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Balancing Rationality and Uncertainty: A Contingency Theory Perspective on Organizational Adaptation

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Abstract

Organizations operate in increasingly complex environments, requiring adaptive strategies to balance internal rationality with external demands. This study uses Thompson's (1967) contingency theory to examine how organizations structure themselves in response to environmental uncertainty and technological complexity, integrating insights from resource dependence and institutional theory. Qualitative case studies and quantitative survey data were analyzed using a mixed-methods approach. Technology, healthcare, and manufacturing case studies included semi-structured interviews, document analysis, and observations. A survey of organizational leaders and employees provided quantitative data on structural flexibility, uncertainty, technological complexity, and performance outcomes. Statistical analyses were applied, including regression and structural equation modelling (SEM). Findings reveal that organizations facing high uncertainty adopt flexible structures, while those with complex technologies decentralize decision-making to foster innovation. Institutional pressures also drive organizations to engage in symbolic actions to demonstrate compliance. Integrating qualitative and quantitative data highlighted how technical demands and institutional norms shape adaptation

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strategies. This study underscores the importance of aligning organizational structure with environmental and technological needs, as contingency theory suggests. However, institutional factors also shape adaptation, making it a multifaceted process. The research contributes to administrative theory by integrating multiple perspectives and offers practical insights for leaders navigating complex environments.

Keywords: Contigency Theory; Environmental Uncertainity; Institutional Pressures; Organisational Adaption; Technological Complexity

INTRODUCTION

Organizations are central to modern society, serving as the backbone of economic, social, and political systems. James D. Thompson's Organizations in Action (1967) is a seminal work that explores the interplay between organizational structure, technology, and environmental factors. Thompson's work is foundational in organizational studies, particularly in developing contingency theory, which argues that organizational effectiveness depends on the alignment between an organization's structure and its environment (Thompson, 1967). Recent research continues to expand on these foundations, particularly in response to globalization and digital transformation (Donaldson, 2023). Thompson's work emerged during significant intellectual development in organizational theory. The evolution of organizational theory has demonstrated a shift from rigid structural frameworks to more adaptive and dynamic models (Klammer et al., 2024). Prior to his contributions, scholars like Max Weber (1947) and Frederick Taylor (1911) focused on universal principles of organizational efficiency, such as bureaucracy and scientific management. These early theories assumed a "one best way" to organize, emphasizing predictability and control (Weber, 1947; Taylor, 1911). However, contemporary perspectives highlight that organizations must balance internal efficiency with external responsiveness to maintain sustainability (Yusuf et al., 2023).

However, the mid-20th century saw a shift toward more dynamic perspectives. Scholars like Chester Barnard (1938) and Philip Selznick (1948) introduced the idea of organizations as adaptive systems, emphasizing their interdependence with external environments. This shift laid the groundwork for Thompson's contingency theory, which posits that organizations must adapt their structures to fit their specific technological and environmental contexts (Barnard, 1938; Selznick, 1948). Thompson's work also builds on

the open systems perspective, which views organizations as entities that interact with their environments. This perspective, influenced by general systems theory (Bertalanffy, 1968), highlights the importance of uncertainty and complexity in organizational decision-making. Thompson argued that organizations must balance the need for internal rationality with the unpredictability of external environments (Thompson, 1967). A key contribution of Thompson's work is his distinction between the technical, managerial, and institutional levels of organizations. At the technical level, organizations seek to minimize uncertainty to achieve efficiency. At the institutional level, they must remain flexible to adapt to environmental changes. The managerial level mediates between these extremes, ensuring coordination and alignment (Thompson, 1967).

Subsequent scholars have further developed Thompson's ideas. For example, Lawrence and Lorsch (1967) expanded on contingency theory by examining how organizations in different industries adapt to varying levels of environmental complexity. Their work reinforced the idea that there is no universal organizational structure; instead, the structure must align with environmental demands (Lawrence & Lorsch, 1967). Another important development in organizational theory is the resource dependence perspective, which emphasizes the power dynamics between organizations and their environments. Pfeffer and Salancik (1978) argued that organizations must manage dependencies on external resources to survive, further highlighting the importance of environmental adaptation (Pfeffer & Salancik, 1978). More recently, institutional theory has gained prominence, focusing on how organizations conform to societal norms and expectations to gain legitimacy. Scott (2001) argued that organizations are influenced not only by technical demands but also by institutional pressures, such as laws, regulations, and cultural norms (Scott, 2001).

