasyon için çeviklik olmazsa olmaz ama katılıyorum çeviklik ölçebilmek, bir cetvel oluşturmak henüz öyle bir elimizde yok. Birden fazla yetkinliği toplayıp çeviklik anlatabiliriz. Bir tanımdan yapılamaz gündemde çok konuşuluyor ama yeni yeni gündemde

Moderator 2 : Çeviklik ile flexibility arasında nasıl bir ilişki görüyorsunuz?

Participant 4 : Flexibility hedefe giderken yolun değişmesine uyum sağlamak ama çeviklikte yolun değişmesi şart değil gibi geliyor bana. Potansiyel olumsuz durum çağrıştırıyor flexibility. Bir sorun çıktı uyum sağlayabiliyorsak esneğiz ama çeviklikte böyle

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olmasına gerek yok.Hedef var buraya ne kadar çok adapte olacağımızla ilgili. Daha olumlu geliyor bana.

Participant 5 : Bana ikisi arasında bir denge var gibi geliyor.

Moderator 1 : Ben flexibilityde negatif bir kavram görmüyorum.

Participant 4 : Esnek çalışma saatleri derler ya bu olumsuz algılanır fazla mesaiye uyum sağlıyorsa daha esnektir gibi bir kavram var özel sektörde ne yazık ki

Participant 3 : Çeviklik = demir ve çelik gibi düşünüyorum
Çeviklikte biraz daha kararlılık var tokluk var kolay pes edilen bir durum yok. Nasıl tarif edilir bi şekilde esnenir ama çok esnek olan şey kopabilir çevik olan şeylerin kopması zordur. Onun içinde kararlılık vardır direnç vardır, odak vardır kolay pes etmemek vardır düşse de kalksak vardır ama her esneklik bunları taşır mı emin olamadım.

Moderator 2 : Çeviklik ve Esneklik tanımları farklı kaynaklarda nasıl geçiyor onu sunalım size, o zaman hem fikir olalım çeviklik olsun mu olmasın diye. Girişimcilik Zihniyet ile ilgili ne düşünüyorsunuz? Çeviklik ile yapılan startup benzetmesinde girişimci zihniyeti çağrıştırmıştı.

Participant 3 : Doğru ama bilişselin altında mı olmalı ondan emin değilim. Farklı bir başlığın altında mı olsa diye düşünüyorum.

Participant 4 :
Bi soru ile bakış açısı oluşturmaya çalışayım. İnovasyoncu olmamız için girişimci olmamız şart mı? Kurumlarda inovasyon kültürel varlık olarak değişim içinde ama bazı kurumlar inovatif dönüşümünü tamamlama yolculuğunda girişimci zihniyet ile haşır neşir olmayabiliyor. Bu ikisi arasında birbirini tamamlayan ama çok da aynı hedefe ilerlemeyen bir bağ var gibi geliyor bana. Bir yerlere girişmeden de girişimcilik genelde olmayanı oldurmak gibi bir tanımla açıklanabilir ama inovatif olmak bunun çok yakınında değil sanki.

Participant 3 : Bir startup için girişimci zihniyet şart ama inovasyon için şart değil.

Moderator 1 : Girişimcilik ile startupı bir tutmayın lütfen. Farklı şeyler her girişimci startup olmak zorunda değil. Cycling innovation methodta ortada entreprenur vardır onu düşünebilirsiniz. Startup olmak zorunda değil. Burada demek istediğimiz bir inovasyon projesini yürütebilmek için de girişimci davranışlar gerekir mi gerekmez mi sorusu aslında.

Participant 4 :
Şöyle bir soru sorayım argenin içinde inovasyon var ama girişimci ruh var mı? Buradaki sorunun cevabına göre farklı bakış açısı getirebiliriz. Birbirine çok ihtiyaç var mı diye irdelemeye çalışıyorum.

Moderator 2 : Buradaki girişimci zihniyet, uygulamaya dönük hale getirmek şeklnde algılamakta fayda var. İnovasyon çalışmalarının çıktısı uygulanabilir hep fayda yaratmak diye ifade etmeye çalışıyoruz ya, ticaretleştirilmeden de daha kapsamlı şeklinde ele almakta var. Literatürde bu kapsam oluşturuluyor bunu bir şirkette iç girişim haline dönüştürmenin ötesinde. Biraz da uygulanabilirliği hedeflemek olarak algılanabilir.

Participant 4 :

Proaktif ile girişimci zihniyet arasındaki fark nedir?

Moderator 2 : Proaktif olma biraz daha ön görebilmekle alakalı. Girişimci zihniyette uygulamalı odaklı olması. Değer yaratılması olarak algılanabilir.

Participant 5 : Girişimci zihniyet birkaç başlığı kapsıyormuş gibi. İnovasyon ve yaratıcılıktaki Girişimci ve ticari düşünce başlıklarını içeriyor gibi.

Participant 4 : Girişimci zihniyette ticari düşünce zorunda mıyız? Örnek veriyorum, kurumda bir reorganizasyon için de girişim gerekir mi? Ben öncüsü oldum girişim başlattım yeni birim oluşturdum bu da girişimcilik midir?

Moderator 2 : Girişimci zihniyet olarak değerlendirilebilir ama proje kapsamında inovasyon odaklı yetkinliklere odaklanıyoruz. Bu kapsamda söylediğinizi değerlendirmemiz lazım

Participant 4 : Yetkinliğin adı mı farklılaşmalı acaba? Girişimci zihniyette kapsam çok genişliyor inovasyonla bağlantı kurmak zorlaşıyor. Startup mindset gibi ticari boyuta taşıyan bir yetkinlik olarak olabilir.

Participant 5 : Girişimci zihniyet sanki liderlik özelliğine yönelik gibi

Participant 3 : Ben de olsam liderliğin altına koyardım.

Moderator 2 : İnovasyon ve Yaratıcılık altında da yer alıyor girişimci zihniyet.

Participant 5 : Bilişselin altında olmamalı. Mantığa dayalı alt segmentler. Mantığı oluşturan bileşenlerden analitik düşünme kavramsal düşünmenin alt kırılımı olarak görünüyor.

Moderator 2 : Bilişselin altında olmaması yönünde biz uzlaşma olduğu görülüyor. Diğerlerinin yorumu var mıdır?

Participant 2 : Katılıyorum, her ne kadar proaktif olmayı öngörme olarak değerlendirmiyorum kendi kendine hareket etme becerisi olarak nitelendiriyorum. Proaktif olmanın yanına merak ve hayal gücü eklediğimizde büyük oranda girişimci zihniyet yetkinliğini karşılıyor. Diğer tarafta daha uygun olabilir.

Participant 1 : Ben de bilişselden ziyade inovasyon ve yaratıcılığın altında daha uygun olduğunu düşünüyorum.

Moderator 2 : Sizce girişimci zihniyet yer almalı mı?

