

A Systems Approach to Understanding Organizational Structure and Employee Development in Tech Sector

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ABSTRACT

The technology industry holds a distinctive position due to its relentless pursuit of rapid innovation, necessitating substantial investments in research and development. As organizations seek to thrive in this constantly evolving and highly competitive environment, the modern business landscape presents formidable challenges, demanding companies to remain agile and excel in their respective industries. In response to these challenges, organizations create structures to drive efficiency and scalability, serving as a solid foundation to function smoothly, adapt to changing circumstances, and achieve their missions and visions.

Organizational structures play a fundamental role in the success and growth of companies, providing the necessary framework to define roles and responsibilities, allocate resources, harness the collective efforts of the workforce, and drive toward sustainable growth. As such, the organizational structure directly impacts the nature of work that individuals are involved in and the array of opportunities that align with their career aspirations, which can impede or accelerate their growth potential.

This thesis explores the intricacies of organizational structure within the technology sector through a literature review and a series of semi-structured interviews. By examining the specific needs and challenges faced in structuring organizations, this thesis analyzes the essential elements that contribute to employee development. Utilizing the critical enterprise elements from the ARIES framework, this thesis uses a systems approach to enrich the understanding of different organizational structures in fostering employee development and growth.

Thesis Supervisor: Dr. Donna H. Rhodes

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Chapter 1: Introduction

This chapter discusses the thesis overview, its scope, research questions, and the chosen research approach.

1.1 Research Motivation

Organizations seek to thrive in a constantly evolving and highly competitive environment. The modern business landscape presents formidable challenges, demanding companies to excel in their respective industries.

Organizations are comprised of people contributing their skills and expertise to achieve their objectives. Yet, Individuals within the workforce harbor diverse needs and career aspirations. Some employees seek personal growth and advancement by climbing the management ladder, while others prioritize honing their technical skills to deepen their knowledge and seek stability. The organization's ability to cater to diverse ambitions is crucial for fostering a motivated and fulfilled workforce. In this intricate relationship between organizations and their employees, a systematic comprehension of employee and organization needs and expectations is invaluable. Organizations can help individual's career aspirations by exploring and discovering the multifaceted factors that drive employee satisfaction, productivity, and growth. Thus, a holistic understanding of how an organization can balance individual and organizational goals becomes a critical study.

Organizations create a structure to drive efficiency and scalability. These structures serve as a

solid foundation, enhancing the organization's ability to function smoothly, adapt to changing circumstances, and, most importantly, achieve its mission and vision. Organizational structures are fundamental pillars for the organization's success and growth, providing the necessary framework to define roles and responsibilities, allocate resources, harness the collective efforts of its workforce, and drive toward sustainable growth. As such, the organizational structure directly impacts the nature of work that individuals are involved in and the array of opportunities that align with their career aspirations, which can impede or accelerate their growth potential.

Numerous journals and books published draws the relationship between organizational structure and organizational or employee performance [1] [2] [3]. In addition, various studies conducted draws relationship between career development practices and development programs to promote employee developments [4] [5] [6]. However, there is a lack of understanding of the correlation between the organizational structure and employee development.

This thesis adopts a systems approach to gain a holistic understanding of the needs of stakeholders within organizations. By so, the thesis aims to study the performance of various organizational structures concerning employee development and how they simultaneously fulfill the overall business requirements.

1.2 Research Scope

The technology industry encompasses many technology design, manufacturing, and distribution companies, including electronic devices, computer-related equipment, software, scientific instruments, and electronic components [7]. Technology is crucial in empowering consumers and businesses in today's digital world. The technology industry in the United States comprises 35% of the world market, with over 585,000 tech companies. This thriving sector accounted for approximately 8.8% of the entire U.S. gross domestic product (See Figure 1) [8], making it the second largest industry (See Figure 2) after healthcare in the United States and generating millions of job opportunities across the different states (See Table 1) [9]. The technology industry holds a distinctive position driven by its necessity for rapid innovation, which requires significant investments in research and development. As a result, this sector heavily relies on a highly skilled workforce, with a notable concentration of engineers and technical experts [7]. These professionals play a crucial role in product development, where creativity, expertise, and precision are essential for success.

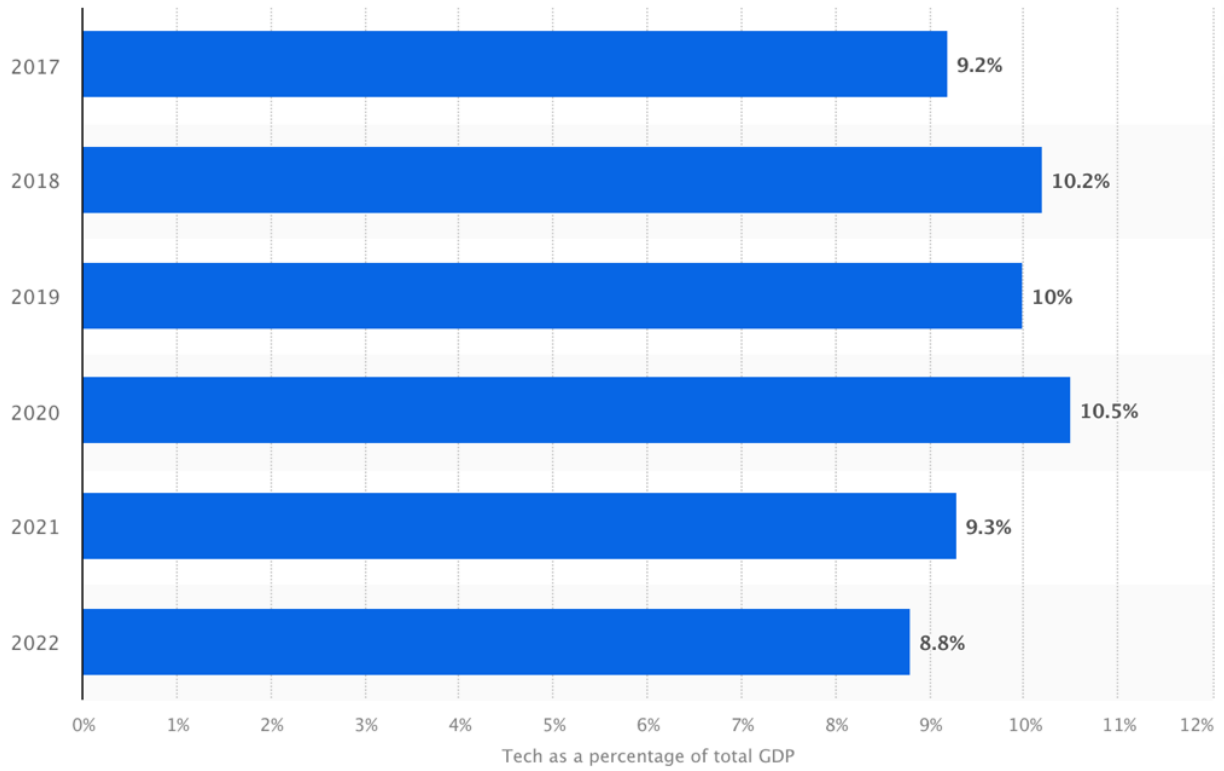


Figure 1. Tech sector as a percentage of total gross domestic product (GDP) in the United States from 2017 to 2022, sourced from [8]

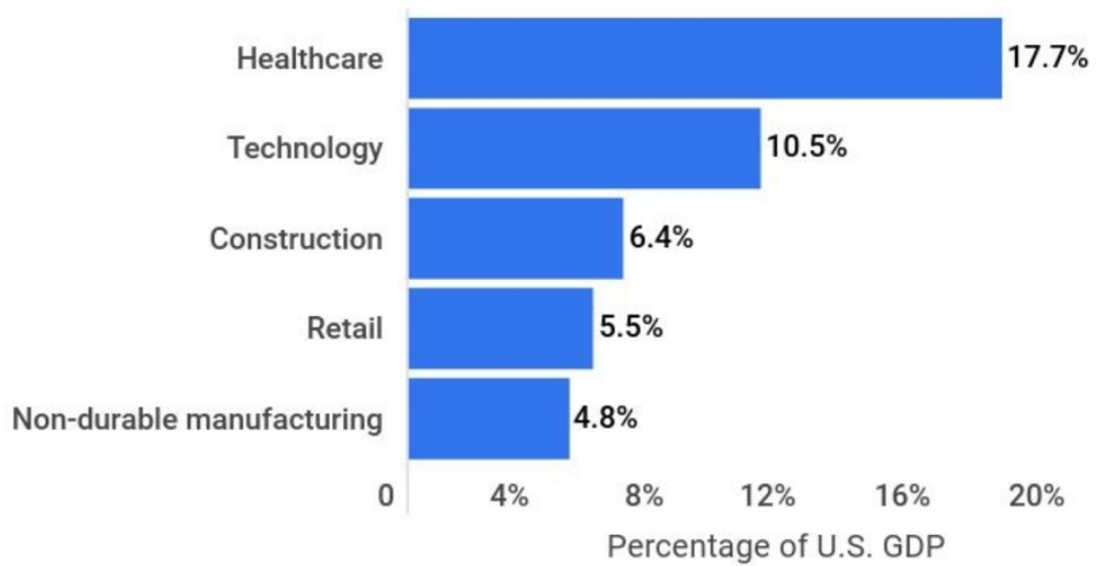


Figure 2. Top five industries in the U.S. sourced from [9]

Table 1. Top ten states by net tech employment, sourced from [9]

State	Net Tech Employment
California	1,866,951
Texas	1,025,106
New York	679,083
Florida	585,296
Virginia	446,507
Pennsylvania	445,168
Illinois	441,205
Massachusetts	440,793
Michigan	412,324
Ohio	401,066

The scope of this thesis focuses on analyzing the relationship between organizational structure and employee development in the technology industry in the United States. This thesis utilizes a systems approach to understand the holistic context by analyzing the need of the decision-makers and value recipients of organizational structures in the technology sector. This thesis enriches the understanding of how different organizational structures perform with a specific set of criteria by using the processes and techniques posed by the Architecting Innovative Enterprise Strategy (ARIES) framework.

1.3 Research Objective and Questions

The primary objective of this thesis is to take the systems approach to better understand organizational structure in modern enterprises in the technology sector in the United States and how it impacts employee development.

Research questions that the thesis explores are the following:

- What are the goals, needs, and challenges of the leadership when structuring an organization of a firm?
- What is the relationship between an organization, its structure, and employee development?
- What is the impact of different organizational structures on employee development, and how can a systems approach enhance our understanding of this relationship in the technology sector?

1.4 Research Approach

The research approach for this thesis follows a few steps to investigate the research questions mentioned previously and is described as below:

- Conduct a literature review on different organizational structures, how organizations support employee development, and how organizational structure impacts employee development.
- Perform semi-structured interviews with identified candidates who have a deep understanding of structuring organizations in different contexts, ranging from small startups to tech giants. The purpose is to gather different perspectives from industry experts in different company stages to understand the most critical need and gain insights into the research questions.

- Utilize the processes and techniques posed by the Architecting Innovative Enterprise Strategy (ARIES) framework to understand the boundaries defined by the context, understand the key stakeholders and motivations for architecting an enterprise and analyze different organizational structures that meet stakeholders' needs.

1.5 Thesis Structure

This section outlines the chapters constituting this thesis.

Chapter 1: Introduction

Chapter 1 overviews the research motivation, scope, objectives, questions, and chosen research approach. Additionally, this chapter outlines the structure of this thesis, offering readers a clear roadmap of the forthcoming content.

Chapter 2: Organizational Structure

Chapter 2 discusses the elements of organizational structure and the types of organizational structure identified in the literature review.

Chapter 3: Employee Development

Chapter 3 defines employee development as used in this thesis and explores various elements contributing to employee development. The chapter also examines the relationship between organization, organizational structure, and employee development.

