THE ROLE OF MONITORING AND EVALUATION AND PROJECT IMPLEMENTATION MANAGEMENT SYSTEM FOR NON-PROFIT PROJECT PERFORMANCE IN DEVELOPING COUNTRIES

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Abstract

This study examines the relationship between monitoring and evaluation (M&E), project implementation management system (PIMS) for financial monitoring, and project performance within the framework of the resource-based view (RBV), dynamic capabilities, and knowledge management theory. It focuses on non-profit projects in a developing context, particularly in countries such as Bosnia and Herzegovina (BiH). Developmental assistance and non-profit projects have an important role to play in the economic performance of developing countries. The research highlights the significance of understanding factors influencing project performance in non-profit projects in developing countries such as BiH. The findings indicate that both M&E and PIMS for financial monitoring significantly influence three key knowledge management processes - knowledge internalization, knowledge accumulation, and knowledge transfer and integration, which in turn positively influence project performance. The study underscores the importance of synergy between M&E, PIMS, and knowledge management for enhancing project performance, offering valuable insights for policymakers, donors, the international community, and academia.

Keywords: *Monitoring & Evaluation, Project Implementation Management System, Knowledge Management, Resource Based View, Dynamic Capabilities, Structural Equation Modeling*

JEL Classification: *D83, H43, M42, L31*

1. Introduction

According to the OECD (2023) in 2021, 185.9 billion USD was provided in the form of Official Development Assistance (ODA) to developing countries. The total sum awarded shows that development assistance is an important aspect in support of the economic performance of developing countries. The overall success of developmental projects in such countries significantly influences their socioeconomic performance (Khang Ba and Mo Lin 2008). The level of assistance to developing countries provides a compelling argument for the need to increase efficiency and effectiveness in delivering developmental aid. Monitoring and evaluation (M&E) and project implementation management

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system (PIMS) are designed to address both efficiency and effectiveness in terms of delivering developmental aid.

While monitoring is interested in whether project activities are completed in accordance with the project plan, and is a management-driven tool, evaluation is used to analyze project achievement in terms of project outcomes. Evaluation is designed to show whether implemented project activities lead to the achievement of desired project outcomes. Evaluation has a much broader scope compared to monitoring and is an essential tool for strengthening organizational learning. Monitoring, on the other hand, includes two distinct aspects: (1) tracking indicators designed to measure the ability of the project to meet project deadlines and targets and (2) financial monitoring, mainly done through the project implementation management system (PIMS).

Our goal is to understand the relationship between the use of PIMS and project performance in the non-profit sector in developing countries. However, we specifically focus on the use of PIMS from the perspective of its role in financial monitoring. M&E teams usually track the implementation of project activities with the use of various tools designed for tracking purposes which are usually project specific i.e., tailor-made for the project to enable project staff to effectively track indicators designed to assess project progress. On the other hand, financial monitoring is almost exclusively done through PIMS established on an organizational level.

One concept that is closely aligned with M&E is knowledge management. Knowledge management is established at both the project and organizational level to enable both organizational and project staff to share information, know-how, and lessons learned with the aim of strengthening organizational effectiveness. Markić et al. (2022, p. 34) argue that "knowledge management in organizations has become imperative for their development and achieving the predefined organizational goals". In the dynamic and resource-constrained environment of non-profit organizations today, the integration of M&E and PIMS is not just a strategic asset but a necessity. This paper seeks to explore the multifaceted role of these systems in transforming the landscape of non-profit projects and knowledge management. Consequently, we are exploring the role of knowledge management in project performance, and we argue that M&E and PIMS for financial monitoring are key tools for obtaining inputs for organizational knowledge management systems. Knowledge management enables non-profit organizations to disseminate project knowledge

vertically and horizontally, and subsequently, as we show in our paper, increase project performance.

The theoretical framework that we utilize to analyze the role of M&E in terms of project performance in a non-profit context is the resource-based view (RBV) and the closely related dynamic capabilities which are concerned with the ability of companies to "integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al. 1997, p. 516). In our article, dynamic capabilities refer to the ability of non-profit organizations to create more effective and efficient designs relating to project interventions by utilizing data collected through M&E and PIMS for financial monitoring. Non-profit organizations are highly dependent on scarce donor resources for running their operations. Consequently, by improving the design of their project interventions through the utilization of M&E data, and incorporating lessons learned from previous project interventions, non-profit organizations can significantly improve their performance and efficiency.

Non-profit organizations typically undertake projects within intricate social settings, involving a complex network of stakeholders in the design and implementation of such projects. Most of the studies that we managed to identify are concerned with project performance in the context of for-profit organizations. Our study seeks to fill the gap in the literature by showing how the perception of M&E and the perception of the quality of PIMS for financial monitoring can improve project performance in the non-profit sector. We show that such aspects influence three knowledge management (KM) processes: (1) knowledge acquisition, (2) knowledge internalization, and (3) knowledge transfer and integration.

