

The Role of Religiosity in Moderating Intellectual Capital and Business Performance

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Abstract

Indonesia's creative batik sector significantly contributes to national economic expansion. Developing intellectual capital through improved human resources, business relationships, cultural assets, and technological advancement is crucial for enhancing operational performance. Religious considerations are equally important for performance improvement. Government officials view intellectual capital as a fundamental approach to strengthening the batik industry outcomes. This investigation analyzes religiosity's moderating effect on the relationship between human, relational, and structural capital and batik industry performance across Central Java. Through questionnaire surveys of 214 participants and PLS statistical analysis, results demonstrated that human, relational, and structural capital all positively and significantly affected industry performance. Religious factors influenced the relationship between human and structural capital with performance, while showing no moderating effect on relational capital's performance impact.

Keywords: Intellectual Capital; Religiosity; Business Performance.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are essential for fueling the economic development of a country. According to statistics provided by the Ministry of Cooperatives and SMEs, there were a total of 64.19 million MSMEs in Indonesia by 2022. These MSMEs make a substantial impact on the nation's economy, accounting for 61.97% of the Gross Domestic Product (GDP) and employing approximately 97% of the workforce in Indonesia. One of the MSME sectors with great potential is fashion products, including batik. The batik industry is part of the creative industry that has become a development priority by the Ministry of Industry because it is considered to have high leverage in driving national economic growth. However, based on data from the Ministry of Industry, the export value of Indonesian batik from 2018 to 2022 shows fluctuations, reflecting challenges in maintaining the competitiveness of the batik industry in the global market.

Table 1: Batik Export Value 2018-2022

Year	Weight (kg)	Value (USD)	Increase/Decrease
2018	1.675.481	36.122.079	
2019	1.304.048	27.742.460	(23,19)
2020	841.722	17.499.521	(36,92)
2021	1.056.238	24.089.301	37,66
2022	988.477	25.339.805	5,19

Source: Ministry of Industry (Processed data, 2022).

The declining performance of the batik creative industry in recent years is caused by external and internal factors. External factors are seen from the global economy, which experienced a decline due to a case that hit the world, namely the coronavirus COVID-19. In addition, rapid technological developments have led to increasing competition. Meanwhile, the internal factor is the lack of recognition of ideas, thoughts, innovations, creativity, and competencies possessed by owners or operators of the batik creative industry. One challenge in developing the batik creative industry is the readiness of creative human resources as actors in the creative industry that need development. Apart from managing ideas, thoughts, and relationships with customers, another factor is the use of infrastructure in the form of technology and culture. All these factors are reflected in intangible assets recognized as Intellectual Capital (IC).

According to Rashid et al. [1] Intellectual Capital comprises valuable knowledge and information that can enhance productivity and lead to increased profits for businesses. Furthermore, Bontis et al. [2], defines Intellectual Capital as knowledge that can be transformed into value for a company, leading to an increase in company worth by enhancing Intellectual Capital, which in turn can result in significant wealth creation. Intellectual property is purely intangible assets because they do not contain financial value. Many experts have found 3 basics of Intellectual Capital: Human Capital, Relational Capital, and Structural Capital [3–5].

Human Capital denotes the workforce potential that acts as the core source of value generation within organizations, consisting of employee talents, knowledge reserves, specialized skills, competencies, mindset, and intellectual flexibility. Relational Capital forms an essential intellectual capital component, rooted in client satisfaction, customer loyalty, and business relationship networks. Structural Capital comprises organizational resources that amplify company value through information databases, structural arrangements, and cultural systems.

