Strategic Management with an Organizational Trust and Intellectual Capital Approach in Technical and Vocational University

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Abstract

This research aims to develop a strategic management model with an organizational trust and intellectual capital approach at the Technical and Vocational University of Chaharmahal and Bakhtiari Province in 2023. The research methodology, given its objective, is of a mixed-method nature, conducted using a sequential exploratory strategy. Initially, the qualitative phase, aimed at providing a localized model for strategic management success, was conducted using grounded theory. Subsequently, the extracted local model was tested and validated using the quantitative phase. The qualitative sampling method employed in this study was purposive sampling. Data were analyzed after conducting 20 in-depth interviews with university professors and management experts at Payame Noor University, based on the three-phase coding process. In the open coding phase, more than 308 concepts and 193 meaningful propositions were extracted. In the subsequent phase, 23 subcategories were derived from these meaningful propositions, and during axial coding, through a more detailed examination and connection between the concepts, 8 categories emerged. These categories included: intellectual capital, organizational trust, organizational value orientation, representation of employee will, organizational future, alignment of societal goals and values, managerial competence, and service development. Through further abstraction during selective coding, a core category emerged as follows: "The success of strategic management at the Technical and Vocational University is based on intellectual capital and organizational trust, rooted in value orientation and the representation of employee will, with high managerial competence, in which the alignment of societal goals and values shapes the future of the organization." This core category encompasses all other categories. After developing the localized model, a researcher-made questionnaire was designed and implemented to test and validate the model by indexing the axial categories. The quantitative results from structural equation modeling demonstrated that, in the model, the strongest effect pertained to the relationship between managerial competence and strategic management success, with a coefficient of (0.89). Following this, the effects of the variables of organizational trust and intellectual capital, with coefficients of (0.78) and (0.73), respectively, ranked second and third in terms of impact. Finally, the variables of service development, representation of employee will, alignment of societal goals and values, attention to the organization's future, and organizational value orientation, each with specific coefficients, had a direct and significant impact on the level of strategic management success in the management of the Technical and Vocational University of Chaharmahal and Bakhtiari.

Keywords: *Strategic management, organizational trust, management success, intellectual capital*

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1. Introduction

In an increasingly competitive global environment, intellectual capital (IC) has emerged as a vital resource for achieving organizational success, particularly within educational institutions. Universities and colleges, as knowledge-based organizations, rely heavily on their intellectual capital to achieve competitive advantage, enhance innovation, and maintain educational quality [1, 2]. Intellectual capital is the sum of an organization's human, structural, and relational capital, all of which contribute to the production and dissemination of knowledge [3, 4]. The significance of intellectual capital in universities has drawn considerable attention from scholars and practitioners alike, prompting calls for improved measurement, management, and disclosure practices [5].

Intellectual capital encompasses various intangible assets that create value for organizations, including knowledge, skills, competencies, and relationships. It is typically divided into three categories: human capital, structural capital, and relational capital. Human capital refers to the knowledge and abilities of an organization's workforce, while structural capital includes the systems, databases, and intellectual property that support organizational processes. Relational capital pertains to the relationships that the organization maintains with external stakeholders, such as customers, partners, and regulatory bodies [6-8].

Intellectual capital has become a critical resource in higher education due to the increasing demand for innovation, knowledge creation, and adaptation to technological advances [9, 10]. Universities are expected to not only generate and transfer knowledge but also to sustain a dynamic ecosystem in which intellectual capital is continuously developed and utilized [11, 12]. Effective management of intellectual capital can lead to improved organizational performance, enhanced student outcomes, and a stronger institutional reputation [13, 14].

The role of intellectual capital in higher education institutions (HEIs) is multifaceted. First, intellectual capital influences the quality of education and research activities, as it enhances faculty expertise and supports innovative pedagogical approaches [1, 15]. Moreover, universities rely on their intellectual capital to engage in collaborative partnerships with industry, which in turn fuels technological advancements and contributes to the broader knowledge economy [10, 16].

Human capital in universities, represented by faculty members, administrators, and students, plays a fundamental role in driving educational and research success [17]. Universities invest significantly in the development of human capital through recruitment, training, and professional development [18]. Furthermore, universities' structural capital, including research infrastructure, intellectual property, and administrative processes, supports the creation and dissemination of knowledge [19]. Relational capital, on the other hand, allows universities to maintain strong connections with external stakeholders such as funding agencies, industry partners, and government bodies, all of which are essential for securing resources and advancing research initiatives [20].