Chapter 4: The ARIES Framework

Chapter 4 discusses the techniques from the ARIES framework used in this thesis to understand

the boundaries defined by the context and the key stakeholders and motivations for architecting an enterprise.

Chapter 5: Interview Summaries

Chapter 5 summarizes the semi-structured interviews conducted. The chapter briefly discusses the personas interviewed and the structure of the interview. The chapter also summarizes the insights drawn from the interviews.

Chapter 6: Utilizing Methods from ARIES Framework

Chapter 6 applies enterprise element analysis, force field analysis, value exchange analysis, and SWOT analysis posed by the ARIES framework to synthesize the interviews.

Chapter 7: Discussion

Chapter 7 synthesizes the result of the analysis from Chapter 6 to discuss the findings from the thesis.

Chapter 8: Conclusion

Chapter 8 reviews the research questions and highlights the research limitations of this thesis, along with future research opportunities.

Chapter 2: Organizational Structure

This chapter investigates what organizational structure is, what key elements contribute to the structure, and a few common types of organizational structure practiced in companies.

2.1 Definition of Organizational Structure

An organizational structure is a framework that outlines the relationships between jobs, systems, operating processes, people, and groups, all working together to achieve common goals. It involves systematically dividing tasks into defined duties and effectively coordinating them to ensure smooth operations and goal attainment [10].

Organizational structures become increasingly complex as an organization expands to tens of thousands of employees. An organizational structure encompasses the internal models of relationships within an organization, delineating the distribution of power, reporting lines, formal communication channels, and the delegation of responsibilities and decision-making authority. Facilitating information flow is a crucial function of organizational structure within an organization [11]. According to the study by Daft (2010), organizational structures should enable efficient decision-making, appropriate responsiveness to the external environment, and effective conflict resolution between various units. An organizational structure establishes the fundamental principles of coordinating activities and managing internal organizational relationships, including reporting and feedback mechanisms [1].

2.2 Elements of Organizational Structure

An organizational structure comprised of essential elements: 1) workforce specialization, 2) chain of command, 3) span of control, 4) centralization, and 5) formalization.

1) Workforce Specialization

Specialization involves the division of tasks into distinct jobs. In highly specialized settings, employees can excel in performing specific tasks with great productivity.

However, this approach may lead to a loss of versatility among employees, limiting their ability to adapt and practice various skills. Employees may find greater job satisfaction when their roles involve diverse activities [12].

2) Chain of command

The chain of command outlines the reporting structure and the flow of authority from higher to lower levels within an organization. The chain of command facilitates the establishment of order, control, and predictable performance within teams and organizations [12].

3) Span of control

A span of control pertains to the number of employees management oversees within the organization [12]. The span of control may impact organizational performance. A narrower span of control can lead to increased productivity among employees.

However, it also necessitates hiring more managers, potentially leading to micromanagement, and negatively affecting employee morale. Moreover, communication in the organization becomes more intricate as information must pass

through each additional layer when traveling upwards or downwards [13] .

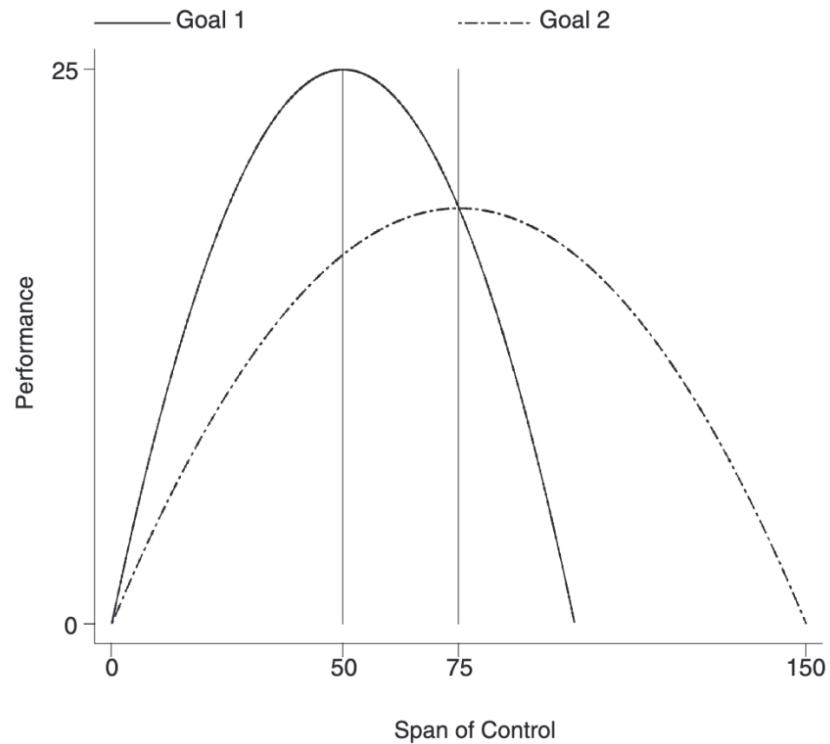


Figure 3. Theory of span of control with multiple goals, sourced from [13]

4) Centralization

Centralization pertains to the concentration of decision-making authority within an organization. In a centralized organizational structure, critical decisions are made by senior leadership at the center, while a decentralized structure involves delegating decision-making authority across employees at various levels [12].

5) Formalization

Formalization refers to specific rules and processes standardizing behaviors and decisions Formalizing organizational processes increases team empowerment by

reducing uncertainty within the firm. However, the formalization of jobs moderates the impact of decentralization, limiting team empowerment by reducing their flexibility [12].

Table 2 summarizes the critical elements of organizational structure.

Table 2. Elements of organizational structure, sourced from [12]

Organizational Structure Dimension	Definition
Work specialization	The degree to which tasks in an organization are divided into separate jobs.
Chain of command	Answers the question of “who report to whom?” and signifies formal authority relationships.
Span of control	Represents how many employees each manager in the organization has responsibility for.
Centralization	Refers to where decisions are formally made in organizations.
Formalization	The degree to which rules and procedures are used to standardize behaviors and decisions in an organization.

2.3 Types of Organizational structure

This section investigates several examples of an existing organizational structure practiced by enterprises. While alternate structures, like flat structure, exist, this thesis narrows the focus to only functional structure, multi-divisional structure, and matrix structure, which the interviewees during semi-structured interviews identified.

2.3.1 Functional Structure

A functional structure divides groups by the functions [12] (See Figure 4). A functional structure

relies on high levels of standardization, routinization, and mechanization to gain efficiency advantages [14]. A company with a functional structure tends to exhibit the characteristics of a top-down hierarchical structure to coordinate different job functions [15]. Although a specialized workforce can foster organizational efficiency, a functional structure often leads to individuals within each function becoming excessively absorbed in their objectives and perspectives, causing them to lose sight of the broader organizational strategy [12]. Hence, adapting to new changes may take time, potentially missing out on opportunities [15]. Without an extra effort to link the divisions, a functional structure may limit the distribution of knowledge of how each department contributes to the company's goals.

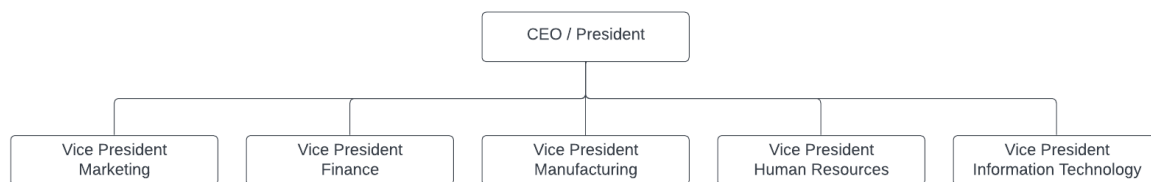


Figure 4. Example of functional structure, sourced from [12]

2.3.2 Multi-divisional Structure

A multi-divisional structure (also called an M-form structure) is often adopted when a functional structure becomes too diverse to address evolving requirements effectively, necessitating the creation of divisions to handle each specific need more efficiently [12]. A multi-divisional structure creates distinct divisions, where each division handles a specific business and operates with its self-contained functional hierarchy (See Figure 5) [16].

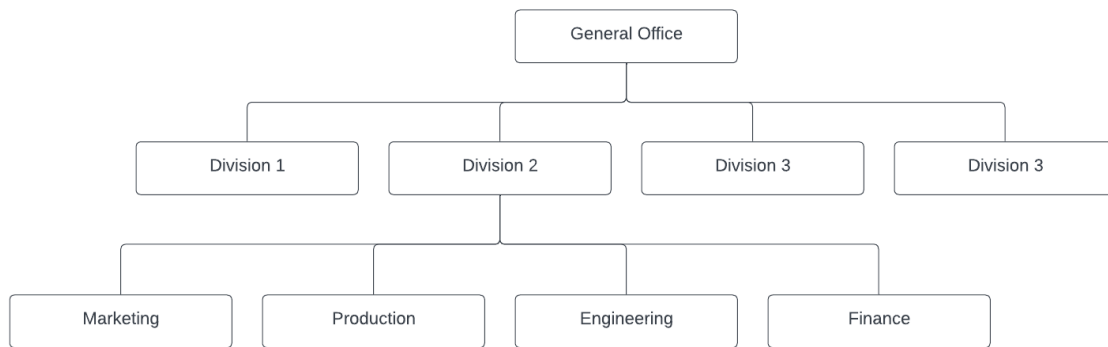


Figure 5. The multi-divisional structure, sourced and adapted from [16]

In contrast to a functional structure, a multi-divisional structure fosters accountability and transparency within each division, which may encompass multiple job functions [17]. As such, the structure enables business units to be more responsive to changes [18]. Nevertheless, Hoskisson, et al. (1993) suggest that a multi-divisional design can occasionally create conflicting organizational requirements between divisions [16], posing a potential challenge. A multi-divisional structure may also inflict duplicated business functions within different divisions [18]. Examples of the type of multi-divisional structures are product structure and geographic structure. Product structures divide units around different products that the company supports. Each division may include cross-functional teams to develop and market specific products (see Figure 6) [12].

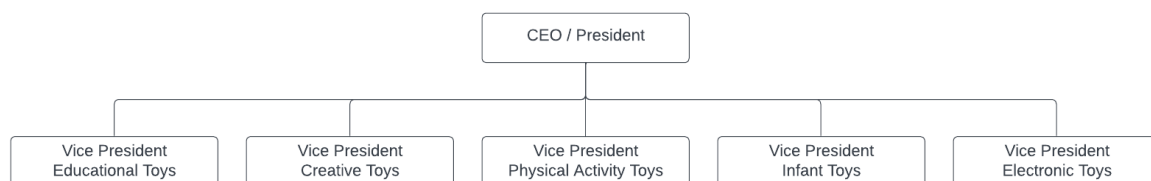


Figure 6. An example of product structure, sourced from [12]

Geographic structure divides the organization based on locations, considering different regions' unique cultural aspects and customer preferences. This approach allows the organization to better cater to the diverse needs of customers in each location (See Figure 7) [12].