Research conducted by Bontis [6] shows that Human resources, client relationships, and organizational structure play crucial roles in the intellectual assets of small businesses in Malaysia. These factors significantly impact the success and productivity of these companies in the country. As proposed by Muhammad & Ismail [3] Intellectual capital plays a major role in impacting the success of small and medium enterprises focused on knowledge in Greece. Based on the work of Chen et al. [7] Some types of intellectual assets have a beneficial impact on the performance of small and medium enterprises in Greece and Taiwan. Similarly, research conducted by Dzomonda & Fatoki [8] shows that there is a positive relationship between human capital and social capital with SME performance in South Africa. Meanwhile, earlier research [9–12] proves the same thing that intellectual capital can improve a company's position and contribute to determining company value, and support improving superior company performance. However, research conducted by Dženopoljac et al. [13] shows that ICT companies in Serbia are not influenced by intellectual capital when it comes to their performance. Similarly, research conducted by Rossi & Celenza [14] on 11 companies listed on the Italian stock market. The findings of the study indicate that intellectual capital does not affect performance.

Previous research on improving business performance generally focuses on economic and managerial approaches, but still gives relatively minimal consideration to humanistic dimensions, especially religiosity aspects. In fact, the spiritual side and religious beliefs are an integral part of humans that can influence attitudes, behaviors, and decisions in business activities. Religiosity, which includes religious knowledge, spiritual emotions, and religious behavior [15], is believed to be an internal force that encourages entrepreneurs to act ethically and productively. According to Hasanah [16] Religiosity is the manifestation of a belief system through the appreciation of religious values that have implications for thinking patterns and decision-making. Similarly, Sefnedi & Yadewani [17] found that the religiosity of small and medium business operators has a noteworthy impact on their performance. This situation gives rise to exploring how religiosity serves as a moderating factor in the connection between intellectual capital and business success, particularly within the batik creative sector.

Recent research indicates that the integration of religiosity with intellectual capital (IC) holds significant potential in enhancing organizational performance and innovation. The model presented by Yusmazida et al. [18] establishes a structural capital framework for SMEs based on religious principles, highlighting how Islamic values can strengthen organizational knowledge infrastructure. Findings by Suryadi et al. [19] reveal that employee religiosity supports the development of social capital, ultimately boosting post-merger performance in the Islamic banking sector. Additional evidence from Alfawzan et al. [20] suggests that the normative dimension of religiosity positively influences innovation, a key indicator of IC management success. Nishanthi et al. [21] Through bibliometric analysis, it shed light on the global trend of workplace spirituality, which plays a role in reinforcing spiritual capital as part of IC. Khoshnaw & Karadas [22] emphasize that transactional leadership can enhance human capital through knowledge-sharing practices in the public sector. Ariyanto et al. [23] identify factors influencing intellectual and spiritual capital, contributing to organizational performance in the tourism industry. Their earlier work in 2023 [24] demonstrates that knowledge sharing mediates the relationship between human, structural, and spiritual capital with innovation in SMEs, underscoring the importance of integrating spiritual capital in IC management. Junaidi et al. [25] stress that religiosity serves as a foundation for fostering entrepreneurial behavior through strengthening social capital, which has a positive impact on overall organizational performance.

Results from past studies investigating the impact of intellectual capital on firm performance have produced varied and conflicting findings, so a more comprehensive approach is needed. Tracey [26] emphasizes that many entrepreneurial activities are driven by religious beliefs, both individually and institutionally. Zulkifli & Rosli [27] also states that for some entrepreneurs, business ownership is not only economically valuable, but also a religious mandate that must be carried out ethically and provide social benefits. Therefore, including religiosity variables as a moderator in the relationship between intellectual capital and business performance is believed to be able to provide significant theoretical and practical contributions in developing business models based on spiritual values, especially in the context of the batik creative industry in Indonesia.

2. Methodology

This study employs a quantitative methodology utilizing a survey design to examine causal connections among latent variables within the developed theoretical framework. The analytical approach involves Structural Equation Modeling (SEM) utilizing Partial Least Squares (PLS), which is deemed suitable for simultaneously evaluating construct relationships and offers benefits in handling non-normally distributed data and moderately-sized samples. The participants of this research are individuals in charge of batik businesses located throughout Central Java Province, which comprises 2,687 business establishments. The selection of the research sample size is based on the method suggested by Hair et al. [28], which is five to ten times more indicators were utilized in the research model. Based on a total of 56 indicators representing five main variables, the ideal sample size ranges from 280 to 560 respondents. However, the amount of data that can be collected and processed in this study is 214 respondents.

