

Article

Modelling the Influence of Management Practices on Sustainable Market Performance in Serbian Enterprises

Mina Mazić ¹ , Edit Terek Stojanović ² , Sanja Stanisavljev ²  and Mihalj Bakator ^{2,*} 
¹ Academy of Technical-Art Professional Studies Belgrade, School of Design, Technology and Management, Starine Novaka 24, 11000 Belgrade, Serbia; minapaunovic91@gmail.com

² Technical Faculty “Mihajlo Pupin” in Zrenjanin, University of Novi Sad, Djure Djakovica bb, 23000 Zrenjanin, Serbia; edit.terek@tfzr.rs (E.T.S.); sanja.stanisavljev@tfzr.rs (S.S.)

* Correspondence: mihalj.bakator@tfzr.rs; Tel.: +381-611806169

Abstract: In the evolving global market, new business conditions necessitate that enterprises adapt and construct organizational structures grounded in new principles and the implementation of contemporary management methods. This is particularly crucial for enterprises in transitional economies, which need to be highly flexible and innovative to meet the increasing demands of users swiftly, employ modern management techniques, and gain a competitive edge. The modern business environment assumes that there are very few products, technologies, services, knowledge areas, or procedures unavailable to interested groups worldwide. This study examines the influence of modern management methods and techniques (MMMTs), human resource management (HRM), quality management (QM), and intellectual capital management (ICM) on the sustainable market performance (SMPC) of these enterprises. A structured survey was conducted among 146 managers from various Serbian industrial enterprises, and the data were analyzed using descriptive statistics, Pearson correlation analysis, linear regression, and multicollinearity tests. The results revealed significant positive correlations between MMMTs, HRM, QM, ICM, and SMPC, with quality management having the highest impact. These findings provide valuable insights for improving business competitiveness in Serbia’s industrial sector. The results also support the development of an integrated model for sustainable management practices in transitional economies.

Keywords: modern management methods; quality management; business environment; sustainability; intellectual capital management



Citation: Mazić, M.; Terek Stojanović, E.; Stanisavljev, S.; Bakator, M. Modelling the Influence of Management Practices on Sustainable Market Performance in Serbian Enterprises. *Sustainability* **2024**, *16*, 8481. <https://doi.org/10.3390/su16198481>

Academic Editor: Grigorios L. Kyriakopoulos

Received: 22 August 2024

Revised: 24 September 2024

Accepted: 25 September 2024

Published: 29 September 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Embracing the transformations and shifts brought about by new management methods is crucial for enhancing an enterprise’s market performance. Ignoring the dynamic nature of the business environment and continuing with an outdated business model can be highly detrimental to an enterprise [1]. Organizations must refine their strategies not only to generate profit but also to make long-term sustainability a certain aspect of their business [2].

In globalized markets, competitive relations have become more balanced, allowing small and medium-sized enterprises (SMEs) to be competitors of large enterprises and vice versa. In a highly competitive business environment, achieving competitiveness is challenging and requires effective management, including improvements in various business sectors such as distribution, logistics, production, and quality. Given that globalization is a continuous and rapidly evolving process, enterprises should embrace change and adapt their business models to become flexible organizations that are resilient to change. Adaptability should be in sync with the notion of sustainable development, as the growing awareness of environmental protection is shaping a new business framework [3,4]. To thrive in this new ecological and sustainable business environment, enterprises must consider digitization, organizational culture, corporate social responsibility, and a leadership

philosophy [5]. We are in an era of radical transformation across society, the economy, organizations, and mindsets, primarily driven by new technology [6]. Reflecting on the new business paradigm, it is evident that we are living in an era of transformational marketing, moving from a profit-focused enterprise to one that prioritizes society and community [7].

Modern management techniques, tools, and methods are essential for creating a successful, market-competitive organization and ensuring the sustainability of market performance. The implementation of management systems based on methods and concepts, such as Kaizen, 5S, Six Sigma, TQM, Just-in-time, and Lean Manufacturing, has been validated by the success enterprises have achieved using these systems [8]. In today's fast-paced world characterized by rapid and widespread change, organizations need new tools and methods to enhance their effectiveness. Competitive advantage is attained only by organizations that are prepared for extreme changes and continuously employ techniques and concepts aimed at nonstop improvement. The continuous and rapid globalization, change, and development necessitate fresh ideas about the roles and activities of organizations to maintain a competitive edge [9]. Intense global competition requires organizations to adopt modern management methods to sustain market performance.

This paper presents research findings based on the perspectives of managers from enterprises in Serbia, discussing the influential factors of modern business, their correlations, and their impact on improving market performance. The analysis focuses on the effects of quality management (QM), human resource management (HRM), intellectual capital management (ICM), and modern management methods and techniques (MMMTs). This research is significant as it provides insights into managers' opinions, identifying which business methods and market performance improvements could enhance the competitive ability of enterprises in Serbia. The most significant recommendations for enhancing market performance, derived from the research findings, include the appropriate application of modern management methods and techniques and the better implementation of quality management concepts, human resources, and intellectual capital, i.e., integrated management systems, which collectively improve the business operations of enterprises in Serbia.

This paper offers a novel contribution by focusing on Serbia, a transitional economy, which provides a unique backdrop for exploring the influence of modern management methods, human resource management, quality management, and intellectual capital management on sustainable market performance. Unlike studies conducted in more developed economies, where management practices and systems are often well-established, Serbian enterprises face distinct challenges. These include limited access to advanced technologies, evolving regulatory frameworks, and the need to adapt to rapid global market changes. This transitional nature of Serbia's economy makes it a highly relevant and under-researched context for examining how management practices influence competitiveness and sustainability.

The primary focus of this research was the economic pillar of sustainability. This focus was derived from the study's objective. Economic sustainability is at the forefront, including market share growth, revenue sustainability, competitive advantage, and business performance improvement. These elements are all aligned with sustaining long-term economic viability in the competitive global market. While environmental and social sustainability are mentioned in the broader context of modern management and corporate responsibility, the specific modeling and survey focus on how management practices contribute to economic sustainability within the enterprises analyzed.

The originality of this research lies in its integration of these management concepts within the specific socio-economic environment of Serbia, a country that is undergoing significant transformations as it integrates more fully into the global market. This focus on an emerging economy allows us to shed light on the strategies that enterprises in such contexts can employ to remain competitive and sustainable. Moreover, the study contributes to the literature by addressing a gap in the existing research, which often overlooks transitional economies in favor of more established markets.

In summary, this study's novelty stems from its focus on Serbia as an emerging market, providing insights into how modern management methods and sustainability practices can be adapted to transitional economic conditions. This emphasis on the unique challenges and opportunities in Serbia strengthens the paper's relevance and contribution to both academic research and practical management strategies.

The originality of the paper lies in its focus on the interrelationships between various management techniques and their impact on market performance in a transitional economy. Unlike most studies that examine these methods in developed markets, this research provides insights specifically relevant to Serbia, though some findings may be applicable to other economies facing similar market conditions. The contributions of the study include a proposed model for sustainable management practices that integrates MMMTs, HRM, QM, and ICM, offering a framework that industrial enterprises can adopt to improve their competitive standing domestically and potentially in other transitional economies.

The paper is divided into six sections. First, the subject is introduced. Next, the theoretical framework for the research and hypotheses are presented. Section 3 details the methodology, including sample specifics, surveys, and statistical tools used for data analysis. Section 4 presents the results of the data analysis. Section 5 discusses the obtained results and research, and finally, conclusions are drawn and guidelines for future research are provided.

This research encourages an understanding of how enterprises can improve market performance with environmental sustainability in modern production conditions. Specifically, this paper advances the literature and provides suggestions for practice. There is not enough research of this kind in the Republic of Serbia, so this research provides an understanding of global trends and connections between influential factors and market performance so that an integrated approach and an integrated model for managerial decisions can be applied. The research includes four hypotheses that advance knowledge of the subject and offer ideas for future research. The current work unites several elements of this field of research and thus facilitates correlations and influencing factors in the form of a conceptual model for enterprises that want to be competitive, follow innovations, and maintain their performance in market.

2. Theoretical Background and Hypotheses Development

2.1. *The Challenges of the Modern Business Environment and Sustainability*

Sustainable business and competitiveness are crucial for survival in a competitive environment [10]. Sustainable business performance and competitiveness integrate social and environmental value with economic value [11]. Models of sustainable business and competitiveness aim to achieve social, economic, and environmental goals simultaneously. Different industries and businesses have used sustainable business models to meet these goals, but the success, popularity, and progress of these models in various application domains are not clearly understood [12]. Therefore, the concept of sustainable business and competitiveness can be seen as a complex and integrated system that considers the economic, social, and environmental dimensions of business.

The concept of 'sustainable market performance and competitiveness' (SMPC) in this study refers to the ability of an enterprise to achieve long-term market success while maintaining competitiveness through sustainable practices. However, the theoretical discussion would benefit from a more precise definition and a review of how SMPC has been operationalized in previous studies. Sustainable market performance includes both economic aspects, such as growth in market share, revenue, and profitability, and non-economic aspects, such as adherence to sustainability principles including environmental stewardship and social responsibility.

In the literature, SMPC has often been measured using a combination of financial metrics and sustainability proxies. Financial proxies include growth in market share, sales revenue, profitability, and customer loyalty, while sustainability is frequently assessed through corporate social responsibility (CSR) initiatives, environmental certifications (e.g.,

ISO 14001 [13]), and participation in sustainability reporting frameworks (e.g., GRI standards [13]). The integration of these proxies allows for a more comprehensive view of a firm's market performance and its alignment with sustainability objectives.

Businesses will face numerous global challenges in the coming years. Stronger efforts in business innovation, connectivity, social responsibility, and sustainability can contribute to business development on a global scale [13]. Businesses must adopt proactive thinking, which involves understanding and creating change. Despite the era of digitization and modern technological solutions such as social media, big data analytics, cloud computing, the Internet of Things (IoT), electronic and mobile business, and machine learning, these technologies represent key features of the digital age and lead to the digital transformation of both business and daily activities [14,15]. Contemporary society is moving towards Society 5.0, which is based on science and technology as key development factors. This society focuses on humans, balancing economic benefits with solving social problems. Economically, this means achieving profitability and economies of scale while developing sustainable business models. Industry 5.0, based on the digital transformation introduced by Industry 4.0, aims for a collaborative coexistence between humans and machines, where technology enhances human abilities [16,17]. Today's production processes emphasize sustainability, minimizing waste, reducing energy consumption, and using environmentally friendly materials [18]. In addition to Industry 5.0's focus on human abilities, there is a global emphasis on research on sustainable development and the modern business environment [19]. One widely used definition of sustainable development is the United Nations (UN) 'Brundtland definition', which states 'meeting the needs of the present without compromising the ability of future generations to meet their own needs' (Secretary-General and Development, 1987). Through Agenda 2030, the UN has quantified sustainability development through the 17 global development goals, covering several vital areas for humanity [20,21]. Integrating sustainability into business functions is a challenge for practitioners, who need to understand what aspects must be considered for effective sustainability implementation [22].

Sustainability can be used as a strategy to contribute to social goals and as a powerful source of competitive advantage, as part of social responsibility, organizational culture, transparency, and risk management. It requires adopting product-oriented strategies and shifting from narrowly focused process management to more comprehensive product management that meets consumer needs [23]. When manufacturing products with processes that limit environmental impacts, whether for small, medium, or large enterprises, economic sustainability and competitive advantage must be ensured [24,25]. Changes in the modern business environment should be based on innovations in business sustainability and organizational performance. It is essential to emphasize circular economy practices through modern management methods and techniques. Unfortunately, enterprises often neglect innovative strategies that contribute to environmental care, better organizational performance, and market performance improvement. Enterprises must care about the environment and worker well-being, which ultimately reflects their organizational performance [26,27]. Sustainability is a complex concept [28]. Today's changes should not focus on liberalizing trade policies and capital flows or the speed and frequency of technological changes, as these were crucial in previous waves of globalization, but rather on managing markets and the nature of business models that govern competition in leading world economies [29,30]. This article proposes a research-based approach to modeling the impact of modern management methods on sustainable market performance. Sustainable business should adapt to market changes and consider the application of modern management methods and techniques (MMMTs). This is where the first hypothesis is proposed:

Hypothesis 1. *The application of modern management methods and techniques (MMMTs) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

2.2. The Role of Effective HRM and Intellectual Capital Management in Sustainability

A successful, competitive, and profitable enterprise relies on market conditions, technological development, management methods, organizational changes, restructuring, and politics [31]. As a result of globalization, achieving success necessitates a higher level of performance, innovation, and efficient human resource management. Each type of organization has a unique culture that influences how it encourages employees to design policies that enhance competitive advantage [32]. Market conditions have become more competitive than in the previous decade. Continuity at all levels requires employees equipped with skills to foster innovation, manage risk, transform economic systems, and meet broader social goals responsibly and sustainably [33]. Human resources are the foundation and driving force of intellectual capital, encompassing individuals' abilities (professional experience, skills, educational level, and management education) and learning capabilities (knowledge sharing, management, problem-solving abilities, practice groups, entrepreneurship, leadership, growth data) [34]. To sustain an organization, it is essential to identify factors that enhance the impact of human resource management in creating positive organizational outcomes. HRM systems do not directly affect organizational outcomes but indirectly lead to increased intellectual capital, thereby enhancing value creation [35,36].