Universities that effectively manage their intellectual capital tend to achieve higher levels of performance, including improved academic rankings, enhanced research outputs, and stronger ties with the industry [21]. The measurement and management of intellectual capital in universities are essential for ensuring that these institutions remain competitive and relevant in the rapidly changing global knowledge economy [22, 23].

Strategic management plays a crucial role in the effective utilization of intellectual capital in universities. According to several studies, universities that incorporate intellectual capital into their strategic planning processes are more likely to achieve their goals and maintain a competitive advantage [9, 24]. Strategic management involves the alignment of intellectual capital with the institution's long-term objectives, enabling universities to harness the full potential of their human, structural, and relational resources [25, 26].

Incorporating intellectual capital into strategic decision-making allows universities to identify and address key challenges, such as faculty retention, research funding, and technological innovation [27]. Moreover, intellectual capital plays a pivotal role in fostering a culture of continuous improvement and innovation within universities. For instance, universities that prioritize the development of human capital through professional development and mentorship programs tend to have more engaged and productive faculty members [28]. Similarly, investments in structural capital, such as research infrastructure and digital technologies, enable universities to enhance their research capabilities and improve operational efficiency [29].

Innovation is a critical outcome of effective intellectual capital management in universities. By leveraging their intellectual capital, universities can develop new educational programs, research initiatives, and collaborative projects that respond to emerging societal needs [24]. Intellectual capital fosters innovation by providing universities with the

knowledge, skills, and resources needed to pursue creative solutions to complex problems [19, 26].

Universities that invest in intellectual capital are better positioned to engage in interdisciplinary research, which is essential for addressing global challenges such as climate change, public health, and social inequality [30]. Additionally, intellectual capital enables universities to build strong partnerships with industry and government, facilitating the transfer of knowledge and technology to society [16].

One of the most important ways in which universities leverage their intellectual capital is through the creation of university spin-offs. Spin-offs, or companies created from university research, allow universities to commercialize their intellectual property and generate additional revenue [12]. Moreover, spin-offs provide students and faculty members with opportunities to apply their knowledge in real-world settings, thus enhancing their practical skills and contributing to economic development [30].

The effective management of intellectual capital has been shown to significantly impact a university's competitive advantage [6-8, 14, 22]. Universities that excel in human capital development, knowledge creation, and innovation are better able to attract top faculty, secure research funding, and build strong relationships with external stakeholders [16]. Intellectual capital not only enhances the university's internal capabilities but also strengthens its reputation and external visibility [13, 31].

A strong intellectual capital base enables universities to adapt to changes in the higher education landscape, such as shifts in funding policies, technological advancements, and evolving student needs [32]. Universities with robust intellectual capital are also more likely to succeed in achieving accreditation and maintaining high standards of academic excellence [33-36]. Moreover, intellectual capital contributes to the university's ability to sustain long-term success by fostering a culture of continuous learning and improvement [37].

The growing importance of intellectual capital in universities has led to increased demands for transparency in how intellectual capital is managed and reported [6-8]. Intellectual capital disclosure (ICD) refers to the process by which universities report on their intangible assets, including human capital, structural capital, and relational capital [6-8, 22, 38]. Intellectual capital disclosure provides stakeholders with valuable information about the university's knowledge resources, innovation capabilities, and strategic direction [39].

Universities that engage in intellectual capital disclosure are better able to demonstrate their value to stakeholders, including students, faculty, government agencies, and industry partners [40]. Moreover, intellectual capital disclosure enhances accountability by allowing universities to track their performance in key areas such as research productivity, student outcomes, and community engagement [1, 41].

While intellectual capital disclosure is becoming more common in universities, there remain significant challenges related to the measurement and reporting of intangible assets [6-8]. Many universities lack standardized frameworks for intellectual capital disclosure, leading to inconsistencies in how intellectual capital is reported [42-44]. Additionally, some universities are hesitant to disclose certain aspects of their intellectual capital, particularly those related to intellectual property and proprietary knowledge [45].

The management and utilization of intellectual capital in universities is crucial for achieving strategic goals, fostering innovation, and maintaining competitive advantage. As universities continue to adapt to the challenges and opportunities of the knowledge economy, the role of intellectual capital will become even more significant. By effectively managing and disclosing their intellectual capital, universities can not only enhance their internal capabilities but also build stronger relationships with external stakeholders, ensuring long-term success and sustainability. The study aimed to develop a strategic management model for universities based on intellectual capital and organizational trust.