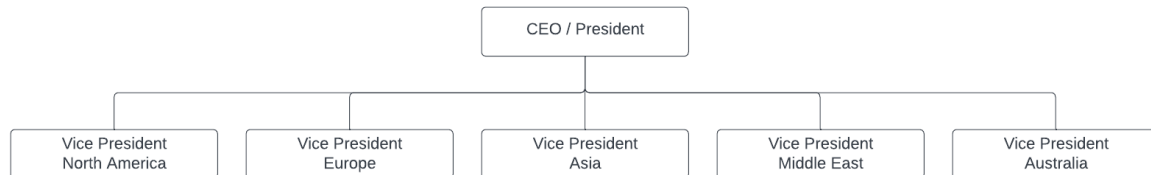


Figure 7. An example of geographic structure, sourced from [12]

2.3.3 Matrix Structure

A matrix structure is a sophisticated organizational arrangement that assigns employees to projects [12]. The goal of a matrix structure is to merge the efficiency of a functional structure with the adaptability and responsiveness of a multi-divisional structure, not only based on product, customer, or geographical logic but also incorporating functional logic found in multi-divisional structures. In a matrix organization, functionally specialized employees work in one or several project teams. The delegation of tasks to employees occurs through negotiations between functional and project managers, sometimes involving team members or potential members. The matrix structure enhances project clarity by aligning the workforce around specific objectives and optimally utilizing resources. Its interconnected relationships facilitate effective information dissemination throughout the organization [12]. A matrix structure typically involves two chains of command: one based on functional departments and the other

based on projects. It is also possible to have additional chains of command, such as those based on geographic locations (See Figure 8) [19].

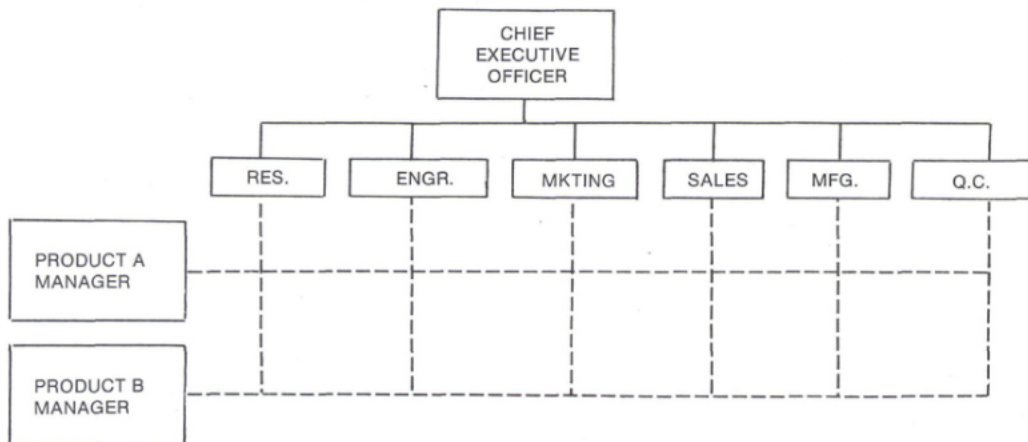


Figure 8. The visualization of matrix organization, sourced from [19]

Stuckenbruck (1979), Larson & Gobeli (1987), Schnetler, et al. (2015) indicate that the matrix structure enhances clarity in project objectives by aligning resources directly with the project and enables flexibility to adapt to a dynamic market [19] [20] [21]. The structure also optimally utilizes company resources [19] [22]. However, this structure may present challenges due to multi-reporting chains and complexities in information flow [19].

Chapter 3: Employee Development

This chapter explores the overview of the various elements that contribute to employee development and organizational support in nurturing and empowering employee development.

3.1 Definition of Employee Development

This thesis adopts the definition of employee development from McCauley and Hezlett (2001): “the expansion of an individual's capacity to function effectively in his or her present or future job and work organization [23]”. Employee development involves intra-individual changes that result in improved work performance, considering various determinants like knowledge, skills, personality, and interests [23]. Employee development is like training but differs in scope, objectives, and approach. While training often focuses on formal education away from the worksite, employee development utilizes diverse learning events and aims for long-term professional and personal growth [23] [24]. Employee development is also not synonymous with career development, which focuses on managing work experiences and attaining career goals [25] without necessarily leading to changes in individual attributes affecting work performance [23].

Employee development encompasses several fundamental tactics, such as job redesign, task delegation, skill training, and career development [26], an ongoing process of learning, developing, and progressing toward one's goals [27]. Kraimer et al. (2011) suggest that employee's career development must be carefully structured to balance between organizational objectives and an individual's career aspirations and desired progress [3].

3.2 Common Elements of Employee Development

McCauley and Hezlett (2001) draw three approaches to understanding employee development: behavioral change, self-directed learning, and adult development [23]. Behavioral change emphasizes goal-setting, instrumentality beliefs, and reinforcement in driving change [28]. Self-directed learning underscores individual motivation for continuous learning and situational factors that support it [29]. Adult development highlights learning through environmental interaction and cognitive processes [23]. Based on the three approaches, McCauley and Hezlett (2001) further categorize common elements of employee development to each approach as depicted in Table 3. These elements help guide the thesis in drawing insights into the relationship between an organization, its structure, and employee development.

Table 3. Common elements of employee development, sourced from [23]

Element	Behavior Change	Self-Directed Learning	Adult Development
<p>Awareness of Developmental Needs Knowing in what way an individual’s capacities need to be expanded.</p>	<ul style="list-style-type: none"> • Clear Articulation of desired behaviors. 	<ul style="list-style-type: none"> • Awareness of gaps between current capabilities and current or future job requirements (from self-monitoring and feedback-seeking). 	<ul style="list-style-type: none"> • Reacting to disequilibrating experiences by reexamining the basic assumptions in current meaning structure.
<p>Self-efficacy for Learning Belief that one can expand his or her capacity in certain domains.</p>	<ul style="list-style-type: none"> • High expectation from employees that they can achieve the behavioral standard. 	<ul style="list-style-type: none"> • Employee self-efficacy and mastery orientation. 	<ul style="list-style-type: none"> • Belief that new meaning structures can be created in response to disequilibrating experiences.
<p>New Experiences Activities that require individuals to stretch skills or learn new ones.</p>	<ul style="list-style-type: none"> • Learning situations that provide opportunities to try out new behaviors. 	<ul style="list-style-type: none"> • Changes in the environment or the organization that create a gap between capabilities and requirements. • Opportunities for application of new knowledge and skills. 	<ul style="list-style-type: none"> • Access to new or different work experiences. • Access to guides with more complex meaning structures.
<p>Examination of Self-In-Experiences Being intentionally conscious of behaviors, feelings and thought processes when encountering new experiences</p>	<ul style="list-style-type: none"> • Self-monitoring and feedback during the acquisition and generalization of new behaviors. 	<ul style="list-style-type: none"> • Feedback and situational cues to facilitate the application of knowledge and skills. 	<ul style="list-style-type: none"> • Intentional reflection in and on experiences. • Opportunities to learn collectively with coworkers.
<p>Valuing of Individual Development Development is experienced as leading to valued outcomes</p>	<ul style="list-style-type: none"> • Work contexts that reinforce and minimize threats to new behaviors. • High expectations from employees that achieving behavioral standards will lead to valued outcomes. 	<ul style="list-style-type: none"> • Support and reinforcement of new knowledge and skills from coworkers and supervisors. 	<ul style="list-style-type: none"> • Access to guides with more complex meaning structures. • Opportunities to learn collectively with coworkers.

3.3 Organization, Organizational Structure, and Employee Development

Organizations may play an essential role in nurturing employee development by offering tailored opportunities that align well with an individual's career aspirations. These opportunities may encompass targeted skill development, such as technical or managerial expertise, accommodating flexible work arrangements to address family responsibilities, or providing exposure to diverse organizational settings, including overseas assignments or start-up ventures [6]. As depicted in Table 3, opportunities to try out new behaviors and gain new knowledge and skills are meaningful in employee development [23]. Dragoni et al. (2011) revealed a positive correlation between the accumulation of work experience and enhanced strategic thinking and cognitive ability [30]. Additionally, Kozlowski and Salas (2010) demonstrate that the quality of learning is influenced by the organization's readiness to provide learning opportunities [6]. Moreover, opportunities to interact with coworkers and learn collectively also play an essential role in adult development when examining self-in-experiences and valuing individual development [23].

Organizations may also form mentorship relationship, which is vital in promoting employee development [4] [5]. Mentoring behaviors such as sponsorship, exposure, coaching, and protection enhance task-related work aspects that facilitate objective career success. Additionally, qualitative research highlights the importance of various mentoring behaviors, including providing networking opportunities outside the organization, assigning intellectually challenging tasks to foster skill development, facilitating lateral and cross-functional

relationships, and offering personalized feedback and career strategy advice, all of which have proven to be particularly beneficial for employees [5].

Multiple studies indicate that the organization and its chosen organizational structure impact employee's available resources, motivation, and growth. Career exploration, a crucial step in the career management process, is influenced by the organization's chosen structure, as it affects the available information to individuals [31]. The theory of exploratory behavior, developed by vocational psychologists, highlights the importance of information elicitation about oneself and the environment [32]. This process helps individuals develop self-awareness and occupational concepts, contributing to their growth within the organization [6]. However, the organization's structure may also limit individual's capacity to store and process information, impacting their learning potential and adaptability [33] [34]. In contrast, overwhelming information bombardment can lead to information overload, hindering employee's ability to focus and make informed decisions [33]. It can be inferred from these studies that organizational structures that facilitate efficient information flow and management are essential to ensure employees receive the correct information at the right time, fostering a conducive environment for growth and development.

Numerous studies have established a significant link between organizational structure and work motivation [24] [35] [36]. Motivation drives proactive behavior in employees, leading them to take initiative and self-regulate while dedicating effort and resources to achieve autonomous goals [32]. Proactive exploratory behavior, influenced by the organization's structure, is expected for individuals seeking career progression and increased knowledge of career

opportunities [37] [2] [38]. Organizations that foster and support proactivity are more likely to witness improved employee performance and career progression [39] [40] [41] [42].

Consequently, it becomes evident that organizational structure plays a vital role in shaping employee motivation, influencing individual's proactivity, and ultimately impacting their exploratory behavior, positively correlated with developmental behavior.

Chapter 4: The Architecting Innovative Enterprise Strategy Framework

This chapter discusses the Architecting Innovative Enterprise Strategy (ARIES) framework, which is used to characterize different organizational structures in this thesis.

4.1 The ARIES Framework

The ARIES framework is a comprehensive approach drawing from various fields, such as strategic management, stakeholder theory, systems architecting, innovation, scenario analysis, decision science, enterprise theory, and systems science. The framework offers a holistic approach to evaluating architectures that align with the future enterprise's vision and guide the exploratory phase of transformation [43]. The ARIES framework offers unique perspectives to delve into various elements, providing a comprehensive view of the entire enterprise. Its process and techniques facilitate the analysis of potential architectures, enabling a thorough understanding of the organization's structure and possibilities for transformation used in this thesis.

4.2 Utilizing the Methods from the ARIES Framework

The ARIES framework enables a comprehensive understanding of a complex system and enables evaluating alternative's suitability for one or more envisioned future contexts [43], offering a range of evaluation methods and utilizes selection criteria to assess architectures efficiently.

This thesis employs techniques posed by the ARIES framework to delve various organizational structure. In Chapter 6, the enterprise elements lay the foundation for understanding the

context of organizational structure and exploring drivers for change. This involves examining the enterprise landscape and conducting stakeholder analysis. Drawing insights from interviews, the vision for the future and evaluation criteria for different organizational structures is discussed, followed by an analysis of various architectures.

4.2.1 Enterprise Element Analysis

The ARIES framework is grounded in the belief that an enterprise is a complex system requiring a holistic approach. The framework incorporates ten essential enterprise elements, depicted in Figure 9, which help reduce complexity and offer a comprehensive view of the organization [43]. This thesis applies the ten-enterprise element model to build a contextual understanding of organizational structure.