We focus on perception to show that the level of efficiency of M&E and PIMS for financial monitoring are highly impacted by the perception of project staff. Organizations can invest vast resources in the development of M&E and PIMS and fail to add to organizational performance. If staff do not have a positive perception of M&E and PIMS they will most likely avoid using and relying on them. As a result, staff will not provide critical input for KM systems. We argue that the quality of such systems depends on the quality of information, and M&E and PIMS are key tools for the collection of the necessary data. Consequently, these dimensions and processes are interrelated, and ultimately influence project performance.

The intended contribution of this study is threefold. First, we extend the literature on project management and KM by applying RBV theory in the non-profit

context. Second, we aim to demonstrate how the perception of M&E shapes the dynamic capabilities of non-profit organizations through the three KM processes. Finally, we aim to extend the RBV theory and dynamic capabilities framework by introducing the quality of PIMS for financial monitoring to our model and determining its relationship with the three KM processes. Ultimately, this study has important practical implications for the civil society organizations (CSOs) sector and for donors, since it illustrates the importance of developing an effective M&E system and PIMS for financial monitoring in order to support KM processes, and subsequently to increase the efficiency and effectiveness of project implementation.

2. Literature Review and Hypotheses Development

According to the United Nations Evaluation Group (2016), evaluation is described as a systematic and impartial assessment of various entities such as activities, projects, programs, strategies, policies, topics, themes, sectors, operational areas, or institutional performances. As per the PMBOK Guide (2021), the monitoring and controlling process encompasses the necessary procedures needed to monitor, review, and regulate the advancement and performance of a project. It involves identifying any areas requiring changes to the plan and instigating corresponding modifications. In terms of defining evaluation, the PMBOK Guide (2021) describes it as an event occurring at the conclusion of a phase or project. Its purpose is to assess the current status, evaluate the delivered value, and ascertain whether or not the project is prepared to advance to a subsequent phase or transition into operational stages. Crawford and Bryce (2003) characterize evaluation as a recurring assessment process aimed at facilitating learning, while monitoring is depicted as a continual collection of data and an analysis process designed for control purposes.

The development of M&E is closely related to the proliferation of the concept of audit in many different sectors and industries around the world. The objective of an audit, including M&E, is to reduce risks, ultimately benefiting principals by deterring actions on the part of agents that could diminish value (Power 1997). According to Blalock (1999) in the 90s, there were two movements that aimed to improve accountability and policies for delivering services. These were the performance management movement and the evaluation research movement, i.e. the Results-Based Monitoring (RBM) movement.

According to Kogen (2018), in 2005 and 2008, RBM became the most important framework for determining the efficiency and effectiveness of non-profit organizations, mainly because it was endorsed by the Organization for Economic Cooperation and Development (OECD). The OECD organized the Paris and Accra High-Level Forums on Aid Effectiveness in 2005 and 2008 respectively. In The Paris Declaration on Aid Effectiveness and the Accra Agenda for Action signed by 138 countries (OECD 2008, p. 1), it was stated that "aid effectiveness must increase significantly" to address concerns related to the accountability of organizations funded by the donor community to deliver services and developmental aid. Vähämäki et al. (2011) argue that RBM is endorsed by most major donors and that it has indicated that evaluation should focus on accountability.

According to Blalock (1999), performance management monitoring can help project teams track the level of compliance with government regulations or show the level of outcomes that a project has managed to achieve. However, monitoring fails to provide an overview of the net impact achieved by project intervention, i.e., the level of achievement resulting from the implementation of project activities. Blalock (1999) proposes periodic evaluations that can help project teams to capture the net impact of project interventions. Bjornholt and Larsen (2014) and Heinrich (2002) argue that evaluation results are perceived to provide valuable information to stakeholders and, when needed, evaluation findings can change donors' attitudes and behaviors toward project interventions that they are funding.

In their studies, Desouza and Evaristo (2006), Koskinen (2004), and Huang and Newell (2003) discuss negative consequences resulting from repetitive project-related errors that are mostly the result of a lack of lessons learned from previously implemented projects. M&E enables project teams to be more efficient in their work by providing lessons leading to learning, and know-how which is integrated into organizational knowledge management systems. Helfat and Peteraf (2003) show how important for the organization it is that lessons learned through M&E become part of organizational memory. Data collected through M&E enables project managers to make informed decisions, and subsequently to revise project design in response to changes in the environment in which they are operating.

In her study Rocco (2021) provides an analysis of the importance of design for the performance of for-profit companies. As outlined by Rocco (2021), strategic design empowers project managers to grasp the

broader perspective, encompassing all aspects of a complex issue, and to achieve sustainability and provide solutions for change over the long term. Inputs from M&E units enable projects to achieve higher levels of performance in a two-fold manner: a) in the process of the design of intervention by providing key inputs from lessons learned and b) in the process of project implementation by enabling project managers to have a clear overview of achieved level vs. desired level of progress, and to steer the direction of project implementation to enable the achievement of the project goal.