2. Methodology

2.1. Study Design and Participants

This study employed a mixed-methods research design with a sequential exploratory strategy, integrating both qualitative and quantitative approaches. The qualitative phase aimed to develop a localized model of strategic management success, while the quantitative phase focused on testing and validating this model. The study was conducted at the Technical and Vocational University of Chaharmahal and Bakhtiari Province in 2023.

For the qualitative phase, purposive sampling was used to select participants who were experts in university management and professors at Payame Noor University. A total of 20 participants were interviewed, representing a diverse group of experienced academic staff and management experts. These participants were chosen based

on their knowledge, experience, and relevance to the research objectives. In the quantitative phase, a researcher-designed questionnaire was distributed to a larger sample to validate the model. Participants in this phase included additional faculty members and administrators from the same university system.

2.2. Data Collection

In the qualitative phase, data were collected through semi-structured, in-depth interviews. A total of 20 interviews were conducted, focusing on the participants' perspectives on strategic management, organizational trust, and intellectual capital within the university. Each interview lasted approximately 60 to 90 minutes and was audio-recorded with participants' consent. Interviews were transcribed verbatim for analysis.

For the quantitative phase, a researcher-made questionnaire was developed based on the concepts and categories derived from the qualitative analysis. The questionnaire included items measuring variables such as intellectual capital, organizational trust, organizational value orientation, employee will representation, managerial competence, and alignment of societal goals and values. The questionnaire was distributed to a broader sample of faculty and administrators to test the model through structural equation modeling (SEM). The data collection in this phase followed a cross-sectional approach, with participants providing responses at a single point in time.

2.3. Data Analysis

The qualitative data were analyzed using grounded theory methodology, involving three stages of coding: open, axial, and selective coding. During open coding, 308 concepts and 193 meaningful propositions were identified. In axial coding, these concepts were grouped into 23 subcategories, which were further abstracted into 8 major categories, including intellectual capital, organizational trust, and managerial competence. Selective coding identified a core category, which integrated all other categories into a unified model of strategic management success.

For the quantitative phase, the data from the questionnaire were analyzed using structural equation modeling (SEM) to assess the relationships between the key variables identified in the qualitative phase. The model fit was evaluated using standard goodness-of-fit indices such as the Chi-square test, RMSEA, CFI, and TLI. Path coefficients were calculated to determine the strength of the relationships between variables, with particular attention to the impact of managerial competence, organizational trust, and intellectual capital on strategic management success.

3. Findings

The quantitative findings were obtained based on an integrated approach. Since the qualitative data was collected in the first phase of the study, the researcher's objective was to discover the research topic through the participants' perspectives. Therefore, in the next phase, the same topic was examined quantitatively across a larger statistical population. The qualitative results led to the development of a localized strategic management model, which included eight main categories and 23 subcategories. The researcher defined 8 variables and indexed them through the 23 subcategories to design a questionnaire for validating the localized model. Data analysis was performed using descriptive and inferential statistics, tables of means and standard deviations, mean comparisons, and structural equation modeling.

The descriptive findings indicate that the age group of 40-49 years had the highest frequency distribution, comprising 30.9% of the total respondents. The gender information shows that management positions in the Agricultural Bank are predominantly male, with 77.0% of respondents being men, and only 23.0% of women holding managerial positions. Additionally, 83.8% of the sample were married, while only 16.2% were single. Regarding education, the highest frequency was at the bachelor's level (29.9%), and only 4.7% of respondents had a doctoral degree. A significant percentage of respondents held higher education degrees, which suggests that higher education is a requirement for managerial positions in the Agricultural Bank. Furthermore, 62.9% of respondents had studied management, and 27.8% had 5 to 10 years of managerial experience. Finally, 38.8% of respondents reported their monthly income between 3 million and 4 million Tomans.

Next section focuses on inferential analysis of the data, examining the relationships between variables using appropriate statistical tests. The relationships between variables were analyzed through mean comparisons and responses to research questions. A structural equation model was also used to examine the structural relationships between the main research variables.

Table 1. Pearson Correlation Coefficients for Independent Variables and Strategic Management Success

Variable	Correlation Coefficient (r)	Significance Level (sig)	Sample Size (N)
Intellectual Capital	0.445	0.000	178
Organizational Trust	0.566	0.000	178
Organizational Value Orientation	0.166	0.005	178
Employee Will Representation	0.367	0.000	178
Attention to Organization's Future	0.299	0.001	178
Alignment of Societal Goals and Values	0.259	0.000	178
Managerial Competence	0.678	0.000	178
Service Development	0.459	0.000	178

According to Table 1, the Pearson correlation coefficients for the relationship between different variables and strategic management success ranged from 0.166 to 0.678, indicating varying strengths of positive relationships. All relationships were significant, as the significance level (sig) was less than 0.05 for all variables. The strongest relationship was found between managerial competence and strategic management success (r = 0.678, sig = 0.000), followed by organizational trust (r = 0.566, sig = 0.000) and service development (r = 0.459, sig = 0.000). The weakest significant relationship was between organizational value orientation and strategic management success (r = 0.166, sig = 0.005).