Participant 3 : Olmalı bence.

Participant 1 : Konuştuğumuz her şey buna bağlı. İnovasyona bağladığımızda harekete geçirmek var. Girişimci zihniyeti açınca siz, biraz daha farklı düşündüm. Fikir geldi inovasyonla ilgili çalışma yapıldı risk başarılı da olabilir olmayabilir de. Yapacak mı yapmayacak mı kısmı girişimci zihniyeti daha çok içeriyor. İnovasyon tarafında olmalı.

Moderator 2 : Çıkartılması / Eklenmesi düşündüğünüz bir yetkinlik var mı?

Participant 3 : İnovasyon dğeer katan yenilik. Bunu yapabilmek için empati olmazsa olmaz. Karşısındakinin yerine kendini koymak çok önemli. Yeşil olmalı. Otokontrol olmamalı. Nasıl tanımlanıyor?

Moderator 2 : Bireysel olarak yönetebilmek, karşılan durumda insiyatif alabilmek

Participant 3 : Kırmızı işaretlenmiş en az önemli olarak tanımlıyorum. Çıkartılması gereken şeklinde tanımlanmış ama bence olmalı. Öz farkındalık olmalı. Yeşillerle görüşüm doğru yerinde görünüyor.

Participant 2 : 1 ile 2 arasındaki fark nedir? Adapte olma vs değişime uyum sağlamak cevap vermek arasında. Yakın göründü.

Moderator 2 : Literatürde farklı 2 yetkinlik şeklinde tanımlanmış Eğer aynı hissi verdiyse değerlendirelim.

Participant 6 : Bana 1 ve 13 yakın geldi. Adapte olma vs değişim ve belirsizlilk için tolerans

Moderator 1 : Sanki 13 değişim karşında strese girmemek gibi tolerans. Ama ona adapte olamamak başka bir boyut gibi geliyor ne dersiniz.

Moderator 3 : Aslında adaptasyon 2 tarafın birbirini değiştirmesiyle alakalı. Siz bulunduğunuz ortamda değişen koşullara değiştirerek uyum sağlayabilirsiniz ya da proaktif olup ortamı değiştirmeye kadar gidebilirsiniz. Karşı durumu değiştirme eğilimi de gösterebilirsiniz. Durumu değiştirme çift yönlü adaptasyon olarak da değerlendirilebilir.

Participant 6 : Değişim ve belirsizlik için bir tolerans yoksa, dediğinizi gerçekleştiremeyiz. Esnek olabilmemiz için tolerans gerekir.

Moderator 2 : 1 için 13 gerebilir ama 13 için 1 gerekmeyebilir. Sanki 1 ve 2 birleştirilsin diye duydum Sosyal & Duygusal kategorisinde.

Participant 2 : Bana öyle geldi ama farklı görüşler olabilir.

Participant 5 : 14 seçeneğin olması mı tercih edilen bir şey yoksa alt kırınımlara girilmesi mi daha çok tercih edilen bir durum?

Moderator 2 : Amaç aslında elemek, çok yönlendirme yapmak istemiyoruz ama sadeleşmeye gidilebilir.

Participant 5 : Çünkü sadelik daha iyi. Terminolojide iç içe geçmiş gibi. 2. Grupta 1 ve 13 çıkartılmalı diye düşünüyorum.sadece 2 kalmalı. İşbirliği yapabilme için empati yapabilme de var. Bu nedenle iç içe geçiyor gibi hissediyorum.

Moderator 2 : Elenmesi gerekenleri paylaşabilir misiniz.

Participant 3 : 11 ile 13 de beraber düşünülebilir. 13 11 i kapsıyor. Değişim ve belirsizlik için tolerans stres yönetimini kapsar gibi geliyor.

Participant 2 : 11 ve 12 de birleşebilir. Zamanı yöneten stresi de yönetir.

Moderator 2 : Sesli düşünüyorum, zaman yönetimi iyi olmayabilir ama zaman darlığında stresini iyi yönetiyor olabilir. Sanki adapte olma değişime uyum sağlama değişim belirsizlik için tolerans birbiri içine geçiyor fakat, belirsizlik için tolerans belirsizliğe açık olmak aynı performansı göstermek. Ama değişime uyum sağlamak belirsizlik gerçekleştiğinde tepki vermek şeklinde düşünmekte fayda var. Belirsizlik için tolerans biraz daha başka.

Participant 5 : O zaman belirsizlik için tolerans performansa dayandığı için Bilişsele giriyor.

Participant 3 : Belirsizlik için tolerans sağlam bir sinir alt yapısı gerektirir. Biraz daha yönetmek sakin kalabilmek duygusal becerilerle bağlantılı.

Moderator 2 : Tamam isek, 1 ve 2 yetkinlikleri için ne düşünüyorsunuz?

All : 2 bana daha sıcak geliyor.

Moderator 2 : İşbirliği, empati, etik konsuunda düşünceleriniz neler?

Participant 2 : Empatiyi biraz genişletip duygu yönetimi şeklinde değerlendirsek. Duygu yönetmek hem karşı tarafı anlamak ve onları yönetmek kapabilitesi anlamına da geliyor.

Participant 3 : Etik anlamını biliyoruz ama buradaki anlamı nedir tam olarak?

Moderator 2 : Etik davranış, bildiğimiz anlam. Sosyal ve duygusalın altında oturmadı mı sizde?

Participant 3 : Yok anlamını sorguladım, bence tamamdır.

Participant 5 : Bilişselde proaktif olma, sosyal duygusalda girişim / proaktivite farkı nedir?

Moderator 2 : İkisi de aynı anlam farklı kaynaklarda farklı başlıklarda ele alınmış. SİZin yorumlarınıza göre bir başlık altında olacak.Hangisi altında olmalı?

Participant 3: Sosyal ve duygusalın altında olmalı

Participant 1 : Dayanıklılık kesin olmalı.

Participant 5 : 13 ve 8 birbirine yakın olarak algılıyorum ben.

Moderator 2 : Değişim sık yaşanırsa dayanbiliyor olmak ya da koşullar farklılaştığında güçlü durmak olarak algılayabilirsiniz.

Moderator 1 : Tolerans olan değişikliklere sabır göstermek gibi ama dayanıklılıkta adapte olabilmek gibi geliyor bana. Toleransta pasifize, Dayanıklılıkta daha aktif.

Moderator 2 : Tolerans biraz daha aslında bekliyor konumda olmak, dayanıklılık ise değişim gerçekleştiğinde uygulama konusunda daha uygulamaya yönelik anlamı taşıyor

Participant 1 : Son dönemlerde duygusal dayanıklılık gündemde. Ben orayla bağdaştırdım dayanıklılık kavramını. Olumlu ya da olumsuz durumlarda dayanıklık olmak.

Moderator 2 : Aslında daha kapsayıcı oluyor.

