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The Role of Intellectual Capital in Enhancing Strategic Foresight

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Abstracts

This study examines the relationship between intellectual capital and strategic foresight within the Iraqi Federal Commission of Integrity, focusing on the impact of human, structural, and relational capital. Using a structured questionnaire distributed to 200 employees, with 164 valid responses analyzed, the study employs a quantitative approach supported by statistical analysis through SPSS. Results reveal a significant and positive relationship between intellectual capital and strategic foresight, with each dimension contributing uniquely to enhancing foresight capabilities. Human capital fosters creativity and knowledge application, structural capital provides robust systems and processes, and relational capital strengthens external collaboration and information flow. The findings underscore the importance of intellectual capital as a strategic resource for anticipating and preparing for future challenges. Limitations of the study, including its focus on a single institution and reliance on self reported data, are acknowledged, with suggestions for future research to include diverse sectors, explore mediating variables, and adopt longitudinal designs. This study highlights the critical role of intellectual capital in fostering organizational foresight and resilience.

Keywords: Intellectual Capital, Strategic Foresight, Human Capital, Structural Capital, Relational Capital, Iraqi Federal Commission of Integrity.

1. Introduction

In the rapidly evolving global landscape, intellectual capital (IC) has emerged as a critical determinant of organizational success and sustainability. Comprising human, structural, and relational capital, IC serves as a foundation for creating, sustaining, and enhancing an organization's competitive advantage in an increasingly knowledge-driven economy (Do, Tam, & Kim-Duc, 2022, p. 1). In parallel, strategic foresight—the ability to anticipate and adapt to future challenges and opportunities—has gained prominence as an essential capability for

ensuring long-term organizational survival and success in dynamic and complex environments (Kohler, 2021, p. 5).

Intellectual capital represents the intangible resources that organizations leverage to generate value and sustain competitive advantage. Human capital, which refers to the knowledge, skills, and abilities of employees, plays a pivotal role in driving innovation and performance (van Nguyen & Lu, 2023, p. 509). Structural capital includes organizational processes, intellectual property, and technology systems that facilitate efficient operations and knowledge dissemination (Scafarto, Dalwai, Ricci & della Corte, 2023, p. 2). Relational capital, on the other hand, pertains to the relationships and networks an organization cultivates with external stakeholders, including customers, suppliers, and partners, which are instrumental in achieving market resilience and growth (Fathi, Yousefi, Vatanpour & Peiravian, 2021, p. 497). Empirical evidence underscores the significance of IC in enabling firms to innovate and adapt to environmental changes. For instance, studies in the banking sector highlight how IC fosters financial intermediation and enhances organizational efficiency during periods of crisis and stability alike (van Nguyen & Lu, 2023 p. 510). Similarly, research in healthcare and digital platform industries demonstrates that intellectual capital efficiency mediates the impact of digitalization and non-market strategies on firm performance, further emphasizing its pivotal role in modern business ecosystems (Chatterjee, Chaudhuri, Mariani & Wamba, 2023, p. 2).

Strategic foresight, defined as an organization's ability to envision and prepare for multiple future scenarios, is a critical tool for navigating uncertainty. It enables organizations to identify emerging trends, assess potential disruptions, and adapt proactively to shifting market dynamics (Kohler, 2021, p. 5). Organizations equipped with strong strategic foresight capabilities can develop superior competitive strategies, foster innovation, and ensure long-term sustainability (Dominiece-Diasa & Volkova, 2019, p. 7). The interplay between IC and strategic foresight is particularly significant. Human capital drives the cognitive and analytical capabilities required for foresight activities, while structural capital provides the systems and tools needed for effective scenario planning. Relational capital further enhances foresight by facilitating the exchange of external knowledge and insights (Fathi et al., 2021, p. 498).

Recent research emphasizes the synergistic relationship between IC and strategic foresight in achieving organizational agility and resilience. For example, IC contributes to the development of foresight capabilities by enhancing the knowledge base and decision-making processes of organizations. This, in turn, enables firms to better anticipate and navigate complex challenges such as technological disruption, market volatility, and global crises (Hamed, 2023, p. 1). The pharmaceutical sector provides a compelling case study, illustrating how IC and foresight jointly influence competitive advantage and firm performance. In this context, human and structural capital empower firms to detect and respond to environmental changes, while relational capital strengthens their adaptive capacity through strategic partnerships and collaborations (Fathi et al., 2021, p. 497).

This study builds on existing research to explore the dynamic relationship between intellectual capital and strategic foresight. By examining the interplay among human, structural, and relational capital in enabling foresight capabilities, the research seeks to provide insights into how organizations can leverage IC to enhance their strategic agility and long-term resilience.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Intellectual capital

Human Capital

Human capital is the cornerstone of intellectual capital and is defined as the collective knowledge, skills, expertise, and creativity that individuals contribute to an organization. It is a renewable and dynamic resource that grows through learning, training, and experiential development. Human capital is central to driving innovation, solving complex problems, and fostering organizational adaptability in an ever-changing business environment (Do, Tam, & Kim-Duc, 2022, p. 4). Unlike other forms of capital, human capital resides within individuals, making it uniquely irreplaceable and critical for organizational success.

The importance of human capital is further underscored by its role in enabling strategic foresight. Strategic foresight relies on the ability to process and analyze information, anticipate changes, and formulate effective responses. These activities are fundamentally human-driven and require advanced cognitive and analytical skills. Employees equipped with creative thinking and decision-making capabilities empower organizations to identify emerging opportunities and threats, ensuring proactive rather than reactive strategies (Kohler, 2021, p. 5).

Studies consistently show that organizations with strong human capital outperform their peers in adaptability and innovation. For example, organizations with a culture of continuous learning and professional development often foster a workforce capable of generating fresh ideas and navigating uncertainties. This capacity for innovation and problem-solving directly enhances the organization's ability to foresee and respond to dynamic environmental changes (van Nguyen & Lu, 2023, p. 509). Furthermore, human capital facilitates collaboration and knowledge sharing within teams, creating a synergistic effect that amplifies the organization's overall strategic capabilities (Chatterjee et al., 2023, p. 3).

In conclusion, human capital forms the intellectual backbone of organizations. It not only drives the current performance but also enables the organization to envision and prepare for a sustainable future. Organizations that prioritize the development of their human capital—through robust training programs, effective leadership, and a culture of innovation—are better positioned to thrive in uncertain and competitive environments.

Structural Capital

Structural capital represents the non-human elements of an organization that support its operational and strategic activities. It includes tangible and intangible assets such as organizational processes, databases, intellectual property, technological infrastructure, and documented knowledge systems (Scafarto et al., 2023, p. 2). This dimension of intellectual capital ensures that knowledge and capabilities are retained within the organization, even as employees come and go, making it a critical enabler of long-term sustainability and resilience.