Based on the available statistical inferences, the research hypotheses were tested, and the results indicated the effectiveness of the independent variables on the dependent variable, which is the success of strategic management. These tests were conducted using SPSS software, and for further verification, the effects of these variables on the success of strategic management were also demonstrated through structural equation modeling using Amos Graphics software. Accordingly, a structural equation model was employed to determine the intensity and direction of these variables' influence on the success of strategic management, where the measurement of a latent variable is defined by two or more observed variables. Additionally, it can be stated that a part of the structural equation model is the measurement model, which specifies the extent to which the observed variables for a latent variable are influenced by the latent variable or by error.

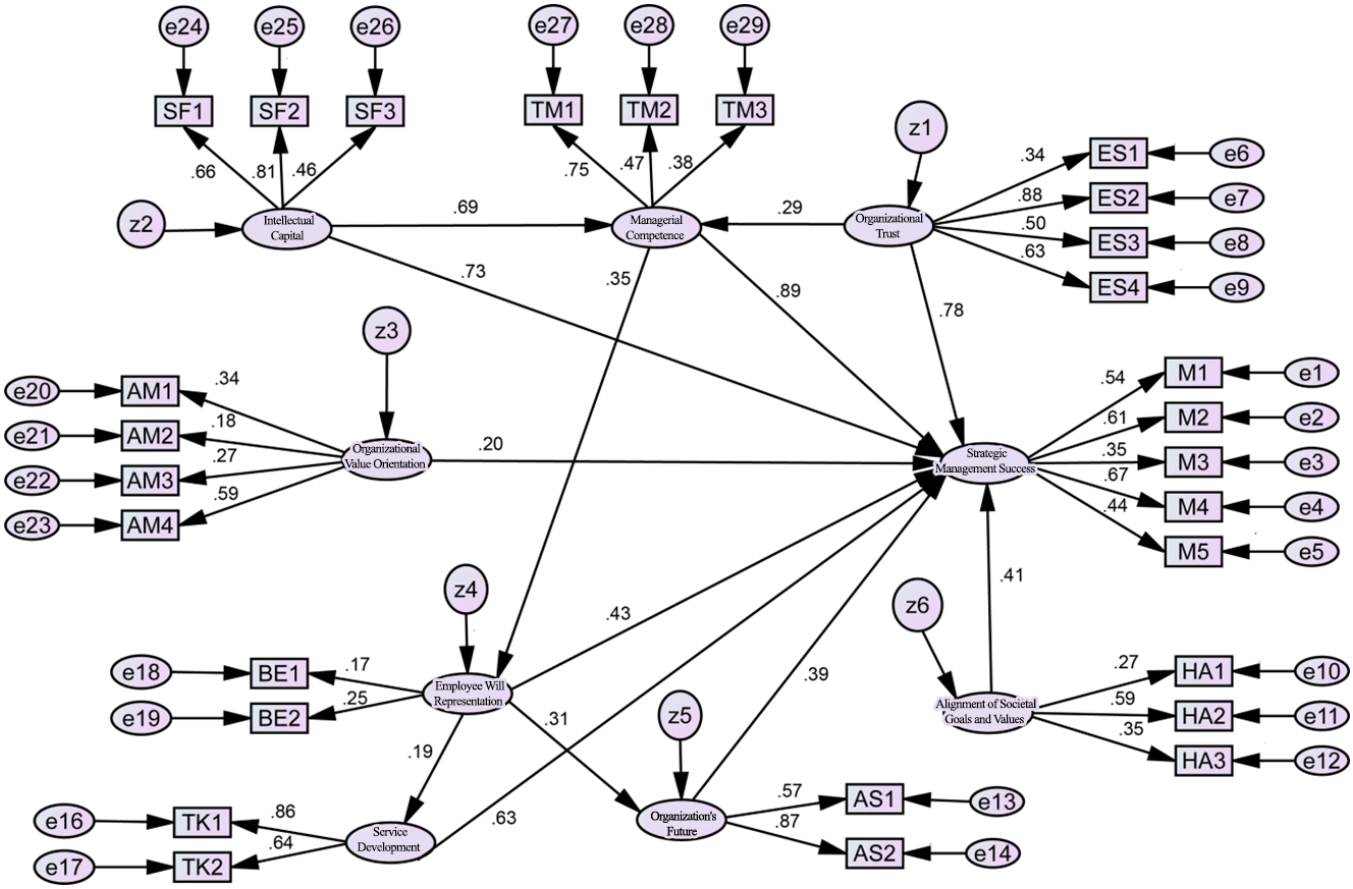
Table 2. Variables and Symbols Used in the Model