Participant 4 : Tolerans beklenmeyen durumdaki ruh halimiz, dayanıklılık kendimizi ne kadar çabuk recover ettiğimizle ilgili. İkisi doğrudan örtüşmüyor.

Moderator 2 : Ayrı mı düşünmeliyiz. stres yönetimi ile ilgili?

Participant 4 : Her biri ayrı ayrı olmalı

Participant 1 : Stres yönetimi, stresle yaşama. Duygusal dayanıklılık içinde yönetmek yok, strese dayanmak var stres olacak kabul ediyorsunuz ama vazgeçmiyorsunuz dayanıyorsunuz. öbür tarafta stresi yönetmeye çalışıyorsunuz. herkesin methodu farklıdır.

Participant 3 : Kitapta, "yaşamın anlamı" kitabı. kitabı düşündüğümde hem stresi yönetiyor hem zamanı yönetiyor. İkisi birbirinden farklı

Moderator 2 : Dayanıklılık, stres yönetimi ve toleransı ayrı ayrı ele almamız gerekiyor diye anlıyorum. Öz farkındalık için ne düşünüyorsunuz?

Participant 3 : Öz farkındalık reskilling upskilling için de çok önemli. Eğer ona sahipse inovasyonla ilgili yapabilir. Önemli kavramlar üçü de

Moderator 2 : Güvenilirlik için ne düşünüyorsunuz?

Participant 1 : İnovasyon içerisinde çok yer bulamadım. Neden güvenilirlik arayayım?

Participant 3 : İçsel bütünlük bi insanda güven olarak tanımlanır. İnovasyon yapacak insanda olmalı mı direkt diyemiyorum. Ben ararım ama literature göre öyle mi bilemedim.

Participant 1 : İnovasyon olarak düşündüğümde, etik ve güvenilirlik kavramlarının inovasyon için ne kadar ihtiyaç emin olamadım. Etik olmadan inovasyon olmuyor mu? güvenilirlik aynı şekilde.

Moderator 1 : Bir alan açayım. İnovasyon takımlar arasında yapılan bir aktivite olarak ele alsak? Takım da crossfunctional oluyor.

Participant 1 : Yeni fikirler üzerinde çalıştık. Bunları yaptık ama arkadaşların güvenilirlik ve etik kısmını sorgulamadık. Yapacağımız projeyi kimlerle nelerle yapabiliriz diye düşündük. Bu projede çalışcak arkadaşta bu yetkinlikleri konuşmadık.

Moderator 2 : Acaba şöyle mi düşünsek, Etik davranmayan ya da güvenilir olmayan bir kişinin benzer inovasyon çalışmalarında yer almasını tercih eder misiniz?

Participant 1 : Şirket böyle birini çalıştırır mı?

Participant 4 : Şirketin politikasıyla ilgili ama inovasyona konulup konulmayacağı sanki daha farklı ele alınmalı.

Moderator 2 : İk politikalarının temel unsurları. İnovasyon tarafında zaten cepte sayıyoruz.

Participant 1 : Temel yetkinlik her çalışanda aradığımız şey. Etiğe uygun hiçkimseyi hiçbir kademede çalıştırmama. Yönetsel anlamda da, süreç liderliği operasyonel liderlik ve organizasyonel liderlik. daha üstü stratejik liderlik. zaten oralarda var. olur olmaz mı zaten var. çalıştığım kişi zaten etik olmak zorunda. Bu kadar yetkinliği birinde aramak zor olacak. bir cümle yanına konulsa ne okuduğumuzu anlasak daha iyi olur siz hakimsiniz yönlendirince, fikirlerimiz de değişiyor.

Moderator 2 : Etik ve güvenilirlik için bir soru işareti koyalım.

Participant 3 : Ben şöyle bakıyorum inovasyon için güven ve etik neyi ifade eder. bazen kötü şeyler de inovatif olabiliyor. fikrimiz old düşünün bize inanılması için bize güvenilmesi lazım. ya da bir yatırcımcı para yatıracak bize inanması lazım. Var olduğunu kabul ediyorum demesini de anlıyorum belki kurum kültürlerinde vardır. Burada kurumsallaşmış kitabını oluşturuğumuz için olması gerektiğine inanıyorum.

Participant 5 : İletişim içinde de ikna yeteneği var. bu ikisi de iknayı destekliyor.

Moderator 2 : İkna için etik olmak gerekir mi?

Participant 5 : İknayı destekleyecek unsurlardan olduğunu düşünüyorum.

Participant 4 : Bazen bunlar çelişiyor da olabilir özellikle aşırı ticari bakış açılarında çok etik davranan girişimcilerin sonuca daha geç ulaşacağı değerlendirilip yatırım kararlarının

olumsuz etkileyebilir.İşin içine ticari kaygılar gelince, sonuç odaklılık daha çok ortaya çıkıyor. bu kadar hassas davranmamak gerektiği vurgulanıyor.

Continue with another session…

Moderator 2 : İnovasyon ve Yaratıcılık bölümüyle devam ediyoruz.Başarısızlık Toleransı ile ilgili ne düşünüyorsunuz?

Participant 1 : Bence kalabilir. Her fikirde başarılı olacağız diye bir kural yok önemli olan yılmadan yola devam etmek. Kişinin başarısızlığa karşı tolernası olacaki kendini yeniden motive edecek.

Participant 3 : Başarısızlığa övgü kitabında,Başarısızlık bazen o kadar güzel sonuçlara neden oluyor ki, insanlar zorlandığı anda yeni yolları buluyor bu da yüzleşme bir farkındalıktır. Yenilik inovasyon tespitinde ciddi bir fırsat. Mutlaka olmalı

Participant 4 : Kurum içi girişimcilik sürecinde felsefe olarak kullanmaya çalışıyoruz. Girişimci inovasyonla uğraşan bireyin bu yetkinliğinin yüksek olmasında fayda var.

Moderator 1 : İnovasyonun olmazsa olması başarısızlık.

Moderator 2 : Liderlik altında da çok kaynakta yer alıyor. Acaba onun altında mı yer almalı diye soru işaretleri olur mu diye düşünmüştüm.

Moderator 1 : Bir insanın başarısız olmasıyla altında çalışanların başarısız olması arasındaki fark sorgulanabilir mi?

Moderator 2 : Yönetim tarafında buna karşı tolerans yok ise inovasyona engel olunabiliyor.

Participant 1 : Bağlantı var ama onu liderlik kısmındaki taraf ilgilendiriyor. Bir fikir verdik başarısız oldu kendimi çektim bir daha fikir vermedim, benim inovatif düşünmem lazım.

başarısız da olabilirim ama devam etmek zorundayım. ekip yönetimi liderlik altında yürüyen bir şey. Fikrinde başarısız olmuş kişiyi teşvik etmek tolere etmek gerekiyor.

Moderator 2 : İletişim yeterlilikleri hakkında ne düşünüyorsunuz?