Sampling was performed through purposive sampling, targeting batik business owners/managers in Central Java who have been in operation for ≥ 3 years. Data was collected through a five-point Likert scale questionnaire covering human, relational, structural, religiosity, and business performance capital. Each variable is measured through several dimensions and indicators that have been validated in previous research. Human capital is measured based on the model developed by Khaliq et al. [29], which includes three dimensions: skills and knowledge (3 indicators), attitude (5 indicators), and intellectual agility (5 indicators). Relational capital also refers to [29] and consists of two dimensions: customer satisfaction and loyalty (4 indicators) and networks (5 indicators). Structural capital consists of two dimensions: infrastructure and systems (6 indicators), and policies and procedures (7 indicators), also adopted from [29]. The religiosity variable is measured using indicators from [30], which includes five dimensions: belief or faith (3 indicators), religious practices (2 indicators), religious experience (2 indicators), religious knowledge (2 indicators), and religious consequences (3 indicators). Meanwhile, business performance is measured with financial and non-financial approaches adopted from [31], with two main dimensions: financial performance (4 indicators) and non-financial performance (4 indicators).

Data analysis was carried out in several stages. First, construct validity and reliability testing were conducted using outer loading values, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha. Outer loading values are expected to be > 0.70 to indicate indicator validity; AVE values > 0.50 indicate convergent validity; and CR and Cronbach Alpha values > 0.70 indicate construct reliability. Furthermore, discriminant validity testing was conducted through the Fornell-Larcker method and cross-loading value analysis.

Following validation of the measurement model (outer model), the subsequent phase involves evaluating the structural model (inner model) to assess relationships among latent constructs. This process includes examining R-square, f-square, and Q-square statistics, along with evaluating path coefficient significance through bootstrapping procedures at a 5% significance threshold (p-value < 0.05 and t-statistic > 1.96).

3. Results

3.1. Convergent validity

This validity test can be assessed from the Average Variance Extracted (AVE), where the AVE value is greater than 0.5 [32]. This value illustrates satisfactory convergent validity, indicating that a single underlying factor can account for over half of the variability in its corresponding measures, on average.

Table 2: Validity Test Results

	Cronbach's Alpha	rho A	Composite Reliability	Average Variance Extracted (AVE)
Human Capital	0.954	0.960	0.960	0.686
Relational Capital	0.944	0.959	0.951	0.682
Structural Capital	0.981	0.981	0.983	0.843
Business Performance	0.956	0.959	0.964	0.793
Religiosity	0.897	0.908	0.928	0.765

Source: Processed data, 2024.

The validity assessment results presented in Table 2 demonstrate that all variables exhibit AVE values exceeding 0.5, confirming that convergent validity criteria have been satisfied [32]. Specifically, the AVE values are: Human Capital (0.686), Relational Capital (0.682), Structural Capital (0.843), and Business Performance (0.793 and 0.765 in two instances). These findings reveal that each latent construct accounts for over 50% of the average variance among its measuring indicators. This suggests that the selected indicators demonstrate strong appropriateness for measuring their respective constructs, leading to the conclusion that the research instrument successfully fulfills convergent validity standards.

3.2. Discriminant validity

The purpose of the discriminant validity test is to ensure that each construct in the model truly measures different concepts from one another. One common method used is cross-loading analysis, where the correlation value (loading) of indicators to the intended construct must be higher compared to their correlation with other constructs.