Structural capital provides the framework that enables human capital to operate effectively. For instance, robust knowledge management systems allow organizations to capture and disseminate knowledge, ensuring that insights generated by employees are not lost but rather institutionalized for future use (van Nguyen & Lu, 2023, p. 510). Additionally, well-defined processes and

technological platforms facilitate efficiency, consistency, and scalability, which are essential for maintaining competitive advantage in dynamic environments.

One of the most significant contributions of structural capital lies in its role in enabling strategic foresight. By providing the tools and systems necessary for data analysis, scenario planning, and decision-making, structural capital empowers organizations to anticipate and adapt to future challenges. For example, advanced analytics platforms and decision-support systems can process large volumes of data to identify trends and generate actionable insights (Fathi et al., 2021, p. 498). This capability enhances the organization's ability to respond proactively to market shifts and disruptions.

Structural capital also plays a pivotal role in fostering innovation. Organizational systems and processes designed to encourage experimentation and creativity enable employees to explore new ideas and approaches without fear of failure. This innovation-friendly infrastructure not only drives immediate value creation but also positions the organization to seize emerging opportunities and address unforeseen challenges (Kohler, 2021, p. 6).

In summary, structural capital is the foundation that supports both operational excellence and strategic agility. Organizations that invest in developing and optimizing their structural capital are better equipped to navigate complexity, enhance resilience, and maintain their competitive edge.

Relational Capital

Relational capital refers to the network of relationships and connections an organization has with its external stakeholders, including customers, suppliers, partners, and the broader community. These relationships are fundamental to building trust, enhancing reputation, and facilitating collaboration, all of which are critical for sustaining competitive advantage (Fathi et al., 2021, p. 497). Unlike human and structural capital, relational capital extends beyond the boundaries of the organization, creating value through interaction and mutual benefit.

Relational capital plays a vital role in enabling strategic foresight by providing access to external knowledge, insights, and perspectives. Strong networks and partnerships allow organizations to gather intelligence on emerging trends, market dynamics, and technological advancements, which are crucial for anticipating future challenges and opportunities (Chatterjee et al., 2023, p. 4). For example, maintaining close relationships with customers can provide early insights into changing preferences and needs, enabling the organization to adapt its strategies accordingly.

Additionally, relational capital enhances an organization's resilience during periods of uncertainty or disruption. Strong external relationships act as a stabilizing force, providing access to resources, support, and opportunities for collaboration. These connections not only help organizations weather crises but also enable them to recover more quickly and effectively (van Nguyen & Lu, 2023, p. 511).

Relational capital is also a key driver of innovation. Collaborative partnerships with suppliers, customers, and other stakeholders often lead to the co-creation of new products, services, and solutions. These innovations, in turn, enhance the organization's competitive position and longterm sustainability (Scafarto et al., 2023, p. 3). Furthermore, relational capital fosters a

positive organizational image, which attracts additional partnerships and opportunities, creating a virtuous cycle of value creation.

In conclusion, relational capital extends the reach and influence of an organization, enabling it to access external resources and insights critical for strategic decision-making. By cultivating and leveraging strong relationships, organizations can enhance their foresight capabilities, build resilience, and achieve sustainable growth.

Strategic Foresight

Strategic foresight is a systematic approach that enables organizations to anticipate, understand, and prepare for future uncertainties. It involves identifying potential opportunities and threats by analyzing trends, emerging patterns, and disruptive factors. This capability is crucial in today's rapidly changing and complex environment, where traditional planning methods often fall short in addressing dynamic challenges (Kohler, 2021, p. 5). By incorporating a forward-thinking perspective, strategic foresight enhances an organization's ability to adapt, innovate, and maintain a competitive edge (van Nguyen & Lu, 2023, p. 511).

Strategic foresight builds upon methodologies such as horizon scanning, which identifies weak signals of change; trend analysis, which interprets current developments; and scenario planning, which explores multiple plausible futures (Hijazin, Tamayo-Torres & Nusairat, 2023, p. 3). These methodologies enable organizations to prepare for a variety of outcomes, fostering resilience and agility in uncertain environments (Fathi et al., 2021, p. 497).

Key Components of Strategic Foresight

1. Identification of Weak Signals

Weak signals are early indicators of potential changes in the environment. Detecting these signals allows organizations to respond proactively rather than reactively. For instance, weak signals from the external environment, such as technological developments or shifting societal values, can foreshadow significant industry disruptions (Scafarto et al., 2023, p. 3). These signals form the basis of informed decision-making and proactive strategy formulation (Nguyen & Lu, 2023, p. 510).

2. Scenario Planning

Scenario planning enables organizations to explore various future scenarios by analyzing combinations of trends and uncertainties. This technique allows for the preparation of strategies that are robust across multiple potential futures. It enhances organizational flexibility by reducing dependence on single-point forecasts and enabling decision-makers to visualize complex, interconnected factors (Dominiece-Diasa & Volkova, 2019, p. 7).

3. Trend Analysis

Trend analysis involves studying long-term changes in the external environment, such as demographic shifts, regulatory developments, and technological advancements. Understanding these trends provides organizations with a strategic lens to identify opportunities for growth and anticipate disruptive challenges. For example, digital transformation trends have reshaped industries and emphasized the need for proactive foresight (Hijazin et al., 2023, p. 5).

4. Use of Advanced Tools and Collaboration

The integration of advanced technologies like artificial intelligence, machine learning, and big data analytics has significantly enhanced the capabilities of strategic foresight. These tools enable organizations to process large datasets, identify patterns, and simulate future scenarios with higher accuracy (Chatterjee et al., 2023, p. 4). Additionally, collaboration across stakeholders and leveraging relational capital enriches foresight practices by incorporating diverse perspectives and knowledge sources (Fathi et al., 2021, p. 498).

Strategic Foresight as an Enabler of Resilience

Strategic foresight equips organizations with the resilience needed to navigate uncertain and volatile environments. By anticipating and preparing for multiple scenarios, organizations are better positioned to withstand disruptions and recover more effectively. For instance, foresight activities that emphasize adaptability and proactive strategies contribute to long-term sustainability, even during crises (Kohler, 2021, p. 6).

