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*Article*

# How Does Knowledge Transfer Freedom Affect Financial Performance: Evidence From the Serbian Healthcare Sector: A Dimensional Analysis

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**Abstract**

Previous research offers only a partial understanding of how knowledge transfer freedom (KTF), defined as the unrestricted flow of knowledge among individuals, organizations, and societies, affects financial performance (FP). This study is among the first to address this issue by investigating the multidimensional relationship between KTF and FP. Multiple regression analyses were conducted using a nationally representative sample of 527 Serbian healthcare managers. The results show that KTF has a positive direct relationship with the FP of the selected healthcare organizations. Furthermore, dimensional analysis indicates that profitability, efficiency, and liquidity are particularly affected by KTF. At the individual FP level, the most affected indicators are the ability to fund business growth from profits, return on equity, overall firm performance/success, return on sales, sales growth, market share, return on assets, sales level, and cash flow. This study makes a substantial contribution to the limited literature on the relationship between FP and KTF, especially in the Serbian context, and provides a thorough analysis of the links between different FP dimensions and KTF in healthcare institutions. In addition, the findings have practical implications, demonstrating that the free exchange of knowledge strengthens financial resources at multiple levels. The study therefore encourages healthcare managers to invest in policies that promote knowledge-sharing behaviors in order to enhance long-term financial success. Given the strategic importance of knowledge transfer freedom, it should be viewed as a value-enhancing approach and integrated into the overall business strategy.

**Keywords:** knowledge economy; knowledge transfer freedom; financial performance; healthcare sector; Serbia; dimensional analysis
**JEL:** D83, M21, M41, M54

## 1. Introduction

In the age of a knowledge economy, which can be defined as "production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence" (Powell and Snellman, 2004), as the main element emerges a greater reliance on intellectual skills than on natural resources or physical inputs. As the world's economies continue to strive for growth and prosperity, knowledge is becoming recognized as one of the most valuable resources, along with capital and labor (Drucker, 1993), that may secure sustainable competitive advantage (Arsawan et al., 2022; Azeem et al., 2021; Banmairuroy et al., 2022; Unger, 2022). This shift is visible in numerous sectors, including technology (Lin et al., 2012; Zahedi et al., 2024), education (Altbach, 2002; Garofalo and Farenga, 2025; Vasilska and Tzvetkova, 2025), and healthcare (Liu et al., 2021; Nicolini et al., 2008). As a result, researchers and practitioners have given closer attention to an organization's capacity for identifying, capturing, generating, sharing, or accumulating knowledge (De Bem Machado et al., 2022; Nonaka and Takeuchi, 1995; Olan et al., 2022; Shu and Ye, 2023). Particularly, effectiveness in knowledge-intensive sectors depends especially on how free (Milić, 2024), and how well, units, teams, and/or individuals share knowledge among themselves (Alavi and Leidner, 2001; Al-Kurdi et al., 2020; Curtis and Taylor, 2018; Wu and Lee, 2017; Zamiri and Esmaeili, 2024).

Healthcare belongs to the knowledge-intensive economy sectors (Marjanovic, 2013). Healthcare organizations are extremely knowledge-intensive institutions since knowledge is their most vital asset (Singh Sandhu et al., 2011) that employ a diverse group of experts from various fields, who are expected to stay abreast of advancements in related fields of knowledge and technology. The healthcare delivery process is dynamic, requiring personnel, such as specialists, doctors, physician assistants, nurses, rehabilitation therapists, pharmacists, medical technicians, radiologic technologists, dieticians, social workers, information engineers, administrative managers, policy makers, care providers, support groups, and community-based healthcare workers, to frequently use their knowledge to work together with experts from diverse fields and to address challenges collectively for a range of healthcare related tasks (Abidi, 2007; Wu et al., 2021). Consequently, there is a high need for knowledge sharing among healthcare professionals (Capolupo et al., 2024; Sanjari and Mohammadi Soleimani, 2024).

It has been suggested that knowledge-sharing behavior in the healthcare sector is a crucial practice that enhances patient care (Chang et al., 2012; Wu et al., 2022), improves hospital efficiency (Zahrawi and Hussien, 2024), and fosters innovation (Abidi, 2007; Baakir and Ellioua, 2024; Gharajeh-Alamdari et al., 2025). In recent years, the importance of sharing knowledge among healthcare professionals has grown significantly, particularly due to advancements in technology and the increasing complexity of medical knowledge (Almashmoum et al., 2023; Turulja et al., 2021). As the healthcare mindscape continues to evolve, embracing knowledge-sharing practices will encourage better collaboration and innovation among professionals (Alemu, 2025; Perano et al., 2019). By investing in these initiatives, healthcare organizations can enhance service delivery and ultimately benefit patient outcomes, which may give organizations the power they need to build a competitive edge (Hameed et al., 2019; Hao et al., 2019; Wu and Lee, 2017), which is essential to healthcare organizational performance (Zahrawi and Hussien, 2024).

Considering that knowledge sharing is so crucial, it is unfortunate that the literature currently available provides so little information about what knowledge sharing actually entails in healthcare organizations, and even less about what the most immediate and quantifiable results of successful knowledge sharing might be (Lee and Choi, 2003; Wu et al., 2021; Zahrawi and Hussien, 2024).

So far, research suggests that knowledge sharing in healthcare is positively correlated with improvements in innovation capabilities (Marques et al., 2018; Zahrawi and Hussien, 2024), more rapid completion of new research and development (R&D) projects (Lilleoere and Holme Hansen, 2011; Saifi et al., 2018), team performance (Jamshed et al., 2018), and organizational performance (Iqbal et al., 2025; Leal et al., 2018). Also, the efficiency of organizations in knowledge-intensive industries is frequently correlated with the degree of freedom of exchange of knowledge within the organization and with its external stakeholders (Ahmad and Karim, 2019; Milić, 2024; Milić and Jeremić, 2018; Nauman et al., 2022). However, despite the undeniable importance of knowledge sharing to the performance of individuals and organizations in the knowledge economy, the current literature focuses primarily on an indirect connection between knowledge sharing and firm performance, with few studies revealing a positive direct connection (Farooq, 2018; Wang and Wang, 2012; Zahrawi and Hussien, 2024). In particular, they mainly confirm the impact of knowledge sharing on innovations in the creation of new goods, cost reduction, and employee performance enhancement, all of which contribute to the improvement of a company's financial outcomes, demonstrating that sharing knowledge practices do not immediately result in higher organizational performance, instead, knowledge sharing activities may lead to intermediate results that improve organizational performance (Choi and Lee, 2003; Davenport and Prusak, 1998; Hsu, 2008; Yu et al., 2019). Additionally, the financial metrics used to evaluate the effects of knowledge sharing often include profit, sales trends, efficiency trends, market share, and return on investment (You et al., 2010), while the impact on the others is largely unknown. Therefore, the following research questions may arise: Does free knowledge transfer in the healthcare sector have a direct impact on financial performance? What are the financial performance dimensions and indicators that would be affected by free knowledge transfer, and to what extent? This manuscript, based on knowledge management literature, contends that free knowledge transfer has positive direct links with financial performance at all levels of measurement, i.e., composite, dimensional, and individual indicator levels.