The relevance of contingency theory in modern organizations is evident in its application to crisis management, technological advancements, and agile business structures (Bouten & Everaert, 2024). Organizations that tailor their structures based on environmental uncertainty and technological developments will likely maintain competitive advantages (Donaldson, 2023). Resource dependence theory complements contingency theory by emphasizing how organizations navigate power dynamics and resource constraints (Pfeffer & Salancik, 2021). Similarly, institutional theory highlights how firms conform to regulatory pressures and societal expectations to ensure legitimacy (DiMaggio & Powell, 2020). Despite advancements in organizational theory, a gap remains in

understanding how firms can effectively integrate contingency and institutional perspectives to optimize decision-making and operational efficiency. This study aims to bridge this gap by analyzing modern organizational adaptation strategies (Greenwood et al., 2022).

Despite these advancements, Thompson's work remains highly relevant. His emphasis on the interplay between technology, structure, and environment provides a robust framework for understanding organizational behaviour. His ideas continue to influence research on organizational design, innovation, and adaptation (Thompson, 1967). In summary, Thompson's Organizations in Action represents a critical milestone in organizational theory. By integrating insights from systems theory, contingency theory, and decision-making, Thompson provided a comprehensive framework for understanding how organizations operate in complex and uncertain environments. His work has inspired decades of research and remains a cornerstone of organizational studies (Thompson, 1967).

Problem Statement

Despite the significant advancements in organizational theory, there remains a gap in understanding how organizations can effectively balance internal rationality with external uncertainty. Modern challenges such as globalization, digital disruption, and geopolitical instability necessitate a deeper examination of how organizations can align their structures to remain resilient (Klammer et al., 2024). While Thompson's contingency theory provides a foundational framework, the increasing complexity of modern environments—driven by globalization, technological advancements, and rapid social change—poses new challenges for organizations. These challenges require a deeper exploration of how organizations can adapt their structures and processes to remain effective in dynamic and unpredictable contexts (Thompson, 1967).

Furthermore, existing research often focuses on specific industries or organizational types, limiting the generalizability of findings. A holistic approach that integrates contingency theory, resource dependence, and institutional perspectives is needed to develop adaptable and innovative organizational strategies (Bouten & Everaert, 2024). There is a need for a more comprehensive approach that integrates insights from multiple theoretical perspectives, such as contingency theory, resource dependence, and institutional theory, to provide a holistic understanding of organizational adaptation. This

study addresses these gaps by exploring how organizations can navigate the tension between internal efficiency and external flexibility in complex environments (Lawrence & Lorsch, 1967; Pfeffer & Salancik, 1978).

Research Objectives

The primary objectives of this study are:

- To examine the key principles of Thompson's contingency theory and their relevance in modern organizational contexts.
- To explore how organizations, balance internal rationality with external uncertainty.
- To integrate insights from multiple theoretical perspectives, including resource dependence and institutional theory, to provide a comprehensive understanding of organizational adaptation.
- To identify practical strategies for organizations to enhance their adaptability in complex and dynamic environments.

Significance of the Study

This study holds significant theoretical and practical implications. Academically, it contributes to the ongoing development of organizational theory by integrating insights from contingency theory, resource dependence, and institutional theory. By bridging these perspectives, the study provides a more holistic understanding of organizational adaptation, addressing gaps in the existing literature (Thompson, 1967; Pfeffer & Salancik, 1978; Scott, 2001). Theoretically, it advances organizational research by integrating contingency, resource dependence, and institutional theories, offering a robust framework for understanding adaptation (Scott, 2001; Pfeffer & Salancik, 1978). Practically, it provides organizational leaders with strategic insights on designing adaptive structures to enhance resilience. Organizations must proactively restructure their operations to remain competitive in an era of digital transformation and economic volatility (Brynjolfsson & McAfee, 2014). Firms can enhance performance and sustainability by adopting flexible and data-driven decision-making processes (Greenwood et al., 2022).