Symbol	Indicators	Variable
SF1	Employee Social Capital	Intellectual Capital
SF2	Knowledge-Centered	
SF3	Positive Organizational Mindset	
ES1	Trust-Building Accurate Promotional Message	Organizational Trust
ES2	Personnel Honesty	
ES3	Consequential Committed Actions	
ES4	Competency	
AM1	Organizational Culture	Organizational Value Orientation
AM2	Employee Beliefs	
AM3	Organizational Profitability	
AM4	Low-Cost Service Provision	
BE1	Meritocracy and Merit Selection	Employee Will Representation
BE2	Employee Compensation	
AS1	Bank Organizational Architecture	Organization's Future
AS2	Bank's Future Outlook	
HA1	Strategic Alignment	Alignment of Societal Goals and Values
HA2	Valuing Customers	
HA3	Customer Relationship Management	
TM1	Improvement Focus	Managerial Competence
TM2	Financial Discipline	
TM3	Needs Assessment	
TK1	Software Development	Service Development
TK2	Hardware Development	
M1	Goal Setting	Strategic Management Success
M2	Environmental Analysis	

M3	Strategy Formulation
M4	Strategy Execution
M5	Strategy Evaluation

In this model, there are 28 observed variables, which were generated by aggregating a large number of indicators. Some of the observed variables include the main independent variables of the research, which are specified in the model, and are used to explain the effect of the independent variables on the success of strategic management. In the evaluation of the indicators for strategic management success, five different indicators were found, with strategy execution (M4) carrying the most weight (0.67) in explaining strategic management success. After strategy execution, environmental analysis, with a coefficient of 0.61, ranks second. Regarding organizational trust, the personnel honesty indicator (ES2), with a coefficient of 0.88, plays a significant role in explaining organizational trust. For intellectual capital, the knowledge-centered indicator (SF2), with a coefficient of 0.81, has the highest explanatory power among the intellectual capital indicators.

Figure 1. Structural Equation Model for Explaining Strategic Management Success



Overall, based on the model's coefficients, all the main variables of the research have been well explained, and the effect of all the indicators on the research variables is significant. In terms of the structural relationships between the research variables, which also serve as a test of the research hypotheses, it should be noted that the results from structural equation modeling align with the hypotheses. In this model, the strongest effect is related to the relationship between managerial competence and strategic management success, with a coefficient of 0.89. Following this, the effects of organizational trust and intellectual capital, with coefficients of 0.78 and 0.73, respectively, rank second and third. Finally, the variables of service development, employee will representation, alignment of societal goals and values, attention to the organization's future, and organizational value orientation each have significant direct effects on the success of strategic management in the Chaharmahal Bakhtiari Payame Noor University.

In the inferential analysis, the relationships between the variables were examined, and using the Pearson correlation

coefficient test, it was found that intellectual capital, organizational trust, organizational value orientation, employee will representation, organization's future, alignment of societal goals and values, managerial competence, and service development are all related to strategic management success. Furthermore, based on the results of structural equation modeling, five key indicators were identified for explaining strategic management success, with strategy execution having the most weight. After strategy execution, environmental analysis ranks second. In terms of organizational trust, personnel honesty has a higher explanatory power, while for intellectual capital, the knowledge-centered indicator stands out as the most explanatory. Overall, the model's indicators have significantly explained the research variables, confirming the research hypotheses.

4. Discussion and Conclusion

The current study sought to explore the relationship between intellectual capital and the success of strategic management in higher education institutions. The findings revealed significant relationships between several key components of intellectual capital—such as managerial competence, organizational trust, intellectual capital, and service development—and strategic management success. This study contributes to the growing body of literature on the critical role of intellectual capital in enhancing the strategic performance of universities and educational institutions.