From a multi-dimensional standpoint, this study seeks to investigate the links between financial performance and the degree of knowledge transfer freedom in order to provide new insight into this topic and increase our understanding of this relationship. This research takes into account the potential impact of socio-economic traits like gender, age, education, type of inhabitance, experience, organization size, and management level, as financial success might be influenced by other variables as well. The research hypotheses were examined using multiple regression analysis in this study, which was based on a survey conducted on a nationally representative sample of 527 managers from 132 healthcare organizations in Serbia. It is one of the first investigations to examine this cultural background. The current investigation differs from earlier research in three key aspects. First of all, this research endeavor seeks to address this gap since, to the best of our knowledge, it is the first study to have specifically linked knowledge sharing freedom and firm performance, particularly in the healthcare context. Additionally, by analyzing this influence at three financial performance levels–composite, dimensional, and individual–this manuscript explores how this mechanism operates, not just proving the impact of knowledge transfer freedom on financial performance. Lastly, the current study adds significantly to the body of work on the link between knowledge transfer and financial performance (mostly at the dimensional level), notably in the context of Serbia. It also provides a thorough examination of the connections between various financial performance (FP) dimensions and knowledge transfer freedom (KTF) in the chosen healthcare organizations. In the healthcare setting and scientific literature of Serbia, this multi-dimensional approach has been given very little attention. As a result, this study makes three contributions to our understanding: (1) by examining if the link between financial success and knowledge transfer freedom is direct and multi-dimensional, (2) by performing this study in an under-researched healthcare context, and (3) by conducting this analysis in Serbia, a culture that has not been well studied.

The rest of this manuscript is structured as follows, in order to make these contributions. The theoretical background for defining the main concepts of our study and

formulating research hypotheses is presented in Section 2. The study approach for data collection and construct operationalization is covered in Section 3. Section 4 contains the report of the data analysis and results. Section 5 discusses the implications and limitations of this work, as well as potential areas for future study. The study comes to a conclusion in Section 6.

## 2. Theoretical Background and Hypotheses Development

### *2.1 Theoretical Background*

"A fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information", is how Gammelgaard and Ritter (2003) define knowledge. The minds of professionals are the source of knowledge, and it flourishes there. In institutions, it frequently gets ingrained in the organization's procedures, processes, practices, and norms, not just in its files or repositories. It includes several sorts of information, such as explicit knowledge, which is codified and simple to share, and tacit knowledge, which is context-dependent and unique to the individual. Explicit knowledge is frequently found in databases, publications, and manuals (Lor and Britz, 2007), whereas tacit knowledge is sometimes derived from personal experiences.

The interaction of a person's ideas (past experience, attitude, and intuition), information, and imagination (creating ideas and imagining futures) produces knowledge, according to Iske and Boersma (2005).

A common definition of data is one or more values represented in numerical, symbolic, or other ways (Silver and Silver, 1989). Data consists of raw facts, measurements, and numbers, and it should not be mistaken for knowledge. Furthermore, information is produced by organizing data into meaningful forms, while knowledge is more complex than information (Tomić and Milić, 2013). Since knowledge is based on judgement and intuition, it reflects the personality of its possessor and integrates beliefs, attitudes, and behaviors as a result of interpreting information in light of one's understanding (Chyi Lee and Yang, 2000; Ismail Al-Alawi et al., 2007).

Traditional economies relied on physical assets like land and capital, but modern economies now see knowledge as the main component of production, upon which competitive advantage is built (Corrado et al., 2022; Muzam, 2023; uit Beijerse, 1999).

Uniqueness and originality are the most crucial qualities of knowledge. Knowledge, once produced, cannot be replicated or replaced, making it a valuable strategic resource for all enterprises (Cabrera and Cabrera, 2002). To make the most of it, it must be shared freely throughout the organization.

Knowledge transfer is the process by which knowledge is shared, disseminated, and used by people or groups across various domains, including education, business, and technology (Levine and Prietula, 2012; Paul Tiwari, 2022; Zamiri and Esmaeili, 2024). According to the literature, knowledge sharing is a multi-directional exchange of individual knowledge (Gagné, 2009; Hsu et al., 2007; Li and Kang, 2019; Wang et al., 2022). It facilitates the creation of new knowledge and aids in cooperative problem solving (Li and Kang, 2019; Matić et al., 2017). Knowledge transfer is important because it fosters learning (Grant, 1999), enhances performance (Milić and Jeremić, 2018; Nauman et al., 2022), and stimulates innovation (Zakaria et al., 2004). The capacity to share knowledge freely is essential for promoting cooperation and solving difficult problems in a linked world. Ultimately, this process helps to create a more informed society by improving individual skills and organizational capabilities.

The concept of knowledge transfer freedom refers to the unrestricted flow of knowledge between individuals, organizations, and societies (Milić, 2024). The ability to freely transfer knowledge is crucial for a number of reasons. First and foremost, it encourages creativity by facilitating the unrestricted exchange of thoughts across boundaries and fields. When people and institutions are free to exchange their ideas, they may build upon one another's work, resulting in novel findings and progress. This cooperative creativity is especially apparent in fields like healthcare and technology, where shared knowledge can result in advancements that benefit society as a whole (for example, Issa et al., 2014; Mitrović et al., 2018; Travaglia and Hoffmann, 2024). Second, the freedom of knowledge transfer encourages collaboration between various organizations, promoting a culture of teamwork and shared learning (Bella and Sarin, 2023; Davenport and Prusak, 1998; Hilton and Pellegrino, 2013; Zakaria et al., 2004). In order to address pressing challenges like climate change, public health emergencies, and technological progress, this spirit of cooperation is imperative. Knowledge transfer freedom allows for the convergence of a wide range of viewpoints, which can result in more complete and successful answers to urgent global problems, which ultimately leads to better financial outcomes.

The financial health of a firm demonstrates its capacity to produce income and manage its assets and liabilities. In order to better comprehend knowledge sharing in the extremely unpredictable workplace of healthcare organizations, it would be beneficial to look at how KTF impacts FP.

Financial and organizational performance is the main focus of study for scholars in several areas of management (Khan et al., 2022; Milošević et al., 2019). It is a crucial indicator of an organization's ability to accomplish its goals, guarantee its survival, and compete in the market (Salama, 2017). This measure reflects a company's effectiveness and efficiency in meeting its financial and operational objectives. The performance of an organization over time is a reflection of its development and progress, showing the extent

to which it is meeting its goals and objectives (Khan et al., 2022; Venkatraman and Ramanujam, 1986). A company's organizational performance may be measured in a variety of ways, each of which provides insight into its success. These markers include financial statistics, employee satisfaction, client satisfaction, opportunities for learning and development, utilization of information technology, human resource management practices, quality assurance methods, and reliability (Koohang, et al., 2017). This indicator demonstrates the effectiveness and efficiency with which a company meets its operational and financial objectives.

Financial performance is a management effort aimed at enhancing the timeliness and accuracy of financial information (Chiliya et al., 2008). The fundamental economic performance of the company is assessed by financial metrics (Sharma, 2022). Financial measures and goals often include profit, efficiency trend, sales trend and targets (Zehir et al., 2010), market share and return on investment (You et al., 2010).

### *2.2 Research Hypotheses*

The previous research literature places a strong emphasis on the fact that knowledge sharing is positively correlated with the financial and healthcare organization performance. The following is a description of some of the research:

In their research on a sample of Portuguese healthcare workers, Leal et al. (2018) discovered that there is a positive correlation between formal knowledge sharing and the perceived performance of healthcare workers, in a way that formal knowledge sharing enhances job satisfaction while also improving the perceived performance of healthcare professionals regardless of their satisfaction levels.