Table 3: Discriminant Validity Test Results

	Human Capital	Business Performance	Relational Capital	Religiosity	Structural Capital
Human Capital	0.828				
Business Performance	0.852	0.915			
Relational Capital	0.784	0.867	0.826		
Religiosity	0.484	0.587	0.540	0.874	
Structural Capital	0.832	0.976	0.846	0.559	0.918

Source: Processed data 2024

According to the data in Table 3, it is apparent that each construct has the highest loading value in its diagonal column, such as Human Capital at 0.828, Business Performance at 0.915, Relational Capital at 0.826, Religiosity at 0.874, and Structural Capital at 0.918. This indicates that there is a stronger correlation between each construct and its respective indicators when compared to indicators from different constructs. For example, the Business Performance construct has the highest correlation with itself (0.915) compared to its correlation with other constructs such as Human Capital (0.852), Relational Capital (0.867), Religiosity (0.587), and Structural Capital (0.976). Thus, the estimated model has met the discriminant validity criteria.

3.3. Composite reliability

Table 4: Composite Reliability Test Results

	Composite Reliability
Human Capital	0.960
Business Performance	0.951
Relational Capital	0.983
Religiosity	0.964
Structural Capital	0.928

Source: Processed data, 2024.

According to the findings displayed in Table 4, it is evident that all research constructs have Composite Reliability values exceeding 0.70, even all are above 0.90: Human Capital (0.960), Business Performance (0.951), Relational Capital (0.983), Religiosity (0.964), and Structural Capital (0.928). Hair et al. (2014) found that Composite Reliability values above 0.70 suggest that the items in a construct demonstrate strong internal consistency and can accurately measure latent variables. Therefore, it can be inferred that all constructs examined in this research are highly dependable, making the instruments appropriate for future assessments.

3.4. Hypothesis testing

The PLS analysis results show that each construct tested in the model has a notable impact on the performance of the business.

Table 5: Hypothesis Testing Results

	Original Sample (O)	Sample Mean	Standard Deviation	T-Statistic	P Value
Human Capital -> Business Performance	0.079	0.078	0.026	2.985	0.003
Relational Capital -> Business Performance	0.109	0.110	0.020	5.529	0.000
Structural Capital -> Business Performance	0.790	0.791	0.031	25.713	0.000
Religiosity -> Business Performance	0.035	0.035	0.016	2.202	0.028
Human Capital*Religiosity -> Business Performance	0.037	0.037	0.014	2.718	0.007
Relational Capital*Religiosity -> Business Performance	-0.171	-0.167	0.026	6.500	0.000
Structural Capital*Religiosity-> Business Performance	0.100	0.098	0.022	4.482	0.000

Source: Processed data, 2024.

The hypothesis examination findings in Table 5 demonstrate that every tested construct significantly influences business performance. Human Capital positively affects business performance with statistical significance (coefficient: 0.079, p-value: 0.003 < 0.05). Relational Capital also significantly influences business performance (coefficient: 0.109, p-value: 0.000). Structural Capital shows the greatest impact (coefficient: 0.790, p-value: 0.000). Religiosity as a moderating factor directly and significantly affects business performance (coefficient: 0.035, p-value: 0.028). For interaction effects, Human Capital, moderated by religiosity, significantly and positively influences business performance (coefficient: 0.037, p-value: 0.007). In contrast, the Relational Capital-religiosity interaction significantly and negatively affects business performance (coefficient: -0.171, p-value: 0.000), implying that religious factors may reduce Relational Capital's beneficial impact under certain circumstances. The Structural Capital-religiosity interaction continues to demonstrate positive and significant effects on business performance (coefficient: 0.100, p-value: 0.000).

The research findings indicate that religiosity has a negative moderating effect on relational capital, with a coefficient of -0.171. This suggests that the higher an individual's level of religiosity, the positive influence of relational capital on performance or certain dependent variables tends to decrease. This phenomenon can be explained from several perspectives. Firstly, individuals with high religiosity may be more selective in building professional relationships, choosing interactions that align with their religious principles or values, thereby limiting opportunities to expand their relational network widely. Secondly, strong religiosity can prioritize internal norms and obedience to religious teachings, sometimes conflicting with the organization's need for flexibility and collaboration among diverse individuals. From a practitioner's perspective, these findings underscore the importance of balancing upholding religious values and building effective relational capital. Organizations need to design relationship development programs that take into account religious values, such as through cross-cultural communication training and spiritually-based work ethics, to ensure that relational capital continues to support organizational goals without compromising individual integrity. By examining these interconnections, practitioners can leverage religiosity as a moral asset while ensuring that relational networks remain productive and inclusive.