In the scope of the RBV theoretical framework, organizational financial and non-financial resources are considered to significantly contribute to organizational competitive advantage (Barnett et al. 1994). Organizational knowledge is recognized as the most valuable non-tangible resource. According to Barney (1986) and Peteraf (1993), companies have two types of resources at their disposal: dynamic and static. Static resources are those that have expiration dates and can be used for a fixed period, while dynamic resources such as organizational learning exist in terms of organizational capabilities and are able to be utilized in such a way as to create new opportunities over time (Lockett et al. 2009).

Itami (1987) emphasized that although tangible assets such as financial capital, machines, and buildings are necessary for organizational operations, intangible assets such as organizational culture, human capital, knowledge, reputation, and management skills are the key source of the organization's competitive success. However, even though organizations can produce knowledge, it is their learning capability that determines the impact of such generated knowledge on overall organizational effectiveness. Cohen and Levinthal (1990) consider learning capability from the perspective of organizational procedures that positively impact organizational performance through the generation of competitive advantage over competitors. As per the RBV, organizations possessing distinctive resources such as organizational knowledge gain a competitive edge over rivals, rendering them more resilient to fluctuations and capable of achieving heightened effectiveness in their overall performance (Almarri and Gardiner 2014; Lin and Wu 2014). CSOs involved in developmental, humanitarian, and aid projects are knowledge-intensive organizations, hence organizational learning can significantly boost their performance in delivering quality services. In the context of the RBV, organizational knowledge can be a key determinant of organizational competitiveness if it is effectively leveraged.

Markić et al. (2022) describe human resources and technology as being key segments of effective knowledge management system, and in our paper, in the context of non-profit organizations, we add M&E as the most important tool for the collection of inputs that are fed into such knowledge management systems. According to Preskill and Torres (1999) and Torres and Preskill (2002), for quite a while after the field became widespread among scholars and others, M&E wasn't seen as being related to organizational learning. Oswald and Taylor (2010) argue that the development of the concept of evaluative inquiry has influenced the change in the understanding of the role of M&E. Arthur et al. (2001) argue that two main measures of project success are project performance and project learning. Choundry (2013) argues that knowledge is one of the most important segments of projects implemented by non-profit organizations.

Through the lens of the RBV, M&E serves as tools that a firm can use to pinpoint key organizational resources and capabilities, as well as to evaluate organizational strengths and weaknesses. M&E empowers CSOs to monitor the performance of project teams, thereby identifying consistently high-performing team members and units, as well as pinpointing areas for improvement in terms of processes, procedures, or units to enhance project performance and effectiveness. Moreover, M&E enables project managers to make well-informed decisions concerning resource allocation, and for prioritizing support for project components that require enhancement. Knowledge gained through M&E in the form of know-how and lessons learned can be utilized to reconfigure organizational resources in a way that enables a higher level of efficiency in project performance. The positive effect of KM on organizational performance is confirmed by Markić et al. (2022). Walsh and Lannon (2020) assert that international non-governmental organizations (INGOs) conducting projects in developing countries such as BiH play a crucial role in knowledge creation and sharing. They serve as intermediaries between donors and local actors, highlighting the significance of knowledge generation.

Understanding the project-oriented nature of non-profit organizations and their reliance on donor funding is crucial before analyzing them through the RBV framework. Unlike for-profit entities that can showcase financial data to potential investors, non-profits must articulate to donors how their project interventions address intricate social issues. To present their interventions effectively, project teams must demonstrate their past engagement in addressing such issues, provide comprehensive information

about target communities, showcase organizational capacities to deliver services within budgetary constraints, outline plans for sustaining project outcomes post-implementation, and illustrate broad stakeholder support. To demonstrate their past behavior effectively, non-profit organizations must be able to effectively utilize their KM system.

For organizations to effectively utilize lessons learned and knowledge acquired through M&E, it is critical that both project and organizational staff have a positive perception of M&E. Insights and expertise are gathered from organizational staff, and if they harbor negative views towards M&E, they are less likely to willingly share information that forms a crucial aspect of lessons learned and expertise. Given that M&E alongside PIMS for financial monitoring serve as pivotal tools for KM, the inability of M&E to gather high-quality information from project staff will consequently lead to a limited quality of knowledge products produced through organizational KM systems. Therefore, we hypothesize:

H1: Perception of M&E is positively related to knowledge accumulation (KA).

H2: Perception of M&E is positively related to knowledge internalization (KI).

PIMS is part of the IT solutions existing on the organizational and project level. Turulja and Bajgoric (2018) discuss how IT is the driver of all changes that are taking place in businesses around the world in the digital era, while knowledge and human resources are regarded as key factors driving the competitive advantage of companies in complex business environments. IT organizational solutions are the most important tools for the effective implementation of KM because they enable effective creation, digitalization, and the dissemination of knowledge across the organization (Wang et al. 2007).