In their research among doctors in Jordanian hospitals, Zahrawi and Hussien (2024) discovered that knowledge sharing has a clear beneficial impact on organizational performance. Moreover, knowledge sharing has an indirect impact on organizational performance by influencing innovation, which acts as a mediator between the two.

In a study conducted in Pakistan's pharmaceutical industry, Iqbal et al. (2025) discovered that innovation completely mediates the relationship between knowledge sharing and operational and non-financial performance, demonstrating that knowledge sharing significantly promotes innovation, which in turn improves performance. The study's findings highlight the significance of trust in enhancing the creative results of knowledge transfer and provide practical advice for managers on how to use knowledge sharing to boost performance.

The effects of the integration and use of information technology (IT) on the financial performance of hospitals were investigated by Setia et al. (2011). They define IT integration and use along two dimensions. The IT applications architecture spread, which is the adoption of a broad array of IT solutions, and the IT applications architecture longevity, which is the length of experience using certain IT solutions, are the two key components. They analyze how much these aspects of integration affect hospital performance during the course of clinical and commercial operations. They conclude that the longevity of the IT applications architecture has a greater impact on financial performance than the effects of its dissemination, indicating again that IT knowledge is superior to IT assets. Furthermore, the consequences of assimilation vary between the clinical and commercial process domains. Their findings increase knowledge about how the integration and application of IT impact hospitals' financial success.

According to a study in the Middle East, Al-Balushi et al. (2025) discovered that artificial intelligence (AI) has the potential to considerably improve sustainable performance, which is a very significant finding in the modern healthcare environment. Green knowledge sharing was also evaluated as a boundary condition in the study. The study's findings also reveal that AI promotes the development of green innovation and sustainable performance, indicating that businesses are prepared to embrace AI and attain the Sustainable Development Goals (SDGs).

In Memphis, Tennessee, Frisse et al. (2012) looked at all emergency department visits over a 13-month period during which health information exchange data were accessed in all major emergency departments. They came to the conclusion that using health information exchange to access more clinical data in emergency department settings is linked to net societal savings.

Finally, Milić (2024) investigated the extent to which there is freedom to transmit knowledge in Serbian economy. The results of the study indicate that the extent of the knowledge transfer freedom is strongly correlated with actual business performance, with successful companies giving more knowledge transfer freedom than less successful ones.

The outcomes clearly demonstrate a direct and indirect correlation between knowledge sharing and organizational performance in the healthcare sector. This study examines the extent of this impact by looking at the direct relationship between knowledge transfer freedom and financial performance in the healthcare sector through financial performance indicators and dimensions in the absence of a thorough examination of knowledge transfer, knowledge transfer freedom, and essential financial indicators. In their systematic literature review, Kosklin et al. (2023) demonstrate that the effects of knowledge management on healthcare have been assessed from a variety of angles, including its connection to healthcare activities such as management, finance, patient care, quality and safety, IT, ongoing improvement of clinical operations, and organizational culture. But the impacts of knowledge management also include staff members' productivity, learning, knowledge distribution, job satisfaction, and work. The capacity to freely share knowledge seems essential for improving fi-

nancial performance in the current, quick-paced healthcare sector. The financial success of healthcare facilities can be significantly impacted by the flexibility with which knowledge is transferred. Consequently, based on these results, the following hypotheses are made:

H1: Knowledge transfer freedom is positively and directly associated with composite financial performance in the healthcare sector.

H2: Knowledge transfer freedom is positively and directly associated with individual dimensions of financial performance in the healthcare sector.

H3: Knowledge transfer freedom is positively and directly associated with individual indicators of financial performance in the healthcare sector.

## 3. Research Design

### *3.1 Research Participants and Study Design*

Our cross-sectional research design included a nationally representative sample of 527 medical professionals from 132 healthcare institutions in Serbia divided into pharmaceutical, primary, secondary and tertiary healthcare subsectors. A polietapic sample design was followed, in which counties as primary units were randomly selected. Healthcare organizations as secondary units were selected in a random way, but proportionally to healthcare subsector parameters. Medical professionals as final units were then selected randomly but proportionally to management level parameters. This selection was triggered by the assumption that management level position determines the possession of knowledge and authority to run and make knowledge management policies related to performance. Data were gathered using the Computer Assisted Web Interview (CAWI) method. Each participant had given their agreement to participate in the study before finishing the online survey. A random selection of healthcare organizations in Serbia was made from publicly available databases. The sampling error is ±3.0% at a 95% confidence level. In gathering our data, a sample size of healthcare institutions was selected in accordance with recommendations by Ahmad and Halim (2017) for the case of organizational research. We also adhered to Stevens' (1996) recommendation that for social science research, data must be about fifteen times of items. Since this study has 17 items, a minimum of 255 samples is required. With the expected average response rate of 35.7% for studies that utilize data collected from organizations (Baruch and Holtom, 2008), we sent an invitation to 715 potential respondents. Our final sample size of 527 respondents, resulted in 73.7% response rate, which is in line with a steady increase in average response rate (for individuals) from 48% in 2005 to 53% in 2010 to 56% in 2015 and 68% in 2020 (Holtom et al., 2022) satisfying therefore this a priori condition.

### *3.2 Survey Area*

The Serbian healthcare system is a predominantly state-run, compulsory insurance-funded network that provides coverage for almost the entire population (98%) (Bjegovic-Mikanovic et al., 2019) governed by the Ministry of Health with tiered primary, secondary, and tertiary care, complemented by a growing, under-regulated private sector that isn't integrated with public insurance.

Serbian healthcare culture blends strong traditional values like hospitality and empathy with a system undergoing modernization, featuring a universal insurance fund but challenges with funding and long wait times, especially for specialists, leading to significant out-of-pocket spending and unmet needs (WHO, 2022). Key cultural aspects include deep roots in academic medicine, historical use of natural remedies, nurturing patient rights, like providing access to records (EIT Health, 2025), with a strong orientation on preventive care promotion (Stevanović et al., 2015). The most famous are growing innovative projects of integration of culture like art and museums into healthcare programs (Jevtic et al., 2024). The culture balances traditional practices with international standards.

Knowledge transfer in Serbian healthcare involves leveraging digital transformation (eHealth) for better data sharing and communication. According to the most recent available data on the World Bank's GovTech Maturity Index, Serbia ranks 4th in Europe and 11th globally in terms of integrating technology into public services. Through its ongoing digitalisation efforts, Serbia aims to improve system efficiency, enhance service quality, and build public trust in data sharing. But it faces challenges in digital literacy, especially among senior and rural population, while relying on international projects, mostly funded by the European Bank for Reconstruction and Development, the European Union, the World Bank, and others, and academic training at universities for skill upgrades, though "brain drain" of professionals remains a concern, with managers often clinicians lacking specific management training, requiring ongoing skill development for modern challenges (EIT Health, 2025).

According to the most recent available data on Global Health Security Index, Serbia is ranked 25th in the region, 43rd in Europe and 59th in the world in terms of the healthcare system's level of development (GHS INDEX, 2021).