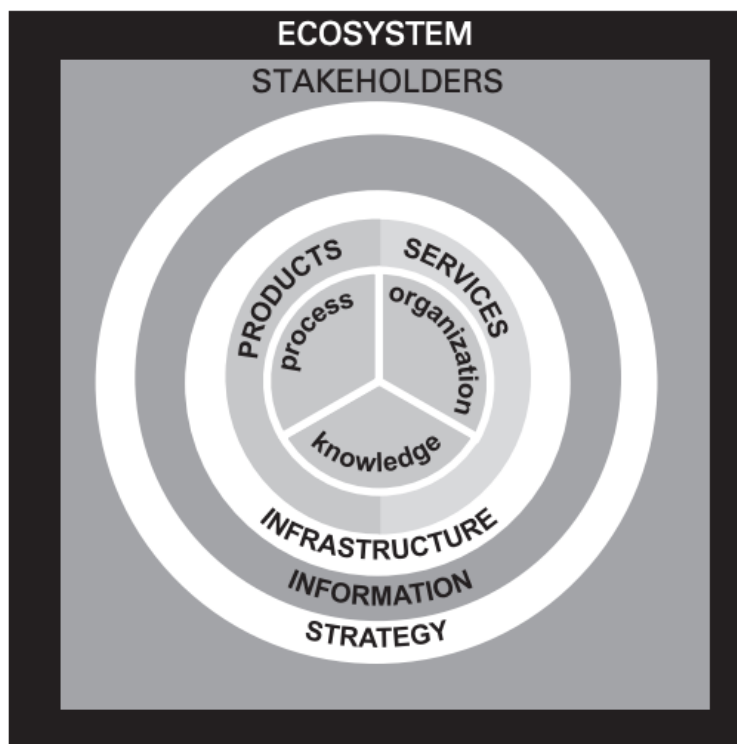


Figure 9. ARIES enterprise element model, sourced from [43]

The ecosystem element examines the external boundaries within which the enterprise operates. The ecosystem element encompasses the economic, market, regulatory, available technology, workforce, competition, and demographic [44]. The stakeholder element focuses on people within both the ecosystem and the enterprise's internal boundaries. Enterprises deliver value fundamentally determined by how stakeholders perceive it and the value they contribute to and receive from it. The remaining eight elements, known as view elements, are designed to facilitate the analysis within the organization [43].

Table 4. Elements of the enterprise, sourced from [43]

Elements	Description
Ecosystem	The external regulatory, political, economic, market, and societal environment in which the enterprise operates and competes/cooperates with other enterprises.
Stakeholders	Individuals and groups who contribute to, benefit from, and/or are affected by the enterprise.
Strategy	The strategic vision along with the associated business model and key strategic thrusts, goals, and performance management system.
Information	Information the enterprise requires to perform its mission and operate effectively in accordance with its strategy.
Infrastructure	Enterprise enabling systems and information technology, communication technology, and physical facilities that enable enterprise performance.
Products	Products the enterprise acquires, markets, develops, manufactures, and/or distributes to stakeholders.
Services	Offerings derived from enterprise knowledge, expertise, and competencies that deliver value to stakeholders, including support of products.
Process	Key leadership, lifecycle, and enabling processes by which the enterprise carries out its mission and creates value for its stakeholders.
Organization	Culture, organizational structure, and underlying social network of the enterprise.
Knowledge	Competencies, expertise, explicit and tacit knowledge, and intellectual property resident in and generated by the enterprise.

Understanding the major constituents in the enterprise ecosystem using the enterprise elements is a vital step for the ARIES framework [44]. This thesis analyzes ecosystem and view elements across three categories: level, pace, and impact.

- Level assesses the magnitude and depth of the transformation or change caused by the underlying driver within an element.
- Pace measures the speed at which the given element impacts the organizational structure.
- Impact captures the degree of influence exerted by the element.

4.2.2 Force Field Analysis

The ARIES framework emphasizes the importance of understanding the factors that drive or hinder the desired change when evaluating possible architectures [44]. Force field analysis is a valuable technique to identify the forces that either facilitate or obstruct the desired change (See Figure 10) that may provide new insights in evaluating new strategies [45]. Transformation is often necessitated by adapting to the dynamic environment and seizing opportunities that arise. These forces for change can originate from external sources beyond the organization and internal factors within it [44]. This thesis utilizes the key insights gathered during the interview's discussion on challenges to conduct a force field analysis in Chapter 6.

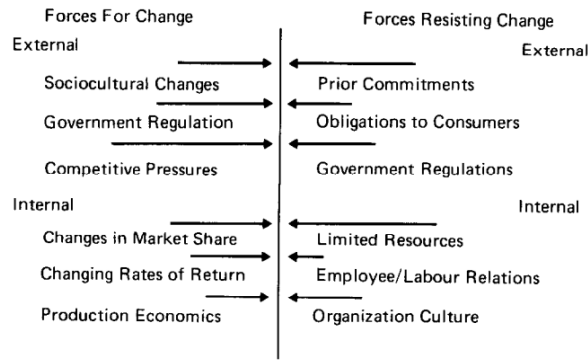


Figure 10. A Sample force field analysis, sourced from [45]

4.2.3 Value Exchange Analysis

The ARIES framework provides a useful method to capture the value exchange between stakeholders and the enterprise [46]. Leveraging the value-focused approach from the ARIES framework assists in identifying discrepancies between stakeholders' needs and the delivered outcomes. This process aids in formulating future stakeholder requirements and envisioning the organization's future direction [43]. See *Table 5* for an example of the value exchange analysis of a healthcare-system.

Table 5. Healthcare-system stakeholder value exchange, sourced from [46]

Value expected from enterprise	Stakeholders	Value contributed to enterprise
Medical care when and where needed, with seamless care across region	Clients	Client subscription to healthcare program, with payment for services
Ability to place, access, and locate accurate information in medical record regardless of region where care is received	Physicians	Medical care to eligible clients, timely updates to medical records, and ordering of tests/treatments when/where needed
Ability to communicate with regional offices, access centralized medical record, and make timely verification of eligibility	Referral case managers	Managing care process across regions, and ensuring clients understand where to get care within regions

4.2.4 SWOT Analysis

A simple SWOT analysis, as posed by the ARIES framework, is employed to determine the differentiating attributes of these concepts by evaluating their Strengths, Weaknesses, Opportunities, and Threats [47]. A SWOT analysis provide a way to weed out architectural concepts that simply do not support the enterprise’s vision for its future, or that are simply overwhelmed by weaknesses and threats to the degree that they are rendered infeasible or too risky to pursue [47]. Figure 11 indicates the template for the SWOT analysis used.

	Helpful	Harmful
Internal	Strengths	Weaknesses
External	Opportunities	Threats

Figure 11. Template for SWOT analysis

Chapter 5: Interview Summaries

This chapter provides list of personas interviewed and insights gathered of the semi-structured interviews conducted for this thesis.

5.1 List of Personas Interviewed

A diverse group from the technology sector participated in semi-structured interviews to delve into the relationship between an organizational structure and employee development.

Decision-makers from diverse backgrounds and perspectives within the technology sector were interviewed to gather various insights. Individuals at different stages of their careers were also interviewed to gain a deeper understanding of the distinct needs and experiences of organizational structure value recipients, shedding light on how organizational structure impacts their professional journeys.

Table 6 outlines their roles and the corresponding institutions they are or were affiliated with.

Table 6. Personas interviewed

# Persona	Category	Generalized Function	Associated Institution
1	Decision-maker	Vice Present leading engineering team consisting roughly 800 individuals globally.	IBM
2	Decision-maker	Senior leader leading roughly 300 individuals ranging from product management, analytics and machine learning, operations, and engineering.	Startup acquired by Roku
3	Decision-maker	Director leading roughly 200 individuals including engineering, product, and technology operations.	Vertex Pharmaceuticals
4	Decision-maker	Cofounder leading 70 people in the company who are mixed with fully remote and distributed across the United States.	Open-source technology startup in Series C
5	Decision-maker	Ex-Chief Technology Officer leading more than 70 individuals.	Dispatch and routing software startup in Series C
6	Decision-maker	Ex-Director managing roughly 50 individuals.	Manufacturing sector for government backed startup
7	Decision-maker	Senior leader who managed multiple organization within Google, now managing roughly 150 people in a Generative AI organization.	Google
8	Decision-maker	Technical lead leading the team of 8 people of an engineering team in Ads.	Facebook
9	Value recipient	Mid-level manager leading engineering team.	Amazon
10	Value recipient	Mid-level manager leading an engineering team in Uber Eats.	Uber
11	Value recipient	Engineer leading end-to-end product for an equity crowdfunding startup.	Fin Tech Startup
12	Value recipient	Junior mobile engineer building features	Comixology, Amazon Affiliate

5.2 Interview Structure

The interviews with both groups adhered to a structured format with four sections. The first section aimed to gain a contextual understanding of the current organizational structure each participant operates in. The second section focused on exploring the needs of each stakeholder related to organizational structure, while the third section delved into the challenges faced by each interviewee. Finally, the interviews concluded by exploring future perspectives and strategies to measure the success of organizational structures.

All interviews adhered to the same sequence and structure to ensure consistency. The detailed questions asked during the interviews are highlighted in Table 7.

Table 7. Interview structure

Interview Section	Questions	
	Decision-Makers	Value Recipients
Context Development	<ul style="list-style-type: none"> • What is the industry you work for, and what is unique about your industry? • Is your enterprise large, medium, or minor, and how many people do you lead? 	<ul style="list-style-type: none"> • What is the industry you work for, and what is unique about your industry? • Given your desired career growth, in what ways does your organization help with your development?
Understanding the Needs	<ul style="list-style-type: none"> • What factors are considered when structuring an organization? 	<ul style="list-style-type: none"> • How would you like your organization to support your career growth?
Key Challenges	<ul style="list-style-type: none"> • What do you think are the critical challenges to structuring an organization? • How does the organizational structure impact potential opportunities for employees? 	<ul style="list-style-type: none"> • Given how your organization is currently structured, does this create any challenges for you related to career growth?
Future Outlook	<ul style="list-style-type: none"> • In your opinion, what defines an effective organizational structure? • If you plan to change your organizational structure, what are your goals, and how will you measure these? 	<ul style="list-style-type: none"> • Does the structure of your organization support your growth, and if not, what would you change about the org structure?

5.3 Insights from the Interviews

This subsection summarizes the insights drawn from the semi-structured interviews.

5.3.1 Context Development

During the interviews with the decision-makers, three distinct organizational structures were identified: functional, matrix, and multi-dimensional. Five of the eight decision-makers

interviewed employed the multi-dimensional organizational structure, two utilized the matrix organization, and one operated within a functional structure.

Value recipients voiced their appreciation for the organizational support in fostering their growth, citing opportunities that expand their skill set, enable leadership development, and expose them to challenging problems. Many value recipients highlighted the organization's unique culture, which emphasizes continuous learning and informed decision-making, encouraging them to become experts in their respective areas while maintaining a broader perspective. Additionally, all value recipients stressed the significance of mentorship and feedback provided by the organization, which plays a crucial role in their personal and professional growth as contributors.

5.3.2 Understanding the Needs

Based on decision-maker interviews, six needs from the decision-makers emerged when structuring an organization: 1) Business Performance, 2) Cost, 3) Scalability, 4) Flexibility, 5) Collaboration, and 6) Trust.

1) Business Performance

The interviews suggest organizations should seek revenue growth and drive efficient product delivery. Organizations should be structured to enable strategic investments and optimal resource allocation.

2) Cost

Decision-makers voiced that cost considerations are vital for efficiency and financial sustainability, necessitating careful attention to cost allocation and optimization during

organizational design. According to decision-makers, analyzing departmental resources enables decision-makers to identify streamlined operations and expense reduction opportunities. An effective organizational structure minimizes duplication of work and enhances product development efficiency. External influences, such as backing institutes for startups, can also shape resource allocation and spending decisions.

3) Scalability

When structuring an organization, the interviews suggest that scalability should be a primary consideration as managing larger teams becomes increasingly complex. Rather than aiming to manage large teams, the focus should be on cultivating productivity and efficiency within smaller groups by removing system noise and overcoming barriers. Organizations can maximize their chances of success by aligning growth and investment with incremental value.