Participant 4 : Bu yalnızca ekiple mi yoksa inovasyonla bağlantılı olan iç ve dış paydaşları da dahil etmeli miyiz?

Moderator 2 : Haklısınız, detaylandırmak gerekir.

Participant 1 : İnovasyon yaratıcılıkta 360 derece düşündüğümüzde iletişim olmazsa olmaz. Doğru soruyu sormak için güçlü iletişime sahip olmalı. İnovasyonda bireyden çok takımla iş çıkıyor. İletişim inovasyon yaratıcılıkta olmazsa olmaz. Örnekler de onu gösteriyor. becerisi olmayan ekiplerde yürümüyor.

Participant 6 : Doğru iletişim içinde olmazsa olmaz.

Participant 1 : Yaratıcılık, eleştirel düşünce, fikir üretimi, araştırma becerileri olmazsa olmaz.

Moderator 2 : Neden ağ oluşturma elediniz?

Participant 1 : Yukarıda, iletişim yeterliliği vardı,ikna vardı hepsi olunca içeriği okuyunca oralarla bağdaştırdım. azaltmaya da çalıştığımızdan match etmek de mantıklı.

Participant 5 : Açık inovasyon için, ağ oluşturma önemli bir yetkinlik

Moderator 2 : Biraz daha çevreyi genişletebilmek olarak bakmak gerekiyor.

Participant 3 : Performans ilişki ağlarında gizlidir derler. Organizasyonlara baktığınızda bi konuda başarılı olabilmeniz için network oluşturmak gerekir. inovasyonda da ap oluşturma yönetme gerekiyor. bu çerçeveden baktığımızda önemli bir yetkinlik

Moderator 2 : İnovasyonun yayılması aşamasında da düşünmek lazım. özellikle kurum içinde fikrin yaygınlaştırması konusu ağa bağlı.

Participant 6 : İletişim yeterlilikle bağdaştırılabilir. O ikisi birleştirilebilir. ya da daha ayrıntılı yapılabilir.

Participant 4 : Ben birleştirmemek gerektiğini düşünüyorum. bazen yüksek iletişim kabileyiti olan bireylerin network anlamında çok yetkin olmadığını görüyoruz. network ağı oluşturamadığı için hayata geçirmeye çalıştığı inovasyon sahada karşılık bulamıyor. Kurum içi girişimcilik süreçlerinde sıkça karşımıza çıkıyor.

Moderator 1 : Açıkçası ben network ile iletişimin ayrı olduğunu düşünüyorum. ağ networking yapabilen insan yetkinliğin etkinliği yüksek olan insan oluyor. networkun inovasyonun olmazsa olmazı olduğunu düşünüyorum.

Participant 7 : Bence de ağ oluşturma önemli, network kuvvetli olmalı.

Moderator 2 : Takım çalışması için ne dersiniz?

Participant 4 : Bu da çok önemli bir yetkinlik team player olmak. İletişimle karışabilir ama alakalı değil çok iyi ilişkiniz olabilir ama kötü bir takım oyuncusunuzdur.

Moderator 2 : Girişimci ve ticari düşünme ne dersiniz?

Participant 1 : Girişimci ve ticari düşünme inovasyonun içine oturmuş. açıklamasına da baktığımda olmalı diye düşünüyorum.

Participant 5 : Ben de katılıyorum.

Moderator 1 : Tersine bir şey söyleyeyim mi. ticari lafa kafam takıldı. Girişimci ve fayda odaklı düşünme derdim.

Moderator 2 : Her şey ticari olmayabilir diye düşündünüz sanırım ama girişim ve fayda odaklı da zihnimde oturmadı. odak nokta çok net.

Participant 4 : Para kazandırmayan inovasyon inovasyon değil midir diyoruz

Moderator 2 : 4' ün söylediği gibi bi algı da oluşturuyor ama fayda odaklı olması daha faydalı olabilir.

Participant 4 : Girşimci ve ticari düşünme aynı potada eritilmeyen iki kavram. başka kavramlar. ikisini ayrı mı almalıyız acaba. Girişimci düşünce yapısı, ticari düşünce yapısı ayrı mı olmalı. çok alakalı değil gibi. Sosyal inovasyonla örneklendirebiliriz. hiç ticarileşmeden anlamayan bir insan için bu yetkinliğin yanına çarpı mı atacağız?

Participant 1 :

Girişimci ve yaratıcı düşünce. Faydalı olup olmamasını düşünmüyoruz aslında. Ticari bir kazanç düşünülmeyecek. önemli olan yaratmak ve yaratmak için girişimci olmak.

Moderator 2 : Bana girişim eylem içeriyor gibi geliyor. yaratıcılıkta bunu hissedemiyorum.

Participant 1 : Yaratıcılık farklı girişimcilik farklı ama ikisi için de fayda elde edeceğiz. ticari de olabilir sosyal fayda da olabilir.

Participant 5 : Bana çıktı gibi geliyor. belki ticari kısmı çıkarılabilir.

Participant 4 : İnovasyona baktığımızda, hep bir ekonomik alanlara uygun hale getirilme algısı var. Sosyal inovasyonda ekonomik çıktı aslında var. ticarileşme önemli ve tek başına önem derecesine sahip olacak kadar bağımsız bir yetkinlik olmalı. biri varken diğeri de olmayabilir.

Moderator 1 : Aslında inovasyon değer yaratan yenilik. firmalar için paradır ama olmak zorunda değildir diye düşünüyorum.

Participant 6 : Hocam o zaman %99 un para olduğu bir şeyin yüzde 1 lik kısmını mı değerlendireceğiz.

Moderator 1 : Önemli olan işin ruhunu yakalamak

Moderator 2 : Süreç inovasyonlarında elde ettiğimiz bir fayda ticari fayda olarak görmeyen şirketler var. ticari dendiğinde ifade çok net. ama inovasyonu değer katan yenilik olarak algılamakta fayda var

Participant 1 : Bir makina üzerinde iyileştirme yaptılar maddi olarak kazanç yoktu ama işş güvenliğini minimanize etti. paraya dökülebilridi ölçülebilirdi ama düşünce o değildi. bir diğer fabrikada çevreye katkısı vardı. büyük çoğunluk ticariye dönüyor ama içinde sosyal faydası olanlar da çıkıyor.

Moderator 2 : O zaman buna girişimci zihniyet diyelim mi? Ticari odak noktası kavramını karıştırıyor.

Participant 4 : Ticari bizi rahatsız ettiği için belki ticari yerine ekonomi kavramı kullanılabilir. Ben ayrılması gerektiğini düşünüyorum.

Moderator 2 : Müşteri beklentilerini karşılama kısmı karşılar mı acaba ticari ekonomi gelişim kısmı. Burası için ne düşünüyorsunuz?

Participant 5 : Bu kişinin kendi beklentisini analiz etmesiyle alakalı değil gibi. Şirket tarafından görev atandıysa analiz eder.