Human capital, comprising skills, creativity, experiences, and individual knowledge, is the fundamental element of every modern organization in creating new value. It includes professional competence, social competence, employee motivation, and leadership skills [37]. Establishing a sustainable human resource management system is crucial for maintaining a long-term relationship between organizations and their employees. Currently, e-HRM is a rapidly developing field that leverages technology for efficient and effective human resource management practices [38,39]. Knowledge accumulation is unnecessary; instead, leveraging knowledge to increase the production of goods and services boosts profitability and competitive strength [40]. Different forms of intellectual capital, including organizational, human, and consumer capital, collectively create new value for the enterprise [41]. Increasing intellectual capital involves empowering employees to develop personally and professionally. There are numerous examples and literature sources on intellectual capital management (ICM) where enterprises focus on generating profits based on intellectual capital [42]. Others view it as encompassing employees' competencies (education, professional skills, know-how, and experiential knowledge), attitudes (motivation, leadership, behavioral patterns), and intellectual agility (innovativeness, creativity, flexibility, and adaptability). Empirical studies in various countries confirm the significance of intellectual capital (human, structural, and relational capital) in small and medium-sized enterprises for achieving competitive advantage in service provision or product manufacturing. The findings suggest that organizations must redesign their operational processes to adequately distribute work, group jobs, and shape operations to meet sustainability needs [43–46]. Enterprises in Serbia should adopt new approaches in the business and management of HRM and ICM to create sustainable market performance. The appropriate selection of ICM and HRM has the potential to systematically improve decision-making and provide meaningful support to individuals or groups. Hence, Hypothesis 2 and Hypothesis 3 are proposed.

Hypothesis 2. *Human resources management (HRM) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

Hypothesis 3. *Intellectual capital management (ICM) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

2.3. Quality Management towards Sustainable Development

Quality management (QM) plays a crucial role in fostering sustainable development, both within organizations and the broader socio-economic environment. The fundamental

principle of QM is that the performance of any process or organization will naturally decline over time if proactive efforts to maintain and enhance quality are not undertaken. This phenomenon is especially true in dynamic business environments where external and internal factors continuously influence organizational processes. Over time, without the consistent application of quality management practices, even the most efficient organizations or processes will face diminished performance and operational challenges, threatening their sustainability. In the context of sustainability, organizations must adopt a holistic approach to quality management, one that incorporates ecological, social, and economic dimensions to ensure not only business excellence but also the long-term viability of their operations [47]. The link between quality management and sustainability is evident, as QM is inherently focused on meeting or exceeding customer needs, which now include sustainable practices, values, and expectations. To achieve business excellence and sustainability, organizations must address all aspects of quality, encompassing product quality, process efficiency, environmental responsibility, and social equity [47].

One of the most significant opportunities to contribute to sustainable development is through the integration of QM knowledge and practices into the broader sustainability efforts of the organization. This integration holds immense potential for enhancing the ecological, social, and economic dimensions of sustainability [48]. Many large enterprises that are committed to sustainable business principles recognize that their sustainability goals cannot be achieved in isolation. Instead, they aim to collaborate with quality-oriented partners within their supply chains to create a network of sustainable practices. These partnerships often lead to the establishment of sustainable value chains, where each participant—whether large enterprises or small and medium-sized enterprises (SMEs)—is expected to adhere to specific quality and sustainability standards. SMEs aspiring to join these value chains must often comply with strict procedures, rules, and standards to become eligible partners. In many cases, compliance with QM rules is seen as a fundamental requirement, but the growing trend also requires these SMEs to embrace sustainable business principles to align with the overarching sustainability goals of larger organizations [48]. This alignment is crucial, as it ensures that the entire supply chain operates cohesively toward achieving shared sustainability objectives, thereby enhancing the overall resilience and performance of the value chain.

From a micro-perspective, the relationship between quality management and sustainability can be observed within organizational processes, where resources are transformed into value for customers. The implementation of Total Quality Management (TQM) programs, which emphasize continuous improvement and the active involvement of employees at all levels, has been shown to positively impact corporate sustainability. TQM principles encourage organizations to focus on quality throughout their operations, which in turn leads to more sustainable practices, as efficiency and waste reduction are prioritized alongside the development of high-quality products and services [49,50]. By embedding TQM into their operations, organizations not only improve their overall quality performance but also contribute to the broader goals of sustainable development, such as reducing their environmental footprint and enhancing social responsibility. QM philosophies, methods, and tools—such as Six Sigma, Lean Manufacturing, and continuous improvement methodologies—are essential for creating value and promoting sustainability from within the organization. These tools enable organizations to optimize their processes, reduce waste, and improve resource efficiency, which directly contributes to sustainable development efforts [49,50].

To improve the quality management system of any enterprise, modernization of the organizational structure is often necessary. This involves rethinking how the organization is structured, how teams are organized, and how processes are managed to ensure that quality and sustainability are deeply embedded into the core of the enterprise. By modernizing their structures, organizations can become more agile and responsive to changes in the external environment, including shifts in consumer preferences, regulatory requirements, and technological advancements. Moreover, a modern organizational structure that sup-

ports quality management and sustainability helps ensure that these principles are not just theoretical but are actively practiced throughout the organization. This structural modernization also aligns with the trend of digital transformation, where organizations leverage new technologies to enhance both their quality management systems and sustainability efforts [51,52].

Many enterprises focus primarily on achieving economic sustainability, but this alone is insufficient for long-term success. True progress requires organizations to balance economic, environmental, and social sustainability performance. Economic sustainability focuses on the financial viability of the organization, ensuring profitability and long-term growth. However, environmental sustainability requires organizations to minimize their impact on natural resources, reduce emissions, and adopt environmentally friendly practices. Social sustainability emphasizes the well-being of employees, communities, and society at large. Achieving all three aspects of sustainability necessitates the cultivation of a TQM culture, where continuous improvement is embedded into the organizational mindset and practice [53,54]. Through the application of TQM principles, organizations can foster a culture of innovation, accountability, and excellence, which is necessary for driving sustainable development forward.

Achieving business excellence and producing world-class products and services is not a one-time goal but a continuous journey. It requires organizations to regularly assess and improve their operations, focusing on enhancing both productivity and the knowledge of each individual within the organization [55]. Continuous improvement, one of the core tenets of TQM, is critical for maintaining high performance in a rapidly changing environment. By fostering a culture of learning and development, organizations can ensure that their employees are well-equipped to contribute to both quality improvement and sustainability efforts. This focus on continuous improvement ensures that organizations not only meet the current needs of their customers but are also well-positioned to adapt to future challenges and opportunities in a sustainable manner. Based on this, the fourth hypothesis is proposed:

Hypothesis 4. *Quality management (MQ) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

3. Methodology

3.1. Survey and Variables

The methodology of this study was based on a structured survey administered to a sample of industrial enterprises in Serbia, selected based on specific criteria including industry representation, enterprise size, and ownership structure. These criteria were chosen to ensure that the sample was representative of the broader population of enterprises operating in Serbia. The structured survey technique allows for a systematic collection of data across different business sectors, providing reliable insights into the variables under study. The research was conducted in the period of March–May 2024.

The survey was developed using established scales from previous research, ensuring reliability and validity. Although some questions may appear simplified, this approach is necessary to make complex concepts understandable to respondents across industries and enterprise sizes. Simplicity in language allows for a broader range of participants to engage meaningfully with the survey, which is critical for obtaining diverse responses. A seven-point Likert-scale was used for evaluating the survey items. Details on the survey and survey items are presented in Appendix A (Table A1).

Furthermore, Table 1 presents the key variables used in the analysis, with items corresponding to the survey items listed in Appendix A (Table A1). These items were designed to measure the various dimensions of modern management methods and techniques (MMMTs), human resource management (HRM), quality management (QM), intellectual capital management (ICM), and sustainable market performance and competitiveness (SMPC). The structure of each variable was developed in accordance with the goals of the

paper. Distinct categories were created, though some overlap in concepts is inherent due to the interrelated nature of management practices.

Table 1. Analyzed variables.

Variable	Information
Modern management methods and techniques (MMMTs): Independent variable	Modern management methods and techniques can influence sustainable market performance. Items from MMMT-1 to MMMT-16 address the application of MMMTs. -Continuous improvement of employees' knowledge. -Standardization. -Lean concept, 5S, Just-in-time in production. -Development and application of ICT technologies. -Quality management system. -Integrated management system. -The concept of benchmarking. -Modern HRM techniques.
Human resource management (HRM): Independent variable	HRM indicates that there is a positive relationship between HRM practices and overall business performance [51]. Items from HRM-1 to HRM-16 address the application of HRM. -Skills and training of employees. -Modern channels of communication with employees. -Employee benefits. -Rules of communication and behavior. -Employee compensation according to effort and commitment.
Quality management (QM): Independent variable	The effectiveness of the implementation of the quality management system, according to the views of quality management and engineering experts, is reflected in business success factors [52]. Items from KM-1 to KM-14 refer to the application of KM. -Regular quality control of products and services. -Defined procedures for quality control. -Defined appeal procedures. -Modern quality tools. -Employees adhere to the quality assurance procedure.
Intellectual capital management (ICM): Independent variable	All components of ICM are very important for the performance of organizations and regions and at the same time contribute to the realization of a sustainable competitive advantage [53]. Items from ICM-1 to ICM-12 address the application of ICM. -The importance of intellectual capital. -Effective application of IC in the enterprise. -Innovation and modern information and communication technologies. -Procedures for the development and exchange of knowledge and skills of employees. -Employees are aware of the importance of IC and give it importance.
Sustainable market performance and competitiveness (SMPC): Dependent variable	SMPC, as an aspect of competitiveness, is recognized as a multi-level economy—a concept that covers national, industrial, and regional enterprise opportunities [54]. Items from SMPC-1 to SMPC-18 address the application of SMPC. -Sustainability of seed market share and position. -Sustainability of strategies for the distribution and sale of products and services. -Sustainability of revenue growth and new customers. -Sustainability of loyalty, meeting consumer needs. -Sustainability of expansion into new market segments. -Sustainability of the market business model.

Serbia, as a transitional economy, faces specific economic conditions such as industrial restructuring, integration into global markets, and the need for enterprises to modernize their management practices to remain competitive. These characteristics provide important

context for understanding why variables such as modern management methods and techniques (MMMTs), human resource management (HRM), quality management (QM), and intellectual capital management (ICM) are particularly relevant to this study.

There may be some potential overlap between MMMTs and other variables such as HRM or QM, and regarding this it is essential to understand that modern management methods often encompass elements of quality management and human resource management as part of a broader strategy. Thus, some degree of overlap is inevitable and even desirable when assessing how integrated systems operate in real-world settings. However, we ensured that the survey questions were designed to isolate key aspects unique to each domain. For example, while both MMMTs and HRM may address skills development, the questions under MMMTs focus on the application of techniques like Lean and Six Sigma, which are process-oriented, whereas HRM emphasizes employee-centric factors like compensation and communication strategies.

The study presents two distinct hypotheses for human resource management (HRM) and intellectual capital management (ICM), even though human capital (HC) is a component of intellectual capital. This distinction is intentional to clarify the different roles HRM and ICM play within the organizational context. HRM refers to the comprehensive set of practices and policies that organizations use to manage their workforce, including aspects such as employee development, engagement, and retention, which are crucial for enhancing human capital. On the other hand, ICM includes a broader range of elements beyond human capital, encompassing structural capital (organizational processes, intellectual property) and relational capital (customer and partner relationships).

Distinguishing between HRM and ICM, a more detailed understanding of how human capital is developed and managed through HRM practices, as well as how it interacts with other forms of intellectual capital to drive sustainable market performance, is presented. This approach allows for a more comprehensive analysis of both the direct influence of HRM on human capital and the broader contributions of ICM to organizational success. The research recognizes the importance of human capital within intellectual capital but separates the analysis of HRM and ICM to capture their distinct and combined effects on performance.

3.2. Data Analysis Approach

In the methodology of this research, the consistency of question sets for each dimension of organizational performance was first examined using the Cronbach's alpha test. This statistical tool is used to assess the reliability of scaled measurement, with alpha values ranging from 0 to 1, where values above 0.7 indicate the acceptable reliability of the research instruments. High alpha coefficient values suggest that the questions measuring the dimensions are homogeneously grouped and coherently and reliably measure the same concept [56]. To describe and summarize the collected data, basic methods of descriptive statistics were applied. Categorical variables were analyzed based on their frequencies and percentages, while numerical variables were described by calculating means, standard deviations, and minimum and maximum values [57]. This approach provides a detailed insight into the distribution and central tendencies of the data and formed the basis for further inferential statistical analysis. Pearson correlation analysis was employed to determine the relationships between the observed variables. Pearson's correlation is a statistical method used to measure the strength, direction, and significance of the linear relationship between two numerical variables.