Information technology is an organizational resource that contributes to sustainable competitive advantage through its interaction with other resources (Smith et al. 1996, p. 48). Seleim and Khalil (2007) argue that IT is a key enabler of KM processes, and that IT technologies through KM enhance organizational performance. To show how KM and IT are dependent on each other, Pérez-López and Alegre (2012) argue that companies are not faced with the dilemma of whether to utilize IT for the development of KM, but rather how to utilize it. For example, Lee and Choi (2003) show how IT solutions offer virtual spaces to organizations, and subsequently enable a higher level of interaction between project staff. IT collaboration platforms such as Zoom, MS Teams, etc., have enabled non-profit organizations to continue the implementation of their project activities during the COVID-19 outbreak by providing them with the tool to interact with project beneficiaries and project stakeholders.

According to RBV, organizational performance depends on organizational resources, particularly dynamic resources such as organizational knowledge. According to Smith et al. (1996), the effect of organizational resources when combined should be higher than the effect of each individual resource when it comes to adding to the competitive advantage of the company. IT enables organizations to identify resources that can be combined in such a way as to increase the competitive advantage of the company. Cerchione and Esposito (2017) argue that effective IT solutions at the organizational level are the most important factor for the development of an effective KM system.

Lee et al. (2005) argue that KM systems are a subset of information systems used to facilitate knowledge management processes on the organizational level. KM organizational systems include the internet, intranet, data warehouses, organizational software solutions, etc. (Lee et al. 2005). The indirect effect of IT on KM results from digital tools that are not designed to support KM systems. However, data collected through them can be transformed into organizational knowledge products. Likewise, akin to M&E, the effectiveness of PIMS for financial monitoring on project performance relies on how the end users perceive the overall quality of PIMS outputs and their comfort level while interacting with the system. Should the PIMS system be overly complex, or if its outputs are perceived as lacking in quality by organizational staff, it is conceivable that they may exhibit a tendency to avoid using it. This, in turn, may restrict the quality of information integrated into the KM system in subsequent stages. Considering that in our model we are exploring the role of PIMS in project performance from the perspective of financial monitoring, we hypothesize:

H3: Perceived quality of PIMS for financial monitoring is positively related to knowledge accumulation (KA).

H4: Perceived quality of PIMS for financial monitoring is positively related to knowledge internalization (KI).

Resources essentially refer to the available assets, whether tangible or intangible, possessed or controlled by companies and organizations, while capabilities denote the ability of such companies or organizations to utilize these resources through organizational processes in such a way as to achieve a specific objective (Amit and Schoemaker 1993). Smith et al. (1996)

suggest that since both organizational learning and resource-based theory aim to establish and maintain competitive advantage, it is reasonable to recognize organizational learning as a strategic resource within the RBV. Non-profit organizations, particularly bigger ones, are knowledge-intensive organizations, hence organizational learning can significantly improve their project performance. Arya and Lin (2007) contend that for non-profit organizations to thrive, they need to cultivate capabilities and competencies not only for providing services, but also for securing funding.

Dynamic environments and challenges emerging in volatile times have led many organizations to realize that they must use their knowledge base to sustain their competitive advantage and to increase their organizational performance (Valaei et al. 2017). Aralica et al. (2018) show that higher level institutional capacities have a positive impact on performance in the case of for-profit companies, and the same argument can be applied to non-profit organizations. More importantly, Aralica et al. (2018) argue that countries such as BiH, while transitioning from a planned to a market economy, are characterized by weak institutions. To cope with pressure arising from such a situation, non-profit organizations must rely on their internal capacities and generate new knowledge. De Bem Machado et al. (2022) argue that for organizations to deal with dynamic changes it is of the utmost importance that they generate new knowledge. Grant (1996) contends that knowledge constitutes a critical asset for organizations, highlighting its primary function in incorporating the specialized knowledge possessed by individuals into the development of goods and services. Arik (2016) argues that organizations that possess the ability to share the right information with the right people at the right time, can create and sustain a competitive advantage over their competitors.

For-profit companies and non-profit organizations need to possess high levels of learning capability to be able to utilize their organizational knowledge as source of competitive advantage. Learning capability can be perceived as the ability of organizations to utilize their learning mechanism to absorb external information as well as resources (Lin and Wu 2014). If organizations have low levels of learning capability, they will not be able to utilize their KM systems to improve organizational performance. By capturing and disseminating knowledge, non-profit organizations are enabling continuous organizational learning and development, which is the highest level of project management maturity (Todorović et al. 2015).

According to Liao and Chi-chuan (2009), KM processes include knowledge accumulation, knowledge internalization (i.e., knowledge conversion), and knowledge application. As stated by Jimenez-Jimenez and Sanz-Valle (2013), knowledge accumulation refers to the procedure by which a company acquires new information and knowledge. Liao and Chi-chuan (2009) consider knowledge accumulation to be the process of actively seeking and acquiring new knowledge or generating novel insights from existing knowledge through collaborative efforts on the part of individuals and business partners. Both definitions point to the generation of new knowledge as a key segment of the process of knowledge accumulation. Following definitions from Liao and Chi-chuan (2009) and Jimenez-Jimenez and Sanz-Valle (2013) we hypothesize:

H5: Knowledge accumulation (KA) is positively related to knowledge transfer and integration (KTI).