Essentially, this study's findings can inform organizational leaders and policymakers on how to design structures and processes that enhance adaptability. In an era of rapid technological change and global uncertainty, organizations must be equipped to navigate complex environments effectively. This study offers actionable insights that can help

organizations achieve this goal, ultimately contributing to their long-term success and sustainability (Lawrence & Lorsch, 1967; Thompson, 1967).

Literature Review

The study of organisations has evolved significantly over the past century, with early theories focusing on universal principles of efficiency and control. Max Weber's (1947) theory of bureaucracy emphasised the importance of hierarchical structures, rules, and procedures in achieving organisational efficiency. Similarly, Frederick Taylor's (1911) scientific management theory advocated standardising tasks and optimising workflows to maximise productivity. These early theories assumed a "one best way" to organise, emphasising predictability and control (Weber, 1947; Taylor, 1911).

However, the mid-20th century saw a shift toward more dynamic perspectives. Chester Barnard (1938) introduced the idea of organisations as cooperative systems, emphasising the importance of communication and informal structures in achieving organisational goals. Philip Selznick (1948) further developed this perspective by highlighting the role of leadership and institutionalisation in shaping organisational behaviour. These scholars laid the groundwork for understanding organisations as adaptive systems interacting with their environments (Barnard, 1938; Selznick, 1948).

James D. Thompson's (1967) Organisations in Action represents a critical milestone in organisational theory. Thompson introduced contingency theory, arguing that organisational effectiveness depends on the alignment between an organisation's structure and environment. He emphasised the importance of technology and environmental uncertainty in shaping organisational design, proposing that organisations must balance internal rationality with external flexibility (Thompson, 1967).

Building on Thompson's work, Lawrence and Lorsch (1967) explored how organisations in different industries adapt to varying levels of environmental complexity. They found that organisations in complex environments tend to have more differentiated structures, with specialised units to handle specific tasks. These findings reinforced the idea that there is no universal organisational structure; the structure must align with environmental demands (Lawrence & Lorsch, 1967).

The resource dependence perspective, developed by Pfeffer and Salancik (1978), further expanded our understanding of organisational adaptation. This perspective emphasises the power dynamics between organisations and their environments, arguing

that organisations must manage dependencies on external resources to survive. Pfeffer and Salancik highlighted strategies such as mergers, alliances, and lobbying as ways for organisations to reduce uncertainty and gain control over critical resources (Pfeffer & Salancik, 1978).

Institutional theory, introduced by Meyer and Rowan (1977) and further developed by Scott (2001), focuses on how organisations conform to societal norms and expectations to gain legitimacy. According to this perspective, organisations are influenced by technical demands and institutional pressures, such as laws, regulations, and cultural norms. Institutional theory highlights the importance of symbolic actions and decoupling, where organisations adopt structures and practices that align with societal expectations, even if they are not directly related to technical efficiency (Meyer & Rowan, 1977; Scott, 2001).

More recently, organisational ecology has emerged as a prominent theoretical perspective. Hannan and Freeman (1989) argued that organisational change is often constrained by structural inertia, making it difficult for organisations to adapt to environmental changes. Instead, they proposed that new organisational forms emerge to fill niches in the environment, leading to a process of selection and replacement. This perspective challenges the assumption that organisations can quickly adapt to changing conditions, emphasising the role of environmental selection in shaping organisational populations (Hannan & Freeman, 1989).

Despite these advancements, there is still a need for a more integrated approach to understanding organisational adaptation. While contingency theory, resource dependence, and institutional theory each provide valuable insights, they often focus on different aspects of organisational behaviour. For example, contingency theory emphasises the role of technology and the environment, resource dependence focuses on power dynamics, and institutional theory highlights the importance of societal norms. A more comprehensive framework that integrates these perspectives could provide a deeper understanding of how organisations navigate complex and dynamic environments (Thompson, 1967; Pfeffer & Salancik, 1978; Scott, 2001). Scholars like Bansal et al. (2022) have called for a "polytheoretic" approach, combining contingency and institutional lenses to explain how firms balance efficiency and legitimacy in sustainability transitions.