The correlation coefficient ranges from -1 to $+1$, indicating a positive relationship (if one variable increases, the other also increases) or a negative relationship (if one variable increases, the other decreases) [57]. Multiple linear regression was then used to model and analyze the relationship between the dependent variable and the independent variables, assuming a linear relationship between them. This method assesses how individual factors (independent variables) influence the outcome under study (dependent variable). In this study, linear regression examined the effects of various organizational factors on sustainable

market performance. ANOVA was used to test whether the group differences between the predictor variables were statistically significant. The coefficient of determination R^2 quantified the proportion of variation in the dependent variable that the linear regression model could explain; the adjusted R^2 provided an adjusted value accounting for the total number of predictors in the model [58]. A multicollinearity test, including the calculation of the variance inflation factor (VIF), determined the presence of interdependence between the independent variables. VIF values indicate how much the variance of an independent variable is increased due to a linear relationship with other independent variables. Typically, VIF values below 5 indicate an acceptable level of multicollinearity, while higher values may require adjustment of the regression model [59]. The results of the regression modeling are presented using the estimated coefficients, their standard errors, and the significance test. Finally, to observe the differences between the textile industry and other industries, a binary logistic regression was applied. Binary logistic regression models a binary outcome, where 1 represents the textile industry and 0 represents other industries. All observed dimensions of organizational performance were included as predictors. The Forward Conditional method (Wald criterion) was used to select the variables after three iterations of the algorithm. The results are presented as coefficients (B), standard errors (S.E.), significance tests (Wald, df, p), and odds ratios. An odds ratio greater than 1 indicates a positive association between the independent and dependent variables, increasing the probability that outcome 1 will occur. A ratio of less than one describes negative associations, indicating that the predictor reduces the probability of the dependent variable [60]. The model's validity was first assessed by the Omnibus test of model coefficients, which determines whether the predictors included in the model significantly improve the model's fit compared to a model without these predictors. The Hosmer and Lemeshow test and two pseudo coefficients of determination, Cox and Snell R^2 and Nagelkerke R^2 , were used to assess the model's fit.

In terms of the assumptions for multiple linear regression analysis, all relevant diagnostic tests were conducted to ensure the validity and robustness of the results. These tests included checks for multicollinearity, normality, linearity, homoscedasticity, and independence of residuals, all of which are critical for the integrity of the model.

Variance inflation factor (VIF) values were calculated for all independent variables, and none exceeded the threshold of 5, indicating that multicollinearity was not a concern. The VIF values ranged between 1.659 and 2.416, confirming that no independent variable was highly correlated with another, which is crucial for ensuring that each variable's contribution to the dependent variable—sustainable market performance and competitiveness (SMPC)—is independently measured.

The distribution of residuals was checked using normal probability plots (P-P plots) and histograms. The residuals were approximately normally distributed, as evidenced by the linear pattern in the P-P plot and the bell-shaped histogram. This ensures that the assumption of normality was met, which is essential for the accuracy of hypothesis tests and confidence intervals.

Scatterplots of residuals versus predicted values were examined to verify the assumption of linearity. The scatterplots showed no obvious patterns, suggesting that the relationship between the independent variables (MMMTs, HRM, QM, ICM) and the dependent variable (SMPC) is linear, which is a fundamental assumption for regression analysis.

The assumption of equal variance (homoscedasticity) was checked by plotting the standardized residuals against the predicted values. The scatterplot showed that the residuals were randomly distributed with no funnel-shaped pattern, indicating that the variance of the residuals was constant across all levels of the independent variables, thus meeting the homoscedasticity assumption.

The Durbin–Watson statistic was used to test for autocorrelation in the residuals. A value of 1.989 was obtained, which is close to the ideal value of 2, indicating that the residuals are independent and there is no significant autocorrelation, satisfying this assumption for linear regression.

The sample included micro, small, medium, and large enterprises, with micro and small businesses making up the majority of respondents (approximately 60%). Enterprise size can influence the implementation of modern management methods (MMMTs), as larger enterprises may have more resources to invest in management systems, while smaller firms may rely more on flexibility and innovation.

Around 80% of the surveyed enterprises were privately owned, with the remainder being state-owned. Ownership structure can affect how human resource management (HRM) and intellectual capital management (ICM) are prioritized, as privately owned enterprises may be more profit-driven and willing to invest in innovative practices, while state-owned enterprises may face different operational constraints.

The enterprises came from diverse industries, with about one-third from the textile industry and the rest from sectors such as construction, automotive, and information technology. The industry type can significantly influence the application of quality management (QM) systems, as industries like manufacturing are more likely to implement rigorous quality controls compared to service-oriented sectors.

Table 2 presents the description of the data collection technique, the rationale for selecting the sample, and how the survey data were processed and analyzed. This provides a clearer understanding of the methodology used in the study.

Table 2. Methodology summary.

Research Parameter	Information
Number of participants	146 ($n = 146$)
Research duration	From structuring to survey to data collection: 2 months
Sample structure	Enterprises (micro, small, medium-sized, and large)
Material for data collection	Structured survey (presented in Table A1.)
Data analysis	Descriptive statistics; correlation analysis; linear regression; logistic regression; multicollinearity test
Data type	Demographic information data type: nominal/category; quantitative Dimension/variable data type: ordinal

Table 2 presents a detailed summary of the methodology employed in this research, offering a comprehensive outline of the data collection process, sample structure, and the analytical techniques applied. The research engaged 146 participants ($n = 146$), representing a diverse set of enterprises, categorized by size into micro, small, medium-sized, and large businesses. The decision to include a range of business sizes allows for broader applicability of the findings, providing insights across different enterprise scales.

The overall research process, including the structuring of the survey, data collection, and analysis, was completed within a two-month period. This timeframe suggests an efficient approach to gathering and processing the necessary information, ensuring that the data reflects the current state of the enterprises during the study window.

The data were collected through a structured survey, which is described in more detail in Table A1. Structured surveys are advantageous as they allow for the standardization of responses, making it easier to compare data across different groups within the sample. This method also increases the reliability of the data, reducing the potential for bias in data collection.

Once collected, the data were analyzed using a series of advanced statistical methods. Descriptive statistics were used to summarize and describe the key characteristics of the sample, providing a foundation for more complex analyses. Correlation analysis was employed to examine relationships between different variables, identifying potential

patterns or connections. Linear regression was utilized to predict outcomes based on one or more independent variables, while logistic regression was applied to model binary or categorical outcomes. To ensure the robustness of the regression models, a multicollinearity test was conducted, checking for highly correlated predictors that could distort the results.

The types of data collected were diverse, including both nominal/category data related to demographic characteristics and ordinal data for specific variables of interest. Nominal data included categorical variables, such as industry type or size of the enterprise, while ordinal data captured ranked or ordered information, such as satisfaction levels or the perceived importance of certain business practices.

4. Results

The collected data were first described by measures of descriptive statistics in order to obtain the best possible picture of the distribution of variables in the sample. A total of 146 managers were surveyed, the majority of whom (62%) were male in the age category of 30 to 50 years. Most respondents have completed academic studies (60%) while 22% have completed master academic studies. Only a fifth of the observed enterprises surveyed have a state ownership structure, while 80% of the enterprises have a private ownership structure. One-third of the observed businesses belong to the category of micro enterprises in terms of size (less than 10 employees). The same percentage belongs to the small businesses (10 to 50 employees). A fifth of the businesses belong to medium-sized enterprises (50 to 250 employees), while only 14% are large enterprises (more than 250 employees). Just over one-third of the observed businesses are in the textile industry. The remaining 65% is made up of enterprises in other industries such as retail (1%), construction (17%), automotive, information and communication (11%), manufacturing (25%), energy production (5%), mining (2%), and pharmaceuticals (4%).

First, the results from the descriptive statistics are noted. The obtained results are presented in Table 3. Descriptive statistics were used to describe the collected data to provide a clearer picture of the distribution of the variables in the sample.

Table 3. Descriptive statistics.

Dimension	Mean (μ)	Standard Deviation (σ)	Cronbach's Alpha
Modern management methods and techniques (MMMTs)	5.61	1.20	0.955
Human resource management (HRM)	5.70	0.99	0.914
Quality management (QM)	6.03	0.84	0.922
Intellectual capital management (ICM)	5.47	1.04	0.901
Sustainable market performance and competitiveness (SMPC)	5.75	0.87	0.941

The quality management (QM) dimension received the highest average score with a mean value of 6.03, which indicates that respondents rated the organization's performance most positively in that aspect. Intellectual capital management (ICM) received the lowest average score of 5.47, suggesting that respondents identified this area as the one with the greatest room for improvement. As for the variation in ratings, modern management methods and techniques (MMMTs) have the highest standard deviation of 1.20, which indicates the greatest variation in the respondents' perception of this dimension. On the other hand, quality management (QM) has the smallest standard deviation of 0.84, which shows that the respondents' opinions regarding this dimension were relatively more homogeneous. The maxima for all dimensions are the same and amount to seven, while the minimum values are different but are above two, which indicates that no dimension is rated extremely low.

According to the Cronbach's alpha values, it is evident that there is sufficient internal consistency between the survey items for each measured construct. This statistical tool is used to assess the reliability of scaled measurement, with alpha values ranging from 0 to 1, where values above 0.7 indicate the acceptable reliability of the research instruments. In particular, modern management methods and techniques (MMMTs) and sustainable market performance and competitiveness (SMPC) stand out, with alpha values of 0.955 and 0.941, which indicates extremely high internal consistency. This suggests that the question sets reliably measured the concepts that were their targets. High alpha coefficient values suggest that the questions measuring the dimensions are homogeneously grouped and coherently and reliably measure the same concept [56].

Next, the results of the correlation analysis are provided. All measured constructs were included in this analysis, with a significance level of 5%. The correlation coefficients for each measured construct are detailed in Table 4. A correlation matrix provides a comprehensive overview of the relationships between the variables in a dataset. It shows the correlation coefficients between pairs of variables, indicating the strength and direction of their linear relationship. This information is valuable for understanding patterns, dependencies, and potential relationships between the variables. When we examine the correlation matrix of this study, we find that all correlations between the factors of organizational performance are statistically significant and positive.

Table 4. Results of the correlation analysis.

Correlation Analysis					
	Modern Management Methods and Techniques (MMMTs)	Human Resource Management (HRM)	Quality Management (QM)	Intellectual Capital Management (ICM)	Sustainable Market Performance and Competitiveness (SMPC)
MMMTs	1.000				
HRM	0.455 *	1.000			
QM	0.329 *	0.504 *	1.000		
ICM	0.573 *	0.716 *	0.394 *	1.000	
SMPC	0.598 *	0.455 *	0.505 *	0.559 *	1.000

* Significance 5%.

Based on the results presented in Table 4, there is a strong and positive correlation (0.598) between modern management methods and techniques (MMMTs) and sustainable market performance and competitiveness (SMPC). The strongest positive correlation coefficient of 0.716 is found between human resource management (HRM) and intellectual capital management (ICM). The lowest correlation coefficient of 0.321 is observed between modern management methods and techniques (MMMTs) and quality management (QM). Additionally, quality management (QM) and intellectual capital management (ICM) also exhibit positive correlations with sustainable market performance and competitiveness (SMPC), with correlation coefficients of 0.505 and 0.559, respectively, indicating a higher correlation between ICM and SMPC than between QM and SMPC. While correlation does not necessarily imply causation, the existing literature on the relationships between these constructs suggests a certain level of causation. To visually present the relationship between the independent variables (MMMTs, HRM, QM, and ICM) and the dependent variable (SMPC), a scatterplot diagram was created.

Figure 1 shows the relationship between ratings of various organizational dimensions and sustainable market performance. Each color represents a different dimension. The horizontal axis shows the scores for each dimension, while the vertical axis shows the SMPC scores. The points are spread across the graph, suggesting that there is no clear linear correlation between dimension ratings and sustainable market performance. However, most points are concentrated in the upper right quadrant, indicating that higher dimension scores generally correspond to higher SMPC scores.

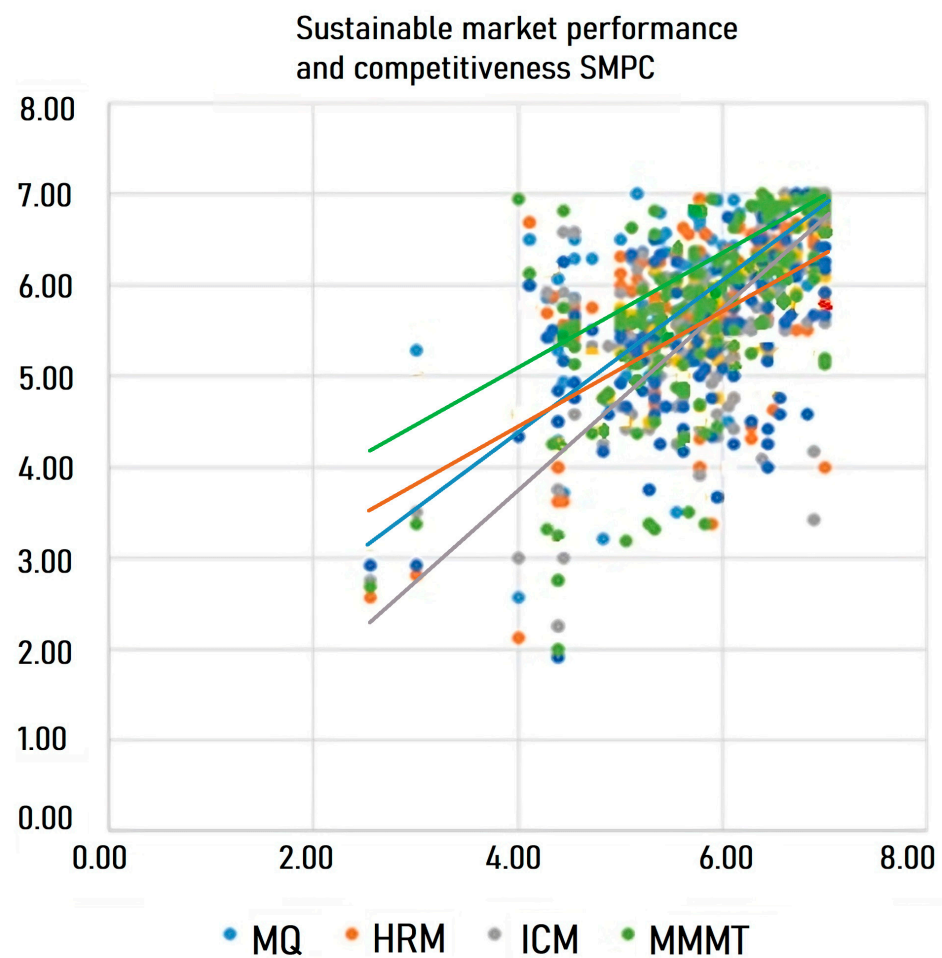


Figure 1. Scatter diagram (SMPC dependent var.; MMTs, HRM, ICM, and QM independent var.).