4. Discussion

4.1. Effect of human capital on business performance

The research findings indicate that human capital has a positive and significant impact on the business performance of batik. This finding is consistent with previous studies by Khaliq & Isa [33], Khaliq et al. [34], and Bontis et al. [2] which emphasizes that the skills, attitudes, and intellectual capabilities of employees are crucial assets in enhancing efficiency and productivity. High-quality human capital fosters the creation of product innovations, service improvements, and operational process enhancements that contribute to the success of the business [35].

The findings further support the Resource-Based Theory framework [36], which asserts that valuable, rare, difficult to imitate, and non-substitutable internal resources form the basis of competitive advantage. Additionally, human capital has a direct relationship with the establishment of intellectual capital, which, as per Bontis [37], serves as the bedrock for a company's ability to innovate. Enhancing human capital through training, incentives, and supportive work environments enhances employee adaptability and creativity, leading to the development of innovative products and services and stronger client relationships [38]. As such, human capital holds significance not only as an operational element but also as the primary catalyst for generating added value and ensuring business longevity.

4.2. Effect of relational capital on business performance

Relational modalities, encompassing networks, trust, and loyalty between companies and customers as well as stakeholders, have proven to be a critical factor in enhancing business performance. Consistent with prior research [29] and [2] They play a central role in business success. Previous studies have confirmed their positive effects on SMEs [9],[39].

Establishing positive relationships with customers enhances satisfaction and loyalty, ultimately strengthening brand reputation and expanding market share. Similarly, long-term partnerships with suppliers can provide access to raw materials at more competitive prices and quality. These conditions demonstrate that relational capital not only impacts operational efficiency but also plays a role in building a stronger market position. Within the framework of Resource-Based Theory, relational capital is seen as a unique resource that is difficult to imitate by competitors, thus capable of creating sustainable competitive advantages. For batik MSME players, strategies that emphasize customer satisfaction and strengthening partnership networks are key to maintaining performance and business sustainability in the face of increasingly fierce competition.

4.3. Effect of structural capital on business performance

Structural capital, a vital part of intellectual capital, contributes significantly to enhancing the overall performance of an organization. Sigal [40], emphasizes that structural capital is closely related to company systems and procedures, while Chahal [41] expands it as an organizational structure and work mechanisms that enable employees to work optimally. Edvinsson [42] illustrates structural capital in the form of intangible assets such as patents, trademarks, hardware and software, databases, and organizational culture. This opinion is

reinforced by Bontis et al. [43] who state that individuals in organizations cannot reach their full potential if systems and procedures do not support them. Hair et.al, [44] also, view structural capital as a foundation that allows individuals to reach their full potential. In practice, structural capital plays an important role in supporting employee work effectiveness and increasing company competitiveness. According to [29] the existence of good systems and procedures is the foundation that enables employees to work efficiently. Furthermore, [29] and [39] state that improving infrastructure quality and transaction procedure efficiency that suits consumer needs will directly impact increasing consumer response and satisfaction, thereby helping drive company performance growth. This discovery reinforces the idea that structural capital is not just an operational support, but a strategic asset that determines innovation, competitive advantage, and business sustainability.

4.4. Religiosity moderates the effect of human capital on business performance

The findings of this research reveal that the level of religiosity plays a role in influencing the impact of human capital on business success, particularly within the batik sector. This means that the level of religiosity of individuals or groups in organizations can strengthen the relationship between human resource quality and business performance results. Individuals with high levels of religiosity tend to bring moral values, ethics, and cooperation into the work environment, which has a positive impact on the management and utilization of human capital. These values encourage fair treatment of colleagues, appreciation of diversity, and create a harmonious work environment. Furthermore, religious activities play a role in forming individual resilience in facing challenges, as well as creating a balance between personal and professional life, which ultimately supports improved business performance. Religious communities also become a means of forming social networks that contribute to information exchange and human resource development.