4) Flexibility

According to decision-makers, the ability to adapt is paramount for organizations to thrive and remain competitive in an ever-evolving industry landscape. Decision-makers claim that with priorities shifting rapidly, organizations must continuously evolve and enhance their flexibility to navigate the dynamic demands of the industry successfully. By embracing adaptability as a core principle, organizations can proactively respond to changes, seize new opportunities, and position themselves at the forefront of innovation. In this dynamic environment, the ability to swiftly adapt becomes a key driver for sustained success and growth.

5) Collaboration

Decision-makers voiced that organizations must foster seamless collaboration within and across teams by removing barriers that hinder cooperation. According to the decision-makers of the study, organizational structure should enable the establishment of clear, measurable, and attainable priorities within and across teams. In larger organizations, numerous distractions and interrupts can impede the pace of priority accomplishment, requiring careful differentiation between necessary interruptions and mere distractions. Cross-functional interaction is not about creating more meetings but fostering open innovation and delivering impact.

6) Trust

Multiple decision-makers claimed that by assembling a team of individuals who inspire confidence and demonstrate exceptional execution skills, leaders can delegate tasks without constant oversight. This delegation empowers leaders to concentrate on their priorities while enabling their team members to focus on their areas of expertise. Trust forms the bedrock of a successful organization according to the decision-makers.

Putting talent first is a crucial aspect of building such a team. It may require initial investments to secure the right talent, even if it comes at a higher cost. However, these investments pay off in the long run.

Table 8 captures the summarized view of factors when structuring an organization.

Table 8. Summarized view of needs of decision-makers from the interviews

Factors	Overview
Business Performance	Robust revenue growth and product development drive competitiveness. A well-structured organization enables strategic investments and resource optimization.
Cost	An organization must streamline operations and allocate resources efficiently to reduce costs.
Scalability	Prioritizing scalability involves focusing on smaller teams to enhance productivity and efficiency and remove barriers while aligning growth and investment with incremental value for increased chances of success.
Flexibility	An organization must continually evolve and enhance flexibility to navigate dynamic demands and maintain competitiveness effectively.
Collaboration	Organizations must eliminate barriers and establish clear priorities to promote seamless collaboration within and across teams.
Trust	An organizational structure must enable leaders to build a capable and trustworthy team, empowering them to delegate tasks confidently and focus on priorities while enabling team members to excel in their respective areas.

The value recipients' interviews revealed three key needs that employees hope to obtain from the organization: 1) Opportunities, 2) Skill Enhancements, and 3) Mentorship.

1) Opportunities

According to value recipients, an organizational structure prioritizes transparency, offers comprehensive information on strategic decisions and business priorities, provides clarity, and empowers employees to align their efforts with the organization's objectives. This transparency creates an environment where employees can make informed decisions and capitalize on opportunities that drive collective success. Value

recipients voiced that organizations can support employees by offering additional scope that aligns with their skills and interests.

However, value recipients voiced that it is essential to acknowledge that organizational decisions, influenced by market conditions or resource allocation factors, may eliminate specific roles, or reduce investments in certain areas. While these decisions may temporarily limit immediate opportunities for employees, it is equally essential for the organization to communicate and manage these changes effectively, fostering a culture of open dialogue and support.

2) Skill Enhancements

Value recipients claimed that organizations could provide challenging projects or leadership development opportunities, allowing employees to broaden their skill set and take on greater responsibilities. Employees can enhance their capabilities and expand their professional horizons by offering exposure to diverse programs and initiatives.

The organization's unique culture, which strongly emphasizes continuous learning, deep knowledge, and quick decision-making, is crucial in supporting employees according to value recipients. This culture encourages employees to become subject matter experts in their respective areas while fostering a broader perspective. It creates an environment where continuous growth and development are valued, enabling employees to thrive and contribute their expertise effectively.

In addition to career and skill development, value recipients also voiced that organizations can support employees in acquiring new technical skills in high demand in the industry. This can be done through training programs, workshops, or even

sponsoring relevant courses or certifications. This can inspire and guide employees, helping them navigate their career trajectories.

3) Mentorship

To effectively support employees, value recipients voiced that organizations should prioritize mentorship, providing a supportive environment that encourages open communication and feedback. Mentorship programs can pair employees with experienced professionals, both within and outside the company, who can provide guidance, share insights, and offer valuable perspectives for personal and professional growth. These mentors can serve as trusted advisors, helping employees navigate challenges, refine their skills, and make informed decisions.

In addition to mentorship, value recipients suggested leadership development programs that can support employee development. These programs can focus on honing managerial abilities, providing valuable training, and equipping employees with the necessary skills to excel in leadership roles. By offering targeted development opportunities, the organization can empower employees to take on greater responsibilities, foster their potential as influential leaders, and contribute to its overall success.

Value recipients emphasized a culture that encourages regular feedback and provides dedicated spaces for employees to share their thoughts and aspirations. This enables employees to openly voice their concerns, seek guidance, and discuss their career aspirations. By fostering an environment where expectations are communicated, and feedback is embraced, the organization can facilitate growth, empower employees to

make meaningful contributions, and nurture their professional development. Table 9 summarizes the needs of employees identified from the interview.

Table 9. Needs of value recipients from the interviews

Need	Overview
Opportunities	Providing employees with a roadmap for their professional growth instills a sense of direction and motivates them to pursue development opportunities to reach their career goals actively.
Skill Enhancement	By providing resources, training programs, and opportunities to develop these in-demand skills, organizations empower their employees to stay ahead of industry trends, broaden their expertise, and contribute to their continued innovation and competitiveness.
Mentorship	Providing mentorship, creating spaces for growth and learning, and offering regular feedback on expectations are integral organizations can effectively support their employees' development and success.

5.3.3 Key Challenges with Organizational Structure

This section summarizes the interviewees' responses concerning the challenges encountered while structuring an organization and the difficulties arising from organizational structures.

Decision-makers voiced the following challenges when structuring an organization:

1) Defining Boundaries

Decision-makers voiced that finding the appropriate level of central control while allowing individual teams to operate independently is crucial. Overlapping charters with other organizations can lead to ambiguity and inefficiencies if not adequately addressed. Defining clear accountability and ownership at various management levels becomes

essential to ensure a cohesive structure. Leaders must have visibility multiple layers down in the organization to make informed decisions and guide their teams effectively. Defining the right balance between centralization and decentralization within the organization is a challenging problem.

2) Team Motivation, Growth, and Retention

According to the decision-makers, keeping teams motivated and engaged is a constant challenge. An organizational structure must foster a positive work environment and provide growth and career development opportunities to retain talented employees. Effectively compensating and rewarding team members based on their contributions is crucial for maintaining a motivated workforce. As organizations often comprise individuals with diverse skill sets, finding the right levers and scope to motivate each team member becomes paramount for overall success. Addressing interpersonal dynamics and mitigating frictions that can make the organization fragile is also critical for a smooth functioning structure.

3) Product Vision and Strategy

In the ever-changing business landscape, decision-makers emphasized that rapid technological advancements often create disruptive forces that organizations must confront. According to a few decision-makers interviewed, one of the continuous challenges faced when structuring an organization is staying competitive in the market and gaining a distinct edge over competitors. To address this, it becomes imperative for organizations to establish a coherent vision for product development and evolution.

By establishing a well-defined product vision, decision-makers claim they can align current and future investments more effectively. This strategic alignment empowers the organization to prioritize features for application development in a manner that aligns seamlessly with business objectives and customer requirements. However, navigating this process can be intricate and requires a thoughtful approach.

4) Transparency & Clarity

Value recipients in the organization have identified a few challenges stemming from the current organizational structure. These challenges primarily hinder long-term career aspirations, particularly in reaching executive roles.

Value recipients voiced the issues arising due to limited clarity regarding advancement opportunities, unclear paths for growth due to hierarchical barriers restricted exposure to cross-functional experiences, and insufficient support for personal development outside the organization's established culture. However, they believe these challenges can be addressed through open communication, enhanced collaboration, and strategic initiatives to create a more supportive and inclusive environment for career growth. In some cases, roles are eliminated, forcing employees to find different opportunities within or outside the company.

Table 10 summarizes the key challenges with structuring an organization and the challenges faced by the value recipients.

Table 10. Key challenges from decision-makers and value recipients

Need	Overview
Boundaries	Defining the proper organizational structure is challenging, balancing central control and team autonomy and addressing overlapping charters. At the same time, employees face challenges in understanding boundaries, priority constraints, and decision reasons, leading to disagreements and execution blockages.
Team Motivation, Growth, and Retention	Maintaining a motivated workforce through positive work environments, growth opportunities, adequate compensation, and addressing interpersonal dynamics is crucial for organizational success.
Product Vision and Strategy	In the dynamic business landscape, organizations must stay competitive by establishing a clear product vision that aligns investments and prioritizes features for development. However, this process requires thoughtful navigation.
Transparency & Clarity	Employees face challenges with advancement clarity, hierarchical barriers, and support for growth but believe open communication and collaboration can create an inclusive environment; role eliminations may require seeking opportunities within or outside the company.

5.3.4 Future Outlook

The success of the organizational structure can be measured through several critical factors highlighted by the decision-makers. Addressing attrition and retention issues, simplifying internal and external politics, and providing clear guidance for new employees is essential for building a stable and motivated workforce.

According to the decision-makers, more cross-team interactions, fixed priorities, and formalized change management are crucial to enhance efficiency and productivity. These initiatives should foster open innovation, harmonious relationships, and quick problem-solving within teams.

Aligning the goals of product and engineering teams to avoid disconnects is vital for seamless product delivery and output. Additionally, collocating different functions within a single organization can aid in prioritizing objectives and enhancing collaboration while managing customer feedback effectively.

Decision-makers claimed that organizations must focus on gaining market share year over year and creating competitive edges to achieve sustained growth. Efficient communication, minimal tech debt, and low error rates are crucial for success.

Clarity across all aspects of the organization, from purpose to execution, is instrumental in ensuring teams are aligned and moving in the right direction. Measuring success based on revenue and cost helps evaluate the effectiveness of the organization's structure, with an emphasis on improving efficiency when costs grow and investing in product development when revenue increases.

Lastly, decision-makers voiced that maintaining high employee retention and satisfaction levels is crucial to organizational health and overall success. By continually prioritizing these factors, organizations can position themselves for growth and achieve a prosperous outlook.

Chapter 6: Utilizing Methods from ARIES Framework

This chapter utilizes the ARIES framework constructs and supplementary tools introduced in Chapter 4 to synthesize the insights gathered from the interviews, as described in Chapter 5. The foundation for understanding the context of organizational structure and exploring drivers for change lies in analyzing enterprise elements. This involves examining the enterprise landscape and conducting stakeholder analysis. Utilizing the insights from semi-structured interviews, this chapter discusses the vision for the future and evaluation criteria for different organizational structures, followed by an analysis of various architectures identified during the literature review in Chapter 2 using the techniques and tools imposed in the ARIES framework.

6.1 Enterprise Elements Analysis

As discussed in Chapter 4, enterprise elements help isolate unique focus areas essential in examining the organizational structure and uncovering the needs and challenges of designing an organization. The following sections provide descriptions of key elements from the ARIES element model, mapping them to the underlying drivers of organizational structure and rating them across Level, Pace, and Impact categories. The mappings and ratings incorporate the information collected from the interviews summarized in Chapter 5. The following subsections attempt to map each ARIES element with level, pace, and impact of change on organizational structure.

6.1.1 Ecosystem Element Analysis

The ecosystem within which an enterprise or system operates, competes, or cooperates is distinguished by various external factors. These factors encompass the economic, market, regulatory, available technology, workforce, competition, and demographic [44]. This section applies ARIES framework to analyze the external factors to synthesize the drivers for change.