This paper integrates five constructs into a research framework, analyzing the influence of four constructs (MMMTs, HRM, ICM, and QM) on sustainable market performance and competitiveness (SMPC). Linear regression analysis was performed, and the results are presented in Table 5.

Table 5. Results of the linear regression analysis.

Regression Analysis						
Y	X	β Intercept: 1.993	p-Value	R ²	F	F Sig.
SMPC	MMMT	0.253	<0.0001	0.653	199.842	<0.0001
	HRM	0.288	<0.0001			
	ICM	0.342	<0.0001			
	QM	0.411	<0.0001			
Y	X	MSE		RMSE	DW	
SMPC	MMMT	0.211		0.484	1.989	
	HRM					
	ICM					
	QM					

In the research, a linear regression analysis was modeled in order to determine the extent to which different organizational factors—MMMT, HRM, ICM and QM—can predict SMPC. The observed regression model has the following functional form:

$$SMPC = 1.993 + 0.253 \cdot MMMT + 0.288 \cdot HRM + 0.342 \cdot ICM + 0.411 \cdot QM + \epsilon;$$

Sustainable market performance and competitiveness (SMPC) was used as the dependent variable (Y), while the independent variables included MMMTs, HRM, ICM, and QM. The regression analysis yielded a value of $R^2 = 0.653$, indicating a positive relationship between SMPC and the independent variables (MMMTs, HRM, ICM, and QM). Overall, the p -values were found to be adequate. The Mean Squared Error (MSE) was 0.211, the Root Mean Squared Error (RMSE) was 0.484, and the Durbin–Watson (DW) value was 1.989, all of which suggest a good fit for the model.

Furthermore, a two-sample Kolmogorov–Smirnov test/two-tailed test was conducted between the dependent variable (SMPC) and independent variables (MMMTs, HRM, ICM, QM). The p -values for each analyzed pair indicated statistical significance, and the K–S test indicates that the samples follow the same distribution. The cumulative distributions graphs are shown in Figures 2–5.

Next, the logistic regression analysis results for all enterprises, represented by pseudo-R coefficients, are shown in Table 6. To gain further insights into the relationships under study, logistic regression analysis was performed in four variations. The first variation included all enterprises, regardless of their size.

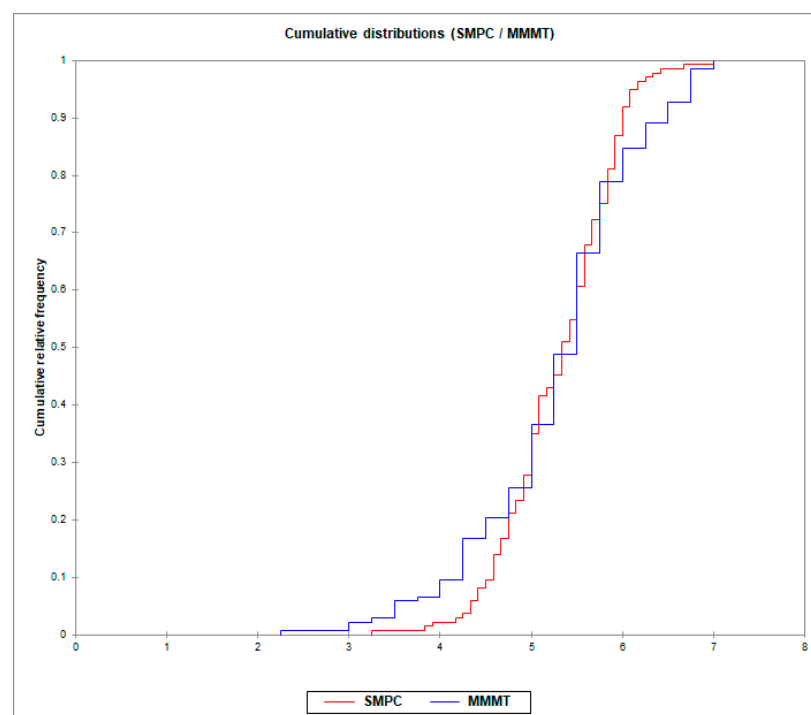


Figure 2. Cumulative distributions diagram (SMPC/MMMTs).

Table 6. Results of the logistic regression analysis—all enterprises.

Y	X	R ² (McFadden)	R ² (Cox and Snell)	R ² (Nagelkerke)	AIC	SBC
SMPC	MMMT HRM ICM QM	0.188	0.802	0.803	1201.124	1233.122

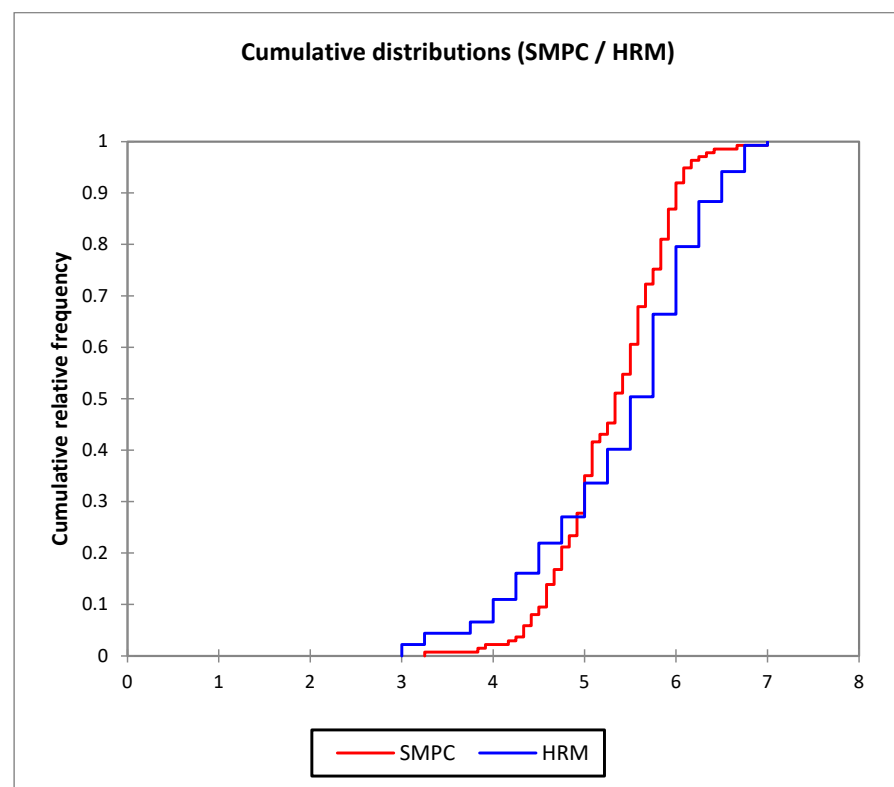


Figure 3. Cumulative distributions diagram (SMPC/HRM).

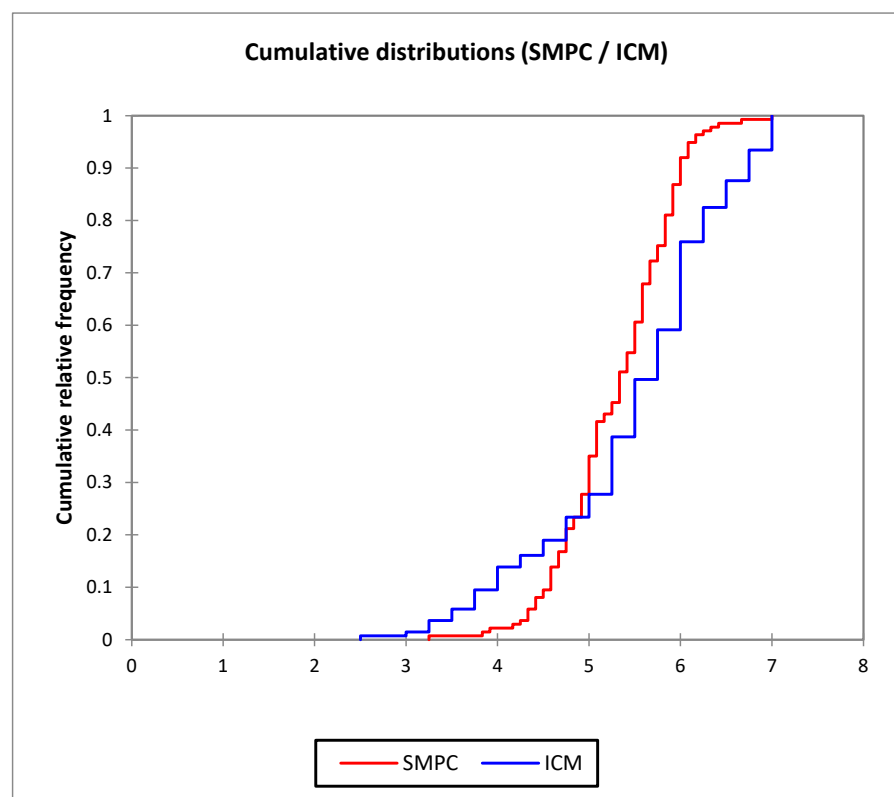


Figure 4. Cumulative distributions diagram (ICM/HRM).

Further, in Table 7, the standardized coefficients of the logistic regression analysis are presented.

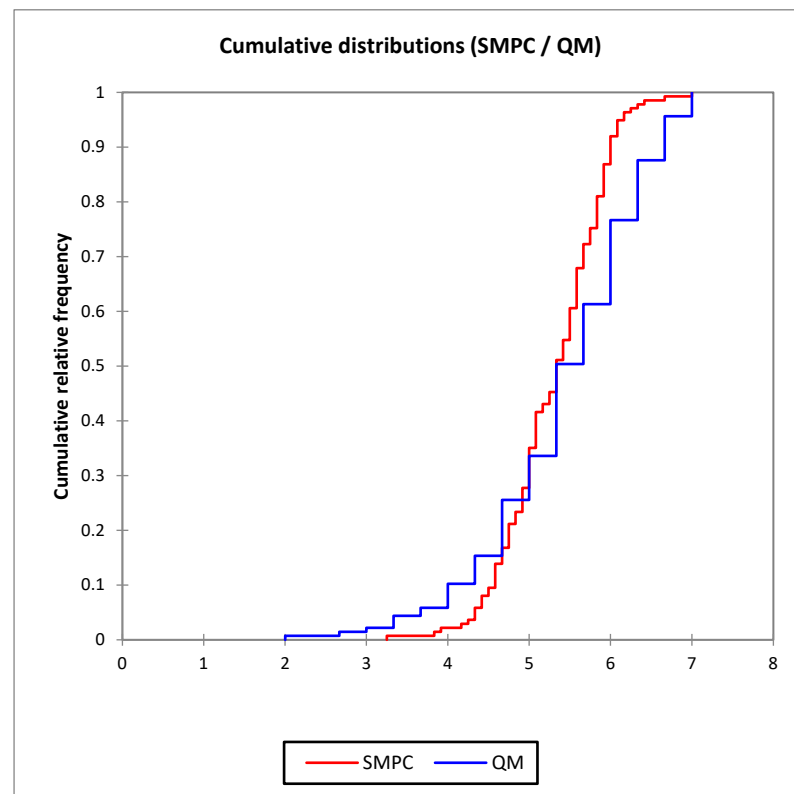


Figure 5. Cumulative distributions diagram (QM/HRM).

Table 7. Standardized coefficients—all enterprises (SMPC as dependent variable).

Independent Variable	Value	Std. Error	Chi-Square	Pr > Chi-Square
Modern management methods and techniques (MMMTs)	1.388	0.122	128.774	<0.0001
Human resource management (HRM)	1.177	0.158	54.523	<0.0001
Quality management (QM)	2.373	0.124	117.412	<0.0001
Intellectual capital management (ICM)	2.001	0.104	27.320	<0.0001

Based on the results of the logistic regression analysis presented in Tables 6 and 7, the model demonstrates a good fit. Specifically, the McFadden's, Cox and Snell's, and Nagelkerke's pseudo-R squared values of 0.188, 0.802, and 0.803, respectively, suggest an adequate fit for all measured factors.