Theoretically, this discovery aligns with the theory of values and ethics, which suggests that a person's values play a significant role, including religiosity values, will influence behavior and decision-making in organizational contexts. In creative industries like batik, religiosity values are believed to encourage worker motivation to improve self-capacity and facilitate effective collaboration in organizational structures. Religious work environments have been proven to form social norms that impact the ethical behavior of employees and management, in line with social norm theory and planned behavior theory [45]. This research strengthens findings from previous studies that religiosity not only positively influences organizational behavior but also plays a role in inhibiting unethical practices. Specifically, several previous studies [30,46–48] found that the more religious the company environment, the less likely management is to manipulate financial reports through earnings management practices. In other words, religiosity hurts earnings management. Hicks & King [49] and Emerson & McKinney [50] also emphasize that the moral principles derived from religious beliefs greatly influence the process of making ethical decisions.

Religiosity in this context is not only a reflection of individual compliance with religious values, but becomes a cultural force that is consistently applied in industrial activities. This ultimately creates a work atmosphere rich in ethical and spiritual values, which contributes directly to improving the performance of the batik industry as a whole. The results of this study show that religiosity plays a key role in enhancing the connection between human capital and performance, while also serving as a crucial element in the establishment of ethical and sustainable businesses.

4.5. Religiosity moderates the effect of relational capital on business performance

The study results show that religiosity does not moderate the effect of relational capital on business performance. This means that the relationship between the quality of inter-party relations that includes trust, communication, and social networks with improved business performance does not experience strengthening or weakening despite high religious values in the organization. Empirically, this means that the level of religiosity does not have a significant role in changing the direction or strength of the relationship between relational capital and business performance.

Religiosity is the integration of religious knowledge, emotional dimensions, and attitudes reflected in the implementation of religious obligations. As explained by Hasanah [16] Religiosity is a belief system that is believed and internalized in the form of important values that influence a person's behavior in making decisions. Therefore, implementing work based on religious values is believed to have the ability to improve both individual and organizational performance. However, when examining religiosity as a moderating factor in the connection between relationship capital and business success, studies indicate that religiosity does not enhance this connection. This means that business performance supported by the quality of inter-party relationships (relational capital) is not significantly influenced by the level of organizational religiosity.

Previous research, such as that conducted by [51] and [8], shows that relational capital has a positive effect on business performance. This capital includes aspects of trust, communication, and social networks that are strategic for business development. In this context, business success is more determined by concrete managerial practices and the effectiveness of social networks rather than internal religious values. Planned behavior theory from Ajzen [45] and the concept of moral intensity from Jones [52] show that ethical decisions are greatly influenced by individual moral factors, but in business practice, elements such as trust and cross-group interaction are more dominant in forming productive relationships.

4.6. Religiosity moderates the effect of structural capital on business performance

Structural capital refers to the foundation of an organization, encompassing its physical infrastructure, technological systems, operational protocols, and corporate ethos that empower employees to maximize their intellectual creativity [51]. Structural capital becomes infrastructure that helps increase employee productivity. Cohen & Kaimenakis [9] explain that Structural capital serves as the foundation for human capital, as its presence enables the growth of human capital within organizations. A robust structural capital also fosters a positive organizational culture within companies. It plays a vital role in harmonizing company policies and procedures, as well as assigning accountability and empowerment to individuals within the organization.

Religious business owners often see their venture as a spiritual vocation and aim to integrate their principles and ethics into their company [53]. Business proprietors often perceive their work as connected to wider perspectives and a more profound fusion of social and economic concerns. Many entrepreneurs employ language traditionally tied to professional callings, articulating the transformative power of making meaningful contributions through service and purposeful engagement. Within today's fiercely competitive business world, an increasing number of people are embracing entrepreneurship as a vehicle for personal meaning and life guidance [54].