1) Economic

While economic drivers may not immediately and abruptly impact an organization, their effects can be significant and far-reaching, causing substantial organizational changes. For example, amidst the COVID-19 pandemic, the Federal Reserve in America raised interest rates to tackle inflation, creating challenges for businesses across industries. Tech companies felt the impact of this rate hike, as their high valuations are hinged on investors' optimism about their future earnings potential. However, in a high-rate environment, the allure of these tech firms diminishes as it erodes the present value of their projected earnings [48]. Consequently, many companies needed to cut costs, leading to substantial layoffs and organizational restructuring efforts to enhance efficiency and weather the economic impact.

2) Market

During the interviews, decision-makers consistently emphasized the dynamic demands of the industry and the imperative to embrace change by implementing flexibility and efficiency in the organizational structure. As a result, it can be inferred that the rapidly evolving market is compelling organizations to proactively restructure themselves to respond effectively to changes and capitalize on new market opportunities.

3) Regulation

Regulations have consistently influenced companies' strategic decisions and investments.

America's Federal Communications Commission (FCC) introduced new regulations to safeguard personal privacy online in 2016 [49]. It is common to see organizations within companies prioritizing and focusing solely on fulfilling user privacy, a testament to the lasting impact of the regulatory changes and the significance of safeguarding personal information in the digital landscape.

The California legislature passed Assembly Bill 5 in 2019 to grant employee status to gig economy contractors and offer gig workers wage floors, benefits, and worker protections [50]. Uber initiated Project Luigi allocating teams to showcase that the law's employment provisions did not apply to ride-hail drivers and couriers [50].

4) Available Technology

The technology industry efficiently processes vast amounts of data through in-house built platforms. Decision-makers have emphasized the need for deduplication of work and enhancing workforce efficiency utilizing the technologies built in-house. Integrating and maintaining the new digital strategy necessitate robust processes and an efficient organizational structure. Today's rapidly evolving technology landscape influences efficiency and boosts output. Despite these advancements, the organization's overall impact would not be significantly affected, as the enterprise has already embraced new technologies and continues to develop in-house solutions.

5) Workforce

The development of the application relies on crucial resources such as software development, product management, sales and marketing, and operations teams. Each company strives to attract top-tier talent and offers competitive salaries to achieve this goal. Furthermore, during the interviews, value recipients expressed a proactive interest in upskilling, necessitating organizations to adapt and provide better opportunities. Although the rate of change remains steady, it exerts a moderate impact on the enterprise.

6) Competition

Several decision-makers have emphasized the importance of achieving robust revenue growth and driving continuous product development to outperform competitors.

Structuring an organization in a way that maintains competitiveness in the market and gains a distinctive edge over rivals remains an ongoing challenge. To successfully capture the market, companies must proactively plan, and their organizational structure must be lean to facilitate agile execution and secure a prominent position in the business market.

Decision-makers claimed that an organization must prioritize strategic investments to deliver essential products faster than their competitors, enabling them to seize opportunities and maintain a competitive advantage.

7) Demographics

Although the demographics may not be undergoing significant changes, it is crucial to recognize that the pace at which they are evolving indeed impact the enterprise.

For example, the COVID-19 pandemic has significantly increased online grocery shopping across all demographics. Interestingly, the increase in online grocery shopping was even

more pronounced in the high-income cohort compared to the low-income cohort.

Moreover, age and affluence are no longer significant barriers to online shopping, as

many generations have recently made Consumer Packaged Goods (CPG) purchases

online. Specifically, 61% of Millennials, 55% of Generation X, 41% of Boomers, and 39%

of the greatest generation have embraced purchasing CPG products [51].

Table 11 summarizes the seven different external drivers and underlying level, pace, and impact of the change on the organizational structure.

Table 11. Mapping drivers to ecosystem elements

Drivers	Description	Level of Change	Pace of Change	Impact of Change
Economic	An economic downturn can substantially impact the amount of investment an organization can make, compelling it to adopt a lean operating approach.	High	Low	High
Market	The industry's dynamic demands necessitate embracing change by implementing flexibility and efficiency in the organizational structure.	Low	High	High
Regulation	New regulations may compel companies to spin off teams to meet new requirements.	Low	Low	Medium
Available Technology	New technical solutions necessitate the collocation of functions and minimizing duplication of tasks for the company to work efficiently.	Low	High	Medium
Workforce	Organization must stay competitive with the market to capture talents and enable opportunities for employees to grow.	Medium	Low	Medium
Competition	Continuously structuring an organization to uphold its competitiveness in the market and secure a distinctive edge over rivals poses an ongoing challenge.	High	Medium	High
Demographics	The changing nature of demographics can influence organizations to develop distinct product strategies and tailor their organizational design accordingly.	Low	Medium	High

6.1.2 View Elements Analysis

The remaining eight elements in ARIES provide a comprehensive view that enables us to explore enterprises from various angles [43]. This section applies the ARIES framework to analyze the view elements to understand the drivers for change.

1) Strategy

The strategy element plays a pivotal role in the organization by focusing on generating a competitive advantage through the unique value proposition the enterprise or system intends to offer. It involves carefully crafting a coherent and forward-thinking approach that encompasses the strategic factors necessary to create distinct competitive advantages for stakeholders, enhance overall organizational efficiencies, and drive improvements in business output.

As the decision-makers from the interviews highlighted, organization forms based on establishing a well-defined product vision. An organization must be structured to deliver product strategy efficiently and effectively. A clear and compelling product vision not only guides the development and direction of the organization but also serves as a critical tool for aligning current and future investments more effectively. This alignment ensures that resources are channeled towards initiatives that align with the organization's long-term objectives, fostering a more focused and successful growth trajectory. Hence, the level and impact of the organizational structure is high.

2) Information

Information forms the foundation of an organization, encompassing the data flowing through the system, which is crucial for effectively performing its operations in alignment with its strategic objectives and generating desired outcomes. Timely access to reliable information is paramount, as it empowers companies to devise strategies to meet future needs and challenges head-on proactively.

Monitoring external information, such as regulatory changes, allows companies to strategically adapt their approaches and influence decision-makers like Uber's Project Luigi [50]. Ensuring they remain ahead of the curve and capitalize on opportunities while managing risks for continuous growth and success. In a fast-paced and ever-changing business environment, an organization must be able to adapt to external information to stay ahead of the curve, anticipate market shifts, and make necessary investments to drive continuous growth and success.

3) Infrastructure

Infrastructure encompasses numerous elements, including enterprise systems, information technology, and physical assets, which are indispensable for achieving strategic objectives. During the interviews, it became evident that many organizations were structured at a functional level, with teams organized according to the distinct infrastructure components.

Through continuous evaluation and refinement of its infrastructure, the organization can optimize efficiency, minimize work duplication, and ensure seamless delivery of products and services.

4) Product

Products are the epitome of value creation, encompassing a diverse range of capabilities, articles, and desired functionalities developed, produced, and distributed by the enterprise or system to meet the specific needs of stakeholders. As valuable assets companies own, products are pivotal in driving revenue and overall business performance.

When considering organizational structure, feedback from leadership consistently emphasizes that companies undertake restructuring to enhance product delivery velocity, and the key metric for evaluating a well-designed structure is the business performance derived from the product.

Therefore, the product plays a pivotal role in influencing the organizational structure's pace, level, and impact.

5) Services

Services encompass value-creation aspects akin to products, involving offerings, support, utilities, and more, designed to deliver value to stakeholders. Like the product element, excelling in service provision demands a deep understanding of user interactions with products and effective data management.

To achieve excellence in service delivery, some leaders organize each product feature into dedicated squads or teams comprising cross-functional members, including product managers, operations, and engineers, fostering a focused and streamlined approach.

According to the decision-makers, this structure enables each team to fully concentrate on enhancing the service associated with their product features.

6) Process

Processes play a fundamental role as essential mechanisms, encompassing lifecycle stages and workflows that enable an enterprise or system to create value for its stakeholders. These processes can significantly influence how teams are structured and organized, making them crucial to an organization's success.

Throughout the interviews, decision-makers emphasized the necessity to address obstacles that may arise due to unnecessary processes or additional steps caused by hierarchical structures within the organization. By recognizing and rectifying such inefficiencies, companies can foster a culture of continuous improvement and optimization.

7) Organization

The organization encompasses the organizational structure, hierarchies, social network, and cultural aspects of an enterprise or system. These elements collectively influence how the business strategy is formed and how goals and priorities are set to achieve the desired outcomes.

Decision-makers continually monitor and evaluate the existing organization, actively seeking optimization opportunities. Identifying inefficiencies can lead to a significant impact, necessitating changes in the organizational structure. For instance, in March 2023, Meta underwent a significant flattening of its organization to optimize the latency and risk aversion in decision-making and information flow, become leaner, and execute top priorities faster [52].

8) Knowledge

Within an enterprise or system, a wealth of knowledge exists, comprising explicit and tacit knowledge, competencies, and intellectual property. This repository of information is crucial for delivering and sustaining the organization's competitive advantage.

Tech companies gather data from various sources, including user input, tracking, and purchasing from data companies, to personalize the product experience and optimize revenue generation [53]. Organizations are designed to leverage data for product improvements efficiently. New knowledge is typically acquired through existing divisions, resulting in a relatively low level, pace, and impact of change on the organizational structure.

Table 12 summarizes the mapping of the drivers to the view elements.

Table 12. Mapping drivers to view element

View Element	Description	Level of Change	Pace of Change	Impact of Change
Strategy	Effective Structure is required deliver product strategy effectively and efficiently. A clear product vision aligns current and future investments with long-term objectives, leading to a focused and successful growth trajectory and a high-impact organizational structure.	High	Medium	High
Information	Organizational structure must adapt to external information.	Medium	Low	Medium
Infrastructure	A carefully designed organizational structure facilitates seamless operations and efficiently meets customer needs by continuously evaluating and refining its infrastructure.	Low	Low	Medium
Product	The organizational structure must enable fast product delivery velocity.	High	Medium	High
Services	Teams must concentrate on enhancing the service associated with their specific product features.	Medium	Low	Medium
Process	Optimizing an organization's structure to streamline processes yields significant benefits, enhancing overall efficiency, reducing complexities, and fostering a more agile and responsive environment.	Medium	Low	Medium
Organization	Leaders continually monitor and evaluate the existing organization, actively seeking optimization opportunities.	High	Medium	High
Knowledge	An organization must prioritize effective data utilization for product improvements.	Low	Low	Low

6.1.3 Stakeholder Element Analysis

Enterprise stakeholders consist of individuals and groups who actively contribute to, derive benefits from, or be affected by the enterprise [43]. Through a series of interviews, the key stakeholders of the organizational structure were identified, and the needs of each stakeholder are presented in Table 13.

Table 13. Stakeholders and needs

Stakeholder	Needs
Decision-makers	<ul style="list-style-type: none"> • Business Performance: increased revenue and faster product development. • Cost: Streamlined operations and efficient resource allocation reduce costs. • Scalability: possibility to scale the organization organically • Flexibility: adaptability to dynamic demands. • Collaboration: Eliminate barriers and set clear priorities for seamless collaboration within and across teams. • Trust: Empower leaders to build capable teams, delegate confidently, and maintain a motivated workforce through positive work environments.
Value recipients	<ul style="list-style-type: none"> • Opportunities: Roadmap for employee development, motivation, and pursuit of development opportunities for career goals. • Skill Enhancement: Empower employees with resources, training, and in-demand skill development for innovation and competitiveness. • Mentorship: Offer mentorship, growth spaces, and regular feedback to support employee development and success. • Clarity: clear understanding of the responsibility and accountability.
Shareholders	<ul style="list-style-type: none"> • Return on Investment: ensuring that capital is spent on the right strategic decision that can increase the value of the shares.
Customers	<ul style="list-style-type: none"> • Product and Service: high quality product and services from the company.

6.2 Value Exchange Analysis

The subsequent analysis focused on the value exchange, examining the expected value from stakeholders in the organizational structure and the value contributed by stakeholders. This critical step helps identify potential imbalances of importance between the organizational structure and its stakeholders. Table 14 summarizes the analysis.