The results indicated that managerial competence had the strongest relationship with strategic management success, with a correlation coefficient of 0.678. This finding aligns with previous studies that highlight the pivotal role of managerial competence in driving strategic outcomes in higher education [46, 47]. Managerial competence, which involves financial discipline, needs assessment, and organizational improvement, equips educational leaders to align intellectual capital with the institution's long-term goals. Research by Ali et al. (2022) corroborates these findings, demonstrating that managerial competence directly influences innovation and strategic decision-making processes in universities, thus fostering sustainable competitive advantages [24].

Organizational trust emerged as another critical factor, with a correlation coefficient of 0.566. The importance of organizational trust in enhancing strategic management success is well-documented in existing literature [25, 27]. Trust within the organizational environment facilitates knowledge sharing, collaboration, and innovation, all of which are essential for strategic success. Abu-Rumman (2018) and Guerrero et al. (2021) similarly found that organizational trust serves as an enabler of intellectual capital utilization, allowing faculty and administrators to leverage their expertise for the institution's strategic objectives [16, 27].

Another significant relationship was found between intellectual capital and strategic management success, with a correlation coefficient of 0.445. Intellectual capital, comprising human, structural, and relational capital, is fundamental to fostering innovation and sustaining competitive advantage in universities [10, 14]. These findings are consistent with the research by Bejinaru (2017), which emphasizes the importance of intellectual capital in enhancing research productivity, student outcomes, and institutional performance. Intellectual capital not only drives the internal operations of universities but also enhances their external collaborations, particularly through partnerships with industry and government, further contributing to strategic success [1].

Service development was also found to have a significant impact on strategic management success, with a correlation coefficient of 0.459. Universities that invest in the development of both software and hardware services create a more conducive environment for innovation and academic excellence [16, 30]. Service development, as noted by Levina et al. (2019), strengthens the structural capital of universities by enhancing research infrastructure, administrative processes, and the overall student experience. These improvements contribute to the success of strategic management by ensuring that universities can meet the demands of a rapidly evolving educational landscape [29].

Interestingly, the results showed a relatively weaker, albeit still significant, relationship between organizational value orientation and strategic management success, with a correlation coefficient of 0.166. While organizational value orientation is important for aligning institutional goals with societal expectations, this finding suggests that other factors, such as managerial competence and intellectual capital, may have a more direct impact on strategic success. Nonetheless, previous studies, such as those by Alfarra (2019), emphasize the importance of aligning organizational values with broader societal goals to maintain institutional relevance and legitimacy [14].

The findings also revealed significant relationships between other variables, including employee will

representation (r = 0.367), attention to the organization's future (r = 0.299), and alignment of societal goals and values (r = 0.259), with strategic management success. These factors, while not as strongly correlated as managerial competence or organizational trust, still play crucial roles in shaping the strategic direction of universities. Employee will representation, as discussed by Bagis (2022), ensures that faculty and staff are actively involved in decision-making processes, thereby increasing their commitment to the institution's strategic goals [19]. Similarly, attention to the organization's future, highlighted by Guerrero et al. (2021), allows universities to anticipate and respond to changes in the educational landscape, ensuring long-term success [16].

Overall, the results of this study underscore the critical importance of intellectual capital in driving strategic management success in universities. By investing in managerial competence, organizational trust, and service development, universities can harness the full potential of their intellectual capital to achieve their strategic objectives. These findings are consistent with previous research, which has emphasized the importance of intellectual capital in fostering innovation, enhancing institutional performance, and maintaining competitive advantage [3, 11].

One limitation of this study is its focus on a specific geographical region and a single institutional type, which may limit the generalizability of the findings to other contexts. The reliance on self-reported data from university staff and administrators also introduces the potential for bias, as respondents may overestimate their contributions to strategic management success. Additionally, the study did not account for external factors, such as policy changes or technological disruptions, which could also influence the effectiveness of intellectual capital management in universities.

Future research should explore intellectual capital management in a broader range of educational institutions, including those from different regions and sectors, to enhance the generalizability of the findings. Longitudinal studies could provide insights into how intellectual capital evolves over time and its sustained impact on strategic management success. Researchers could also investigate the role of external factors, such as digital transformation or government policies, in shaping the effectiveness of intellectual capital within universities.

Universities should prioritize leadership development to strengthen managerial competence, which has shown to have the strongest influence on strategic success. Building a culture of trust across all levels of the organization can facilitate collaboration and innovation. Institutions should also invest in improving their technological infrastructure to enhance service development and support research initiatives, thereby strengthening their structural capital. These actions will enable universities to harness their intellectual capital more effectively to achieve long-term strategic objectives.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

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