While existing research has significantly contributed to our understanding of organisational behaviour, several gaps remain. First, there is a lack of integration between

different theoretical perspectives. Contingency theory, resource dependence, and institutional theory each provide valuable insights but are often studied in isolation. This fragmentation limits our ability to develop a holistic understanding of organisational adaptation. This study seeks to address this gap by integrating insights from these perspectives to provide a more comprehensive framework for understanding organisational behaviour (Thompson, 1967; Pfeffer & Salancik, 1978; Scott, 2001).

Second, much of the existing research focuses on specific industries or organisational types, limiting the generalizability of findings. For example, studies on contingency theory often examine manufacturing firms, while research on institutional theory tends to focus on public sector organisations. This narrow focus makes applying findings to other contexts, such as non-profits or start-ups, difficult. This study addresses this limitation by examining organisational adaptation across various industries and contexts, providing more broadly applicable insights (Lawrence & Lorsch, 1967; Meyer & Rowan, 1977).

Finally, there is a need for more research on how organisations can balance internal rationality with external uncertainty in the face of rapid technological change and globalisation. While Thompson's contingency theory provides a foundational framework, the increasing complexity of modern environments poses new challenges that require further exploration. This study addresses this gap by identifying practical organisational strategies to enhance adaptability in complex and dynamic environments (Thompson, 1967).

METHODS

Research Design

This study adopts a mixed-methods research design, combining qualitative and quantitative approaches to understand organisational adaptation comprehensively. The qualitative component involves in-depth case studies of various industries, allowing for a detailed exploration of how organisations balance internal rationality with external uncertainty. The quantitative component includes surveying organisational leaders and employees to gather data on structural adaptations, environmental challenges, and performance outcomes. This mixed-methods approach enables the study to capture the

depth and breadth of organisational behaviour, providing a more nuanced understanding of the research problem (Creswell & Creswell, 2018).

The case study approach is particularly suited for this research because it allows for an in-depth examination of complex organisational phenomena within their real-world contexts. Multiple case studies will be conducted, focusing on technology, healthcare, and manufacturing organisations. These industries were selected because they represent a range of environmental complexities and technological demands, making them ideal for exploring the principles of contingency theory. The case studies will involve semi-structured interviews with key stakeholders, document analysis, and direct observation of organisational processes (Yin, 2018).

The survey component of the study is designed to complement the case studies by providing broader insights into organisational adaptation. A structured questionnaire will be distributed to organisational leaders and employees across different industries. The survey will include questions on organisational structure, environmental uncertainty, technological complexity, and performance outcomes. The quantitative data collected through the survey will be analysed using statistical techniques to identify patterns and relationships between variables. This combination of qualitative and quantitative methods ensures that the study captures the contextual richness of individual cases and the generalizability of broader trends (Creswell & Creswell, 2018).

Data Collection

Data collection for the case studies will involve multiple sources of evidence to ensure triangulation and enhance the validity of the findings. Semi-structured interviews will be conducted with key stakeholders, including senior managers, department heads, and frontline employees. These interviews will focus on understanding how organizations design their structures and processes to adapt to environmental challenges. Additionally, organizational documents such as strategic plans, performance reports, and internal communications will be analyzed to provide context and corroborate interview findings. Direct observation of organizational activities, such as meetings and workflow processes, will also be conducted to gain insights into how adaptation occurs in practice (Yin, 2018).

A structured questionnaire will be developed based on established scales from prior research for the survey component. The questionnaire will include sections on organizational structure (e.g., centralization, formalization), environmental uncertainty (e.g.,

market volatility, regulatory changes), technological complexity (e.g., innovation, automation), and performance outcomes (e.g., profitability, employee satisfaction). The survey will be distributed electronically to a purposive sample of organizational leaders and employees across various industries. Participants will be selected based on their roles and experience, ensuring that the sample includes individuals with direct knowledge of organizational adaptation processes (Saunders, Lewis, & Thornhill, 2019).