Table 14. Value exchange analysis

Value expected from organizational structure	Stakeholder	Value contributed to organizational structure
<ul style="list-style-type: none"> • Execution and growth in business performance • Efficiency in cost • Scalability of the teams • Flexibility to effectively navigate dynamic demands • Defining boundaries between teams and promote collaboration • Build trust and ways to delegate responsibilities • Retain talent 	Decision-makers	<ul style="list-style-type: none"> • Strategy • Resource allocation • Transparency and clarity on decision-making
<ul style="list-style-type: none"> • Scope and opportunities to reach career goals • Develop in-demand skills • Mentorship and learning • Transparency and clarity on the responsibility and accountability 	Value recipients	<ul style="list-style-type: none"> • Product development velocity • Operational success
<ul style="list-style-type: none"> • Return on investment 	Shareholders	<ul style="list-style-type: none"> • Capital to invest • expertise
<ul style="list-style-type: none"> • High quality product and services 	Customers	<ul style="list-style-type: none"> • Revenue • Demand patterns and user data

6.3 Force Field Analysis

Table 15 offers an overview of the drivers for change and drivers against change for implementing a new organizational structure. These forces stem from key insights gathered during the interview's discussion on challenges, as outlined in Chapter 5, and are analyzed using the ARIES framework explained in Chapter 4.

Table 15. Force field analysis

Drivers for Change	Drivers Against Change
Execution and growth in business performance: More optimal structure can increase execution velocity and bring focus to increase business value.	Team Motivation, Growth, and Retention: Keeping employees motivated through positive work environments, growth opportunities, effective compensation, and addressing interpersonal dynamics is challenging.
Cost Reduction: Improved organizational structure can help minimize duplication of workstream and bring efficiencies to reduce cost.	Drawing boundaries: Drawing boundaries between organization and reshuffling resources is costly.
Scalability: Enhancing the scalability of teams and/or organization can reduce future restructuring and generate more opportunities for employees.	Product Strategy: Uncertain product strategy can lead to noise in defining priorities while determining the appropriate organizational structure.
Flexibility: To adapt to dynamic demands and possible external factors, existing organizations may need more flexible organizational structure.	Transparency & Clarity: Employees face challenges with advancement clarity, hierarchical barriers, and support for growth, but believe open communication and collaboration can create an inclusive environment.

6.4 SWOT Analysis

This section utilizes SWOT analysis, a technique posed by the ARIES framework, to quickly evaluate differentiating attributes of the three organizational structures identified through semi-structured interviews: functional structure, multi-divisional structure, and matrix structure. The strengths, weaknesses, opportunities, and threats of each structure come from the inputs from the literature and the insights from the interviews. Based on the SWOT analysis, each organizational structure is analyzed against the evaluation criteria generated.

6.4.1 The SWOT Analysis of a Functional Structure

As Chapter 2 outlined, the functional structure organizes an organization based on logical job functions.

Table 16 provides an overview of the SWOT analysis of a functional structure.

Table 16. The SWOT analysis of a functional structure

	Helpful	Harmful
Internal	<p>Strengths</p> <ul style="list-style-type: none"> • <i>Expertise development:</i> Specialization leads to higher proficiency in their roles [12] [14]. • <i>Efficiency:</i> The structure enables streamlined operations as each department concentrates on its core functions, minimizing redundancies, and optimizing resource allocation [14] [15]. • <i>Clarity in Responsibility:</i> The clearly defined roles and responsibilities within each functional department reduce role ambiguity [14] [15]. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • <i>Slow decision-making:</i> Hierarchical decision-making processes in functional structure may lead to slower response times and delays in decision implementation [15]. • <i>Narrow view:</i> Rigid structure may create gap between each function and understanding of the overall company objective [12] [15]. • <i>Cross-functional collaboration:</i> Limited collaboration between different functions hinders the organization's ability to overcome challenges that require cross-functional cooperation.
External	<p>Opportunities</p> <ul style="list-style-type: none"> • <i>Efficient operation:</i> Efficient resource allocation can enable better control over budgets and expenditures. • <i>Specialization:</i> specialization can help companies to focus on core competencies. 	<p>Threats</p> <ul style="list-style-type: none"> • <i>Adaptability:</i> A narrow view and hierarchical structure may create bureaucracies that may prevent the companies to adapt to new market demand and changes [15]. • <i>Lack of customer focus:</i> Too much focus on inner departmental goals could overlook customer needs.

6.4.2 The SWOT Analysis of a Multi-divisional Structure

Table 17 provides an overview of the SWOT analysis conducted for the multi-divisional organizational structure.

Table 17. The SWOT analysis of a multi-divisional structure

	Helpful	Harmful
Internal	<p>Strengths</p> <ul style="list-style-type: none"> • <i>Clarity of Boundaries:</i> A divisional structure provides clear boundaries for each unit, making it easier to assess and evaluate the performance of individual divisions [16]. • <i>Decentralized Decision-Making:</i> Multi-divisional structures empower each division to make decisions that are aligned with its specific business needs and market conditions [16] [18]. This can increase the adaptability to dynamic market [18]. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • <i>Duplication of Efforts:</i> A multi-divisional structure may also inflict duplicated business functions within different divisions [18]. • <i>Conflicting priorities between Divisions:</i> Multi-divisional design can occasionally create conflicting organizational requirements between divisions [16].
External	<p>Opportunities</p> <ul style="list-style-type: none"> • <i>Scalability:</i> A divisional structure allows organizations to diversify their operations by entering different markets or industries through separate divisions [12]. • <i>Innovation:</i> The structure encourages divisions to explore new ideas and technologies, fostering a culture of creativity and continuous improvement. 	<p>Threats</p> <ul style="list-style-type: none"> • <i>Lack of Overall Organizational Strategy:</i> Each division may develop its own strategies and objectives without aligning them with the overall goals of the organization, leading to a lack of cohesive direction. • <i>Interdivisional Competition:</i> Divisions may compete against each other for resources, recognition.

6.4.3 The SWOT Analysis of a Matrix Structure

Table 18 provides an overview of the SWOT analysis conducted for a matrix organizational structure.

Table 18. The SWOT analysis of a matrix structure

	Helpful	Harmful
Internal	<p>Strengths</p> <ul style="list-style-type: none"> • <i>Optimal Utilization of Resources:</i> The structure enables optimal allocation of resources by aligning the workforce around specific objectives [19] [22]. • <i>Flexibility:</i> A matrix structure enhances clarity in project objectives by aligning resources directly with the project and enables flexibility to adapt to a dynamic market [19] [20] [21]. • <i>Effective Information Dissemination:</i> Its interconnected relationships facilitate effective information dissemination throughout the organization [12]. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • <i>Role Ambiguity:</i> The dual reporting lines in a matrix structure can lead to role ambiguity and conflicting priorities for employees [19]. • <i>Decision-Making Complexity:</i> Multiple stakeholders with different interests and priorities are involved in a project, creating complexity [19]. • <i>Communication Challenges:</i> The matrix structure requires effective communication and coordination between teams and departments.
External	<p>Opportunities</p> <ul style="list-style-type: none"> • <i>Innovation:</i> Diverse and cross-functional teams can foster a culture of innovation and creativity. 	<p>Threats</p> <ul style="list-style-type: none"> • <i>Conflict Resolution:</i> The potential for conflicts between different stakeholders can hamper decision-making and project progress if not managed effectively.

Chapter 7: Discussion

This chapter synthesizes the analysis from Chapter 6 to explore the impact of various organizational structures on promoting employee development and delivering essential values within the organization.

7.1 Refining Evaluation Criteria

The ARIES framework emphasizes establishing essential criteria that can minimize any biases introduced by different concepts and the individuals who developed them, ensuring a more objective assessment process [47]. Incorporating insights from the enterprise element analysis, stakeholder analysis, and the force field analysis conducted in Chapter 6, the discerned imperatives among decision-makers encompass the enhancement of efficiency and productivity, as well as the attainment of sustained growth. However, this thesis elevates the significance of the interrelation between organizational structure and employee development, marking the prominence of promoting employee growth as another pivotal facet within the organizational vision.

1) Promoting employee development

An organizational structure should foster a thriving environment where employees can develop their skills, engage in meaningful work, and drive the organization toward its future goals. Building transparency to set clear expectations on boundaries and roles and empowering employees should be emphasized. By implementing these proactive

measures, the optimal organizational structure helps address attrition and build a stable and motivated workforce.

2) Enhancing efficiency and productivity

The organization should optimize product delivery and output, streamlining processes for improved results. Collaboration and knowledge-sharing should be encouraged by promoting more cross-team interactions, leading to innovative solutions and enhanced performance. Moreover, the organizational structure should prioritize focus, enabling effective resource allocation to increase impact and productivity.

3) Achieving sustained growth

With a strong emphasis on gaining market share consistently year over year, the organizational structure should ensure expansion and continued relevance in the market. Additionally, strategic investments are embraced to create competitive edges, facilitating innovation, adaptability to changing market dynamics, and maintaining a competitive advantage over rivals. By prioritizing these objectives, the organization positions itself for long-term success and sustainable growth in the industry.

Table 19 showcases the evaluation criteria utilized to analyze different organizational structures.

Table 19. Summary of evaluation criteria

Vision	Criteria used to delve into organizational structure
Promoting employee development	Acceptability from employees The evaluation can gauge how well the organizational structure aligns with their needs and expectations, promoting a positive work environment.
	Career opportunities for employees Employee career opportunities help analyze the potential to create a scope for individual growth by examining the space within which each employee can operate within the organizational structure.
Enhancing efficiency and productivity	Execution efficiency Execution efficiency focuses on centralizing decision-making and optimizing decision trees to enhance productivity.
	Operation cost Operation costs can be effectively managed by establishing clear boundaries within which employees can operate. This approach enhances accountability and responsibility, empowering employees to improve service and effectively manage existing products, leading to cost optimization and improved operational efficiency.
Achieving sustained growth	Business performance Business performance is influenced by defining clear boundaries across teams, which can enhance accountability and responsibility in driving specific business metrics.

7.2 Analyzing Different Organizational Structures Using Evaluation Criteria

This section analyzes three different organizational structures identified from the interviews (functional, multi-divisional, and matrix) against the evaluation criteria drawn from the result of SWOT analysis in Chapter 6.

7.2.1 Acceptability from Employees

Acceptability from employees varies across different organizational structures, each with its unique advantages and challenges.

In a functional organizational structure, employees in a functional organization can specialize in specific skills and expertise, enabling them to achieve higher proficiency in their respective areas [12] [14]. The structure's well-defined roles and responsibilities promote clarity in job functions, reducing role ambiguity and enhancing overall efficiency [14] [15]. However, the hierarchical nature of a functional structure may impose limitations on individual's capacity to process information, which can impact their learning potential and adaptability [32] and limit cross-functional collaboration. The emphasis on functional expertise may hinder employees from gaining a broader understanding of the organization's goals and strategies [12], potentially leading to employee burnout and reduced motivation.

Employees in a multi-divisional structure value the clarity brought about by divisional boundaries, as it helps in understanding divisional performance, accountability, and responsibility [16]. However, the absence of a centralized decision-making unit may result in inconsistent policies and strategies across divisions [18] like functional structure, potentially posing challenges when trying to align and coordinate between different divisions. This lack of centralization may create ambiguity and difficulty implementing uniform organizational strategies, affecting overall employee satisfaction and collaboration.

A matrix structure fosters a culture of collaboration and mutual support by mandating collaboration across different departments [48]. This collaborative approach allows employees

to work on diverse projects and interact with colleagues from various backgrounds, enriching their experiences. However, ambiguous accountability, responsibility, and multiple reporting lines can create complex interpersonal dynamics [48].