According to the test findings, religiosity has been identified as a moderating factor that enhances the impact of structural capital on business success, particularly within the batik industry in Central Java. This indicates that a greater level of religiosity among individuals

and businesses results in a more efficient utilization of structural capital to improve business performance. This can be explained through the tendency of religious individuals to apply moral values, business ethics, and high social responsibility in managerial processes. These values encourage the use of information systems, knowledge management, and business processes efficiently and effectively. In addition, religiosity also influences the quality of decision-making by company leaders, because moral and sustainability aspects are more considered in resource allocation and utilization. Religious leaders are generally more concerned about employee welfare and create positive work environments, which in turn contribute to increased productivity and business performance. Religiosity also encourages commitment to achieving business goals through optimization of structural capital, such as human resource development, product innovation, and improving customer service quality. Furthermore, religious values can expand social and business networks through support and collaboration from solid religious communities. Religion plays a significant role in shaping the internal functioning of an organization, as well as enhancing its public perception and reputation. It can be inferred that religious beliefs enhance the influence of structural capital on a company's success by fostering an ethical and socially responsible business culture focused on the common good.

4.7. Economic and policy implications

Besides providing theoretical contributions, the findings of this research also hold significant economic implications. The positive and significant influence of intellectual capital on business performance, especially structural capital, indicates that strengthening internal systems and organizational culture can directly enhance financial outcomes such as profit margins, productivity growth, and export competitiveness in the batik sector. For instance, batik companies with strong structural capital are better able to adopt technology innovations and quality management systems, ultimately leading to increased sales revenue and market expansion. This underscores that intellectual capital is not merely intangible assets, but also strategic economic assets that contribute to regional GDP growth and job creation.

From a policy perspective, the role of religious moderation emphasizes the importance of integrating ethical and spiritual values into entrepreneurship development programs. The government, particularly the Ministry of Cooperatives and SMEs and local industry authorities, can design policies that combine strengthening intellectual capital with religiosity-based strategies. For example, through the development of training modules that integrate managerial skills with ethical principles and religious values, providing incentives for SMEs that implement values-based business practices, and collaborative programs with religious organizations and communities to enhance social capital. Such policies not only support business growth but also ensure that the economic progress of the batik industry aligns with broader social and cultural values. By linking economic performance metrics with government policy support, this research underscores the relevance of religiosity as a moral compass and driver of sustainable competitive advantage in the creative economy.

5. Conclusion

The statistical analysis findings reveal that all three intellectual capital components, including human capital, relational capital, and structural capital, positively influence business performance. These results validate the significance of knowledge management, external partnerships, and internal organizational systems in enhancing business outcomes, particularly within the batik sector. Additionally, religiosity demonstrates a moderating effect on the relationships between human capital and structural capital with business performance, while showing no moderating influence on relational capital's impact. These results show that spiritual values can strengthen the positive impact of individual capabilities and organizational structure on business success, but are not significant in strengthening the influence of external relationships. Therefore, this study recommends that batik industry players begin to integrate religious values into their business strategies as part of efforts to improve performance and business sustainability. These findings also open space for further exploration, especially considering the inconsistency in religiosity moderation results. Future studies should consider broadening the range of industries and investigation sites in order to gain a more thorough comprehension of how religiosity enhances the connection between intellectual capital and corporate success. This research is limited as it only focuses on the batik industry in Central Java, so the results may not be fully generalizable to other sectors or regions in Indonesia. The unique social, cultural, and religious conditions in Central Java can influence how intellectual capital and religiosity interact to enhance business performance. Nonetheless, these findings may have broader implications for other creative sectors, such as culinary, crafts, and tourism, which also rely on a combination of intellectual capital and religious or cultural values. Hence, further research in various industries and regions is highly necessary to test the consistency of this relationship and strengthen the generalization of findings to a broader context.

Authors' Contributions

All authors contributed equally to the conception, design, analysis, and writing of this paper. All authors have read and approved the final version of the manuscript.

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