Following this, the second variation of the logistic regression was performed. This variation analyzed micro enterprises (Table 8), small and medium-sized enterprises (Table 9), and large enterprises (Table 10).

Table 8. Results of the logistic regression analysis—micro enterprises.

Y	X	R ² (McFadden)	R ² (Cox and Snell)	R ² (Nagelkerke)	AIC	SBC
SMPC	MMMT HRM ICM QM	0.523	0.898	0.894	62.144	65.037

Table 9. Results of the logistic regression analysis—small and medium-sized enterprises.

Y	X	R ² (McFadden)	R ² (Cox and Snell)	R ² (Nagelkerke)	AIC	SBC
SMPC	MMMT HRM QM ICM	0.198	0.866	0.867	1122.365	925.911

Table 10. Results of the logistic regression analysis.

Y	X	R ² (McFadden)	R ² (Cox and Snell)	R ² (Nagelkerke)	AIC	SBC
SMPC	MMMT HRM QM ICM	0.308	0.866	0.867	187.452	133.414

In Tables 9 and 10, the standardized coefficients of the logistic regression analysis are presented for SMEs (Table 9) and large enterprises (Table 10).

Based on the results of the logistic regression analysis presented in Tables 8–10, no statistically significant differences were found among the listed enterprises. To delve deeper, a multicollinearity analysis was conducted to examine statistically significant collinearity between the measured constructs. The findings are detailed in Table 11.

Table 11. Results of the multicollinearity test.

Static	Modern Management Methods and Techniques (MMMTs)	Human Resource Management (HRM)	Quality Management (QM)	Intellectual Capital Management (ICM)
Tolerance	0.504	0.362	0.616	0.426
VIF	1.968	1.792	1.659	2.416

The analysis of the multicollinearity results indicates that there is no statistically significant collinearity between the measured factors. This is crucial because multicollinearity would suggest that one or more independent variables should be removed due to their lack of statistical significance in modeling the relationships between the observed variables.

Logistic regression was used to model the probability of enterprises belonging to the textile industry, which serves as a binary dependent variable (textile industry vs. other industries). This method allows for the examination of how the independent variables—modern management methods and techniques (MMMTs), human resource management (HRM), quality management (QM), and intellectual capital management (ICM)—influence the likelihood of firms being classified within the textile sector. The textile industry was chosen as the reference group due to its prominence in the Serbian economy and the specific competitiveness and sustainability challenges it faces. This industry provides a representative baseline for comparing organizational factors across other sectors.

The overall research objectives are to explore how these management factors impact sustainable market performance and competitiveness across different industries. The use of logistic regression is designed to identify industry-specific effects, particularly how these factors influence the likelihood of firms belonging to the textile industry. The stages of analysis first involved testing overall relationships through linear regression, followed by logistic regression to explore sector-specific differences.

The logistic regression results presented in Tables 7–10 provide insights into the relationship between the independent variables—modern management methods and techniques (MMMTs), human resource management (HRM), quality management (QM), and

intellectual capital management (ICM)—and the likelihood of firms belonging to the textile industry. While the statistical analysis identifies significant predictors, it is essential to connect these findings to the broader research hypotheses and managerial implications.

The purpose of the logistic regression analysis was to determine how these management factors impact industry-specific characteristics, with a focus on the textile industry as a reference. This approach allows for a comparison of organizational practices across industries and highlights the unique challenges and opportunities faced by firms in the textile sector. The textile industry in Serbia, being a prominent part of the manufacturing sector, faces specific pressures related to sustainability, competitiveness, and the adoption of modern management techniques. Understanding how MMMTs, HRM, QM, and ICM influence the likelihood of an enterprise being classified within this sector provides valuable insights into the sector's dynamics and its ability to adapt to global market trends.

The results from Tables 7–10 show that certain management practices, such as quality management and intellectual capital management, have a stronger impact on the likelihood of firms belonging to the textile industry. This suggests that enterprises in this sector may rely more heavily on structured processes and human capital to maintain competitiveness. These findings align with the broader research objectives, which seek to explore how different management strategies contribute to sustainable market performance across industries.

By linking these results to the hypotheses, the analysis shows that the influence of MMMTs, HRM, QM, and ICM is not uniform across industries, and industry-specific factors must be considered when developing management strategies. The textile industry, in particular, may benefit from focused investments in quality management and intellectual capital to enhance its competitive position. These insights provide practical implications for managers, particularly those operating in sectors facing similar challenges to the textile industry, highlighting the importance of targeted management practices in achieving long-term sustainability and competitiveness.

In summary, the logistic regression results offer important evidence supporting the hypotheses, particularly in how industry-specific dynamics influence the relationship between management practices and sustainable market performance. The findings underscore the need for tailored managerial strategies that account for sectoral differences, offering a deeper understanding of the unique drivers of competitiveness within industries such as textiles.

5. Discussion

These hypotheses were evaluated using the results of the correlation analysis and linear regression. The correlation between influential factors indicates the strength of the association between the mentioned variables. The analysis of theoretical research provides a basis for assuming potential causality among the observed variables. Data relevant to the proposed hypotheses were processed using linear regression analysis. The coefficient of determination, R^2 , with a value of 0.653, indicates a positive correlation between the observed variables. The p -values are less than the significance level of 0.05, suggesting a statistically significant association between the independent variables and the dependent variable, with a 5% risk that no actual association exists.

The β values are 0.253 (between SMPC and MMMTs), 0.288 (between SMPC and HRM), 0.342 (between SMPC and ICM), and 0.411 (between SMPC and QM). These positive β values indicate a positive influence of the independent variables on the dependent variable. Based on these values, the following equation was noted:

$$SMPC = 1.993 + 0.253 \cdot MMMT + 0.288 \cdot HRM + 0.342 \cdot ICM + 0.411 \cdot QM + \epsilon;$$

The p -values are optimal. The Mean Squared Error (MSE) value of 0.211, the Root Mean Squared Error (RMSE) value of 0.484, and the Durbin–Watson (DW) value of 1.989 indicate an adequate model fit.

Hypothesis 1. *The application of modern management methods and techniques (MMMTs) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

Result: Hypothesis 1 cannot be rejected.

Hypothesis 2. *Human resources management (HRM) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

Result: Hypothesis 2 cannot be rejected.

Hypothesis 3. *Intellectual capital management (ICM) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

Result: Hypothesis 3 cannot be rejected.

Hypothesis 4. *Quality management (MQ) positively affects the sustainable market performance and competitiveness (SMPC) of industrial enterprises in Serbia.*

Result: Hypothesis 4 cannot be rejected.

The results complement the findings of other studies, not as a set of independent variables but as individual independent variables and their impact on SMPC. This includes the relationship between the independent variables (MMMTs, HRM, and QM) and the dependent variable (SMPC). Consequently, entrepreneurs and managers should redefine their strategic and operational priorities, placing more emphasis on the environment and the consumer [61,62]. Previous research on the influence of these factors highlights their importance for business success and long-term sustainability.

Modern management methods and techniques (MMMTs) positively affect sustainable development. Research demonstrates how Lean Six Sigma reduces defects, increases customer satisfaction, and fosters sustainable growth [63,64]. Human resource management practices have been found to positively impact business performance and sustainability, corroborating other studies [65–67]. Modern HRM methods represent an integrated management mechanism of contemporary management techniques and methods. When considering the sustainability of HRM, this study's results align with research indicating that HRM can be leveraged for sustainability strategies [68,69].

Similarly, this study found that human capital management positively affects sustainable business development [70–72]. Although significant regional differences in the business environment exist, market availability, human capital, and finance are crucial in shaping the business environment and sustainability [73].

Quality management has a positive impact on sustainable development [74,75]. Conceptual and empirical studies on the relationship between sustainability and quality management, particularly focusing on TQM, have proposed various models of sustainable performance [76,77].

Sustainable business involves the sustainable exploitation of resources, sustainable supply chains, and sustainability-driven technologies. There is still much work to be done at the national level. Future national strategies should focus on raising awareness of the importance of sustainable business from economic, social, and environmental perspectives.

The influence of modern management methods and techniques (MMMTs) on organizational performance has been a major topic of interest in both academic research and industry practice for decades [78]. Numerous studies have demonstrated that the adoption of management methodologies such as Lean, Six Sigma, Total Quality Management (TQM), and the Just-in-Time (JIT) approach leads to significant improvements in operational efficiency, cost reduction, and overall business performance [79–81]. Lean and Six Sigma, in particular, have been shown to minimize waste, reduce process variation, and increase the quality of output, which directly correlates with higher customer satisfaction and lower operational costs. These practices have been most effective in manufacturing sectors, where

process optimization is key. However, their application is increasingly being observed in service industries, where customer satisfaction and service delivery times are crucial.

The results of this study are consistent with the existing body of literature on MMTs, reinforcing the notion that these management methods play a crucial role in enhancing the sustainable market performance of enterprises [82]. In transitional economies like Serbia, where firms are often in the process of aligning themselves with global market standards, MMTs become even more critical. Unlike in developed economies, where these practices are often well-integrated, enterprises in transitional economies face additional challenges, including limited access to advanced technologies, fluctuating market conditions, and evolving regulatory frameworks. In such contexts, adopting MMTs allows enterprises to remain competitive by improving flexibility, increasing responsiveness to market demands, and streamlining processes [83]. The research underscores that MMTs not only contribute to immediate performance gains but also help firms build long-term resilience in volatile environments. This aspect has been underexplored in earlier studies that primarily focused on stable or developed market economies.

Human resource management (HRM) is another area extensively covered in both the academic and practitioner literature [84–86]. Effective HRM practices, such as employee training, career development, performance-based compensation, and organizational communication strategies, have long been recognized as critical drivers of organizational performance [84]. Prior studies have consistently shown that enterprises that invest in their workforce are more innovative, adaptive, and productive [87]. This is because employees who are well-trained and adequately compensated are more likely to be engaged and committed to their organizations, which in turn leads to better overall performance. In particular, HRM practices that emphasize talent development, leadership training, and continuous learning are essential for fostering innovation and maintaining a competitive edge in knowledge-intensive industries.

The current research aligns with these findings by demonstrating the significant impact of HRM on sustainable market performance. However, what sets this study apart is its focus on HRM within the context of a transitional economy. In developed markets, HRM is often seen as a tool for optimizing performance and retaining talent in competitive industries. In transitional economies like Serbia, HRM plays an even more fundamental role. It becomes a key driver of organizational transformation, helping enterprises adapt to the rapid changes in market conditions, regulatory requirements, and technological advancements. Furthermore, this study highlights the importance of HRM in promoting not just economic performance but also social sustainability [88]. Effective HRM practices ensure that enterprises contribute to the long-term development and well-being of their employees, creating a more sustainable workforce. This adds a layer of complexity to the existing literature, where the focus has often been solely on the economic benefits of HRM without considering its broader social implications.

Quality management (QM) is another well-researched domain with a strong body of evidence supporting its role in enhancing organizational performance. The adoption of quality management systems, such as ISO 9001 and Six Sigma, has been widely credited with helping enterprises achieve business excellence by ensuring that their products and services consistently meet or exceed customer expectations [89]. Previous studies have shown that enterprises with robust QM systems experience higher levels of customer satisfaction, reduced operational errors, and improved profitability. In the manufacturing sector, in particular, the implementation of TQM has led to significant gains in process efficiency, product quality, and market competitiveness [90]. QM has also been linked to enhanced supply chain performance, as enterprises that adhere to strict quality standards are more likely to attract and retain high-quality suppliers and partners [91].

This study supports the established findings on QM's positive impact on sustainable market performance but takes the analysis a step further by examining its role in transitional economies. In Serbia, as in other transitional markets, many enterprises are still in the process of fully integrating quality management systems into their operations. The findings

suggest that while the principles of QM—such as continuous improvement, customer focus, and process control—are universally applicable, their implementation may face unique challenges in transitional economies. These challenges include a lack of infrastructure, inconsistent regulatory enforcement, and limited resources for training and development [92]. Despite these hurdles, enterprises that successfully implement QM practices can achieve significant competitive advantages, both in terms of economic performance and long-term sustainability. Moreover, the study highlights that quality management should not be viewed solely as a tool for improving product quality but as a comprehensive approach that enhances organizational sustainability by integrating economic, environmental, and social goals. This aligns with recent trends in the literature, where QM is increasingly being linked to corporate social responsibility (CSR) and sustainability initiatives [93].

Intellectual capital management (ICM) has emerged as a critical factor in the success of organizations, particularly in the context of the knowledge economy [94]. The management of intellectual capital, which includes human capital (skills, knowledge, and experience of employees), structural capital (organizational processes, patents, and databases), and relational capital (customer relationships and brand equity), has been linked to innovation, competitive advantage, and long-term business performance. Previous research has demonstrated that organizations that effectively manage their intellectual capital are more likely to innovate, adapt to market changes, and sustain their competitive advantage over time [95]. This is particularly true in knowledge-intensive industries such as technology, finance, and professional services, where intellectual assets often outweigh physical ones.