Challenges in Implementing Strategic Foresight

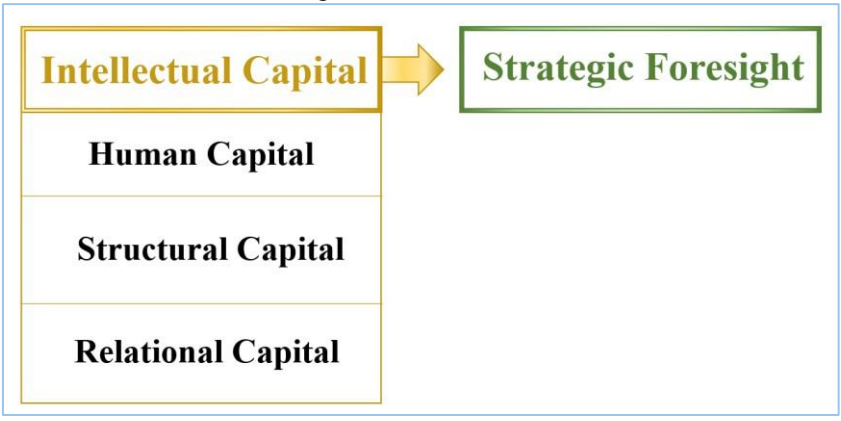
Despite its numerous advantages, implementing strategic foresight comes with challenges. One significant barrier is the difficulty of predicting highly complex or disruptive events, which introduces inherent uncertainty into foresight activities (Fathi et al., 2021, p. 497). Additionally, resistance to change within organizations can hinder the adoption of foresight practices. Overcoming these challenges requires fostering a culture of innovation, continuous learning, and openness to new ideas (Hijazin et al., 2023, p. 3).

Conclusion

Strategic foresight is an essential capability for organizations aiming to thrive in uncertain and dynamic environments. By leveraging methodologies such as trend analysis, scenario planning, and weak signal detection, foresight enables organizations to prepare for multiple potential futures. Integrating tools like advanced analytics and fostering collaboration enhances the accuracy and relevance of foresight efforts. Ultimately, strategic foresight fosters resilience, drives innovation, and ensures that organizations remain competitive in the face of evolving challenges (Scafarto et al., 2023, p. 3).

The Relationship Between Intellectual Capital and Strategic Foresight

The interplay between intellectual capital (IC) and strategic foresight (SF) is deeply interconnected, as IC serves as a foundational resource enabling the development and application of foresight capabilities. Intellectual capital, encompassing human, structural, and relational capital, provides the knowledge, systems, and networks essential for anticipating and preparing for future challenges and opportunities. At the same time, strategic foresight relies on leveraging these dimensions of IC to generate actionable insights, ensuring organizations remain competitive and resilient in uncertain environments (Fathi et al., 2021, p. 497).



Human Capital as the Cognitive Driver of Foresight

Human capital is central to enabling strategic foresight, as it comprises the skills, knowledge, and creativity required for critical analysis and long-term planning. Employees with strong cognitive abilities and analytical skills are better equipped to interpret complex data, identify emerging trends, and develop strategic scenarios. For instance, (van Nguyen & Lu, 2023, p. 509) argue that human capital drives an organization's ability to generate innovative solutions and adapt to rapidly changing conditions. Moreover, organizations with well-developed human capital can foster a culture of continuous learning and curiosity, both of which are essential for effective foresight (Chatterjee et al., 2023, p. 3).

The alignment between human capital and foresight is particularly evident in the use of advanced tools and methodologies. Skilled individuals are needed to operate technologies like artificial intelligence and predictive analytics, which enhance foresight capabilities by processing vast amounts of data and identifying patterns (Scafarto et al., 2023, p. 2). Without human capital, these technological advancements would remain underutilized, emphasizing the complementary relationship between the two variables.

H1: There is no statistically significant effect of human capital on strategic foresight.

Structural Capital as the Enabler of Systems and Processes

Structural capital, which includes an organization's processes, knowledge repositories, and technological infrastructure, acts as the backbone of strategic foresight activities. It provides the frameworks and tools necessary for collecting, storing, and analyzing data, as well as for developing and implementing strategic plans. (Kohler, 2021, p. 6) highlights that structural capital enhances foresight by offering stability and consistency in how organizations approach long-term planning. For example, knowledge management systems enable the storage and retrieval of historical data and insights, which are critical for conducting trend analyses and scenario planning.

Furthermore, structural capital supports the institutionalization of foresight practices within organizations. When foresight becomes embedded in the organizational framework, it is more likely to influence decision-making processes and drive sustainable outcomes (Nguyen & Lu,

2023, p. 510). This highlights how structural capital facilitates the transition of foresight from a sporadic activity to a core organizational competency.

H2: There is no statistically significant effect of structural capital on strategic foresight.

Relational Capital as a Source of External Insights

Relational capital amplifies strategic foresight by connecting organizations to external stakeholders, including customers, partners, suppliers, and industry experts. These relationships provide access to diverse perspectives and external knowledge, enriching the foresight process. According to (Fathi et al., 2021, p. 498), strong relational capital enables organizations to identify weak signals from the external environment, which are often precursors to significant trends or disruptions.

Collaboration with external entities further enhances the depth and scope of foresight activities. For instance, partnerships with research institutions or think tanks can provide cutting-edge insights into emerging technologies or socio-economic trends, which organizations can use to refine their strategic plans (Dominiece-Diasa & Volkova, 2019, p. 7). Relational capital also fosters trust and cooperation, creating opportunities for co-innovation and joint problem-solving, both of which are critical for navigating complex futures.

H3: There is no statistically significant effect of relational capital on strategic foresight.

Feedback Loop Between IC and SF

The relationship between intellectual capital and strategic foresight is not unidirectional but rather reciprocal. While IC enables foresight, the practice of foresight, in turn, enhances intellectual capital. For example, engaging in foresight activities can lead to the identification of skills gaps, prompting investments in human capital development (Van Nguyen & Lu, 2023, p. 511). Similarly, the insights generated through foresight can inform improvements in structural capital, such as updating knowledge management systems or refining organizational processes (Scafarto et al., 2023, p. 3).

Moreover, foresight often strengthens relational capital by fostering deeper engagement with external stakeholders. Collaborative foresight exercises, such as scenario workshops or industry roundtables, build trust and establish the organization as a thought leader in its field (Fathi et al., 2021, p. 497). This feedback loop highlights the dynamic and mutually reinforcing relationship between IC and SF.

H4: There is no statistically significant effect of intellectual capital on strategic foresight.

Conclusion

The relationship between intellectual capital and strategic foresight is fundamental to organizational success. Human capital provides the cognitive foundation for foresight, structural capital offers the tools and systems to operationalize it, and relational capital connects organizations to external sources of knowledge and insight. Together, these dimensions of IC create an ecosystem in which foresight can thrive, enabling organizations to navigate uncertainty, innovate, and achieve long-term sustainability. As (Kohler, 2021, p. 5) succinctly states, "The

integration of intellectual capital into foresight practices ensures that organizations are not only prepared for the future but are actively shaping it".