Participant 4 : Bu odak yoksa inovasyonun başarıya ulaşması çok zor. Müşteri odaklılık ölçümü fizibilite çalışmalarında önemli.

Moderator 1 : Son kullanıcıya fayda yaratmaktır işin özü. Ben de kalmalı diye düşünüyorum.

Moderator 2 : Bireysel yetkinlik olarak düşünmeliyiz. ben bir birey olarak inovasyon yapabilme kapasitem son kullanıcıya fayda yaratmakla mı başlamalı. Ölçmesi zor olacaktır.

Participant 4 : Eğer inovasyon ihtiyaçtan doğar varsayımı yapacaksak bunu doğrulamış oluyoruz.

Participant 5 : Bana fikir üretmenin girdisi müşteri beklentilerinin karşılanması olduğunu düşündüğüm için ayrı bir parantez olarak nitelendirmedim.

Participant 1 : Ben bir inovasyon yapmak istiyorum ama müşterimin ne istediğini düşünmeden bir şeyler üretiyorum. Bu olmalı kesinlikle. bir şey yaparken son kullanıcının ne kadar amacına hizmet edecek bunu düşünerek hareket etmek gerekiyor. çevreci müşterim olduğunu düşünün ben çevreye daha zarar veren bir inovasyon yapıyorum. önce onun düşüncesini bilip ona göre hareket etmek gerekiyor. müşteri odaklılık olmak önemli.

Participant 6 : Bizim sektörde son kullanıcı konusu olmadığı için yorum yapamayacağım. İnovasyonda yaptığınız şey karşılığını bulacaksa müşteri odaklılık olmalı diye düşünüyorum.

Participant 1 : Başlamadan şunu söylemek istiyorum. inovasyon ve yaratıcılığın içinde iletişim yeterlilikleri vardı. neden aşağıda değil de yukarıya koyduk? Başlık iletişim ve iletişim yeterliliği yetkinliği inovasyon ve yaratıcılığın altında kalıyor. Aşağıya almayı öneriyorum.

Participant 3 : Ayrı bir başlık altında olmalı katılıyorum. Burada 4. maddeye takıldım. Bütünsel düşünme yetkinliği ile bağdaştıramadım başlığı.

Moderator 1 : Bir yere koymak lazım diye düşünüyorum.

Participant 5 : Belki inovasyon kısmına konulabilir.

Participant 4 : Ben de iletişim yetkinliği altında olmaması gerektiğini düşünüyorum bütünsel düşünmeyi

Participant 6 : Ben de katılıyorum olmaması gerek.

Moderator 2 : Bu kapsam yeterli midir iletişimi ölçmek için. Farklı önerileriniz var mıdır?

Participant 1 : Liderlik dediğimizde bir ekibi yönetmek.Araştırma ve okuma liderlik içerisinde olmalı mı kendi kendimi sordum. kendini geliştirme için de aynı şeyi düşünüyorum.

Participant 4 : Araştırma ve okuma, kendini geliştirme kısmında olabilir. Burada olması gerekioyr liderlerin kendini geliştirmesi gerektiğine inanıyorum.

Participant 3 : İnovasyona liderlik edecek kişinin araştırıyor olması lazım ki ufuk açabilsin ekibine . 11 maddenin de burada olması gerektiğini düşünüyorum.kendini geliştirmenin altına koyabiliriz araştırma ve okumayı.

Participant 1 : Aşağıda rol model olma var. bununla birleştirilebilir mi?

Participant 4 : Rol modeli bunların içine alırsak, motive ederek de örneğin rol model olabilir. bence generik ve diğerlerinin içine yedirilmeyecek bir yetkinlik.

Moderator 1 : Açıkçası rol model olmanın ayrı olması gerektiğini düşünüyorum. rol modelin birçok byoutu var. bunlardan biri araştırma ve okuma.

Moderator 2 : Eğer herkesin yorumu aynı ise, araştırma okuma, kendini geliştirme birleştirerek diğerlerinin hepsini bırakıyoruz. İnsanları harekete geçirmek ve başkalarını motive etmek yetkinlikleri kavram kargaşası yaratıyor mu ayrı olması.

Participant 4 : Bence ayrı olmalı. İnsanı harekete geçiren biri, motivasyon sağlama konusunda yetkin olmayabilir. Ya da tam tersi.

Participant 1 : Açıklamalara bakıyorum. Açıklamalar bana birbirine yakın geldi. 4-5-9 iş yapış şekliyle de olabilir karakter de olabilir. liderlikte rol model olabilir, sadece hedef belirleme kısmında değil. Bir kişiyi örnek alıp, kendinizi onun gibi nasıl yapabilirimin peşine düşüyorsunuz. rol modeli belki ayırmak gerekir.
Motive etmek yönlendirmek, birbirine yakın buluyorum. 4 ve 5 i. Başkalarını motive etmek derken paydaşlar da olabilir. rol model ayrı benim gözümde ama insanları harekete geçirmek ve motive etmek ikisi benzer kavramlar.

Participant 6 : Ben de katılıyorum. birleştirilmeli.

Participant 4 : Harekete geçirmek büyük bir eylemin öncüsü olmak ama motive etmek bugün canım sıkkındır karşımdaki çok iyi motive edendir.
Ya da sosyal medya influencerları kıyafet çok yakışmış ben de alayım dersiniz. ama bu harekete geçirmek değildir. ikisi de önemli yetkinlikler ayrı kalmalı.

Participant 5 : Harekete geçirmek bana eylemi artırmak için, motive etmek biraz daha pasif bir aktivite gibi geliyor. katılıyorum ayrı özellikler.

Participant 7 : Aynı fikirdeydim ama yorumlarından da ayrı kalması gerektiğini düşünüyorum.

Moderator 2 : Belki de tanımları bir daha elden geçirmekte fayda var. ikisini de bırakalım. Dijital kategorisine geçersek, 11 yetkinlik var. hepsi olmalı mı bulunmalı mı değerlendirelim. Burada strateji ile bağlantısını açıklayıp, hatırlatmakta fayda var.

Moderator 1 : Kendimin bir soru işareti var o nedenle yorumları önce dinlemek isterim. acaba sektörel yetkinlikler mi diye bir düşüncem var. sonra stratejiye bağlama kısmını konuşalım.

Participant 1 : Yetkinlikler farklı kategoriler var. Temel yetkinlikler, yönetimsel yetkinlikler ve fonksiyonel yetkinlikler var şirkette. İşi bilen örneğin bilgisayar mühendisleri bilecek gibi duruyor. Teknik kısmı güçlü olanlar bilecek. ama inovasyonda herkesin bilgisine başvuruyoruz. Bu nedenle bu yetkinlikleri fonksiyonel düşünmekte fayda var. Bilgisayar kullanımı yetkinliği bence kaldırılabilir. Herkes biliyor. Dijital okuryazarlık, veri analitiği yakın geliyor. Diğerleri bence teknik.