The findings of this study are consistent with the broader literature on ICM, confirming its positive relationship with sustainable market performance. However, the study contributes new insights by focusing on the role of ICM in transitional economies like Serbia. In such economies, where enterprises may face limitations in access to financial and physical capital, intellectual capital becomes even more crucial for maintaining competitiveness. The research suggests that in transitional markets, the ability to manage and leverage intellectual capital effectively can make the difference between stagnation and growth. Enterprises that invest in developing their employees' skills and knowledge, as well as in creating systems for knowledge sharing and innovation, are better positioned to compete in both domestic and global markets. This study also emphasizes the need for enterprises in transitional economies to view intellectual capital as a strategic asset, rather than merely a support function. This contrasts with much of the existing literature, which often treats ICM as a secondary concern in developing markets. The findings suggest that for enterprises in transitional economies, intellectual capital management should be a central focus of their business strategy [96].

Based on the foundations offered by previous research [97,98], this study provides complementary insights into the positive impact of modern management methods and techniques (MMMTs), human resource management [99,100], and quality management on business performance [101]. By exploring the implementation of MMMTs, our findings highlight that contemporary management approaches contribute to positive sustainable market performance. In the domain of human resource management, this study reinforces the significance of effective HR practices in boosting employee morale, productivity, and retention rates [99,100]. Additionally, our examination of quality management underscores its critical role in improving product standards, customer satisfaction, and overall competitive advantage [101]. Collectively, these results enrich the existing body of literature by analyzing how the integration of modern management practices holistically improves business outcomes. New businesses should be encouraged to strive for sustainability [13,68]. Recent studies confirm the significance and relevance of the impact of MMMTs, HRM, ICM, and QM on the sustainability of market performance. Integrating these crucial factors and management practices enhances operations, efficiency, and innovation and enables enterprise sustainability in the market. The noted findings are not measurable with direct statistical results but are derived from conclusions and indications. This is due to the unique aspect of this study, as there are no other studies that include all the noted variables

simultaneously in a transitional setting. Therefore, comparing the findings with other studies is based on assumptions, conclusions, and discussions. A direct comparison of results is only applicable when the same survey and research methods are employed.

6. Conclusions

Based on the results of this research, the following implications and suggestions are noted:

- Enterprises in Serbia must analyze and evaluate their business and organizational processes and apply models to improve them.
- Improving the sustainability of market performance at the national level is a key factor for long-term success. This increases the awareness of managers and employees about the modern way of doing business.
- Modern management methods and techniques, such as the continuous improvement of employees' knowledge, standardization, the Lean concept, Six Sigma, 5S, Just-in-time in production, the development and application of ICT technologies, QMS, integrated management systems, and the concept of benchmarking, should shape a modern sustainable business environment.
- MQ and modern HRM and ICM techniques should shape a modern sustainable business environment.
- Promoting sustainability through HRM and ICM can improve sustainable market performance and product performance.
- All employees should be quality bearers in the interest of the sustainability of market performance.
- New and existing enterprises in Serbia have to focus on sustainable models or semi-sustainable models that include sustainable modern management methods, as well as sustainable resources and means of production.
- If Industry 4.0 is already present, then at the national level, investments in the sustainability strategies of market performance and preparations for Industry 5.0 are forthcoming.
- Managers should focus on the adequate management of human resources and intellectual capital, as bearers of leadership.
- Scientists who deal with this field can, for future research, deal with the application of MMTs, HRM, IKC and MQ in our country and countries with a similar economic structure.

The limitation of this research is the absence of a structured meta-analysis in the theoretical part of the paper. The analyzed data, which were subjected to statistical methods, did not account for all industries in which the manufacturing enterprises operate, focusing primarily on the textile industry, which constitutes the largest percentage. However, as the main goal of this study is to establish a model of the influence of modern management methods and techniques on the sustainability of market performance, these limitations do not affect the study's objectives. They do, however, provide guidelines for future research. This research lays a foundation for future studies and can serve as a comparison point for results in this field.

The practical contribution of this study is that it can aid entrepreneurs, enterprise founders, managers, and policymakers in better understanding the importance of MMTs, HRM, ICM, and QM for improving the sustainability of business performance in Serbian enterprises. Business owners and policymakers should focus on elements identified as having a positive impact on market performance. Future research could involve a larger number of enterprises and include firms from the region in addition to Serbian enterprises. Since this study is based on research conducted in Serbia, a country in transition, the results cannot be generalized to other industries and cultures. However, a similar survey can be used to obtain the mentioned variables in different contexts. This work provides a solid foundation for future research.

Author Contributions: Conceptualization, M.M. and E.T.S.; Methodology, S.S.; Software, M.B.; Validation, M.B. and M.M.; Formal Analysis, M.B.; Resources, S.S.; Data Curation, Stefan Ugrinov; Writing—Original Draft Preparation, M.M.; Writing—Review and Editing, M.B.; Visualization, M.B.; Supervision, E.T.S.; Project Administration, E.T.S. and S.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Dataset available on request from the authors.

Acknowledgments: This paper has been supported by the Provincial Secretariat for Higher Education and Scientific Research of the Autonomous Province of Vojvodina, number: 142-451-2963/2023-01.

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

The survey items are presented in Table A1.

Table A1. Survey items.

Information about the Respondents	
Sex	
(1) Male	(2) Female
Age	
(1) Under 30	(2) 30–50
(3) Over 50	
Professional qualifications:	
(1) Elementary School	(2) High School
(3) College	(4) Faculty
(5) Master	PhD
Enterprise Information	
Ownership structure of the enterprise:	
(1) Private	(2) Public
Enterprise size:	
(1) Micro (0–9 employees)	(2) Small (10–49 employees)
(3) Medium (50–249 employees)	(4) Large (250+ employees)
Quality Management (QM)	
Evaluate quality management and business quality.	
1—I disagree at all, 3—not familiar, 7—I completely agree	

Table A1. Cont.

1.	QM-1	Quality control of products and services is carried out regularly.	1	2	3	4	5	6	7
2.	QM-2	There are defined goals related to meeting the expectations of product users.	1	2	3	4	5	6	7
3.	QM-3	There are clearly defined procedures for detecting product user dissatisfaction.	1	2	3	4	5	6	7
4.	QM-4	There are clearly defined procedures for complaint procedures and elimination of customer dissatisfaction.	1	2	3	4	5	6	7
5.	QM-5	Quality control is carried out through modern quality tools.	1	2	3	4	5	6	7
6.	QM-6	There are clearly defined quality control procedures.	1	2	3	4	5	6	7
7.	QM-7	Employees are introduced to the vision, mission and values of the enterprise.	1	2	3	4	5	6	7
8.	QM-8	The number of scrap products that reach the market is negligible.	1	2	3	4	5	6	7
9.	QM-9	There are effective procedures for eliminating problems in the production process.	1	2	3	4	5	6	7
10.	QM-10	All employees undergo training in terms of business quality.	1	2	3	4	5	6	7
11.	QM-11	All employees are familiar with and adhere to quality policies.	1	2	3	4	5	6	7
12.	QM-12	Quality management procedures are adequately implemented.	1	2	3	4	5	6	7
13.	QM-13	There are clearly defined procedures in case of an unexpected drop in the quality of products and services.	1	2	3	4	5	6	7
14.	QM-14	Employees adhere to all quality improvement procedures.	1	2	3	4	5	6	7
Human Resource Management (HRM)									
Evaluate human resource management. 1—I disagree at all, 3—not familiar, 7—I completely agree									
1.	HRM-1	Employee skills are high.	1	2	3	4	5	6	7
2.	HRM-2	Communication with employees is satisfactory.	1	2	3	4	5	6	7
3.	HRM-3	Strategic operation of the human resources management system.	1	2	3	4	5	6	7
4.	HRM-4	Employees are satisfied with the way the business is run.	1	2	3	4	5	6	7
5.	HRM-5	Modern communication channels with all employees (smartphones, laptops, tablets, etc.) are used.	1	2	3	4	5	6	7
6.	HRM-6	Employees are rewarded if they significantly contribute to the better operation of the enterprise.	1	2	3	4	5	6	7
7.	HRM-7	There is uninterrupted communication between employees and superiors.	1	2	3	4	5	6	7
8.	HRM-8	Employee compensation is in line with the enterprise's income.	1	2	3	4	5	6	7
9.	HRM-9	The enterprise invests in skill development and knowledge of employees.	1	2	3	4	5	6	7
10.	HRM-10	Employees are instructed on how the enterprise operates.	1	2	3	4	5	6	7
11.	HRM-11	Suggestions and recommendations from employees are welcome.	1	2	3	4	5	6	7
12.	HRM-12	Conflicts between employees are resolved quickly and effectively.	1	2	3	4	5	6	7
13.	HRM-13	There are clearly defined rules of communication and behavior in the workplace.	1	2	3	4	5	6	7
14.	HRM-14	All employees are informed about what is happening in the enterprise.	1	2	3	4	5	6	7
15.	HRM-15	Employees are rewarded for their hard work and commitment.	1	2	3	4	5	6	7
16.	HRM-16	Every new employee goes through adequate training.	1	2	3	4	5	6	7

Table A1. Cont.

Intellectual Capital Management (ICM)									
Evaluate the management of intellectual capital in the enterprise. 1—I disagree at all, 3—not familiar, 7—I completely agree									
1.	ICM-1	Intellectual capital is given great importance in the enterprise.	1	2	3	4	5	6	7
2.	ICM-2	Intellectual capital is effectively applied in the enterprise.	1	2	3	4	5	6	7
3.	ICM-3	Intellectual capital is reported periodically.	1	2	3	4	5	6	7
4.	ICM-4	Intellectual capital is used to make strategic business decisions.	1	2	3	4	5	6	7
5.	ICM-5	Human resources make up a large part of a enterprise's intellectual capital.	1	2	3	4	5	6	7
6.	ICM-6	Employees must share their knowledge and skills.	1	2	3	4	5	6	7
7.	ICM-7	The level of innovation in the enterprise is high...	1	2	3	4	5	6	7
8.	ICM-8	Modern information and communication technologies are applied.	1	2	3	4	5	6	7
9.	ICM-9	The enterprise clearly knows and clearly defines its market segment.	1	2	3	4	5	6	7
10.	ICM-10	There are clearly defined procedures that support employee innovation.	1	2	3	4	5	6	7
11.	ICM-11	There are clearly defined procedures that support the development and sharing of employee knowledge.	1	2	3	4	5	6	7
12.	ICM-12	Employees are aware of the importance of intellectual capital.	1	2	3	4	5	6	7
Modern Management Methods and Techniques (MMMTs)									
Evaluate the application of modern management methods and techniques in the enterprise. 1—not important at all, 3—not familiar, 7—very important									
1.	MMMT-1	Continuous improvement of employees' knowledge.	1	2	3	4	5	6	7
2.	MMMT-2	Business quality standardization (certification).	1	2	3	4	5	6	7
3.	MMMT-3	Application of the Lean business concept.	1	2	3	4	5	6	7
4.	MMMT-4	Application of the 5C concept.	1	2	3	4	5	6	7
5.	MMMT-5	Application of just-in-time approach to production.	1	2	3	4	5	6	7
6.	MMMT-6	Procurement and application of new equipment and modern technologies.	1	2	3	4	5	6	7
7.	MMMT-7	Establishing strategic partnerships.	1	2	3	4	5	6	7
8.	MMMT-8	Collaboration with other enterprises.	1	2	3	4	5	6	7
9.	MMMT-9	Investing in marketing activities.	1	2	3	4	5	6	7
10.	MMMT-10	Development of information and communication technologies (ICT).	1	2	3	4	5	6	7
11.	MMMT-11	Application of information and communication technologies (ICT).	1	2	3	4	5	6	7
12.	MMMT-12	Application of quality management system.	1	2	3	4	5	6	7
13.	MMMT-13	Application of integrated management systems.	1	2	3	4	5	6	7
14.	MMMT-14	Application of statistical tools (quality tools) and techniques for quality improvement.	1	2	3	4	5	6	7
15.	MMMT-15	Application of the concept of benchmarking.	1	2	3	4	5	6	7
16.	MMMT-16	Modern human resource management techniques.	1	2	3	4	5	6	7
Sustainable Market Performance and Competitiveness (SMPC)									
Evaluate the market performance of the enterprise. 1—very bad, 3—not familiar, 7—very good									
1.	SMPC-1	Growth of market share.	1	2	3	4	5	6	7
2.	SMPC-2	Presence in different market segments within the same industry.	1	2	3	4	5	6	7

Table A1. Cont.