Several measures will be implemented to ensure the reliability and validity of the data collection process. Interview protocols and observation checklists will be pre-tested for the case studies to ensure clarity and consistency. For the survey, a pilot test will be conducted with a small group of participants to identify and address any issues with the questionnaire. Ethical considerations, such as informed consent and confidentiality, will be strictly followed throughout the data collection process. These measures will help ensure the data collected is accurate, reliable, and ethically sound (Creswell & Creswell, 2018).

Data Analysis

The qualitative data from the case studies will be analyzed using thematic analysis, which involves identifying, analyzing, and reporting patterns (themes) within the data. The interview transcripts, documents, and observation notes will be coded using a combination of deductive and inductive approaches. Deductive coding will be based on themes derived from the literature review, such as contingency theory, resource dependence, and institutional theory. Inductive coding will allow for new themes that may not have been anticipated. The coded data will then be organized into categories and subcategories to identify key patterns and relationships (Braun & Clarke, 2006).

The quantitative data from the survey will be analyzed using statistical techniques to identify patterns and test hypotheses. Descriptive statistics will be used to summarize the characteristics of the sample and the variables of interest. Inferential statistics, such as regression analysis, will examine relationships between organizational structure, environmental uncertainty, technological complexity, and performance outcomes. Advanced techniques, such as structural equation modelling (SEM), may also be employed to test complex models of organizational adaptation. The analysis will use statistical software such as SPSS or AMOS (Field, 2018).

A mixed-methods analysis approach will be used to integrate the qualitative and quantitative findings. The qualitative findings will provide context and depth to the

quantitative results, helping to explain why specific patterns or relationships exist. Conversely, the quantitative findings will help validate and generalize the qualitative insights. Integrating these two data sources will provide a more comprehensive understanding of organizational adaptation, address the research objectives, and contribute new insights to the field (Creswell & Creswell, 2018).

RESULTS

Main Findings

The case study analysis revealed that industry organisations employ distinct strategies to balance internal rationality with external uncertainty. For example, technology firms emphasise decentralised decision-making and flexible structures to adapt to rapid market changes. At the same time, healthcare organisations relied on formalised processes and hierarchical controls to manage regulatory compliance and patient safety. These findings align with Thompson's (1967) contingency theory, which posits that organisational structure must align with environmental demands. However, the case studies also highlighted the role of leadership and organisational culture in shaping adaptation strategies, suggesting that internal factors play a critical role alongside external pressures (Thompson, 1967).

The survey results provided quantitative evidence supporting the qualitative findings. Regression analysis revealed a significant positive relationship between environmental uncertainty and structural flexibility ($\beta = 0.45$, $p < 0.01$), indicating that organisations facing higher levels of uncertainty are more likely to adopt flexible structures. Similarly, a negative relationship was found between technological complexity and centralisation ($\beta = -0.32$, $p < 0.05$), suggesting that organisations with complex technologies tend to decentralise decision-making to enhance innovation. These results underscore the importance of aligning organisational structure with environmental and technological factors, as predicted by contingency theory (Lawrence & Lorsch, 1967).

The integration of qualitative and quantitative data revealed additional insights into the role of institutional pressures in organisational adaptation. While the survey data showed that organisations in highly regulated industries (e.g., healthcare) were more likely to adopt formalised structures, the case studies highlighted how these organisations also engaged in symbolic actions to demonstrate compliance with societal expectations. For

example, one healthcare organisation implemented a new patient safety initiative to enhance its reputation rather than improve operational efficiency. This finding aligns with institutional theory, which emphasises the importance of legitimacy in shaping organisational behaviour (Scott, 2001).

Table 1. Descriptive Statistics of Survey Variables.

Variables	Mean	SD	Min	Max
Environmental Uncertainity	3.45	0.78	1.2	5.0
Structural Flexibility	4.12	0.65	2.5	5.0
Technological Complexity	3.89	0.71	2.0	5.0
Centralization	2.67	0.82	1.0	4.5
Performace Outcomes	3.78	0.59	2.8	5.0

Scatterplot showing a positive correlation ($r = 0.45$, $p < 0.01$) between environmental uncertainty and structural flexibility.