Participant 3 : Bu konuları ölçmek kolay değil, bulut bilişimi falan hemen insanlardan beklemek zor ama farkındalığına sahip olmak önemli. İnovasyon ile uğraşan bir kişinin bu yetkinlikleri bilmese bile bir farkındalığının olması gerekir.

Participant 4 : Bunların hiçbiri doğrudan inovasyonla bağlantılı değil. eğer bunları yazacak isek finansal okur yazarlık, mali tablo okuma gibi baska teknik yetkinlikler eklememiz lazım. Dolaylı olarak ilişkili bu yetkinlikler.

Moderator 2 : Taslak oluşturmaya çalıştık. Bunlara yer vermemiz gerekiyor ama sizlerin yorumlarıyla bu elemeyi yapacaktık. Metodik teknik yetkinliklerde de bunu yaşayacağız. Ama strateji ile bağdaştırma konusunda o yetkinlikleri nasıl yakalayacağımız bende soru işareti.

Moderator 1 : Buradaki dijital diye gördğünüz yetkinlikler mesleksel mi yoksa inovasyon yapıcam diyen herkesin mi sahip olması gereken yetkinlikler?

Participant 5 : Yeni çağ ile birlikte eğitimler dijitale kaydı. Bunlara adapte olan insana da ihtiyaç var.

Moderator 1 : Mesleksel değil herkesin mi sahip olması gereken yetkinlikler diyorsunnuz?

Participant 5 : Önümüzdeki 2 yıl içersiinde yerel müfredatlar değişecek. Çalışmalar yapılacağı aşamada dijital. İknın bile buna bilgi sahibi olması ki buna göre almalı. Yapay zeka vs kendi iç süreçlerine dahil etmeye çalışıyorlar. Farklı açıdan bakılırsa, oyun fuarı vardı. Sanatçının kendi ürettiği şeyi dijital açıdan sergilemesi bekleniyor. Dijitalde beklenti nedir? Geçilmesine karar verilmiş ki sunulmuş. Literature girdiğine göre önümüzdeki günlerde gündeme çıkacak.

Participant 3 : Bu çağda inovasyon yapabilmek için buradaki yetkinlikler destekleyeici araçlar. Bunlar olmazsa inovasyon olmaz diyemeyiz ama yenilik katabilmek için bunlara hakim olmak farkındalık sağlamak katalizör görevi görmekte. Bunlar olmazsa inovasyoon olmaz diyemeyiz.

Participant 1 : Dijitalleşme çalışılıyor her alanda. Rutin işleri otomotikleşmeye döndürmek, verimlilik kazanmak üzerine. Böyle düşününce inovasyon yapma şansım yok. Kodlama bilmiyorum siber güvenlik bilmiyorum programlama yok yapay zeka sağdan soldan duyduğum kadarıyla. O zaman benim inovasuon yapma şansım ortadan kalkuyor.

Moderator 1 : Bir takım dezavantajlar sahip oluyorsunuz bunu bilenlere göre. Yapay zeka makine öğrenme için illa pc müh olmasına gerek yok. Önemli bir yetkinlik diyorsunuz.

Participant 4 : İnovasyon yapmak isteyen birey için must mıdır? outsource edilebilir mi? ekipte sıfır teknik insan vardır ama o iş haytaa geçiyor. Bu olabilir mi?

Participant 6 : Wlektrikli araba vs teknolojik bir gelişme ise bu konuları bilmezseniz inovasyon alanında geride kalınmış olur. Birleştirilebilir.

Participant 1 : İnovasyon altındaki başlıkta olabilir. Ama must değildir. EKip kurulur. farkındalık olması yeterli.

Moderator 2 : Sektör olarak farklılık olabilir. Dijital geçiyorsa inovasyonda bu yetkinliklere ihtiyaç var diyebiliriz. Dijital ve metodik bu yüzden ayrılmıştır. İnovasyon için core değildir ama strateji kısmında önemli olacaktır.

Moderator 1 : Bu yetkinliklere sahip olmak için hardcore computer müh olmak yetmiyor. Ama şirketin stratejilerinde böyle bir açılım varsa bunlar önemli yetkinlikler haline geliyor. Dijital okuryazarlık ve diğer 11 yetkinlik inovasyonların genel oalrak gerçekleştirilmesinde crossfunctional olarak gerçekleştirilmesini bekliyoruz. Şirketteki herkesin sahip olması gereken yetkinliklerdir.

Participant 1 : Bu yetkinlikleri bir İKcıya nasıl sunacağız? Şirket hangisi uygunsa set içerisinden kendi seçer alır. Diğerlerini temel yetkinlikler yapıp, dijitali seçme şansı bırakırız.

Moderator 1 : metodik teknik alanı ile ilgili ne düşünüyorsunuz?

Participant 1 : Bir makina ile ilgili inovasyonu, makinayı kullanan bilir. Burayla ilgili dijital konusu ile yakın buluyorum. Fonksiyonel anlamda iş bilgisini içeriyor.

Participant 4 : Dijitaldeki bazıları metodik yetkinliklere girebilir. Bulut bilşşim metodik / teknik alanında olmalı.

APPENDIX C

CASE STUDY

C.1. Strategy2–Competency Matching in Company 1

C.1. 1. **Weighted average score of Strategy 2 in Cognitive Category**

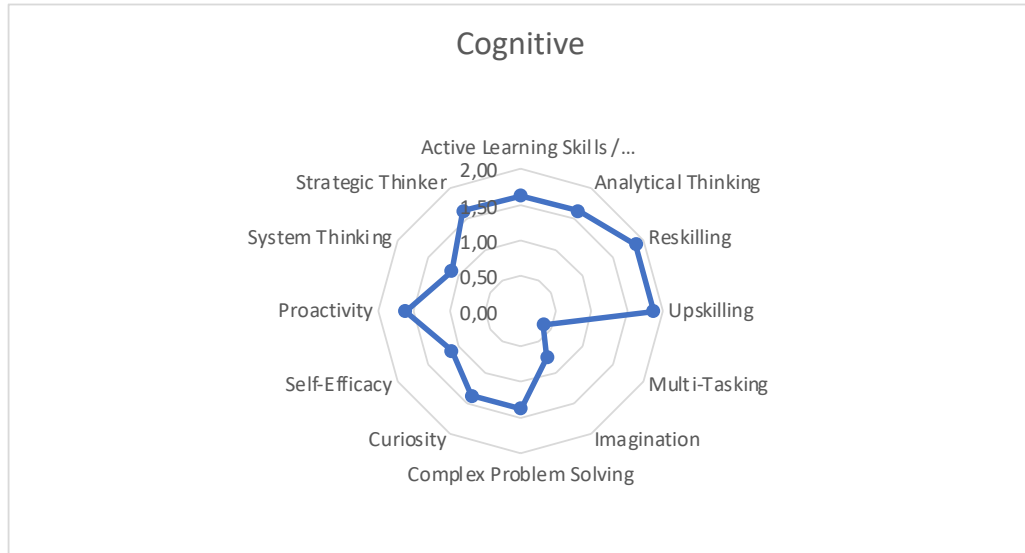| The competencies of Cognitive Category	Weighted average score of Company 1
Active Learning Skills / Lifelong Learning	**1,63**
Analytical Thinking	**1,63**
Reskilling	**1,88**
Upskilling	**1,88**
Multi-Tasking	**0,38**
Imagination	**0,75**
Complex Problem Solving	**1,38**
Curiosity	**1,38**
Self-Efficacy	**1,13**
Proactivity	**1,63**
System Thinking	**1,13**
Strategic Thinker	**1,63**