Lee et al. (2005) describe the process of knowledge internalization as the process that can occur in situations when an individual staff member discovers relevant knowledge, obtains it, and then finally applies it when performing a job task. Internalization, as described by Lee et al. (2005), may lead to the generation of new knowledge; consequently, KA and KI are intertwined processes. In the scope of our research, we offer the following hypothesis:

H6: Knowledge internalization (KI) is positively related to knowledge transfer and integration (KTI).

Accumulated and internalized organizational knowledge can only increase organizational performance if organizations are able to transfer and integrate knowledge across the organization. Without the ability to transfer and integrate organization knowledge, a KM system will have limited influence on organization performance. In the scope of our research, we hypothesize:

H7: Knowledge transfer and integration (KTI) is positively related to project performance.

The conceptual framework of our research is outlined in Figure 1 below. As can be seen we do not hypothesize the direct influence of positive perception of M&E and the perception of quality of PIMS for financial monitoring on project performance. We consider M&E and PIMS for financial monitoring as key tools of the organizational KM system. The KM process of knowledge transfer and integration is considered to have a direct influence on project performance. It is this which we consider to be a novel approach to the analysis of project performance in a non-profit context.

Figure 1: Conceptual framework of this study
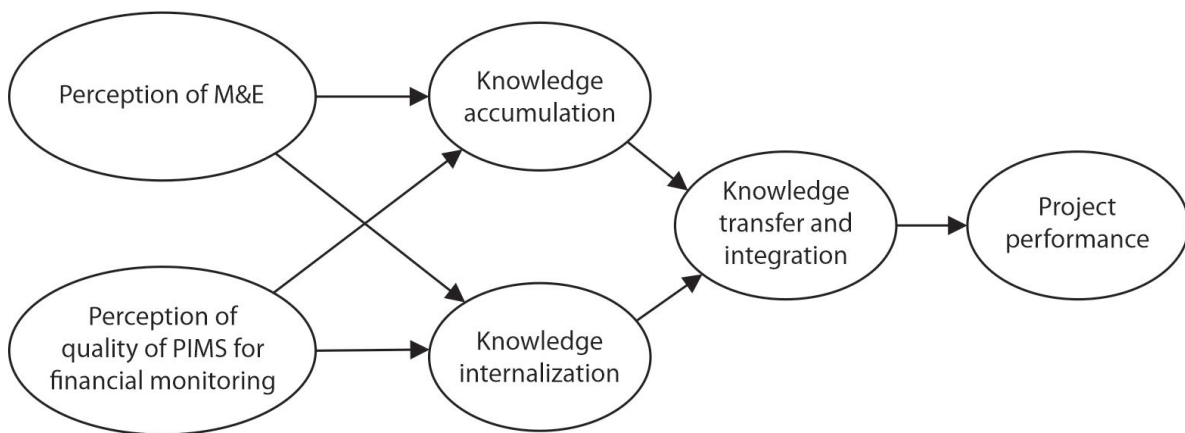
3. Methodology

To empirically test the conceptual framework presented in the previous section, we conducted a quantitative study focusing on CSOs that were or are currently implementing projects in Bosnia and Herzegovina. BiH represents a relevant context for this study, since it is a developing country where multiple donors and aid organizations are operating with the aim to support the country in developing its capacities related to migration management, economic development, EU integration, etc. BiH is a country that has a very complex administrative setting, and CSOs are stepping in to provide assistance and expertise to government on all administrative levels. There are many active international and local CSOs that are implementing various projects, all with the aim of supporting BiH in developing its capacities and increasing the economic performance of the country.

We developed a database of organizations, based on the register of civil society associations and foundations developed and maintained by the BiH Ministry of Justice, in cooperation with the European Union (BiH Ministry of Justice n.d.). We filtered out all CSOs from the register for which we were unable to find an official website. For the remaining CSOs, we relied on input from CSO experts who had been actively working in the CSO sector for a minimum of ten years. We obtained information from them to determine whether the CSO from the list is implementing a humanitarian, developmental, or aid project, or if it had been established for a different purpose. The result was the list of 90 CSOs. For all these CSOs, we collected contact information (i.e. email addresses) from their web pages, or by reaching out over the phone and asking for a contact email to which we could send

an online survey. Out of the 90 CSOs, we received 104 filled questionaries from 40 different organizations, a response rate of 44%.

Survey questions were developed as 7-point Likert scale questions. In the survey, there was a question - *Do any of the projects you were working on or the project you are currently working on have an M&E component and project management information system established on the project or organizational level?* If the respondent answered with 'No', he or she was redirected to the end of the survey.

Items used for measuring the perception of M&E were adapted from Bettabia et al. (2016). Bettabia and colleagues developed a scale for the analysis of audit committee diligence. As M&E units in CSOs play a similar role to internal audit units in for-profit companies, we decided to use items developed by Bettabia et al. (2016) and contextualize them for the needs of this study. To measure the quality of PIMS for financial monitoring we adapted a scale for measuring user acceptance of information systems (Davis 1989). For measuring knowledge accumulation, knowledge internalization, and knowledge transfer and integration we used a scale developed by Lee et al. (2005). Finally, for measuring project performance we used subjective performance indicators, through items adapted from a scale developed by Raymond and Bergeron (2008).