Methods: Sample and Procedure

This study adopts a multi-methodological approach to comprehensively examine the relationship between intellectual capital and strategic foresight, utilizing the descriptive, analytical, and historical approaches, alongside quantitative analysis to ensure a robust exploration of the research objectives.

Study Population and Sampling

The study focuses on the Iraqi Federal Commission of Integrity (COI) as its population. This governmental institution, responsible for combating corruption and promoting transparency, provides an ideal setting to examine the dynamics of intellectual capital and strategic foresight, as these concepts are crucial in fostering accountability and innovation within public sector organizations. The sample includes employees across various roles, ensuring representation from diverse gender, educational levels, job titles, age groups, and years of experience. Such demographic diversity ensures the findings are comprehensive and reflective of the organization's workforce.

Research Approaches

1. The Descriptive Approach

The descriptive approach is employed to explore the demographic characteristics of the study population. This method provides a detailed overview of variables such as gender, level of education, job title, age, and years of experience. By describing these variables, the study sets a foundation for understanding the context in which intellectual capital and strategic foresight operate within the COI. Descriptive statistics will summarize the key trends and patterns within the demographic data.

2. The Analytical Approach

The analytical approach is used to examine the relationship between intellectual capital and strategic foresight. This involves using quantitative tools to analyze the collected data and uncover correlations, trends, and causative relationships. By applying advanced statistical methods, the study aims to test hypotheses and evaluate how different dimensions of intellectual capital (human, structural, and relational) influence foresight capabilities in the organization.

3. The Historical Approach

To contextualize the findings, the historical approach is adopted to trace the evolution of intellectual capital practices and strategic foresight within the COI. This involves reviewing relevant documents, reports, and past research to provide a chronological understanding of how these concepts have been integrated into the organization's strategic framework.

4. Quantitative Analysis

Quantitative analysis forms the backbone of this study, enabling the measurement of relationships and trends through structured surveys and statistical techniques. Data collected

from respondents are analyzed to quantify the impact of intellectual capital dimensions on strategic foresight capabilities. This approach ensures objectivity and precision in interpreting the results.

Preparation for Descriptive Analysis

The descriptive analysis begins with an exploration of the demographic variables of the study population:

- Gender: Understanding the gender distribution provides insights into representation and diversity within the organization.
- Level of Education: Examining the educational qualifications of respondent's sheds light on the knowledge base and intellectual resources available within the COI.
- Job Title: Analysis of job roles identifies the distribution of intellectual capital across different organizational levels.
- Age: Age demographics reveal generational differences that may influence strategic foresight capabilities.
- Years of Experience: Exploring the tenure of employees provides context on how experience contributes to the development and application of intellectual capital.

By integrating these approaches and focusing on demographic characteristics, this study lays a solid foundation for analyzing the interplay between intellectual capital and strategic foresight within the Iraqi Federal Commission of Integrity.

Table (1) shows the relative distribution of demographic variables (N=164).

Gender	Count	Percentage (%)	Mean	Standard Deviation
Male	89	54.3%		
Female	75	45.7%		
Total	164	% 100	1.46	0.5
Qualification	Count	Percentage (%)	Mean	Standard Deviation
Less than secondary education	20	12.2%		
Secondary education	24	14.6%		
Bachelor's degree	28	17.1%		
Diploma degree	20	12.2%		
Master's Degree	38	23.2%		
doctorate	34	20.7%		
Total	164	% 100	3.82	1.703
Job title	Count	Percentage (%)	Mean	Standard Deviation
administrative employee	114	69.5%	2.15	0.801

Head of the Department	36	22%		
Manager	11	6.7%		
Total	164	% 100		
Age	Count	Percentage (%)	Mean	Standard Deviation
Less than 25 years	37	22.6%		
Between 25–35 years	41	25%		
Between 36 – 45 years	41	25%		
More than 45 years	45	27.4%		
Total	164		2.57	1.119
Work experience	Count	Percentage (%)	Mean	Standard Deviation
Less than 7 years	32	19.5%		
Between 7–14 years	49	29.9%		
Between 15 – 21 years	45	27.4%		
More than 21 years	38	23.2%		
Total	164	% 100	2.54	1.053

Analysis of Demographic Variables

A total of 200 electronic questionnaires were distributed to employees within the Iraqi Federal Commission of Integrity. From these, 164 valid responses were received, yielding a response rate of 82%. The demographic distribution of the respondents is summarized and analyzed as follows:

1. Gender

The gender distribution is relatively balanced, with 54.3% (89 respondents) being male and 45.7% (75 respondents) female. This demonstrates fair gender representation within the sample, ensuring inclusivity in the analysis. The mean gender value is 1.46, with a standard deviation of 0.5, indicating limited variability in gender distribution.

2. Qualification

Educational qualifications among respondents show notable diversity:

- The largest proportion, 23.2% (38 respondents), hold a Master's degree.
- Those with a Doctorate degree account for 20.7% (34 respondents).
- Respondents with a Bachelor's degree constitutes 17.1% (28 respondents).
- Equal proportions of 12.2% (20 respondents) reported having either less than secondary education or a Diploma degree.

- 14.6% (24 respondents) completed secondary education.

The mean qualification level is 3.82, with a standard deviation of 1.703, reflecting a wide range of educational backgrounds among the participants.

3. Job Title

The job titles indicate a concentration of respondents in non-supervisory roles:

- The majority, 69.5% (114 respondents), are administrative employees.
- 22% (36 respondents) are heads of departments, while 6.7% (11 respondents) are managers.

The mean job title value is 2.15, with a standard deviation of 0.801, showing limited variation in roles, which may reflect the hierarchical structure of the organization.

4. Age

The sample is distributed across various age groups:

- 27.4% (45 respondents) are over 45 years old, forming the largest age group.
- Equal proportions of 25% (41 respondents) fall into the 25–35 years and 36–45 years age brackets.
- 22.6% (37 respondents) are under 25 years of age.

The mean age category is 2.57, with a standard deviation of 1.119, indicating moderate variability, with a slight skew toward older age groups.

5. Work Experience

Work experience among respondents is fairly evenly distributed:

- 29.9% (49 respondents) have 7–14 years of experience, the largest group.
- 27.4% (45 respondents) have 15–21 years of experience.
- 23.2% (38 respondents) have over 21 years of experience.
- 19.5% (32 respondents) have less than 7 years of experience.

The mean work experience is 2.54, with a standard deviation of 1.053, reflecting a balanced distribution across experience levels.