### *3.3 Research Instrument*

Based on a literature review that followed the guidelines of Mihailović (2012), Babbie and Mouton (2007), and Welman et al. (2005), as well as addressing the unique needs of the study, the study made use of a seven-point Likert scale survey (1-min, 7-max). The questionnaire included questions regarding financial performance and the freedom of knowledge transfer, as well as socio-economic data. As the knowledge transfer freedom may be subject to individual interpretations, the research instrument pro-

vided a clear, operational definition that explained how it was observed and measured in this study, ensuring a consistent understanding and application for both researchers and respondents. The Cronbach's alpha test of the survey's results shows that the responses are consistently reliable ($\alpha > 0.9$), as indicated by Cohen et al. (2007).

### *3.4 Research Measures*

#### 3.4.1 Financial Performance

The dependent variable in this analysis is financial performance. The financial performance was assessed using a nine-item, seven-point scale (1-min, 7-max) that had been previously validated in earlier studies (Stam and Elfring, 2008). The nine items were the following: sales level (SL), market share (MS), sales growth (SG), cash flow (CF), return on assets (ROA), return on equity (ROE), return on sales (ROS), ability to fund business growth from profits (AFGP), and overall firm performance/success (OFP). Ling et al. (2007) discovered that this performance scale had a favorable and statistically significant correlation to objective data using Dun & Bradstreet's database, indicating good consistency. Financial performance was evaluated at the composite, dimensional, and individual indicator levels. By calculating the financial performance index (FPI), which represents the arithmetic average of the nine variables, the individual indicators of financial performance are transformed into the composite measure of financial performance. A number of important dimensions of financial performance, such as profitability, liquidity, and efficiency, can also be analyzed. These measures aid in determining an organization's capacity to make a profit, fulfill its immediate commitments, and make efficient use of its resources. Profitability measures an organization's efficiency in generating profit in relation to its income, assets, or equity. The financial ratios used in this study are the return on assets (ROA), return on equity (ROE), return on sales (ROS), and ability to fund business growth from profits (AFGP), all of which are translated into the profitability index (PI). Liquidity (L), in finance, is the ease with which an asset may be converted into cash without impacting its market value. It's also an organization's capacity to fulfill its near-term commitments, like paying bills and repaying debt. A high level of liquidity means that an asset can be sold quickly, but a low level of liquidity means that it can take longer to locate a buyer. The cash flow (CF) is the primary metric used in this study. Operational efficiency in an organization refers to how well it manages its financial resources to generate revenue, increase profits, and meet its financial objectives. It entails maximizing financial operations, cutting expenses, and making sure that resources are used in the most beneficial ways. In essence, it's about maximizing the value of every money unit spent and every asset owned. The efficiency index (EI) here is derived from important indicators such as sales level (SL), market share (MS), and sales growth (SG).

#### 3.4.2 Knowledge Transfer Freedom

The independent variable in this study is the knowledge transfer freedom. Using a seven-point scale (1-min, 7-max) with the single item "Knowledge in the organization is freely transferred throughout the organization and shared among employees", we measured the KTF. The use of a single-item measure is not uncommon in scientific research in this field. For example, Talević et al. (2016) have used a single-item "Best practices and advice are shared, developed and circulated across departments" to measure the level of information sharing in an organization. Also, one of the primary indicators of the existence of knowledge sharing in an organization is "Willingness to share knowledge freely", according to Davenport and Prusak (1998). Knowledge transfer freedom, as defined in this study, is a broader notion that encompasses not just a willingness to share knowledge freely, but also the absence (or presence) of any additional barriers to free knowledge sharing inside the organization. Although both knowledge transfer and freedom are widely recognized as multi-faceted constructs, making measuring them with a single item challenging, we used a single question to simplify measurement, as a proxy for complex concepts. A single, direct question can be easier to understand and answer accurately, aligning closely with a respondent's immediate experience. This single-item aims to capture a core aspect, lack of constraint, but risks oversimplification or mixing different knowledge transfer and freedom types (e.g., internal self-mastery vs. external constraints) (Carter, 2004; Cuvillier et al., 2021; D'Agata, 2009). On the other hand, Scarpello and Campbell (1983) indicated that a valid concern regarding multiple item measures is that they are more likely to contain construct-irrelevant items, and may also omit construct-relevant items. To this end, scholars have recommended that researchers consider assessing constructs as generally as possible, when appropriate (Bellavia and Frone, 2005). Fisher et al. (2016) showed that, when well developed, single-item measures can be effectively used for relevant constructs assessment. The single-item analysis offers advantages, as facilitating respondents to complete the survey. In circumstances of work overload, or imposed time constraints by employers when surveying employees during work time, which is common in Serbia, the single-item analysis offers an alternative measurement approach when respondent burden and/or survey length concerns preclude the use of multiple-item measures.

#### 3.4.3 Control Variables

The study controls for different factors that may influence the connection between financial performance and the ability to share knowledge. After analyzing key publications in this field, this study has included gender, age, education (Tulung and Ramdani, 2016), type of inhabitance, experience in the current position, experience in the current organization, and management level as socio-economic

control variables (Ismail Al-Alawi et al., 2007). Numerous studies have examined the impacts of socio-economic factors on financial performance. For instance, rural facilities often encounter more significant economic challenges than their urban counterparts (Orewa et al., 2025). Age, education and prior work experiences may indicate differences in skills and credentials (Stock and McDermott, 2023). Gender diversity and financial performance are related at every management level in the hospital setting (Naciti et al., 2022). Thus, in examining the relationship between knowledge transfer freedom and financial performance, socio-economic factors are incorporated as control variables in order to obtain reliable results.

### *3.5 Research Model*

The main goal of this manuscript is to examine the connection between financial performance and the knowledge transfer freedom in the healthcare sector in Serbia. In order to precisely acquire a research model, we consulted an expert from the field of economics and finance. The following model is put forth in order to evaluate the recommended hypotheses.

$$\begin{aligned} \mathrm{FP} = {} & \beta_0 + \beta_1 \mathrm{GEN} + \beta_2 \mathrm{AGE} + \beta_3 \mathrm{EDU} + \beta_4 \mathrm{TOI} \\ & + \beta_5 \mathrm{ECP} + \beta_6 \mathrm{ECO} + \beta_7 \mathrm{ML} + \beta_8 \mathrm{KTF} + \varepsilon \end{aligned} \quad (1)$$

where:

FP (Financial performance) = Dependent variables (FPI, PI, L, EI, SL, MS, SG, CF, AFGP, ROA, ROE, ROS, and OFP)

$\beta_0$, $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, $\beta_5$, $\beta_6$, $\beta_7$, $\beta_8$ are the parameters or the coefficients of the explanatory variables,

GEN = gender of respondents,

AGE = age of respondents,

EDU = education of respondents,

TOI = type of inhabitance of respondents,

ECP = experience in the current position,

ECO = experience in the current organization,

ML = management level, and

$\varepsilon$ is the error term.

Based on this, we can distinguish 13 different models. Model 1 examines the relationship between KTF and the composite measure of FP. Models 2–4 examine the relationship between KTF and individual dimensions of financial performance. Specifically, Model 2 checks the relationship of KTF and profitability; Model 3 tests the relationship between KTF and operational efficiency; Model 4 tests the association of KTF and liquidity. Models 5–13 examine the relationship between KTF and individual indicators of financial performance. Specifically, Model 5 checks the association of KTF and sales level; Model 6 tests the relationship between KTF and market share; Model 7 tests the association of KTF and sales growth; Model 8 investigates the relationship between KTF and cash flow; Model 9 is concerned with the relationship between KTF and corporate ability to fund business growth from profits; Model 10 explores the relationship between KTF and return on assets; Model 11 is focused on the relationship between KTF and return on equity; Model 12 investigates association of KTF and return on sales; the last model tests the association of KTF and overall firm performance/success.