3.	SMPC-3	Annual turnover.	1	2	3	4	5	6	7
4.	SMPC-4	Timely delivery of products and services.	1	2	3	4	5	6	7
5.	SMPC-5	Distribution strategy.	1	2	3	4	5	6	7
6.	SMPC-6	Growth in revenue from sales of products and services.	1	2	3	4	5	6	7
7.	SMPC-7	Growth in the number of new customers/services.	1	2	3	4	5	6	7
8.	SMPC-8	Growth of revenue from sales of products/services to existing customers.	1	2	3	4	5	6	7
9.	SMPC-9	Strategies for overcoming competitors in the same market segment.	1	2	3	4	5	6	7
10.	SMPC-10	Product differentiation maintenance strategy.	1	2	3	4	5	6	7
11.	SMPC-11	Public relations.	1	2	3	4	5	6	7
12.	SMPC-12	Monitoring the needs and desires of consumers.	1	2	3	4	5	6	7
13.	SMPC-13	Market segmentation.	1	2	3	4	5	6	7
14.	SMPC-14	Customer loyalty.	1	2	3	4	5	6	7
15.	SMPC-15	Customer satisfaction	1	2	3	4	5	6	7
16.	SMPC-16	Sustainability of market position.	1	2	3	4	5	6	7
17.	SMPC-17	Sustainable development and expansion into new market segments.	1	2	3	4	5	6	7
18.	SMPC-18	Sustainability of the market business model.	1	2	3	4	5	6	7

References

1. Mevoli, A. The Influence of Innovation on Competitive Advantage in the Management Consultancy Sector. *Eur. Conf. Innov. Entrep.* **2023**, *18*, 1021–1028. [\[CrossRef\]](#)
2. Channuwong, S.; Pratoomsawat, T.; Snongtaweepon, T.; Damrongsiri, T.; Boonsathaporn, S.; Raktakanishtha, P.; Kongsong, W. A Relationship Between Modern Management Strategy and Organizational Sustainability of State Enterprises in Bangkok Metropolitan Areas, Thailand. *J. Posit. Sch. Psychol.* **2022**, *6*, 3849–3860.
3. Djalil, N.; Nikolić, M.; Bakator, M.; Erceg, Ž. Modeling the Influence of Information Systems on Sustainable Business Performance and Competitiveness. *Sustainability* **2021**, *13*, 9619. [\[CrossRef\]](#)
4. Hategan, V.P.; Hategan, C.D. Sustainable Leadership: Philosophical and Practical Approach in Organizations. *Sustainability* **2021**, *13*, 7918. [\[CrossRef\]](#)
5. Isensee, C.; Teuteberg, F.; Griesse, K.M.; Topi, C. The Relationship Between Organizational Culture, Sustainability, and Digitalization in SMEs: A Systematic Review. *J. Clean. Prod.* **2020**, *275*, 1229446. [\[CrossRef\]](#)
6. Krajnović, A.; Žilić, L.M.; Panjkota, A. Digitalni Rubikon i paradigma velikih podataka. *CroDiM Int. J. Mark. Sci.* **2022**, *1*, 29–49.
7. Erevelles, S.; Fukawa, N.; Swayne, L. Big Data Consumer Analytics and the Transformation of Marketing. *J. Bus. Res.* **2016**, *69*, 897–904. [\[CrossRef\]](#)
8. Borsos, G.; Jacobs, C.C.; Gavrilă, C. Modern Management: A Needed Solution for Increasing the Competitiveness of Industrial Enterprises. *Sci. Res. Educ. Air Force-AFASES* **2016**, *2*, 705–714. [\[CrossRef\]](#)
9. Stanca, I.P.; Tarbujaru, T. Modern Management: The Biggest Challenge of an Era Full of Changes. In Proceedings of the 8th International Scientific Conference ERAZ—Knowledge Based Sustainable Development, Prague, Czech Republic, 5 June 2022. [\[CrossRef\]](#)
10. Haseeb, M.; Hussain, H.I.; Kot, S.; Androniceanu, A.; Jermisittiparsert, K. Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance. *Sustainability* **2019**, *11*, 3811. [\[CrossRef\]](#)
11. Geissdoerfer, M.; Vladimirova, D.; Evans, S. Sustainable Business Model Innovation. *J. Clean. Prod.* **2018**, *198*, 401–416. [\[CrossRef\]](#)
12. Nosratabadi, S.; Mosavi, A.; Shamshirband, S.; Kazimieras Zavadskas, E.; Rakotoniraini, A.; Chau, K.V. Sustainable Business Models. *Sustainability* **2020**, *11*, 1663. [\[CrossRef\]](#)
13. Bakator, M.; Đorđević, D.; Terizovski, M.; Čočalo, D.; Bešić, C. Development of a Youth Entrepreneurship Model for Sustainable Business Growth. *J. Eng. Manag. Comp.* **2022**, *12*, 3–19. [\[CrossRef\]](#)
14. Bican, P.M.; Brem, A. Digital Business Model, Digital Transformation, Digital Entrepreneurship: Is There a Sustainable “Digital”? *Sustainability* **2020**, *12*, 5239. [\[CrossRef\]](#)
15. Ziyadin, S.; Suieubayaeva, S.; Utegenova, A. Digital Transformation in Business. In *Digital Age: Chances, Challenges, and Future*; Springer: Cham, Switzerland, 2019; pp. 408–415. [\[CrossRef\]](#)
16. Ghobakhloo, M.; Iranmanesh, M.; Tseng, M.; Grybauskas, A.; Stefanini, A.; Amran, A. Behind the definition of Industry 5.0: A systematic review of technologies, principles, components, and values. *J. Ind. Prod. Eng.* **2023**, *40*, 432–447. [\[CrossRef\]](#)

17. Adel, A. Future of Industry 5.0 in Society: Human-Centric Solutions, Challenges, and Prospective Research Areas. *J. Cloud Comput.* **2022**, *11*, 40. [CrossRef]
18. Bakator, M.; Nikolić, M.; Čočkalović, D.; Stanisavljev, S. Transition to Industry 5.0 with AI and Digitalization of Production Systems. *J. Eng. Manag.* **2024**, *2*, 8–12. [CrossRef]
19. Javaid, M.; Haleem, A. Critical Components of Industry 5.0 Towards a Successful Adoption in the Field of Manufacturing. *J. Ind. Integr. Manag.* **2020**, *5*, 327–348. [CrossRef]
20. United Nations. UN Sustainable Development Goals. 2022. Available online: <https://sdgs.un.org/goals> (accessed on 10 July 2023).
21. United Nations Environment Programme. *Sustainability and Circularity in the Textile Value Chain—A Global Roadmap*; United Nations Environment Programme: Nairobi, Kenya, 2023; ISBN 978-92-807-4034-9.
22. Goni, F.A.; Chofreh, G.A.; Orakani, Z.E.; Klemeš, J.J.; Davoudi, M.; Mardani, A. *Sustainable Business Model: A Review and Framework Development*; Springer: Berlin, Germany, 2021; Volume 23, pp. 889–897. [CrossRef]
23. Both, A. From Sustainable Development to Sustainability, Through Excellence in Management—A Theoretical Approach. *Sci. J. Appl. Soc. Clin. Sci.* **2022**, *2*, 1–16. [CrossRef]
24. Ocampo, L.A. Applying Fuzzy AHP–TOPSIS Technique in Identifying the Content Strategy of Sustainable Manufacturing for Food Production. *Environ. Dev. Sustain.* **2018**, *21*, 2225–2251. [CrossRef]
25. Álvarez Jaramillo, J.; Zartha Sossa, J.W.; Orozco Mendoza, G.L. Barriers to Sustainability for Small and Medium Enterprises in the Framework of Sustainable Development—Literature Review. *Bus. Strat. Environ.* **2018**, *28*, 512–524. [CrossRef]
26. Bernal-Torres, C.A.; Torres-Guevara, L.E.; Aldana-Bernal, J.C.; Rojas, Y.W.N.; Pando-Ezcurra, T.T. The Moderating Role of Innovation in the Relationship Between Business Sustainability and Organizational Performance in Enterprises of an Emerging Economy. *Sage Open* **2023**, *13*, 21582440231217870. [CrossRef]
27. Bakator, M.; Đorđević, D.; Čočkalović, D. Developing a Model for Improving Business and Competitiveness of Domestic Enterprises. *J. Eng. Manag. Comp.* **2019**, *2*, 87–96. [CrossRef]
28. Deleryd, M.; Fundin, A. Towards Societal Satisfaction in a Fifth Generation of Quality—The Sustainability Model. *Total Qual. Manag. Bus. Excel.* **2020**, *1*–17. [CrossRef]
29. Dimitrijević, D. Theses for New Strategies of Work and Development of Textile and Clothing Industry, Part 3. *Tekst. Ind.* **2021**, *69*, 36–46. [CrossRef]
30. Dimitrijević, D. Theses for New Strategies of Work and Development of Textile and Clothing Industry, Part 1. *Tekst. Ind.* **2021**, *68*, 65–76. [CrossRef]
31. Tian, H.; Dogbe, C.S.K.; Pomegbe, W.W.K.; Sarsah, S.A.; Otoo, C.O.A. Organizational Learning Ambidexterity and Openness as Determinants of SMEs' Innovation Performance. *Eur. J. Innov. Manag.* **2021**, *24*, 414–438. [CrossRef]
32. Asfahani, A. The Impact of Modern Strategic Human Resources Management Models on Promoting Organizational Agility. *Acad. Strat. Manag. J.* **2021**, *20*, 1–11. [CrossRef]
33. Proença, T. Sustainability and the Role of HRM. *Rev. Admin. Empres.* **2022**, *62*, e0000-0028. [CrossRef]
34. Radović Marković, M. Uticaj globalizacije na stvaranje novog modela preduzeća i njegovih konkurentskih prednosti. In *Tržišne Strukture i Zaštita Konkurencije: Iskustva Zemalja u Tranziciji*; Institut ekonomskih nauka, Beogradska bankarska akademija: Beograd, Serbia, 2008; pp. 111–121. Available online: http://ebooks.iien.bg.ac.rs/198/1/mrm_2008_05.pdf (accessed on 15 April 2024).
35. Paré, G.; Tremblay, M. The Influence of High-Involvement Human Resources Practices, Procedural Justice, Organizational Commitment, and Citizenship Behaviors on Information Technology Professionals' Turnover Intentions. *Group. Org. Manag.* **2007**, *32*, 326–357. [CrossRef]
36. Sardi, A.; Sorano, E.; Garengo, P.; Ferraris, A. The Role of HRM in the Innovation of Performance Measurement and Management Systems: A Multiple Case Study in SMEs. *Emp. Relat. Int. J.* **2021**, *43*, 589–606. [CrossRef]
37. Kamukama, N.; Ahiauzu, A.; Ntazi, J.M. Competitive Advantages: Mediator of Intellectual Capital and Performance. *J. Intellect. Cap.* **2011**, *12*, 154. [CrossRef]
38. App, S.; Büttgen, M. Lasting Footprints of the Employer Brand: Can Sustainable HRM Lead to Brand Commitment? *Emp. Relat.* **2016**, *38*, 703–723. [CrossRef]
39. Abuhantash, A. The Future of HR Management: Exploring the Potential of e-HRM for Improving Employee Experience and Organizational Outcomes. *World J. Adv. Res. Rev.* **2023**, *18*, 647–651. [CrossRef]
40. Sundać, D.; Švast, N. *Intelektualni Kapital Temeljni Čimbenik Konkurentnosti Poduzeća*; Zavod za Zaštitu Okoliša i Prirode: Zagreb, Croatia, 2009; Volume 27, ISBN 978-953-7509-09-5.
41. Janošević, S.; Dženopoljac, V. Intellectual Capital and Financial Performance of Serbian Enterprises in the Real Sector. *Ekon. Preduzeća* **2011**, *59*, 352–366. [CrossRef]
42. Harrison, S.; Sullivan, P.H. Profiting from Intellectual Capital: Learning from Leading Enterprises. *J. Intellect. Cap.* **2000**, *1*, 36–44. [CrossRef]
43. Khalique, M.; Bontis, N.; Abdul Nassir Bin Shaari, J.; Hassan Md. Isa, A. Intellectual Capital in Small and Medium Enterprises in Pakistan. *J. Intellect. Cap.* **2015**, *16*, 224–238. [CrossRef]
44. Kamukama, N. Intellectual Capital: Enterprise's Invisible Source of Competitive Advantage. *Compet. Rev. Int. Bus. J.* **2013**, *23*, 260–283.