4. Results

The first step of the quantitative analysis was the assessment of the validity and reliability of the measures used. To do this, Confirmatory Factor Analysis (CFA) was conducted (Anderson and Gerbing 1988),

Table 1. Overview of the model results

Construct	Items	λ	AVE	CR
Perception of M&E	M&E team responds to identified risks and performs risk-based analysis	0.65	0.551	0.861
	M&E team instills trust and credibility	0.69		
	M&E findings and recommendations for improvement are practical	0.78		
	M&E team is providing quality internal reports	0.90		
	Findings, reports, and communication lead to a decrease in information asymmetry between the project and organization management	0.67		
Perception of quality of PIMS for financial monitoring	Using information system in my job enables me to monitor budget expenditures easily	0.95	0.870	0.963
	Using information system is improving my job performance by enabling me to monitor budget expenditures easily	0.98		
	Using information systems is enhancing my effectiveness on the job by enabling me to monitor budget expenditures easily	0.97		
	I find project management information systems for financial monitoring to be useful in my job	0.81		
Knowledge accumulation	I consult organizational or project databases before processing project tasks	0.82	0.656	0.852
	I extensively search through project and organizational databases to obtain the knowledge necessary for the tasks	0.85		
	I am able to systematically administer knowledge necessary for the tasks and store it for further organizational and project usage	0.74		
Knowledge internalization	Professional knowledge such as knowledge about beneficiaries and demand forecasting is managed systematically	0.74	0.704	0.873
	Employees are given educational opportunities to improve their adaptability to project tasks.	0.90		
	Organization-wide knowledge and information are updated regularly and maintained well	0.85		
Knowledge Transfer and Integration	Errors and failures are always discussed and analyzed on the project level.	0.81	0.675	0.859
	The project has a feedback mechanism that enables employees to share new ideas, and insights relevant for the project	0.88		
	The project has instruments (manuals, databases, etc.) that enable efficient digitalization of existing knowledge and lessons learned	0.75		
Project performance	This project is able to achieve outputs within agreed deadlines	0.96	0.836	0.937
	This project is able to achieve outputs within planned budget resources	0.86		
	This project is able to achieve targets in line with agreed project deadlines	0.92		

Model fit: χ^2 = 258.180; df = 174; RMSEA = 0.068; CFI = 0.953 ; TLI = 0.944 ; NNFI = 0.944; SRMR = 0.059;

Notes: λ = standardized loadings; CR = Composite Reliability; All loadings are significant;

by using the lavaan package in R. Table 1 outlines standardized item loadings, the Average Variance Extracted (AVE) and the Composite Reliability index (CR). In the presented CFA solution, all loadings were significant and larger than 0.65, all variances extracted for latent constructs were higher than 50% (0.5) and the composite reliability indices were 0.85 and higher, which is acceptable according to Hair et al. (2019). The model fit for this CFA was good (χ^2 = 258.180; df = 174; RMSEA = 0.068; CFI = 0.954; TLI = 0.944; NNFI = 0.944; SRMR = 0.059) hence the solution was acceptable.

Composite reliability values were calculated by using the semTools package from R. For the calculation of Composite Reliability, semTools uses three different formulas, but in the table above we use only values calculated by utilizing the formula developed

Table 2. Discriminant validity

#	Construct	1	2	3	4	5	6
1	Perception of M&E	**0.742**					
2	Perception of quality of PIMS for fin. monitoring	0.379***	**0.932**				
3	Knowledge Acquisition	0.562***	0.419***	**0.810**			
4	Knowledge Internalization	0.606***	0.282**	0.342***	**0.839**		
5	Knowledge Transfer and Integration	0.616***	0.361***	0.208**	0.824***	**0.822**	
6	Project performance	0.563***	0.123	0.205**	0.556***	0.680***	**0.914**

Notes: Square-root AVEs are on the diagonal in bold; Correlations are below the diagonal; ** - p < 0.05; *** - p < 0.001

by Green and Yang (2009). We proceed with the assessment of discriminant validity (Fornell and Larcker 1981) by assessing and comparing correlations between latent variables (see Table 2).

We observe that almost all correlations are low to medium, apart from the correlation between KI and KTI which is 0.824. This correlation, although high, is deemed acceptable due to the fact that those are the two dimensions of knowledge management. In this regard, discriminant validity is achieved in all cases apart from the one noted previously. As shown in Table 2, the square-root Average Variance Extracted (AVE) values are higher than the correlations in all cases, except for the two mentioned dimensions of knowledge management. However, even in these cases, the difference is marginal (0.01 and 0.02). Consequently, we proceeded with the analysis.

After assessing the validity and reliability, we proceeded to the next step – assessment of the structural model. This step further represents a test for the hypotheses posed. Model findings are reported in Table 3 below. A path diagram (see Figure 2) was produced using the lavaan package lavaanPlot function.