Summary

Out of the 200 questionnaires distributed, 164 valid responses were analyzed, providing a response rate of 82%. The demographic distribution demonstrates diversity in gender, qualifications, job roles, age, and work experience, ensuring that the sample adequately represents the organizational population. This robust and representative dataset provides a reliable foundation for examining the study variables and their relationships within the context of the Iraqi Federal Commission of Integrity.

Measures

The study utilized a structured questionnaire based on a five-point Likert scale to measure the variables under investigation. The Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to express the degree of their agreement or disagreement with each statement. This scale is widely recognized for its simplicity and reliability in capturing subjective opinions and perceptions, making it suitable for evaluating complex constructs such as intellectual capital and strategic foresight.

The responses collected through the questionnaire were systematically entered and processed using SPSS (Statistical Package for the Social Sciences). This software facilitated the detailed analysis of the data, enabling the computation of descriptive statistics, reliability checks (e.g., Cronbach's alpha), and inferential tests such as correlation and regression analysis. By leveraging SPSS, the study ensured accuracy and depth in interpreting the relationships between the variables, providing a robust foundation for testing the hypotheses and drawing meaningful conclusions.

3. RESULTS

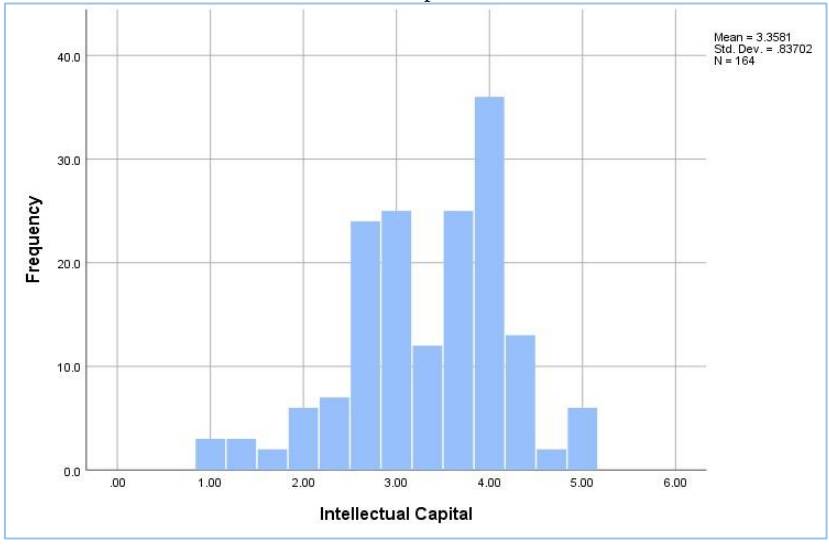
Table (2) presents the mean and standard deviation of responses for each item of the intellectual capital variable.

The Dimension	The paragraphs	Mean	Standard Deviation	Arranged by Mean (Average)
	Employees possess the skills needed to perform their tasks effectively.	3.18	1.135	5
	The organization provides training programs to enhance employee capabilities.	3.33	1.092	2
	Employees demonstrate creativity and innovation in solving problems.	3.43	1.069	1
	The workforce is highly knowledgeable in their respective fields.	3.24	1.026	3
	The organization attracts and retains highly qualified individuals.	3.23	1.087	4
Human Capital	Total of Human Capital	3.2793	0.95147	-
	The organization has clear and well-documented processes for task execution.	3.23	1.087	5
Structural Capital	Knowledge is efficiently stored and shared across the organization.	3.26	1.038	3
	Technological systems support employees in achieving their goals.	3.23	1.098	4
	The organization protects its intellectual property effectively.	3.46	0.974	2

	Organizational infrastructure facilitates smooth workflow and operations.	3.49	0.969	1
	Total of Structural Capital	3.3329	0.85638	-
	The organization maintains strong relationships with key stakeholders.	3.39	1.000	4
	Customer satisfaction is a priority in the organization.	3.58	0.991	2
	The organization collaborates effectively with external partners.	3.44	1.016	3
	Feedback from stakeholders is actively sought and utilized.	3.65	0.983	1
	The organization's reputation enhances its ability to build networks.	3.26	1.049	5
Relational Capital	Total of Relational Capital	3.4622	0.86473	-
Total of intellectual capital		3.3581	0.83702	-

Revised by the researcher

Chart (1) presents the mean and standard deviation of responses for each item of the intellectual capital variable



Revised by the researcher

Table (2) presents the means and standard deviations for the three dimensions of intellectual capital: human capital, structural capital, and relational capital, based on respondents' perceptions.

The total mean for intellectual capital is 3.3581, with a standard deviation of 0.83702, indicating a moderate level of agreement with the survey items overall. Among the dimensions, relational capital has the highest mean (3.4622, SD = 0.86473), reflecting stronger perceptions of external relationships and stakeholder engagement. Structural capital follows with a mean of 3.3329 and a standard deviation of 0.85638, indicating moderate alignment regarding internal processes, infrastructure, and knowledge management. Human capital has the lowest mean (3.2793, SD = 0.95147), highlighting slightly lower agreement regarding employee-related factors such as skills, innovation, and knowledge.

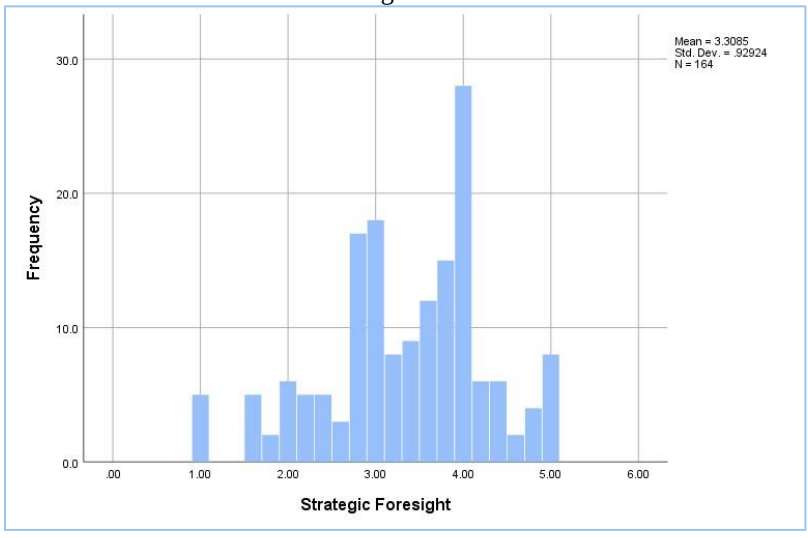
Overall, the results suggest that the organization has a moderate level of intellectual capital across all dimensions, with relational capital being the strongest area. However, the data highlights opportunities for improvement, particularly in areas related to human capital. These findings will guide further analysis and recommendations.