45. Yaseen, S.G.; Dajani, D.; Hasan, Y. The Impact of Intellectual Capital on Competitive Advantage: Applied Study in Jordanian Telecommunication Enterprises. *Comput. Hum. Behav.* **2016**, *62*, 168–175. [\[CrossRef\]](#)
46. Massaro, M.; Dumay, J.; Bagnoli, C. Where There Is a Will There Is a Way: IC, Strategic Intent, Diversification, and Firm Performance. *J. Intellect. Cap.* **2015**, *16*, 490–517. [\[CrossRef\]](#)
47. Djordjević, D.; Čočkalović, D.; Sajfert, Z.; Bogetic, S.; Nikolić, M. An Analysis of the Developing Capacities of SMEs in the Republic of Serbia. *Metal. Int.* **2012**, *17*, 76–82.
48. Kumar, V.; Verma, P.; Mangla, S.K.; Mishra, A.; Chowdhary, D.; Sung, C.H.; Lai, K.K. Barriers to Total Quality Management for Sustainability in Indian Organizations. *Int. J. Qual. Reliab. Manag.* **2020**, *37*, 1007–1031. [\[CrossRef\]](#)
49. Čočkalović, D.; Đorđević, D. *Upravljanje Kvalitetom*; Tehnički Fakultet “Mihajlo Pupin”: Zrenjanin, Serbia, 2018; ISBN 978-86-7672-305-8.
50. García-Alcaraz, J.L.; Montalvo, F.J.F.; Sánchez-Ramírez, C.; Avelar-Sosa, L.; Saucedo, J.A.M.; Alor-Hernández, G. Importance of Organizational Structure for TQM Success and Customer Satisfaction. *Wirel. Netw.* **2019**, *27*, 1601–1614. [\[CrossRef\]](#)
51. Khodjamuratova, G. Implementation of Modern Methods of Quality Management at Enterprises. *Int. J. Sci. Eng. Res.* **2021**, *12*, 1167–1171. Available online: <http://www.ijser.org> (accessed on 22 April 2024).
52. Antony, J.; Bhat, S.; Fundin, A.; Sony, M.; Sorqvist, L.; Bader, M. Quality Management as a Means for Micro-Level Sustainability Development in Organizations. *TQM J.* **2023**; ahead-of-print.
53. Tasleem, M.; Khan, N.; Nisar, A. Impact of Technology Management on Corporate Sustainability Performance. *Int. J. Qual. Reliab. Manag.* **2019**, *36*, 1574–1599. [\[CrossRef\]](#)
54. Ronalter, L.M.; Bernardo, M. Integrated Management Systems and Sustainability—A Review on Their Relationships. *Total Qual. Manag. Bus. Excel.* **2023**, *34*, 1438–1468. [\[CrossRef\]](#)
55. Popescu, L.; Iancu, A.; Avram, M.; Avram, D.; Popescu, V. The Role of Managerial Skills in the Sustainable Development of SMEs in Mehedinți County, Romania. *Sustainability* **2020**, *12*, 1119. [\[CrossRef\]](#)
56. Holcomb, Z.C.; Cox, K.S. *Interpreting Basic Statistics: A Workbook Based on Excerpts from Journal Articles*, 8th ed.; Routledge: New York, NY, USA, 2017. [\[CrossRef\]](#)
57. Frost, J. *Introduction to Statistics: An Intuitive Guide for Analyzing Data and Unlocking Discoveries*, 1st ed.; Statistics By Jim Publishin: State College, PA, USA, 2019.
58. Olive, D.J. *Linear Regression*, 1st ed.; Springer: Cham, Switzerland, 2017.
59. Shrestha, N. Detecting Multicollinearity in Regression Analysis. *Am. J. Appl. Math. Stat.* **2020**, *8*, 39–42. [\[CrossRef\]](#)
60. Harrell, F.E. Binary Logistic Regression. In *Regression Modeling Strategies*; Springer Series in Statistics; Springer: Cham, Switzerland, 2015; pp. 219–274. [\[CrossRef\]](#)
61. Bakator, M.; Petrović, N.; Borić, S.; Đalić, N. Impact of Human Resource Management on Business Performance: A Review of Literature. *J. Eng. Manag. Comp.* **2019**, *9*, 3–13. [\[CrossRef\]](#)
62. Bhatia, M.S.; Awasthi, A. Investigating Effectiveness of Quality Management Systems. *Ind. Syst. Eng. Res. Conf.* **2017**, *21*, 143–146.
63. Pedro, E.; Leitao, J.; Alves, H. Intellectual Capital and Performance: Taxonomy of Components and Multi-Dimensional Analysis Axes. *J. Intellect. Cap.* **2018**, *19*, 407–452. [\[CrossRef\]](#)
64. Tarnovskaya, V. Sustainability as the Source of Competitive Advantage. How Sustainable Is It? Creating a Sustainable Competitive Position: Ethical Challenges for International Firms. *Discover Journals, Books & Case Stud. Adomako* **2022**, *37*, 75–89.
65. Menezes, U. Strategies of Sustainable Management and Business Performance: An Analysis in Innovative Enterprises. *Int. J. Innov. Manag.* **2013**, *17*, 1350026. [\[CrossRef\]](#)
66. Sampe, J.F. The Influence of HRM Practices on SMEs Organizational Performance. *J. Manag. E-Bus. Entrepr. Res.* **2023**, *02*, 1–16.
67. Lu, H.; Pishdad-Bozorgi, P.; Wang, G.; Xue, Y.; Tan, D. ICT Implementation of Small- and Medium-Sized Construction Enterprises: Organizational Characteristics, Driving Forces, and Value Perceptions. *Sustainability* **2019**, *11*, 3441. [\[CrossRef\]](#)
68. Buller, P.F.; McEvoy, G.M. A Model for Implementing a Sustainability Strategy Through HRM Practices. *Bus. Soc. Rev.* **2016**, *121*, 465–495. [\[CrossRef\]](#)
69. Ahammad, M.F.; Glaister, K.W.; Gomes, E. Strategic Agility and Human Resource Management. *Hum. Res. Manag. Rev.* **2019**, *30*, 100700. [\[CrossRef\]](#)
70. Irum, A.; Yadav, R.S. Human Resource Information Systems: A Strategic Contribution to HRM. *Strateg. Direct* **2019**, *10*, 4–6. [\[CrossRef\]](#)
71. Johnson, R.D.; Lukaszewski, K.M.; Stone, D.L. The Evolution of the Field of Human Resource Information Systems: Co-Evolution of Technology and HR Processes. *Commun. Assoc. Inf. Syst.* **2016**, *38*, 28. [\[CrossRef\]](#)
72. Calza, F.; Sorrentino, A.; Tutore, I. Combining Corporate Environmental Sustainability and Customer Experience Management to Build an Integrated Model for Decision-Making. *Discov. J. Books Case Stud.* **2023**, *61*, 54–84. [\[CrossRef\]](#)
73. Kamariotou, M.; Kitsios, F. Information Systems Planning and Success in SMEs: Strategizing for IS. In *Business Information Systems: 22nd International Conference, BIS 2019, Seville, Spain, 26–28 June 2019, Proceedings, Part I 22*; Springer International Publishing: Cham, Switzerland, 2019; pp. 397–406. [\[CrossRef\]](#)
74. Zhang, Y.; Khan, U.; Lee, S.; Salim, M. The Influence of Management Innovation and Technological Innovation on Organizational Performance: A Mediating Role of Sustainability. *Sustainability* **2019**, *11*, 495. [\[CrossRef\]](#)
75. Tampubolon, S.; Purba, H.H. Lean Six Sigma Implementation: A Systematic Literature Review. *Int. J. Prod. Manag. Eng.* **2021**, *9*, 125–139. [\[CrossRef\]](#)

76. Allur, E.; Heras-Saizarbitoria, I.; Boiral, O.; Testa, F. Quality and Environmental Management Linkage: A Review of the Literature. *Sustainability* **2018**, *10*, 4311. [\[CrossRef\]](#)
77. Wasan, A.N.; Memon, M.S.; Mari, S.I.; Kalwar, M.A. Impact of Total Quality Management (TQM) Practices on Sustainability and Organisational Performance. *J. Appl. Res. Technol. Eng.* **2022**, *3*, 93–102. [\[CrossRef\]](#)
78. Unsal, Y.; Altındag, E. The Effect of Chaos Modern Strategic Management Techniques on Firm Performance. *J. Bus. Econ. Financ.* **2021**, *10*, 72–87. [\[CrossRef\]](#)
79. Patel, A.S.; Patel, K.M. Critical Review of Literature on Lean Six Sigma Methodology. *Int. J. Lean Six. Sigma* **2021**, *12*, 627–674. [\[CrossRef\]](#)
80. Pongboonchai-Empl, T.; Antony, J.; Garza-Reyes, J.A.; Komkowski, T.; Tortorella, G.L. Integration of Industry 4.0 Technologies into Lean Six Sigma DMAIC: A Systematic Review. *Prod. Plan. Control* **2023**, *35*, 1403–1428. [\[CrossRef\]](#)
81. Silvestri, C.; Silvestri, L.; Piccarozzi, M.; Ruggieri, A. TQM and Sustainability: A Study of the Methods and CSFs of TQM for Achieving Sustainability. *Total. Qual. Manag. Bus. Excel.* **2024**, *35*, 226–272. [\[CrossRef\]](#)
82. Yin, S.; Jia, F.; Chen, L.; Wang, Q. Circular Economy Practices and Sustainable Performance: A Meta-Analysis. *Resour. Conserv. Recycl.* **2023**, *190*, 106838. [\[CrossRef\]](#)
83. Zuhaira, B.; Ahmad, N. Business Process Modeling, Implementation, Analysis, and Management: The Case of Business Process Management Tools. *Bus. Process. Manag. J.* **2021**, *27*, 145–183. [\[CrossRef\]](#)
84. Pham, H. Impact of Human Resource Management Practices on Enterprises' Competitive Advantages and Business Performance: Evidence from Telecommunication Industry. *Manag. Sci. Lett.* **2020**, *10*, 721–732. [\[CrossRef\]](#)
85. Agustian, K.; Pohan, A.; Zen, A.; Wiwin, W.; Malik, A.J. Human Resource Management Strategies in Achieving Competitive Advantage in Business Administration. *J. Contemp. Admin. Manag. (ADMAN)* **2023**, *1*, 108–117. [\[CrossRef\]](#)
86. Adla, L.; Gallego-Roquelaure, V.; Calamel, L. Human Resource Management and Innovation in SMEs. *Pers. Rev.* **2020**, *49*, 1519–1535. [\[CrossRef\]](#)
87. Riana, I.G.; Suparna, G.; Suwandana, I.G.M.; Kot, S.; Rajiani, I. Human Resource Management in Promoting Innovation and Organizational Performance. *Probl. Perspect. Manag.* **2020**, *18*, 107. [\[CrossRef\]](#)
88. Tortia, E.C.; Sacchetti, S.; López-Arceiz, F.J. A Human Growth Perspective on Sustainable HRM Practices, Worker Well-Being and Organizational Performance. *Sustainability* **2022**, *14*, 11064. [\[CrossRef\]](#)
89. Budayan, C.; Okudan, O. Roadmap for the Implementation of Total Quality Management (TQM) in ISO 9001-Certified Construction Companies: Evidence from Turkey. *Ain Shams Eng. J.* **2022**, *13*, 101788. [\[CrossRef\]](#)
90. Sfreddo, L.S.; Vieira, G.B.B.; Vidor, G.; Santos, C.H.S. ISO 9001 Based Quality Management Systems and Organisational Performance: A Systematic Literature Review. *Total Qual. Manag. Bus. Excel.* **2021**, *32*, 389–409. [\[CrossRef\]](#)
91. Foster, S.T.; Gardner, J.W. *Managing Quality: Integrating the Supply Chain*; John Wiley & Sons: Hoboken, NJ, USA, 2022.
92. Munir, M.; Jajja, M.S.S.; Chatha, K.A.; Farooq, S. Supply Chain Risk Management and Operational Performance: The Enabling Role of Supply Chain Integration. *Int. J. Prod. Econ.* **2020**, *227*, 107667. [\[CrossRef\]](#)
93. Abubakar, A.; Belwal, S.; Mohammed, N.; Mohammed, U.D. Sustainable Competitive Advantage Through Corporate Social Responsibility (CSR) and Green Behavior Strategies. *Discret. Dyn. Nat. Soc.* **2022**, 3734707. [\[CrossRef\]](#)
94. Wudhikarn, R.; Pongpatcharatorntep, D. An Improved Intellectual Capital Management Method for Selecting and Prioritizing Intangible-Related Aspects: A Case Study of Small Enterprise in Thailand. *Mathematics* **2022**, *10*, 626. [\[CrossRef\]](#)
95. Salazar-Elena, J.C.; Cancino, C.A.; López López, A.; Guimón de Ros, J. Intellectual Capital Management and the Innovation Process: Does One Size Fit All? In *Modelling and Simulation in Management Sciences*; Springer: Cham, Switzerland, 2020; pp. 1–12. [\[CrossRef\]](#)
96. Secundo, G.; Ndou, V.; Del Vecchio, P.; De Pascale, G. Sustainable Development, Intellectual Capital and Technology Policies: A Structured Literature Review and Future Research Agenda. *Technol. Forecast. Soc. Chang.* **2020**, *153*, 119917. [\[CrossRef\]](#)
97. Sardana, D.; Gupta, N.; Kumar, V.; Terziovski, M. CSR 'Sustainability' Practices and Firm Performance in an Emerging Economy. *J. Clean. Prod.* **2020**, *258*, 120766. [\[CrossRef\]](#)
98. Anand, J.; McDermott, G.; Mudambi, R.; Narula, R. Innovation in and from Emerging Economies: New Insights and Lessons for International Business Research. *J. Int. Bus. Stud.* **2021**, *52*, 545–559. [\[CrossRef\]](#)
99. Tran, N.P.; Vo, D.H. Human Capital Efficiency and Firm Performance Across Sectors in an Emerging Market. *Cogent Bus. Manag.* **2020**, *7*, 1738832. [\[CrossRef\]](#)
100. Altındağ, E.; Bilaloğlu Aktürk, H. The Impact of New Generation Management Approaches on Firm Performance: The Moderating Role of Strategic Human Resource Management Applications. *Sage Open* **2020**, *10*, 2158244020948845. [\[CrossRef\]](#)
101. Firman, A.; Mustapa, Z.; Ilyas, G.B.; Putra, A.H.P.K. Relationship of TQM on Managerial Performance: Evidence from Property Sector in Indonesia. *J. Distrib. Sci.* **2020**, *18*, 47–57. [\[CrossRef\]](#)

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.