The model results show that the perception of M&E is positively related to KA (β = 0.46, p < .001). Hence, the model indicates that Hypothesis 1 is supported. The model shows that the perception of M&E is also positively influencing on KI with β = 0.61, p < .001. Consequently, the model indicates that Hypothesis 2 is confirmed.

The quality of the project implementation management system for financial monitoring has a positive influence on KA, with β = 0.24, p = 0.016. Consequently, the model indicates that Hypothesis 3 is also supported. The model results show that if staff do not perceive PIMS as being of high quality that can help them to be more efficient in financial management, they will be reluctant to utilize it in their everyday work.

Table 3. Model results

Relationship	β	p-value
Perception of M&E is positively related to KA	0.46	< 0.001
Perception of M&E is positively related to KI	0.61	< 0.001
Quality of PIMS for financial monitoring is positively related to KA	0.24	0.016
Quality of PIMS for financial monitoring is positively related to KI	0.08	0.383
Knowledge accumulation (KA) is positively related to Knowledge transfer and integration (KTI)	-0.07	0.410
Knowledge internalization (KI) is positively related to Knowledge transfer and integration (KTI)	0.87	< 0.001
Knowledge transfer and integration (KTI) is positively related to project performance	0.68	< 0.001

Model fit: χ^2 = 279.226; df = 181; RMSEA = 0.072 ; CFI = 0.946 ; NNFI = 0.937; SRMR = 0.073;

Figure 2: Path diagram
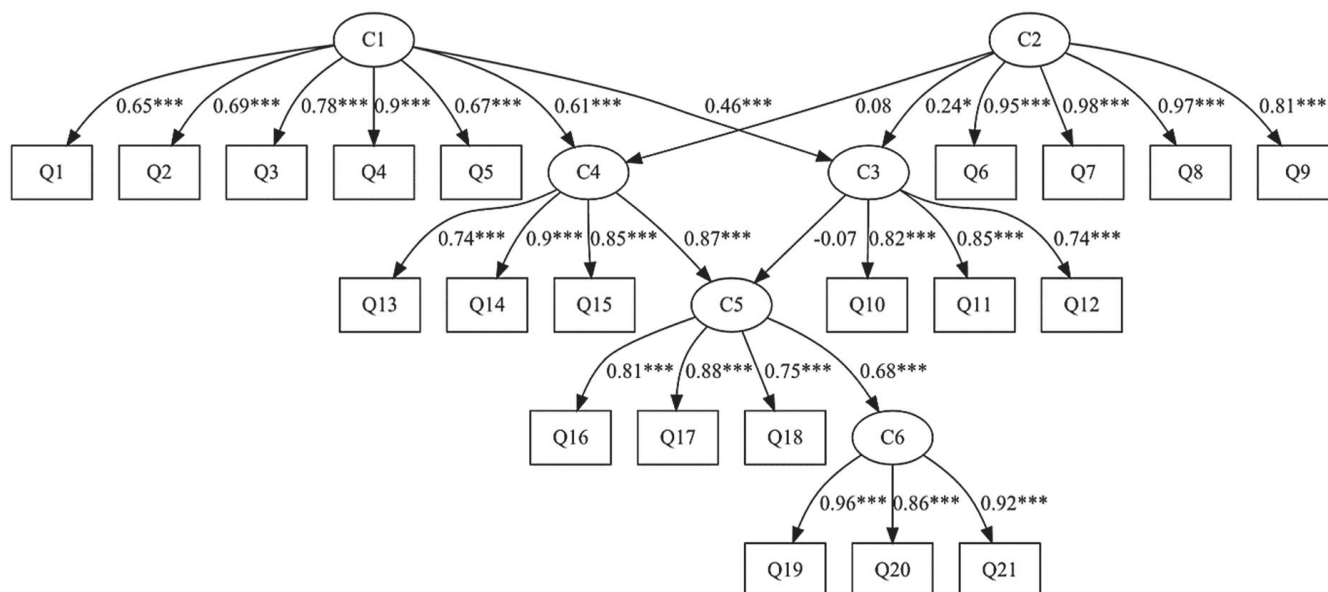
Notes: *** - p < 0.001, ** - p < 0.01, * - p < 0.05

According to the model results, the quality of PIMS for financial monitoring is not significantly related to KI (β = 0.08, p = 0.383). PIMS for financial monitoring is an organizational tool utilized by a limited number of staff responsible for financial management and project management. Consequently, this is probably the reason why the model shows statistically insignificant results. As a result, the model indicates that Hypothesis 4 is not supported.

The model results show that KA does not have a statistically significant influence on KTI with (β = -0.07, p = 0.410). The KTI process takes place after the internalization of acquired knowledge and its convergence into the existing knowledge base. Only when knowledge is converged does the process of knowledge transfer and integration start. This is probably the main reason why KA does not have a statistically significant influence on KTI. Hence, the model indicates that Hypothesis 5 is not supported. KI has a statistically significant positive influence on the process of KTI with β = 0.87, p < .001. Hence, the model indicates that Hypothesis 6 is supported. Finally, KTI has a statistically significant positive influence on project performance with β = 0.68, p < .001. Consequently, the model indicates that Hypothesis 7 is supported.