Table (3) presents the mean and standard deviation of responses for strategic foresight variable.

The Dimension	The paragraphs	Mean	Standard Deviation	Arranged by Mean (Average)
Strategic foresight	The organization regularly monitors trends and changes in the external environment.	3.30	1.082	6
	Strategic decisions are made based on futureoriented insights.	3.32	1.056	4
	The organization actively identifies potential risks and prepares for them.	3.31	1.025	5
	Scenario planning is used to anticipate multiple future possibilities.	3.28	1.006	8
	Employees are encouraged to think creatively about future challenges.	3.26	1.089	9
	The organization effectively allocates resources to address long-term opportunities.	3.16	1.189	10
	Data and analysis are used to predict future market or operational changes.	3.34	1.041	3
	Strategic goals are adjusted based on anticipated changes in the environment.	3.35	1.060	2
	The organization collaborates with external stakeholders to understand emerging trends.	3.47	1.076	1
	Leadership prioritizes planning for the organization's future sustainability.	3.29	1.108	7
Total of Strategic foresight		3.3085	0.92924	-

Revised by the researcher.

Chart (2) presents the mean and standard deviation of responses for each item of the Strategic foresight variable



Revised by the researcher

Table (3) presents the statistical analysis of the responses related to the strategic foresight variable. The overall mean for strategic foresight is 3.3085, with a standard deviation of 0.92924, indicating a moderate level of agreement among respondents regarding the organization's foresight capabilities.

The highest-rated item has a mean of 3.47, reflecting strong agreement on the organization's collaboration with external stakeholders to understand emerging trends. This suggests that the organization effectively engages external networks to enhance its foresight capabilities. The lowest-rated item, with a mean of 3.16, pertains to the allocation of resources to address longterm opportunities, indicating this area may require improvement.

The consistency of responses is shown by the standard deviations, which range between 1.006 and 1.189, reflecting a moderate spread in perceptions across the items. These results demonstrate that while the organization exhibits moderate foresight capabilities, there is variability in specific practices, particularly in resource allocation and future-oriented planning.

Overall, the findings suggest a reasonable level of strategic foresight within the organization, with notable strengths in external collaboration and adaptability to anticipated changes. However, there is room for improvement in areas such as resource allocation and fostering creative approaches to future challenges.

Table (4) Correlation Matrix for Intellectual Capital and Strategic Foresight: Assessing the Relationship Dynamics

Correlations

		Intellectual Capital	Strategic Foresight
Intellectual Capital	Pearson Correlation	1	.900
	Sig. (2-tailed)		0.000
	N	164	164
Strategic Foresight	Pearson Correlation	.900	1
	Sig. (2-tailed)	0.000	
	N	164	164

Table (4) highlights the correlation between intellectual capital and strategic foresight, revealing a Pearson correlation coefficient of 0.900. This indicates a very strong and positive linear relationship, meaning that as intellectual capital increases, strategic foresight capabilities also improve significantly. The p-value of 0.000 (less than 0.05) confirms the statistical significance of this relationship, ruling out the likelihood that it occurred by chance.

The findings suggest that intellectual capital -encompassing human, structural, and relational dimensions- plays a critical role in enhancing strategic foresight. This strong correlation emphasizes that organizations investing in intellectual capital are better positioned to anticipate trends, plan proactively, and adapt effectively to future challenges. These results reinforce the importance of intellectual capital as a strategic resource for foresight development. H1: There is no statistically significant effect of human capital on strategic foresight.

The first hypothesis examines whether human capital influences the organization's ability to anticipate and prepare for the future. Statistical analysis will determine if this relationship is significant, shedding light on the importance of employee knowledge and skills in enhancing foresight capabilities.

Table (5) expresses the impact of the human capital on strategic foresight.

R	R^2	Sig	T	F	Coefficient of Regression	Regression constant
0.801	0.642	0.00	17.059	290.996	0.783	0.742

Revised by the researcher.

Table (5) presents the results of the regression analysis examining the effect of human capital on strategic foresight. The findings are as follows:

- The coefficient of regression is 0.783, indicating a strong positive impact of human capital on strategic foresight. This means that for every unit increase in human capital, strategic foresight improves by 0.783 units.
- The R^2 value is 0.642, showing that 64.2% of the variance in strategic foresight can be explained by human capital, reflecting a strong explanatory power of the model.
- The F-value is 290.996 and the T-value is 17.059, both statistically significant with a pvalue (Sig.) of 0.000. This confirms the robustness and significance of the regression model.

- The correlation coefficient (R) is 0.801, indicating a very strong positive relationship between the two variables.

Conclusion

The results show that human capital has a significant and strong positive effect on strategic foresight. The hypothesis (H1) stating there is no statistically significant effect of human capital on strategic foresight is rejected. This highlights the critical role of employee skills and knowledge in enhancing an organization's foresight capabilities.

Strategic foresight =0.742+0.783* Human capital

H2: There is no statistically significant effect of structural capital on strategic foresight.

The second hypothesis investigates whether structural capital, which includes organizational processes, systems, and infrastructure, influences the organization's ability to anticipate and prepare for future challenges. This analysis aims to determine the extent to which structural capital supports strategic foresight by providing the tools and frameworks necessary for effective planning and decision-making. Statistical tests will evaluate the validity of this hypothesis.

Table (6) expresses the impact of the structural capital on strategic foresight.

R	R^2	Sig	T	F	Coefficient of Regression	Regression constant
0.828	0.685	0.00	18.779	352.655	0.898	0.315

Revised by the researcher.

Table (6) presents the regression analysis results for the impact of structural capital on strategic foresight. The key findings are as follows:

- The coefficient of regression is 0.898, indicating a strong positive effect of structural capital on strategic foresight. This suggests that as structural capital improves by one-unit, strategic foresight increases by 0.898 units.
- The R^2 value is 0.685, meaning that 68.5% of the variance in strategic foresight can be explained by structural capital, demonstrating a robust explanatory power for the model.
- The F-value is 352.655, and the T-value is 18.779, both statistically significant with a p-value (Sig.) of 0.000, confirming the model's validity and significance.
- The correlation coefficient (R) is 0.828, reflecting a very strong positive relationship between structural capital and strategic foresight.

Conclusion

The analysis reveals a significant and strong positive impact of structural capital on strategic foresight. Therefore, the hypothesis (H2) stating that there is no statistically significant effect of structural capital on strategic foresight is rejected. These findings highlight the critical role of organizational systems, processes, and infrastructure in enhancing the organization's ability to anticipate and adapt to future challenges effectively.

Strategic foresight =0.315 +0.898* Structural capital

H3: There is no statistically significant effect of relational capital on strategic foresight.