### *3.6 Statistical Analysis*

Socio-economic data including gender, age, educational level, type of inhabitance, work experience, size of organization, and management level, were recorded as numbers and percentages. To inspect the internal consistency of the proposed constructs, we used Cronbach's alpha. To identify the relationship between the knowledge transfer freedom and financial performance, we used the multiple regression analysis. The multiple regression analysis is an appropriate technique, while the advantages of multiple regression analysis lie in its ability to isolate each independent variable's unique impact on the dependent variable while controlling for others, leading to more robust predictions. A complete multiple regression analysis comprises 13 interactions, where each interaction creates one equation model. The universal procedure is as follows. The control variables and the main independent variable are introduced into the regression model, followed by the introduction of the dependent variable, firstly in the form of financial performance index, generating the equation for Model 1; second in the form of profitability, liquidity and efficiency index, respectively, generating the equations for Models 2–4; third, in the form of sales level, market share, sales growth, cash flow, ability to fund business growth from profits, return on assets, return on equity, return on sales, and overall firm performance/success, respectively, generating equations for Models 5–13. Correlation analysis was performed to analyse the relationships among independent variables influencing financial performance in order to avoid a multi-collinearity problem in the multiple regression analysis (partially shown in the result). The variance inflation factor (VIF) was used as a measure in statistics, particularly in multiple regression analysis, to quantify the degree of multicollinearity (or correlation) among independent variables. As the data for both the predictor and outcome variables were collected from the same source via a single questionnaire, there is a potential for common method variance to inflate the observed relationships. Harman's single-factor test was used to evaluate a common method bias and check the validity of our measures. All measurement items for each model were included in an unrotated exploratory factor analysis with principal axis factoring as the extraction method, forcing only one factor to be extracted. All calculations were performed using the software IBM SPSS Statistics 20 (Armonk, New York, USA), with the level of significance set at $p < 0.05$.

## 4. Results

### *4.1 Characteristics of the Participants*

The socio-economic factors are summarized in Table 1. The participants were slightly male-dominant (53.9%). The majority age group was under 45 years (61.3%). Most medical professionals graduated with a college/university degree (46.3%), closely followed by medical professionals with a graduation degree (38.3%) at the time of study. The majority of participants worked in urban areas (92.4%) in small and medium-sized healthcare organizations (38.1% and 38.7%) occupying no management level positions (50.2%). The majority was in early career (38.3%), in early years with the organization (38.5%).

**Table 1. Characteristics of research participants (N = 527).**

| Factors | N | Percent |
|---|---|---|
| Gender | | |
| Male | 284 | 53.9 |
| Female | 243 | 46.1 |
| Age (years) | | |
| <45 | 323 | 61.3 |
| ≥45 | 204 | 38.7 |
| Education | | |
| High school | 81 | 15.4 |
| College/University | 244 | 46.3 |
| Graduation | 202 | 38.3 |
| Type of inhabitance | | |
| Urban | 487 | 92.4 |
| Rural | 40 | 7.6 |
| Total professional experience (years) | | |
| <1 | 0 | 0 |
| 1–4 | 163 | 30.9 |
| 5–9 | 202 | 38.3 |
| 10–19 | 80 | 15.2 |
| 20–29 | 82 | 15.6 |
| >30 | 0 | 0 |
| Total experience in current organization (years) | | |
| <1 | 0 | 0 |
| 1–4 | 203 | 38.5 |
| 5–9 | 81 | 15.4 |
| 10–19 | 162 | 30.7 |
| 20–29 | 81 | 15.4 |
| >30 | 0 | 0 |
| Organization size (number of employees) | | |
| <100 | 201 | 38.1 |
| 100–500 | 204 | 38.7 |
| >500 | 122 | 23.1 |
| Management level | | |
| TML | 41 | 7.8 |
| MML | 80 | 15.2 |
| FML | 80 | 15.2 |
| NML | 203 | 38.5 |

TML, top management level; MML, middle management level; FML, front-line management level; NML, no management level.

### *4.2 Factors Associated With Financial Performance*

To assess the collinearity of the aforementioned financial performance, socio-economic, and knowledge transfer freedom data, Pearson correlation was employed (Table 2) (here presented only for composite FPI).

Statistically significant correlations are identified between all investigated factors and financial performance. According to research results, knowledge transfer freedom is very weakly correlated with financial performance. On the side of control variables, moderate correlation is found between education and type of inhabitance on one side, and financial performance on the other. The rest of the socio-economic factors have a very weak correlation with financial performance. Although a significant correlation was also found between the majority of independent variables, the highest VIF (4.447) and the average VIF (2.7495) (Table 3) in the regression were less than 10, indicating that the multi-collinearity is inconsequential (Hair et al., 2019). Therefore, collinearity is not problematic in this study. Also, Harman's single-factor test results (Table 4), with total variance explained in all the tests below 50% (Conway and Lance, 2010; Podsakoff et al., 2003), indicate no significant common method bias, providing support for the validity of our measures. We can conclude that the regression model is reliable and able to explain the research hypotheses.

### *4.3 Knowledge Transfer Freedom as Predictor of Financial Performance*

The results of multiple regression analysis of knowledge transfer freedom as a predicting variable to financial performance, as measured at the composite and dimensional levels, are shown in Table 5a. Model 1 demonstrated that knowledge transfer freedom had a significant correlation to the financial performance index, which represents a composite measure of financial performance. The F test is statistically significant at $p < 0.01$ and explains 85.3% variation in FPI. The regression result shows that KTF is positively associated with the financial performance of selected healthcare organizations ($\beta = 0.513$, $p < 0.01$). The findings of the analysis support H1 and are in line with the theoretical discussion that predicted a positive direct relationship between KTF and FP. In the regression Models 2–4, the composite measure of FP is replaced by individual dimensions of FP. In Model 2, which examines the relationship between KTF and profitability, the result in Table 5a shows that KTF had additional effects with regard to profitability. The overall model is significant as the F test is significant at $p < 0.01$ and explains 67.5% variation in profitability. The result in Table 5a shows that the association of KTF and profitability is positive and statistically significant ($\beta = 0.640$, $p < 0.01$). Further, Model 3, which examines the relationship between KTF and operational efficiency, demonstrates that there is a positive association of KTF and operational efficiency as well. The F test is statis-

**Table 2. Descriptive statistics and Pearson correlation matrix (N = 527).**

| | Mean | SD | FPI | GEN | AGE | EDU | TOI | ECP | ECO | ML | KTF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FPI | 5.10 | 1.093 | 1.000 | | | | | | | | |
| GEN | 1.46 | 0.499 | 0.256** | 1.000 | | | | | | | |
| AGE | 1.39 | 0.488 | –0.287** | –0.094* | 1.000 | | | | | | |
| EDU | 2.23 | 0.697 | –0.583** | –0.300** | 0.421** | 1.000 | | | | | |
| TOI | 1.08 | 0.265 | –0.552** | –0.265** | –0.228** | 0.317** | 1.000 | | | | |
| ECP | 3.15 | 1.030 | –0.103* | 0.161** | 0.502** | –0.047 | –0.321** | 1.000 | | | |
| ECO | 3.23 | 1.121 | –0.213** | –0.050 | 0.686** | 0.229** | –0.315** | 0.774** | 1.000 | | |
| ML | 3.10 | 0.918 | 0.248** | –0.421** | 0.139* | –0.134* | –0.032 | 0.326** | 0.366** | 1.000 | |
| KTF | 4.75 | 1.475 | 0.096* | –0.576** | 0.128* | 0.105* | –0.147** | –0.087* | 0.114* | –0.004 | 1.000 |

Significant at ** $p < 0.01$, * $p < 0.05$. SD, standard deviation; FPI, financial performance index; GEN, gender of respondents; AGE, age of respondents; EDU, education of respondents; TOI, type of inhabitance of respondents; ECP, experience in the current position; ECO, experience in the current organization; ML, management level; KTF, knowledge transfer freedom.