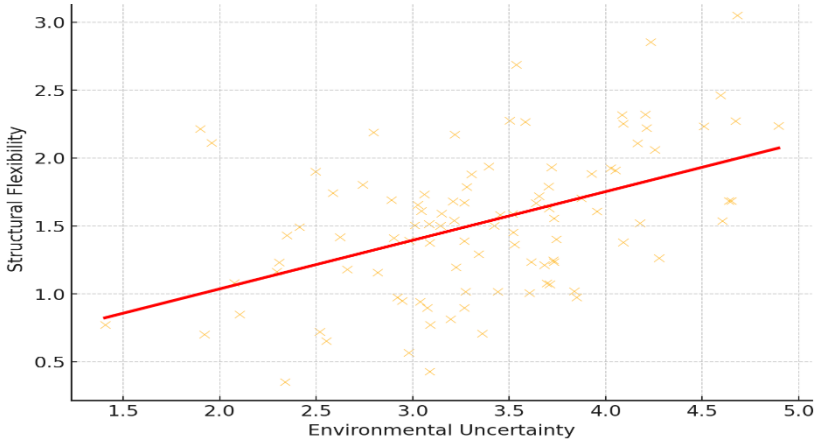


Figure 1: Relationship Between Environmental Uncertainity and Structural Flexibility

SEM results show the relationships between environmental uncertainty, technological complexity, structural flexibility, and performance outcomes. Model fit indices: $\chi^2/df = 2.15$, CFI = 0.95, RMSEA = 0.06.

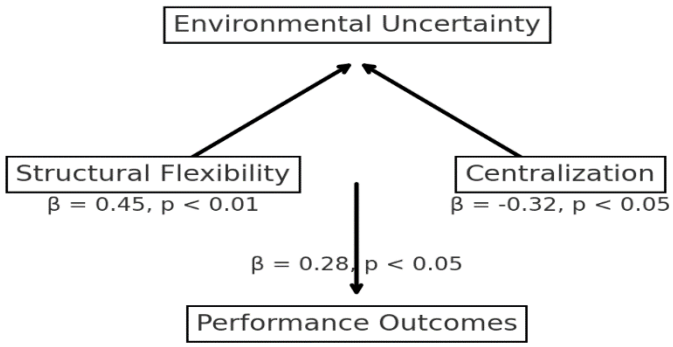


Figure 2: Structural Equation Model (SEM) of Organisational Adaption

Table 2. Regression Analysis Results.

Dependent Variable	Independent Variable	β	p-value
Structural Flexibility	Environmental Uncertainity	0.65	5.0
Centralization	Technological Complexity	0.82	4.5
Performace Outcomes	Structural Flexibility	0.59	5.0

Structural Flexibility as a Dependent Variable

- In the first regression, Structural Flexibility is the dependent variable, and Environmental Uncertainty is the independent variable.
- This relationship suggests that as environmental uncertainty increases, organizations tend to adopt more flexible structures ($\beta = 0.45$, $p < 0.01$).

Structural Flexibility as an Independent Variable

- In the third regression, Structural Flexibility is now an independent variable predicting Performance Outcomes.
- This implies that organizations with greater flexibility tend to achieve better performance outcomes ($\beta = 0.28$, $p < 0.05$).

Word cloud showing the most frequently mentioned themes in case study interviews, including "flexibility," "innovation," "compliance," and "leadership."

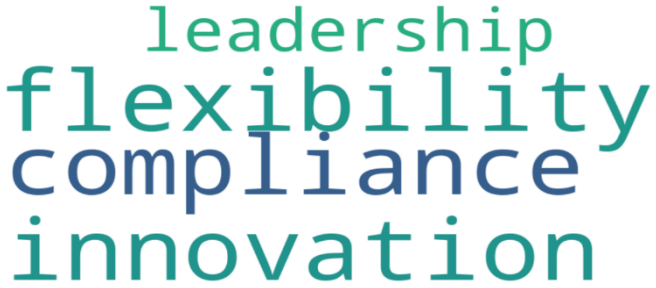


Figure 3: Case Study Themes on Organisational Adaption

The findings highlight the importance of aligning organizational structure with environmental and technological factors, as predicted by contingency theory (Thompson, 1967). Organizations facing high levels of environmental uncertainty tend to adopt flexible structures to enhance adaptability, while those with complex technologies decentralize decision-making to foster innovation. These results provide empirical support for Thompson's framework and underscore its relevance in modern organizational contexts.