The third hypothesis examines whether relational capital, which includes the organization's relationships with external stakeholders, partners, and networks, significantly influences its ability to anticipate and prepare for future challenges. This hypothesis aims to assess the extent to which relational capital supports foresight activities by facilitating access to external knowledge, collaboration, and diverse perspectives. Statistical analysis will determine the validity of this hypothesis.

Table (7) expresses the impact of the relational capital on strategic foresight.

R	R^2	Sig	T	F	Coefficient of Regression	Regression constant
0.913	0.833	0.00	28.414	807.339	0.981	-0.087

Revised by the researcher.

Table (7) presents the regression analysis results for the impact of relational capital on strategic foresight. The findings are as follows:

- The coefficient of regression is 0.981, indicating a very strong positive effect of relational capital on strategic foresight. This means that for every unit increase in relational capital, strategic foresight improves by 0.981 units.
- The R^2 value is 0.833, showing that 83.3% of the variance in strategic foresight is explained by relational capital, reflecting an exceptionally strong explanatory power for the model.
- The F-value is 807.339, and the T-value is 28.414, both statistically significant with a p-value (Sig.) of 0.000. These values confirm the robustness and statistical significance of the regression model.
- The correlation coefficient (R) is 0.913, indicating a very strong positive relationship between relational capital and strategic foresight.

Conclusion

The results demonstrate a significant and strong positive impact of relational capital on strategic foresight. Therefore, the hypothesis (H3) stating that there is no statistically significant effect of relational capital on strategic foresight is rejected. These findings underscore the importance of external relationships, stakeholder engagement, and collaborative networks in enhancing an organization's ability to anticipate and prepare for future challenges.

Strategic foresight =-0.087+0.981*Relational capital

H4: There is no statistically significant effect of intellectual capital on strategic foresight. The fourth hypothesis examines the combined impact of the three dimensions of intellectual capital—human capital, structural capital, and relational capital—on the organization's ability to anticipate and prepare for future challenges. This hypothesis aims to evaluate whether the integration of these dimensions contributes significantly to enhancing strategic foresight. Statistical analysis will provide insights into how intellectual capital, as a holistic construct, influences foresight capabilities and whether this relationship is substantial and meaningful.

Table (8) expresses the impact of the intellectual capital on strategic foresight.

R	R^2	Sig	T	F	Coefficient of Regression	Regression constant
0.900	0.811	0.00	26.325	693.011	0.999	-0.048

Revised by the researcher.

Table (8) provides the regression analysis results for the effect of intellectual capital, encompassing human, structural, and relational capital, on strategic foresight. The analysis reveals the following key insights:

1. Regression Coefficient

The coefficient of regression is 0.999, indicating an almost perfect positive effect of intellectual capital on strategic foresight. This result implies that for every unit increase in intellectual capital, there is a near-equal improvement (0.999 units) in strategic foresight. The exceptionally high coefficient highlights the critical role of intellectual capital in shaping and enhancing foresight capabilities within the organization.

2. Explanatory Power (R^2)

The R^2 value is 0.811, demonstrating that 81.1% of the variance in strategic foresight is explained by intellectual capital. This indicates a strong explanatory model, suggesting that intellectual capital is a dominant factor influencing foresight. The remaining 18.9% of variance may be attributed to other variables not included in this model.

3. Statistical Significance

The model's F-value of 693.011 and T-value of 26.325 are both highly significant, with a pvalue (Sig.) of 0.000. These results confirm the robustness of the relationship, making it statistically significant at the highest confidence levels. This provides compelling evidence that the observed relationship between intellectual capital and strategic foresight is not due to random chance.

4. Correlation (R)

The correlation coefficient (R) is 0.900, indicating a very strong positive relationship between intellectual capital and strategic foresight. This high correlation underscores the synergistic connection between the three dimensions of intellectual capital and an organization's ability to foresee and plan for the future.

5. Interpretation of Results

The analysis confirms that intellectual capital, when considered as an integrated construct, has a profound and statistically significant impact on strategic foresight. Each dimension contributes uniquely:

- Human Capital: Provides the skills, knowledge, and innovation required for futureoriented thinking.

- Structural Capital: Offers the processes, systems, and infrastructure that support foresight activities.
- Relational Capital: Facilitates external collaboration and access to diverse insights critical for anticipating change.

Conclusion

The results decisively reject the null hypothesis (H4) and confirm that intellectual capital, in its entirety, significantly and positively influences strategic foresight. These findings highlight the importance of a comprehensive approach to intellectual capital development, emphasizing the integration of human, structural, and relational dimensions to enhance an organization's ability to anticipate, adapt, and thrive in an uncertain future. By investing in intellectual capital holistically, organizations can significantly strengthen their foresight capabilities, ensuring longterm success and resilience.

Strategic foresight =-0.048+0.999* intellectual capital

4. Limitations and Future Directions

This study, while providing significant insights into the relationship between intellectual capital and strategic foresight, has several limitations that must be acknowledged. First, the study is limited to the Iraqi Federal Commission of Integrity, which may constrain the generalizability of the findings to other sectors or cultural contexts. Future research could expand the scope to include a broader range of organizations and industries to enhance the applicability of the results.

Second, the study relies on self-reported data collected through a questionnaire, which may introduce bias, such as social desirability or subjective interpretation of the items. Employing mixed methods, such as interviews or case studies, in future research could provide richer and more nuanced insights.

Third, while the study examines the relationship between intellectual capital and strategic foresight, it does not explore potential mediating or moderating variables, such as organizational culture, leadership styles, or technological capabilities. Future studies could delve into these factors to provide a more comprehensive understanding of the dynamics influencing foresight capabilities.

Lastly, the cross-sectional nature of the research limits its ability to capture the temporal changes in intellectual capital and strategic foresight. Longitudinal studies are recommended to explore how these variables evolve over time and their sustained impact on organizational performance and adaptability. These future directions can contribute to a deeper and more holistic understanding of the subject matter.

Contribution to Knowledge

This study makes significant contributions to the fields of intellectual capital and strategic foresight by offering empirical evidence of their interrelationship within the context of a public sector organization. By examining the Iraqi Federal Commission of Integrity, the study provides a unique perspective on how intellectual capital dimensions—human, structural, and relational—

collectively and individually influence an organization's ability to anticipate and prepare for future challenges.

The research highlights the critical role of intellectual capital as a strategic resource that supports foresight capabilities, contributing to the broader understanding of how intangible assets drive organizational adaptability and resilience. Unlike previous studies that primarily focus on private or developed sector contexts, this study fills a gap by addressing these dynamics within a public institution in a developing country.