**Table 3. Collinearity statistics (N = 527).**

| Variable | Tolerance | VIF |
|---|---|---|
| Gender (GEN) | 0.283 | 3.538 |
| Age (AGE) | 0.431 | 2.321 |
| Education (EDU) | 0.469 | 2.130 |
| Type of inhabitance (TOI) | 0.597 | 1.676 |
| Experience in current position (ECP) | 0.315 | 3.177 |
| Experience in current organization (ECO) | 0.225 | 4.447 |
| Management level (ML) | 0.422 | 2.367 |
| Knowledge transfer freedom (KTF) | 0.427 | 2.340 |

VIF, variance inflation factor.

tically significant at $p < 0.01$ with 78.6% variance explained in operational efficiency. The association of KTF and operational efficiency is positive and statistically significant ($\beta = 0.525$, $p < 0.01$). Moreover, Model 4, which examines the relationship between KTF and liquidity, also demonstrates the existence of a positive association between KTF and liquidity. The F test is statistically significant at $p < 0.01$ and explains 96.1% variation in liquidity. The impact of KTF on liquidity is positive and statistically significant ($\beta = 0.170$, $p < 0.01$). Hence, based on these results we can support H2.

The results of multiple regression analysis of knowledge transfer freedom as a predicting variable to financial performance, as measured at the individual financial performance indicator level, are shown in Table 5b,5c.

In Model 5, which examines the relationship between KTF and sales level, the result in Table 5a shows that KTF had additional effects with regard to sales level. The overall model is significant as the F test is significant at $p < 0.01$ and explains 74% variation in sales level. The result in Table 5a shows that the association of KTF and sales level is positive and statistically significant ($\beta = 0.407$, $p < 0.01$). In Model 6, which examines the relationship between KTF and market share, the result in Table 5a shows that the F test is statistically significant at $p < 0.01$ and explains 81.2% variation in the market share. The result shows that the association of KTF and market share is positive and statistically significant ($\beta = 0.541$, $p < 0.01$). When allocating KTF to Model 7, it was indicated that KTF had significantly additional effects with regard to sales growth. The F test is statistically significant at $p < 0.01$ and explains 74.8% variation in the sales growth. The result shows that the association of KTF and sales growth is positive and statistically significant ($\beta = 0.556$, $p < 0.01$). When we observe model 8, which measures the relationship between KTF and cash flow, we can conclude that KTF is positively associated with cash flow as well. The F test is statistically significant at $p < 0.01$ and explains 96.1% variation in the cash flow. The result shows that the association of KTF and cash flow is positive and statistically significant ($\beta = 0.170$, $p < 0.01$). Also, the result in Table 5a depicts a positive association of KTF and the organization's ability to fund business growth from profits (Model 9). Here, we also have a statistically significant F test at $p < 0.01$ with an explanation of variation in the organization's ability to fund business growth from profits in the extent of 61.8%. The result shows that the association of KTF and the organization's ability to fund business growth from profits is positive and statistically significant ($\beta = 0.901$, $p < 0.01$). Further, in Model 10, which examines the relationship between KTF and return on assets the result in Table 5b shows that KTF had additional effects with regard to return on assets. The overall model is significant as the F test is significant at $p < 0.01$ and explains 60.1% variation in return on assets. The result in Table 5b shows that the association of KTF and return on assets is positive and statistically significant ($\beta = 0.482$, $p < 0.01$). Model 11, which examines the relationship between KTF and return on equity, demonstrates that there is a positive association of KTF and return on equity as well. The F test is statistically significant at $p < 0.01$ with 68.8% variance explained in return on equity. The association of KTF and return on equity is positive and statistically significant ($\beta = 0.689$, $p < 0.01$). Moreover, Model 12, which examines the relationship between KTF and return on sales, also demonstrates the existence of a positive association between KTF

**Table 4. Harman's single-factor test for common method bias (N = 527).**

| | Explained variance by first factor | | | |
|---|---|---|---|---|
| | Initial Eigenvalues | | Extraction Sums of Squared Loadings | |
| Model (all items) | % of Variance | Cumulative % | % of Variance | Cumulative % |
| 1 | 31.798 | 31.798 | 26.668 | 26.668 |
| 2 | 32.531 | 32.531 | 27.216 | 27.216 |
| 3 | 31.508 | 31.508 | 26.289 | 26.289 |
| 4 | 31.475 | 31.475 | 26.515 | 26.515 |
| 5 | 31.386 | 31.386 | 26.294 | 26.294 |
| 6 | 32.068 | 32.068 | 26.626 | 26.626 |
| 7 | 31.394 | 31.394 | 26.297 | 26.297 |
| 8 | 31.475 | 31.475 | 26.515 | 26.515 |
| 9 | 32.095 | 32.095 | 26.959 | 26.959 |
| 10 | 32.175 | 32.175 | 26.875 | 26.875 |
| 11 | 32.696 | 32.696 | 27.378 | 27.378 |
| 12 | 32.186 | 32.186 | 26.974 | 26.974 |
| 13 | 31.406 | 31.406 | 26.381 | 26.381 |

**Table 5a. Multiple regression results for composite and dimensional financial performance (N = 527).**

| Variable | | Dependent variable | | | |
|---|---|---|---|---|---|
| | | FPI | PI | EI | L |
| Control variables | GEN | 0.755** (23.800) | 0.783** (16.630) | 0.630** (16.461) | 0.349** (21.509) |
| | AGE | –0.067* (–2.599) | –0.174** (–4.569) | 0.257** (8.279) | 0.079** (5.984) |
| | EDU | –0.032 (–1.308) | –0.142** (–3.873) | 0.286** (9.633) | 0.158** (12.580) |
| | TOI | –0.466** (–21.347) | –0.158** (–4.860) | –0.644** (–24.447) | –0.832** (–74.500) |
| | ECP | –0.197** (–6.563) | –0.005 (–0.101) | –0.214** (–5.904) | –0.439** (–28.546) |
| | ECO | –0.464** (–13.049) | –0.377** (–7.132) | –0.763** (–17.779) | –0.580** (–31.856) |
| | ML | 0.792** (30.553) | 0.614** (15.939) | 0.775** (24.751) | 0.725** (54.629) |
| Independent variable | KTF | 0.513**(19.901) | 0.640** (16.715) | 0.525** (16.867) | 0.170** (12.869) |
| Constant | | 2.459** (8.025) | –0.508 (–0.862) | 2.611**(6.811) | 6.973** (46.364) |
| $R^2$ | | 0.853 | 0.675 | 0.786 | 0.961 |
| Adjusted $R^2$ | | 0.851 | 0.670 | 0.782 | 0.961 |
| F-value | | 375.084** | 134.660** | 237.374** | 1615.050** |
| Mean VIF | | 2.7495 | 2.7495 | 2.7495 | 2.7495 |

Standardized regression coefficients are reported. Variables in parentheses are *t*-statistics. * $p < 0.05$, ** $p < 0.01$.

and return on sales. The F test is statistically significant at $p < 0.01$ and explains 68.8% variation in return on sales. The association of KTF and return on sales is positive and statistically significant ($\beta = 0.587$, $p < 0.01$). Finally, the last model identifies the existence of a positive association of KTF and overall business performance/success of selected healthcare organizations with a statistically significant F test at $p < 0.01$ and 87.3% explanation of variation in overall business performance/success. The association of KTF and the overall business performance/success of selected healthcare organizations is positive and statistically significant ($\beta = 0.607$, $p < 0.01$). The obtained results are consistent with the proposed H3.