Figure C.1. 1. Radar chart of Cognitive category for strategy 2

C.1. 2. **Weighted average score of Strategy 2 in Social & Emotional Category**

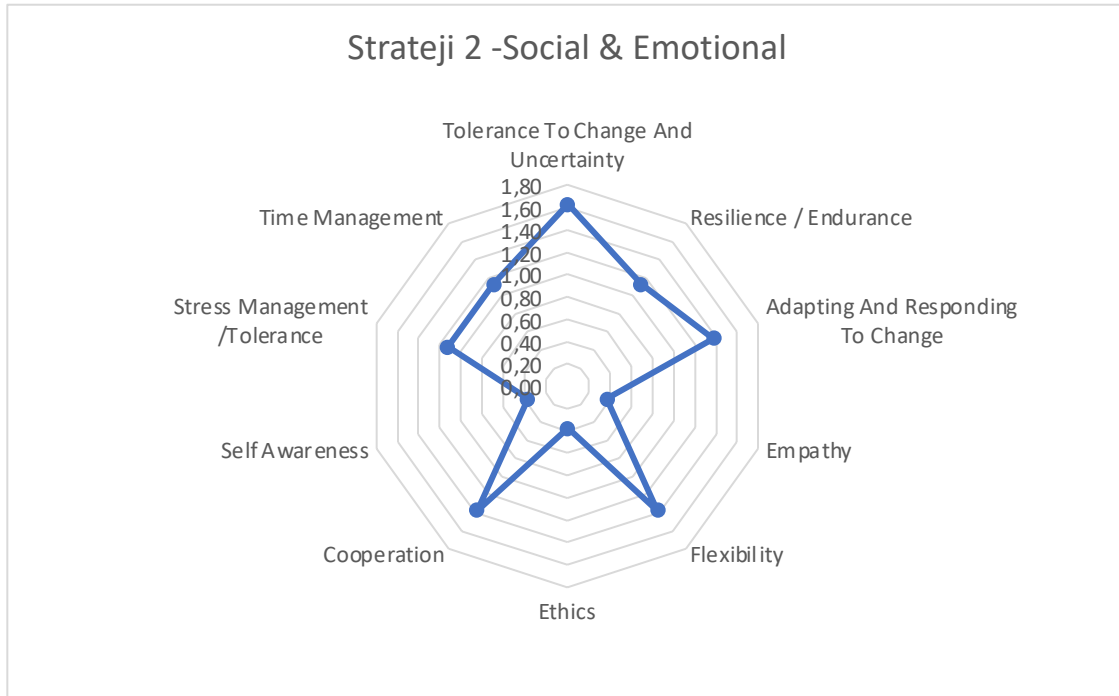| The competencies of Social & Emotional Category	Weighted average score of Company 1
Tolerance To Change And Uncertainty	1,63
Resilience / Endurance	1,13
Adapting And Responding To Change	1,38
Empathy	0,38
Flexibility	1,38
Ethics	0,38
Cooperation	1,38
Self Awareness	0,38
Stress Management /Tolerance	1,13
Time Management	1,13

Figure C.1. 2. Radar chart of Social & Emotional category for strategy 2

C.1. 3. **Weighted average score of Strategy 2 in Innovation Category**

The competencies of Innovation	Weighted average score of Company 1
Networking	1,63
Research Skills	1,63
Failure Tolerance	1,38
Critical Thinking	1,63
Reflecting Customer Expectations /Customer Focus	1,63
Teamwork /Cross Functional Teamwork	1,63
Creativity	1,38

Figure C.1. 3. Radar chart of Innovation category for strategy 2

C.1. 4.**Weighted average score of Strategy 2 in Communication Category**

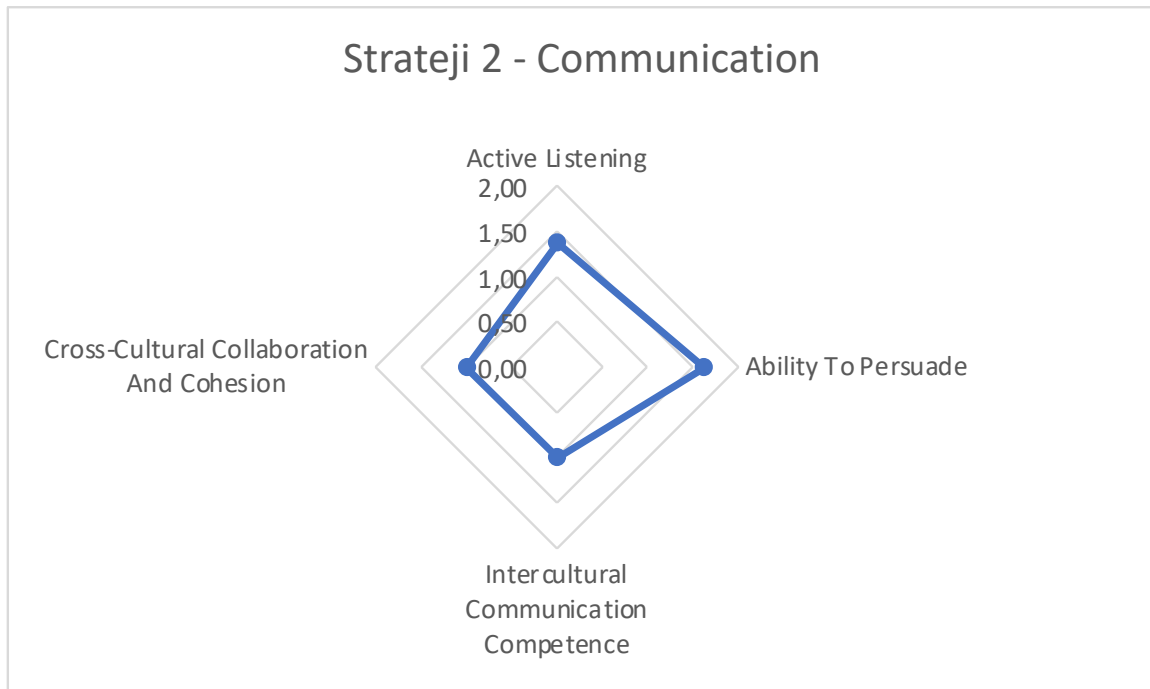| The competencies of Communication	Weighted average score of Company 1
Active Listening	1,38
Ability To Persuade	1,63
Intercultural Communication Competence	1,00
Cross-Cultural Collaboration And Cohesion	1,00