Furthermore, the findings provide actionable insights for policymakers and organizational leaders, emphasizing the need to invest in intellectual capital to enhance foresight practices. By integrating quantitative analysis and real-world implications, this study advances theoretical frameworks such as the Resource-Based View (RBV) and Dynamic Capabilities Framework, reinforcing the argument that intellectual capital is a key enabler of long-term strategic success.

5. CONCLUSION

This study delves deeply into the interplay between intellectual capital and strategic foresight, focusing on the Iraqi Federal Commission of Integrity as a case study. Intellectual capital—encompassing human, structural, and relational dimensions—is positioned as a vital organizational resource that fosters the ability to anticipate, adapt to, and strategically prepare for future challenges and opportunities. The findings not only confirm the critical importance of intellectual capital but also provide detailed insights into how its dimensions individually and collectively enhance foresight capabilities, creating a strong foundation for strategic agility and resilience.

The analysis revealed that human capital, as the cornerstone of intellectual capital, plays a significant role in empowering employees with the knowledge, skills, and creative thinking necessary for navigating uncertainty. Employees who are well-trained, knowledgeable, and innovative contribute to the organization's ability to foresee emerging trends and develop adaptive strategies. These findings emphasize the importance of ongoing investment in education, professional development, and fostering a culture of creativity and critical thinking to maximize the potential of human capital.

Structural capital emerged as a critical enabler of foresight through its role in supporting organizational processes, systems, and technological infrastructure. The study underscores that structural capital is not just about having tools and systems in place but ensuring that these resources are aligned with organizational goals and are robust enough to facilitate data-driven decision-making, trend monitoring, and scenario analysis. Structural capital also bridges the gap between individual expertise and organizational capability, institutionalizing knowledge in a way that is accessible and actionable. The study highlights that organizations with strong structural capital are more resilient, better equipped to manage disruptions, and can allocate resources effectively to seize opportunities.

Relational capital was found to be a key driver in enhancing strategic foresight by leveraging external networks and partnerships. The ability to collaborate with stakeholders, gather insights

from diverse sources, and maintain strong relationships is essential for organizations aiming to remain agile in dynamic environments. Relational capital provides access to external knowledge, strengthens reputation, and facilitates the co-creation of innovative solutions. The study emphasizes the importance of building and sustaining trust-based relationships with customers, suppliers, and partners to enhance the organization's strategic adaptability.

The integration of these three dimensions—human, structural, and relational capital—creates a synergistic effect that significantly amplifies the organization's foresight capabilities. The study's findings highlight the interconnectedness of these dimensions and their combined ability to position the organization for long-term success. Intellectual capital, in its holistic form, enables organizations to move beyond reactive decision-making to proactive strategic planning, ensuring they are well-prepared to navigate uncertainties and capitalize on emerging opportunities.

From a theoretical perspective, the study contributes to the ongoing discourse on the ResourceBased View (RBV) and Dynamic Capabilities Framework by empirically validating the role of intellectual capital in driving strategic foresight. These frameworks have long argued for the strategic importance of intangible assets in achieving competitive advantage, and this study provides robust evidence to support these claims in the context of a public sector organization in a developing country. It bridges a significant gap in the literature by focusing on an underrepresented sector and geographical context, offering insights that are both timely and relevant.

On a practical level, the findings carry critical implications for organizational leaders and policymakers. They highlight the need for strategic investments in intellectual capital to enhance organizational foresight and adaptability. Specific recommendations include:

1. Human Capital Development: Implementing targeted training programs, fostering continuous learning, and creating an environment that encourages innovation and knowledge sharing.

2. Strengthening Structural Capital: Modernizing technological infrastructure, refining knowledge management systems, and institutionalizing best practices to support decisionmaking and strategic planning.

3. Enhancing Relational Capital: Building and sustaining trust-based relationships with stakeholders, fostering partnerships for mutual growth, and leveraging external expertise for innovation.

The study acknowledges certain limitations. Its focus on a single organization may constrain the generalizability of the findings, and the reliance on cross-sectional data limits the ability to observe changes over time. Future research could address these limitations by expanding the scope to include a wider range of organizations, sectors, and regions, as well as adopting longitudinal approaches to explore how intellectual capital and foresight capabilities evolve dynamically.

In conclusion, this study underscores the indispensable role of intellectual capital in fostering strategic foresight. By understanding and leveraging the unique contributions of human, structural, and relational capital, organizations can strengthen their ability to anticipate and adapt

to a rapidly changing environment. This integration not only enhances immediate decisionmaking capabilities but also positions the organization for sustained success in an uncertain future. The findings reinforce the need for a strategic emphasis on intangible assets as a cornerstone of foresight and adaptability, offering a pathway for organizations to thrive in complex and dynamic contexts. This comprehensive approach to managing intellectual capital represents a critical driver for innovation, resilience, and long-term organizational sustainability.

6. Recommendations

Based on the findings of this study, several recommendations can be made to enhance the relationship between intellectual capital and strategic foresight within organizations, particularly in the public sector:

1. Invest in Human Capital Development: Organizations should prioritize continuous training and professional development programs to enhance employee skills, creativity, and problem-solving capabilities. Encouraging a culture of innovation and critical thinking will empower employees to contribute more effectively to strategic foresight activities.

2. Strengthen Structural Capital: Efforts should focus on modernizing organizational processes, improving knowledge management systems, and adopting advanced technologies such as data analytics and artificial intelligence. These measures will enable better decisionmaking, facilitate the institutionalization of knowledge, and support long-term planning.

3. Enhance Relational Capital: Building and maintaining strong relationships with external stakeholders, such as customers, partners, and regulatory bodies, is essential.

Organizations should actively seek feedback, collaborate with diverse networks, and leverage external insights to improve foresight capabilities and ensure adaptability.

4. Adopt a Holistic Approach to Intellectual Capital: The dimensions of human, structural, and relational capital should be managed integratively to maximize their collective impact on foresight capabilities. Organizations should align these dimensions with their strategic goals to create synergy and optimize performance.

5. Foster a Culture of Strategic Foresight: Leadership should emphasize the importance of long-term planning and proactive decision-making by embedding foresight practices into the organizational culture. Scenario planning, trend analysis, and risk assessment should become routine activities at all levels of the organization.

6. Policy and Organizational Alignment: Policymakers should design initiatives that support intellectual capital development in public sector institutions. This includes allocating resources for training, technology upgrades, and fostering partnerships that enhance organizational foresight.

By implementing these recommendations, organizations can strengthen their intellectual capital, enhance strategic foresight, and position themselves to anticipate and adapt to future challenges effectively. This approach ensures resilience, sustainability, and long-term success in an increasingly complex environment.

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