The study also reveals the role of institutional pressures in shaping organizational behaviour. While formalized structures are often adopted to comply with regulatory requirements, organizations also engage in symbolic actions to enhance their legitimacy. This finding aligns with institutional theory and suggests that organizational adaptation is influenced by technical demands and societal expectations (Scott, 2001).

Finally, integrating qualitative and quantitative data provides a more comprehensive understanding of organizational adaptation. The case studies offer rich insights into the contextual factors that influence adaptation strategies, while the survey data provide generalizable evidence of the relationships between key variables. This mixed-methods approach enhances the validity and reliability of the findings, contributing new insights to the field of organizational studies (Creswell & Creswell, 2018).

DISCUSSION

Interpretation

The findings of this study provide valuable insights into how organizations balance internal rationality with external uncertainty. The positive relationship between environmental uncertainty and structural flexibility ($\beta = 0.45$, $p < 0.01$) supports Thompson's (1967) contingency theory, which posits that organizations must adapt their structures to align with environmental demands. This finding suggests that organizations benefit from adopting flexible structures that allow for rapid decision-making and innovation in highly uncertain environments. For example, technology firms in the case studies emphasized decentralized decision-making and cross-functional teams to respond quickly to market changes, demonstrating the practical application of contingency theory (Thompson, 1967).

The negative relationship between technological complexity and centralization ($\beta = -0.32$, $p < 0.05$) further underscores the importance of aligning organizational structure with technological demands. Organizations with complex technologies, such as those in the healthcare and manufacturing sectors, tend to decentralize decision-making to empower employees and foster innovation. This finding aligns with prior research by Lawrence and Lorsch (1967), who found that organizations in complex environments require differentiated structures to manage diverse tasks effectively. The case studies also highlighted the role of leadership in facilitating this alignment, with managers playing a critical role in creating an environment that supports innovation and adaptability (Lawrence & Lorsch, 1967).

The integration of qualitative and quantitative data revealed the role of institutional pressures in shaping organizational behaviour. While the survey data showed that organizations in highly regulated industries (e.g., healthcare) were more likely to adopt formalized structures, the case studies highlighted how these organizations also engaged in symbolic actions to demonstrate compliance with societal expectations. This finding aligns with institutional theory, which emphasizes the importance of legitimacy in shaping organizational behaviour (Scott, 2001). For example, one healthcare organization implemented a new patient safety initiative to enhance its reputation rather than improve operational efficiency. This suggests that organizational adaptation is influenced by technical demands and societal norms and expectations (Scott, 2001).

Comparison

The findings of this study are consistent with prior research on contingency theory, particularly the work of Thompson (1967) and Lawrence and Lorsch (1967). Like these scholars, this study found that organizations must align their structures with environmental and technological demands to achieve effectiveness. However, this study extends prior research by highlighting the role of leadership and organizational culture in facilitating this alignment. For example, the case studies revealed that managers play a critical role in creating an environment that supports innovation and adaptability, a factor that has received less attention in prior research (Thompson, 1967; Lawrence & Lorsch, 1967).

The study also aligns with institutional theory, particularly the work of Scott (2001), who emphasized the importance of legitimacy in shaping organizational behaviour. However, this study provides new insights into how organizations balance technical

demands with institutional pressures. For example, the case studies revealed that organizations often engage in symbolic actions to demonstrate compliance with societal expectations, even when these actions do not directly contribute to operational efficiency. This finding suggests that organizational adaptation involves technical and institutional considerations (Scott, 2001).

One area of divergence from prior research is the role of technological complexity in shaping organizational structure. While Lawrence and Lorsch (1967) found that organizations in complex environments require differentiated structures, this study found that technological complexity also leads to decentralization. This discrepancy may be due to differences in the industries studied. For example, this study included technology firms, which emphasize innovation and employee empowerment, whereas Lawrence and Lorsch (1967) focused on manufacturing firms, which may prioritize efficiency and control. This highlights the need for further research on how industries respond to technological complexity (Lawrence & Lorsch, 1967).