7.2.2 Career opportunities for employees

Chapter 3 revealed that organizations have a significant impact on nurturing employee development through the provision of customized career opportunities aligned with individual career aspirations. These opportunities encompass targeted skill development, such as technical or managerial expertise, accommodating flexible work arrangements to support family responsibilities and exposure to diverse organizational settings [6].

In a functional structure, as employees specialize in specific skills and expertise [12] [14], such diverse growth opportunities may not be as prevalent as in other organizational structures. Employees can strengthen specific skills and expertise in a functional structure by focusing on specialization [12] [14]. However, such may result in fewer diverse growth opportunities than other organizational structures.

Within a multi-divisional structure, employees can specialize within their specific division. However, they may encounter higher onboarding costs due to differing practices and policies if they decide to move across divisions.

The matrix structure presents unique opportunities for employees, as it offers dual reporting lines and encourages cross-functional teams. This enables individuals to access various opportunities, work on various projects, and collaborate with colleagues from different

departments. As a result, employees in a matrix organization gain exposure to diverse experiences, fostering skill development and personal growth.

7.2.3 Execution efficiency

Execution efficiency in different organizational structures can be influenced by how resources are allocated and how collaboration is facilitated.

Resources can be allocated efficiently in a functional structure as each department focuses on its core functions, maximizing productivity and reducing redundancies [12]. This specialization allows employees to become highly skilled in their respective areas, leading to streamlined processes and efficient execution of tasks.

In a multi-divisional structure, resources can be allocated efficiently based on the specific demands of each division [16]. Each division operates somewhat independently, allowing for greater flexibility in resource allocation to meet the unique needs of different business units.

The matrix structure fosters a culture of collaboration and mutual support by mandating collaboration from different departments [48]. This involvement of various points of view can lead to well-rounded and informed decisions, enhancing execution efficiency. However, the matrix organization also requires constant communication and coordination between different teams, which can be challenging and potentially impact efficiency [48]

7.2.4 Operation cost

Operating costs in different organizational structures can be influenced by how resources are allocated, and responsibilities are distributed.

Resources can be allocated efficiently in a functional structure as each department focuses on its core functions, maximizing productivity and reducing redundancies [12]. This specialization allows for streamlined processes and can lead to cost savings by avoiding duplication of efforts.

Divisional boundaries in a multi-divisional structure clarify divisional performance, accountability, and responsibility [16]. However, each division may have its support functions, which could lead to duplication of work across organizations [18]. This duplication may increase operational costs as resources are spread across multiple divisions.

Interviewees practicing the matrix organization claim that shared responsibility leads to ambiguous accountability and responsibility. This ambiguity may increase operational costs as coordination and communication challenges arise due to the complexity of reporting lines and decision-making processes. However, the matrix structure can also foster collaboration and shared resources [48], potentially leading to cost efficiencies in specific projects or initiatives.

7.2.5 Business performance

Business performance in different organizational structures can be influenced by how decision-making processes and resources are allocated.

Focusing on functional expertise in a functional structure may lead to a more specialized workforce, but it could also hinder a broader understanding of the organization's goals and strategies [12]. The hierarchical nature of the organization may slow down the decision-making process [15], which can be a disadvantage in a rapidly changing business environment.

Bureaucratic tendencies may arise due to the hierarchical structure [15], potentially impacting the organization's agility and responsiveness to market dynamics.

The decentralized decision-making within a multi-divisional structure enables quicker responses to dynamic demands [12]. Each division can adapt independently to changes in the business environment, leading to more agile and responsive decision-making. This flexibility can positively impact business performance, especially in the technology industry, where quick responses to market changes are crucial.

The involvement of various points of view in a matrix structure can lead to well-rounded and informed decisions [48]. This collaboration and cross-functional approach can foster innovation and creativity, potentially improving business performance. Additionally, the matrix organization enables efficient allocation of resources based on dynamic demands, allowing the organization to adapt swiftly to changing circumstances and market needs.

7.3 Summary

The research findings demonstrate the interplay between different organizational structures and their implications for employee development, efficiency, and business growth. Decision-makers must weigh the trade-offs associated with each structural approach. The choice of structure should strategically align with the organization's overarching vision, fostering heightened productivity, streamlined efficiency, and sustainable expansion. Nevertheless, decision-makers must also delve into the nuanced understanding of how the chosen organizational structure profoundly influences the ongoing development of employees.

Research indicates that organizational structures impact employee growth. Tailored frameworks that underscore transparency, empowerment, and well-defined roles serve as catalysts for fostering environments conducive to comprehensive employee development. Functional structures afford employees the opportunity to hone specific skills and provide clarity via well-defined roles; however, they may inadvertently impede a holistic grasp of the organization's objectives and restrict diverse growth avenues. Multi-divisional structures, on the other hand, prioritize clarity within individual divisions, potentially curtailing the potential for cross-divisional growth opportunities. Matrix structures, while fostering collaboration and exposure to diverse experiences, can complicate matters with intricacies tied to responsibility ambiguity and multi-tiered reporting chains.

Efficiency and productivity within an organization are finely tuned through the orchestration of streamlined processes and collaborative efforts. Functional structures achieve optimization through skillful specialization and precise boundary and role definitions. Multi-divisional structures adeptly allocate resources while delivering clarity through well-structured divisional boundaries, though they carry the potential of inadvertently duplicating efforts. Matrix structures excel in fostering collaboration, yet their efficacy relies on effective communication to navigate intricate interdependencies among stakeholders and to address the challenges posed by ambiguous responsibilities.

Structures aligned with sustained growth prioritize innovation and adaptation. Functional structures can potentially curtail agility and effective decision-making, primarily due to their hierarchical nature. This can be particularly detrimental in swiftly evolving sectors like

technology. On the other hand, multi-divisional structures thrive in dynamic industries, as they ensure each division is fully equipped across functions and operates independently. Meanwhile, matrix structures foster innovation through the inclusion of diverse viewpoints and agile allocation of resources.

Table 20 summarizes the finding from the research.

Table 20. Summary of the research findings

Criteria	Functional	Multi-divisional	Matrix
Promoting employee development			
Acceptability from employees	Well-defined roles and responsibilities enhance clarity, reducing ambiguity. Employee burnout and reduced motivation are potential outcomes.	Divisional boundaries provide clarity on performance, accountability, and responsibility. Lack of centralized decision-making can lead to inconsistent policies and strategies.	Ambiguous accountability, responsibility, and multiple reporting lines can lead to complex interpersonal dynamics.
Career opportunities for employees	Employees specialize in specific skills and expertise. Cross-functional collaboration could be limited.	Specialization occurs within specific divisions. Cross-divisional collaboration could be limited.	Exposure to varied experiences fosters skill development and personal growth.
Enhancing efficiency and productivity			
Execution efficiency	Execution efficiency driven through departmental focus and specialization.	Efficient resource allocation based on divisional demands. Greater flexibility due to semi-independent division operations	Collaboration and diverse viewpoints lead to informed decisions and may help execution efficiency; however, requires constant communication and coordination.
Operation cost	Efficient resource allocation due to departmental focus.	Divisional boundaries clarify operation responsibility; however, risk of work duplication from divisional support functions and resource dispersion.	Shared responsibility leads to ambiguous accountability and coordination challenges from complex reporting and decision-making.
Achieving sustained growth			
Business performance	Potentially leading to lack of understanding of organization's goals and hierarchical nature slows decision-making to adopt to changes	Divisions can adapt independently, enhancing agility and responsiveness.	Involvement of diverse viewpoints leads to well-rounded decisions and cross-functional approach foster innovation.

Chapter 8: Conclusion

The primary objective of this thesis was to utilize a systems approach to enrich the understanding of different organizational structures within modern technology enterprises in the United States and their impact on fostering employee development and growth. This thesis employed the methods and processes posed by Architecting Innovative Enterprise Strategy (ARIES) framework and conducted semi-structured interviews to analyze organizational structures practiced in the technology sector, aiming to create a conducive environment for employee development. This exploration uncovered valuable insights, deepening the understanding of the relationship between different organizational structures and employee development.

The thesis has addressed the following research questions:

- What are the goals, needs, and challenges of the leadership when structuring an organization of a firm?

During the interviews, the challenges encountered while structuring an organization were explored. Several critical challenges emerged, including defining boundaries, maintaining team motivation and talent retention, formulating an effective product strategy to align with the appropriate structure, and ensuring transparency and clarity for teams. These challenges play a pivotal role in shaping the success and efficiency of the organizational structure.

- *What is the relationship between an organization, its structure, and employee development?*

Organizational structure has a significant impact on employee's available resources, motivation, and overall growth. Career exploration, a crucial aspect of the career management process, is influenced by the chosen structure as it affects the information available to individuals. Efficient information flow and management within the organization are vital for creating a conducive environment for growth and development. Studies have shown a clear link between organizational structure and work motivation, with motivated employees exhibiting proactive behavior, taking initiative, and dedicating efforts to achieve autonomous goals. The structure also influences employee's proactivity and exploratory behavior, which, in turn, positively correlates with their developmental progress.

- *What is the impact of different organizational structures on employee development, and how can a systems approach enhance our understanding of this relationship in the technology sector?*

This thesis utilized a systems approach to grasp a holistic view of organizational structure by adopting techniques posed by the ARIES framework enterprise framework. By encompassing ten essential enterprise elements: Ecosystem, Stakeholders, Strategy, Information, Ecosystem, Stakeholders, Strategy, Information, Infrastructure, Products, Services, Process, Organization, and Knowledge, the findings from both the semi-

structured interviews and literature review were synthesized, revealing valuable insights into different stakeholder needs within organizations.

Applying the systems approach, this research identified three organizational structures commonly employed in the technology sector: functional, multi-divisional, and matrix.

The investigation was enriched through valuable insights from semi-structured interviews, revealing three visions that shaped the understanding of these diverse organizational structures. These visions revolved around promoting employee development, enhancing efficiency and productivity, and achieving sustainable business growth.

Functional structures allow employees to specialize in specific skills, leading to streamlined processes and enhanced productivity. However, this specialization may limit cross-functional collaboration and hinder a broader understanding of the organization's goals and strategies. Consequently, functional structures pose challenges in providing diverse growth opportunities for employees, as the focus remains on specialized expertise. While functional structures excel in avoiding duplication of efforts, they may need to be improved regarding agility and responsiveness. Hierarchical decision-making and potential bureaucratic tendencies can slow the decision-making process, making it challenging for the organization to adapt swiftly to a rapidly changing business environment.

Multi-divisional structures provide clarity through divisional boundaries but can encounter difficulties aligning strategies across different divisions. Multi-divisional structures enable divisions to execute tasks effectively and adapt to changes swiftly.

Nonetheless, operational costs might increase due to division-specific support functions in multi-divisional structures. The decentralized decision-making in such structures fosters agility in responding to dynamic demands.

Matrix structures excel in promoting collaboration among teams and departments, but they may also experience complex interpersonal dynamics. The advantage of matrix structures lies in providing diverse opportunities and exposure to various experiences, which fosters the development of employees' skills. However, due to the collaborative nature of the matrix structure, constant communication and coordination are essential for smooth operations. Despite its advantages, matrix organizations face challenges related to ambiguous accountability and decision-making complexity. Nevertheless, the matrix structure fosters innovation and creativity through effective collaboration and resource allocation based on dynamic needs.

8.1 Limitations and Future Research Opportunities

The findings and analysis presented in this thesis are derived from valuable insights and data collected through semi-structured interviews with a limited number of individuals in the technology sector. A promising opportunity lies in conducting more comprehensive interviews involving a broader sample of individuals to enhance the scope and depth of future research. Moreover, complementing the interview-based approach, alternative data collection methods like surveys, case studies, or simulations that explore employee development and organizational structure could provide valuable additional perspectives and enrich the overall understanding of this domain. Such diverse approaches to data gathering can lead to more robust and well-rounded conclusions.

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