Figure C.1. 4. Radar chart of Communication category for strategy 2

C.1. 5. **Weighted average score of Strategy 2 in Leadership Category**

The competencies of Leadership	Weighted average score of Company 1
Researching And Reading	1,38
Achievement Orientation	1,13
Conflict Negotiation	1,38
Motivating and Mobilizing Others	0,75
Self-Discipline	1,13
Self- Confidence	1,13
Plan	1,13
Role Modeling	1,00
Create Vision And Strategy	1,38

Figure C.1. 5. Radar chart of Leadership category for strategy 2

C.1. 6. **Weighted average score of Strategy 2 in Digital Category**

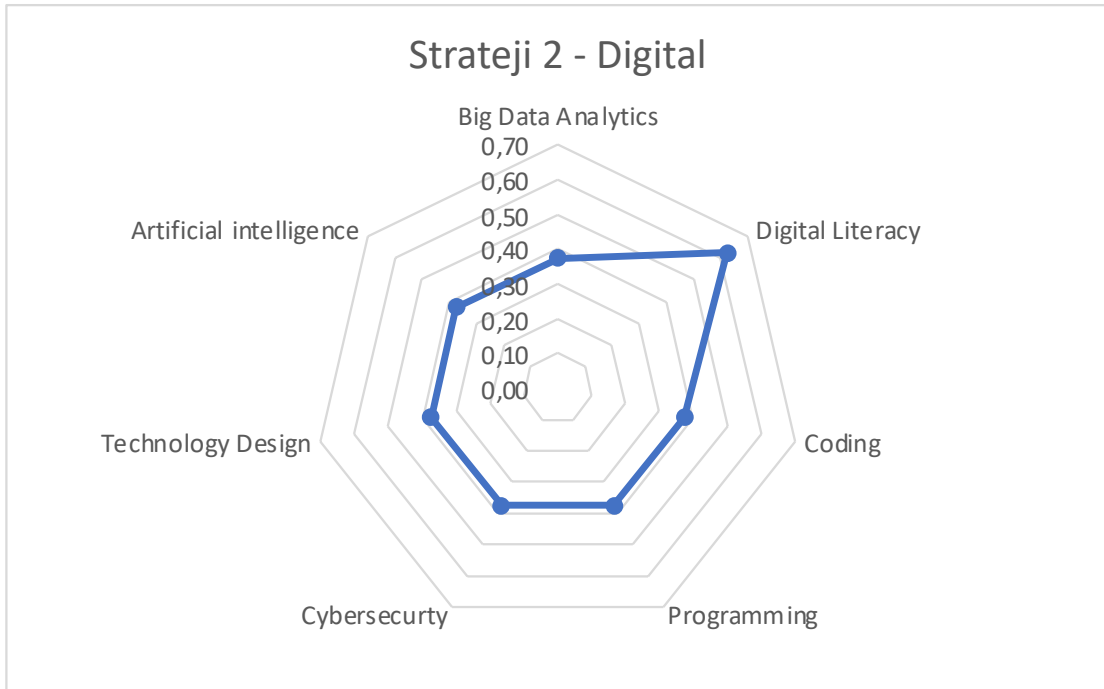| The competencies of Digital	Weighted average score of Company 1
Big Data Analytics	0,38
Digital Literacy	0,63
Coding	0,38
Programming	0,38
Cybersecurty	0,38
Technology Design	0,38
Artificial intelligence	0,38

Figure C.1. 6. Radar chart of Digital category for strategy 2

C.1. 7. **Weighted average score of Strategy 2 in Methodic / Technic Category**

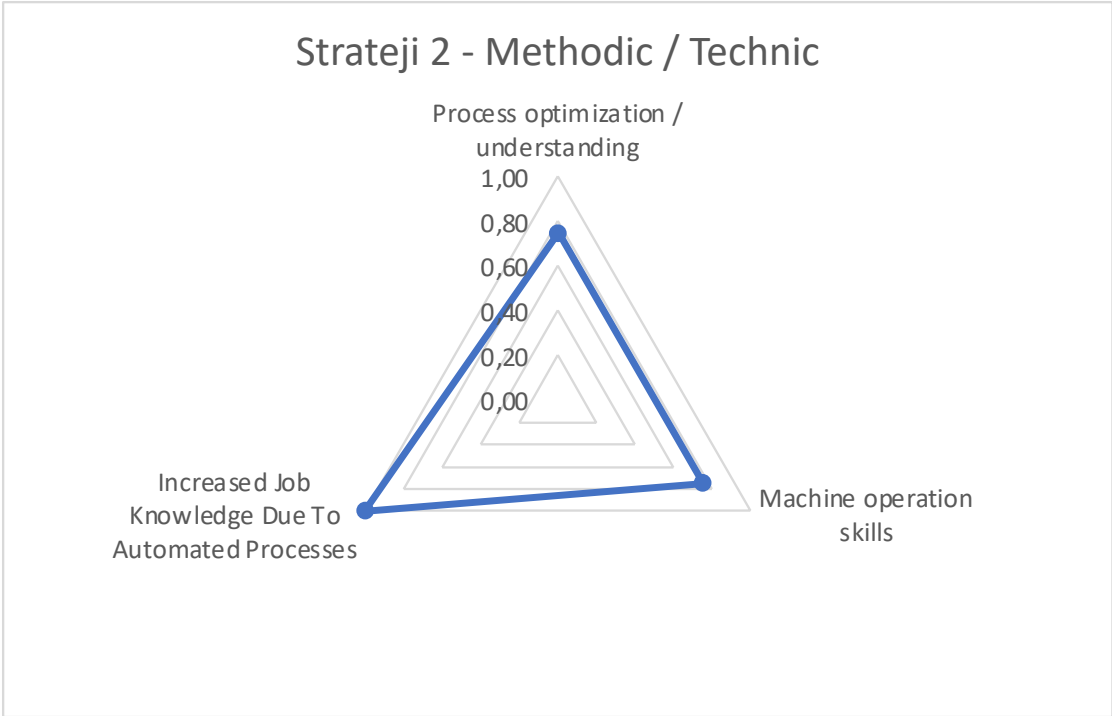| The competencies of Methodic / Technic	Weighted average score of Company 1
Process optimization / understanding	0,75
Machine operation skills	0,75
Increased Job Knowledge Due To Automated Processes	1,00

Figure C.1. 7. Radar chart of Methodic / Technic category for strategy 2