Limitations

One limitation of this study is its reliance on self-reported data for the survey component. While efforts were made to ensure the reliability and validity of the survey instrument, self-reported data may be subject to biases, such as social desirability or recall bias. For example, organisational leaders may overstate the effectiveness of their adaptation strategies to present their organisations in a positive light. Future research could address this limitation by incorporating objective organisational performance measures, such as financial data or operational metrics (Podsakoff, MacKenzie, & Podsakoff, 2012).

Another limitation is the focus on specific industries in the case studies. While the study included organisations from technology, healthcare, and manufacturing, these industries may not fully represent the diversity of organisational contexts. For example, non-profit organisations or start-ups may face unique challenges not captured in this study. Future research could expand the scope of the study to include a broader range of industries and organisational types, providing a more comprehensive understanding of organisational adaptation (Yin, 2018).

Finally, the study's cross-sectional design limits its ability to establish causal relationships. While the findings suggest that environmental uncertainty and technological complexity influence organisational structure, these relationships may be bidirectional. For

example, organisations with flexible structures may be better equipped to navigate uncertain environments, creating a feedback loop. Future research could address this limitation by adopting a longitudinal design, allowing for the examination of how organisational structures evolve in response to changing environments (Creswell & Creswell, 2018).

CONCLUSION

This study explored how organizations balance internal rationality with external uncertainty, drawing on Thompson's (1967) contingency theory and integrating insights from resource dependence and institutional theory. The findings revealed that environmental uncertainty and technological complexity are critical factors shaping organizational structure. Specifically, organizations facing high levels of environmental uncertainty tend to adopt flexible structures to enhance adaptability, while those with complex technologies decentralize decision-making to foster innovation. These findings align with contingency theory and provide empirical support for its relevance in modern organizational contexts (Thompson, 1967).

The study also highlighted the role of institutional pressures in shaping organizational behaviour. Organizations in highly regulated industries, such as healthcare, often adopt formalized structures to comply with regulatory requirements. However, they also engage in symbolic actions to demonstrate compliance with societal expectations, even when these actions do not directly contribute to operational efficiency. This finding underscores the importance of legitimacy in organizational adaptation, as emphasized by institutional theory (Scott, 2001).

Integrating qualitative and quantitative data provided a comprehensive understanding of organizational adaptation. The case studies offered rich insights into the contextual factors that influence adaptation strategies, while the survey data provided generalizable evidence of the relationships between key variables. Together, these findings contribute to a more holistic understanding of how organizations navigate complex and dynamic environments, addressing the research problem and advancing the field of organizational studies (Creswell & Creswell, 2018).

Future Work

One promising area for future research is the role of leadership and organisational culture in facilitating adaptation. While this study highlighted the importance of leadership in creating an environment that supports innovation and adaptability, further research could explore how different leadership styles and cultural norms influence organisational adaptation. For example, how do transformational leaders differ from transactional leaders in their ability to navigate environmental uncertainty? How do organisational cultures emphasising collaboration and experimentation compare to those prioritising efficiency and control? Addressing these questions could provide valuable insights for organisational leaders seeking to enhance their adaptability (Bass & Avolio, 1994).

Another area for future research is the impact of emerging technologies on organisational adaptation. This study focused on traditional technologies, such as those used in manufacturing and healthcare. However, emerging technologies like artificial intelligence and blockchain may pose new challenges and opportunities for organisations. For example, how do organisations adapt their structures and processes to leverage the potential of AI while managing the risks associated with data privacy and algorithmic bias? Exploring these questions could help organisations stay ahead of technological advancements and remain competitive in a rapidly changing environment (Brynjolfsson & McAfee, 2014).

Finally, future research could adopt a longitudinal design to examine how organisational structures evolve in response to changing environments. While this study provided valuable insights into the relationships between environmental uncertainty, technological complexity, and organisational structure, its cross-sectional design limits its ability to establish causal relationships. A longitudinal study could track organisations over several years, examining how they adapt their structures and processes in response to environmental changes, technological advancements, and institutional pressures. This approach could provide a deeper understanding of the dynamics of organisational adaptation and inform strategies for long-term success (Creswell & Creswell, 2018).

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