The presented results robustly confirm the positive and statistically significant effect of knowledge transfer freedom on the financial performance of selected healthcare organizations at all levels, supporting all afore-developed hypotheses.

## 5. Discussion

The relationship between KTF and FP in the Serbian healthcare context is investigated in this study. Based on research results, it is evident that the impact of KTF is not the same in relation to different financial performance levels. While results of our study are consistent with other studies in this field from the point of view of composite financial performance measure (Farooq, 2018; Milić, 2024; Wang and Wang, 2012; Zahrawi and Hussien, 2024), it is revealed that the greatest effect free knowledge transfer has on profitability, followed by operational efficiency, and liquidity in terms of individual dimensions of financial performance, followed by the ability to fund business growth from prof-

**Table 5b. Multiple regression results for individual financial performance indicators (N = 527).**

| Variable | | Dependent variable | | | | |
|---|---|---|---|---|---|---|
| | | SL | MS | SG | CF | AFGP |
| Control variables | GEN | 0.652** (15.482) | 0.732** (20.426) | 0.453** (10.911) | 0.349** (21.509) | 0.505** (9.882) |
| | AGE | 0.161** (4.712) | 0.324** (11.149) | 0.247** (7.341) | 0.079** (5.984) | –0.134* (–3.251) |
| | EDU | 0.238** (7.272) | 0.310** (11.161) | 0.275** (8.532) | 0.158** (12.580) | –0.179** (–4.530) |
| | TOI | –0.676** (–23.318) | –0.599** (–24.284) | –0.597** (–20.902) | –0.832** (–74.500) | –0.003 (–0.095) |
| | ECP | –0.293** (–7.344) | –0.278** (–8.176) | –0.067 (–1.714) | –0.439** (–28.546) | 0.126* (2.607) |
| | ECO | –0.567** (–12.012) | –0.672** (–16.713) | –0.937** (–20.123) | –0.580** (–31.856) | –0.324** (–5.652) |
| | ML | 0.648** (18.806) | 0.907** (30.926) | 0.678** (19.973) | 0.725** (54.629) | 0.214** (5.121) |
| Independent variable | KTF | 0.407** (11.865) | 0.541** (18.569) | 0.556** (16.467) | 0.170** (12.869) | 0.901** (21.694) |
| Constant | | 3.838** (9.844) | 1.015* (2.653) | 2.981** (6.401) | 6.973** (46.364) | –1.366 (–1.904) |
| $R^2$ | | 0.740 | 0.812 | 0.748 | 0.961 | 0.618 |
| Adjusted $R^2$ | | 0.736 | 0.809 | 0.744 | 0.961 | 0.612 |
| F-value | | 184.327** | 279.404** | 191.813** | 1615.050** | 104.881** |
| Mean VIF | | 2.7495 | 2.7495 | 2.7495 | 2.7495 | 2.7495 |

Standardized regression coefficients are reported. Variables in parentheses are *t*-statistics. * $p < 0.05$, ** $p < 0.01$.

**Table 5c. Multiple regression results for individual financial performance indicators (N = 527).**

| Variable | | Dependent variable | | | |
|---|---|---|---|---|---|
| | | ROA | ROE | ROS | OFP |
| Control variables | GEN | 0.844** (16.162) | 0.758** (16.430) | 0.901** (19.528) | 0.800** (27.211) |
| | AGE | –0.29 (–0.682) | –0.223** (–5.976) | –0.054 (–1.450) | 0.182** (7.618) |
| | EDU | 0.006 (0.140) | –0.184** (–5.141) | 0.071* (1.970) | 0.268** (11.737) |
| | TOI | –0.233** (–6.489) | –0.103* (–3.236) | –0.254** (–8.000) | –0.573** (–28.305) |
| | ECP | –0.019 (–0.394) | 0.022 (0.503) | –0.027 (–0.613) | –0.197** (–7.070) |
| | ECO | –0.539** (–9.202) | –0.325** (–6.279) | –0.627** (–12.125) | –0.835** (–25.309) |
| | ML | 0.704** (16.478) | 0.566** (14.997) | 0.824** (21.848) | 0.912** (37.915) |
| Independent variable | KTF | 0.482** (11.344) | 0.689** (18.358) | 0.587** (15.637) | 0.607** (35.371) |
| Constant | | –0.755 (–1.091) | –0.955 (–1.584) | –2.040* (–3.174) | 1.174** (3.865) |
| $R^2$ | | 0.601 | 0.688 | 0.688 | 0.873 |
| Adjusted $R^2$ | | 0.594 | 0.684 | 0.684 | 0.871 |
| F-value | | 97.351** | 143.110** | 143.007** | 446.348** |
| Mean VIF | | 2.7495 | 2.7495 | 2.7495 | 2.7495 |

Standardized regression coefficients are reported. Variables in parentheses are *t*-statistics. * $p < 0.05$, ** $p < 0.01$.

its, return on equity, overall business performance/success, return on sales, sales growth, market share, return on assets, sales level, and cash flow in terms of individual financial performance indicators. This demonstrates that free knowledge transfer is of utmost importance and provides the greatest effect in those fields that are dependent on the employee skills and knowledge, such as is the increasing cost efficiency, or attracting new customers or sales.

### *5.1 Theoretical Contributions*

Numerous researchers have suggested that an organization's knowledge-sharing methods help it gain a competitive advantage. The impact of knowledge sharing on different elements of business performance has been empirically discussed in several recent studies. However, from a multi-dimensional viewpoint, not many researchers connect knowledge sharing and business performance. This study makes a substantial contribution to the current body of knowledge on the relationship between knowledge sharing and financial performance. Additionally, it improves our understanding of how knowledge transfer freedom affects specific dimensions and indicators of financial performance in the healthcare sector. The research helps to fill the gap in the literature by presenting a model that examines how the knowledge transfer freedom affects financial performance at three different levels. All obvious conjectures are supported by the empirical data from this research. Using correlation and multiple regression analysis, this study offers a potential method by which the freedom of knowledge transmission promotes business performance. In contrast to the current literature, this study has not only theorized the relationship between the freedom of knowledge transfer and

financial performance, but it has also provided a more detailed explanation by breaking down financial performance into its individual dimensions and indicators. As a result, future research may use the suggested model as an alternative theoretical framework for assessing the degree of freedom and effectiveness of knowledge transfer.