5. Discussion and Conclusions

The purpose of this study was to demonstrate how the perception of M&E and PIMS for financial monitoring can improve project performance in the non-profit sector, by utilizing the RBV and dynamic capabilities framework, as well as knowledge management theory. It is important to highlight that the research findings are limited to developing countries such as Bosnia and Herzegovina, which are distinguished by their aspirations to join the EU, a thriving civil society sector, and a notable presence of international organizations and donors. We argue that the functioning of the civil society sector is greatly influenced by the specific context of the country in which it operates.

We contribute to the broad literature of project management in the non-profit sector by showing that RBV provides excellent tools for the analysis of project and organizational performance in the context of non-profit organizations. RBV posits that organizational performance depends on the level of resources that organizations possess. Knowledge is perceived as a resource that can significantly increase the dynamic capabilities of organizations and enable them to cope with rising pressures emerging from dynamic changes in the environments in which they operate. Dynamic capabilities perceive knowledge as a resource that enables organizations to sustain or increase their competitive advantage in volatile times.

Our study extends RBV theory by showing that M&E is the main tool available to non-profit organizations to generate knowledge. The perception of M&E is positively related to how non-profits acquire knowledge as well as to how they internalize it. Knowledge is a strategic organizational resource mainly due to its heterogeneity and uniqueness. As Markić et al. (2022, p. 35) argue, the economic value of knowledge "directly depends on the time of its appearance and is most valuable when it is inaccessible to others." Furthermore, Markić et al. (2022) argue that organizations should strive to prevent their competitors from being able to copy their knowledge management to achieve long-term benefits. Knowledge is a unique organizational resource, and this is why many authors argue that knowledge is one of the most important strategic organizational resources.

Furthermore, we extend the RBV theory and dynamic capabilities framework by introducing the quality of PIMS for financial monitoring in the context of knowledge management processes. Namely, PIMS for financial monitoring provides a relevant tool for knowledge management systems without which knowledge management processes could not be implemented. This is what we demonstrate by proving that the quality of PIMS is positively related to knowledge acquisition. However, interestingly, we fail to confirm the relationship between the quality of PIMS for financial monitoring and knowledge internalization. This opens an avenue for further discussions and research, since it is necessary to understand why this tool does not translate into internalization. In the case of the BiH CSOs and the context of the present study, we can argue that the extent of the usage of PIMS, and the acceptance of information systems by project managers may be the key answer to why project managers and employees still do not internalize it.

Ultimately, this study has important practical implications for the CSO sector and for donors since it illustrates the importance of developing effective M&E system and PIMS for financial monitoring with the purpose of supporting KM processes and subsequently increasing efficiency and effectiveness with regard to project implementation. That is, it indicates to donors the necessity of emphasizing the significance of M&E and PIMS in project implementation. Furthermore, it involves educating CSO representatives with regard to comprehending M&E, fostering their perception of it, offering examples demonstrating the effectiveness of PIMS utilization, and disseminating knowledge about existing IT tools designed to streamline project management. This is of great interest to donors since we show in our study that those aspects not only improve the knowledge management processes of CSOs and hence develop CSOs further, but also contribute to improved project performance, which is the ultimate goal of all stakeholders. Project managers and employees of CSOs in the context of developing countries need to change their position and understanding of M&E and PIMS processes, since this study shows that those processes act as enablers of knowledge management dimensions and processes.

This study is not without its limitations. First, the sample used in the study is limited in size due to the prerequisites that organizations need to have M&E departments and PIMS. This immediately makes the sampling processes a matter of convenience rather than of randomization, as most of the data were collected from high-profile non-profit organizations that have M&E departments and PIMS. Hair et al. (2019) shows that for the normality of data, the sample size is very important, i.e. the larger the sample the less we need to be concerned about normality distributions in our variables. The sample size for our research consisted of 104 completed surveys which can be considered a small sample considering the number of items used in our model. Consequently, this limits the generalizability of our research findings. Only high-profile non-profit organizations were targeted as they have the financial resources needed for M&E units and the development and maintenance of PIMS compared to smaller non-profit organizations. However, as the main research goal is to analyze the role of M&E in project performance it was a rational decision to target only organizations that have M&E units and PIMS.

Future research could explore the mediation effect between positive perceptions of M&E and KM processes, and quality of PIMS for financial monitoring and KM processes. Furthermore, future research could also distinguish between project performance and performance of project management in their model to check the influence of positive perceptions of M&E and PIMS for financial monitoring on both separately. The country context is also very important, and future research could be implemented in countries with similar levels of development to that of BiH with its vibrant non-profit sector, to explore the generalizability of the proposed model, that is, if positive perception of M&E and KM processes, and quality of PIMS for financial monitoring and KM processes will have same influence on project performance in countries with different administrative settings.

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