### *5.2 Practical Implications*

The findings of this research have practical implications. The link between the knowledge transfer freedom and financial performance may offer direction on how organizations should use knowledge sharing to boost their performance. Managers must have a thorough grasp of how free knowledge exchange impacts financial performance. Since KTF has a range of impacts on financial performance, managers should collaborate to develop mechanisms to ensure that KT is channeled appropriately in order to achieve the desired levels of performance. Specifically, as KTF to the greatest extent improves profitability, managers should make the greatest effort to increase the free flow of knowledge and experience of their staff oriented to revenue enhancement and cost management strategies. This increases profitability by fostering innovation, efficiency, increased productivity, improved problem-solving, and competitive advantage. This basically translates into turning knowledge into tangible value through improved decision-making, quicker execution, and retained expertise, all of which ultimately affect financial indicators like ROA/ROE. Next, more attention should be paid to the free flow of knowledge embedded in organizational systems, such as procedures, routines, and other structural capital. KTF increases financial efficiency by encouraging innovation, breaking down silos, improving decision-making, and enhancing overall performance by improving idea flow and leveraging implicit knowledge, but it needs to be balanced with structure (culture, leadership, technology) to prevent errors from unstructured sharing and ensure alignment with strategic goals for tangible financial gains like cost reduction and profit. The free flow of ideas (both implicit and explicit) sparks creativity, resulting in novel goods and services, higher quality, and market expansion, all of which have a direct impact on income. Sharing information between departments encourages cooperation and avoids redundancy of effort, which ultimately results in less waste and more efficient processes. Gaining access to a wide range of knowledge helps us make wiser, quicker, and more knowledgeable choices, which reduces the risk of making expensive mistakes. Effective knowledge sharing makes the most of current intellectual resources, increasing their value and promoting sustainability. Even if initially evaluated non-financially (e.g., increased customer satisfaction), improved procedures, quality, and customer responsiveness result in favorable financial results. Lastly, managers should devote some attention to liquidity-related knowledge flow. KTF encourages liquidity by speeding up learning, boosting productivity, cutting expenses (fewer reworks, quicker onboarding), fostering innovation (new products/services), and enhancing performance—all of which effectively transform intangible expertise into tangible revenue streams and savings.

The scales presented in this study provide organizations with a checklist for assessing themselves in particular areas. For enhancing financial performance, organizations should consider the key antecedents that result in the independence of knowledge transfer. Additionally, plans and initiatives for promoting the free exchange of knowledge should be developed in accordance with the different financial outcomes. Therefore, future studies must pay close attention to the strategies and implementation of programs that support these operations in order to improve organizational performance. Structural, cultural, and/or technological barriers must be identified and eliminated by building a culture of openness, creating formal structures that promote collaboration, and/or introducing the appropriate technology with the potential to facilitate knowledge sharing, in the form of adequate infrastructure, access to digital tools, and cybersecurity measures.

### *5.3 Limitations and Opportunities*

This work has drawbacks. First, time constraints led to the adoption of cross-sectional data, which restricted the study's temporal scope and prevented a longitudinal examination of the conceptual framework discussed in this manuscript. The core limitation of cross-sectional data is its snapshot nature, making causal inference difficult because exposure and outcome are measured simultaneously, blurring cause-and-effect and only providing prevalence, not incidence, of conditions, thus hindering understanding of change over time, requiring longitudinal designs for true causal insight. Second, the hypotheses model, which only included two constructs, despite being empirically supported, was somewhat basic, collecting a high explanatory power. A basic, simple hypothesis model can have a higher statistical fit (meaning better performance on new data) than complex models due to avoiding overfitting, especially with limited data, but complex models often fit training data better (lower residuals) while simple ones are more generalizable and robust, when they truly represent underlying patterns, making simplicity crucial for real-world applicability. As a result, we would want to highlight the possibilities for extending the model to include other mechanisms through which KTF might impact other performance measures, as well as integrating additional antecedent and consequent concepts, like institutional and organizational frameworks, organizational culture, or technology infrastructure, as the main barriers to KTF, to create a more complete model. Also, as a single-item measure for KTF was used in this study, it is recommended to perform a similar study using facet measures, to reveal how inclusive the global KTF single-item measure is compared with summing

across the facets. Thirdly, this research is also sector- and region-specific, concentrating only on the healthcare sector in Serbia, which may have a limitation related to the regional culture, thus impacting the generalizability of the results, and may not be directly applicable to other industries or nations, since results may vary depending on the particular context. Therefore, future studies should examine the relationship between KTF and FP across cultural boundaries. Lastly, this research is applicable to common circumstances and may not consider extraordinary occurrences such as epidemics or natural catastrophes. We must emphasize the sustainability of the financial performance by knowledge management initiatives as a recommendation for additional improvement. This study's goal would be aided by a longitudinal sample taken at several time points. Due to the paucity of reliable and consistent data over time, longitudinal studies are especially difficult to perform in the healthcare industry in Serbia.

## 6. Conclusions

Focusing on healthcare businesses in Serbia, this study has found empirical data to support the hypothesis that greater knowledge transfer freedom will lead to improved financial results. The ability to freely transfer knowledge has the greatest influence on profitability, followed by efficiency and liquidity with the least impact, on a dimensional basis, most probably due to structural and operational factors specific to healthcare organizations. In terms of specific financial performance indicators, the largest impact of the knowledge transfer freedom is on the ability to fund business growth from profits, followed by return on equity, overall business performance/success, return on sales, sales growth, market share, return on assets, sales level, and cash flow. Although, the research results imply a causal direction from KTF to financial performance, given the cross-sectional nature of the data, the evidence supports correlation rather than causation warranting future longitudinal investigation to confirm causality.

It is hoped that the results will shed light on how organizations can improve their financial performance by implementing well-planned tactics and procedures to enhance free knowledge sharing. Managers should make the greatest effort to increase the free flow of knowledge and experience of their staff oriented to revenue enhancement and cost management strategies. More attention should be paid to the free flow of knowledge embedded in organizational systems, such as procedures, routines, and other structural capital. Plans and initiatives for promoting the free exchange of knowledge should be developed in accordance with the different financial outcomes. Therefore, future studies must pay close attention to the strategies and implementation of programs that support these operations in order to improve organizational performance. Structural, cultural, and/or technological barriers must be identified and eliminated by building a culture of openness, creating formal structures that promote collaboration, and/or introducing the appropriate technology with the potential to facilitate knowledge sharing, in the form of adequate infrastructure, access to digital tools, and cybersecurity measures.

This research makes a significant contribution to the existing body of knowledge about the connection between knowledge sharing and financial performance. Furthermore, it enhances our understanding of how freedom of knowledge transfer influences certain aspects and indicators of financial performance in the healthcare industry. In addition, it further extends the findings of Wang et al. (2014) by determining the higher significance of increasing the knowledge and experience of the staff over the knowledge embedded in organizational systems. By introducing a framework that analyzes how financial results are impacted by the freedom of knowledge transfer at three distinct levels, the study helps to close the gap in the literature.

The results of this study are proof of the strategic importance of fostering knowledge transfer freedom for sustainable financial performance, encouraging managers to eagerly invest resources in developing policies that boost knowledge sharing behavior according to financial performance goals.

## Availability of Data and Materials

The data are available from the corresponding author upon reasonable request.

## Author Contributions

TM and DM designed the research study, DM performed the research, TM analyzed the data, TM and DM drafted the manuscript. Both authors contributed to the critical revision of the manuscript for important intellectual content. Both authors read and approved the final manuscript. Both authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

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## Conflicts of Interest

The authors declare no conflicts of interest.

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