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Article

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Cogent Business & Management

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Suggested Citation: Hashemi, Sayed Momin; Handayanto, Eko; Masudin, Ilyas; Zulfikarijah, Fien; Jihadi, Muhammad (2022) : The effect of supply chain integration, management commitment and supply chain challenges on non-profit organizations performance: Empirical evidence from Afghanistan, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 9, Iss. 1, pp. 1-18, https://doi.org/10.1080/23311975.2022.2143008

This Version is available at:
https://hdl.handle.net/10419/289332

Cogent Business & Management

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oabm20

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To cite this article: Sayed Momin Hashemi, Eko Handayanto, Ilyas Masudin, Fien Zulfikarijah & Muhammad Jihadi (2022) The effect of supply chain integration, management commitment and supply chain challenges on non-profit organizations performance: Empirical evidence from Afghanistan, Cogent Business & Management, 9:1, 2143008, DOI: 10.1080/23311975.2022.2143008

To link to this article: https://doi.org/10.1080/23311975.2022.2143008

Published online: 11 Nov 2022.

Hashemi et al., *Cogent Business & Management* (2022), 9: 2143008
https://doi.org/10.1080/23311975.2022.2143008

cogent business & management

OPERATIONS, INFORMATION & TECHNOLOGY | RESEARCH ARTICLE

The effect of supply chain integration, management commitment and supply chain challenges on non-profit organizations performance: Empirical evidence from Afghanistan

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Received: 17 June 2022
Accepted: 30 October 2022

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Abstract: This research aimed to determine the effect of supply chain challenges and supply chain performance in nonprofit organization performance and the supply chain integration and management commitment in supply chain performance. One hundred questionnaires were distributed to top-level, middle-level, and lower-level managers of Afghanistan non-profit organizations. Out of 100 questionnaires distributed, 55 questionnaires were filled and returned a 55% response rate. This study adopted a quantitative method using the SmartPLS application. This study found that integrating supply chain indicators such as sharing information, planning, controlling and coordinating materials, and commitment of all three management levels positively affects supply chain performance. Moreover, this study found that challenges such as government regulation, customer pressure, and supply chains performance indicators such as supply chain delivery flexibility, customer responsiveness time, and inventory cost significantly affect non-profit organization performance.

Subjects: Logistics; Operations Management; Supply Chain Management

Keywords: Integration supply chain; management commitment; supply chain performance; supply chain challenges; non-profit organization performance

1. Introduction

Supply chain management is a network of facilities that convert raw materials into finished goods and deliver them to customers through a distribution system. The basic objective of supply chain management (SCM) is to optimize chain performance to add as much value as possible at the minimum possible cost. In other words, the goal of SCM is to connect all supply chain agents to work together to maximize productivity in the supply chain and provide the maximum benefit to all related parties (Yücesan, 2016). The integration of the processes along the supply chain, from the point of supply (supplier) to other points such as manufacturing, distribution, and consumption, plays a fundamental role in the supply chain's performance (Piprani et al., 2020). Another study by Afshan et al. (2018) showed that from an economic perspective, a successful supply chain performance could be achieved by collaboration among the parties of the supply chain network. Moreover, Chin et al. (2015) indicated that working together among the parties of the supply chain network could improve the profit and environmental performance of the commercial organization.

Management commitment plays a significant role in the successful supply chain management application. Masudin, Ramadhani et al. (2021) investigated the relationship between management initiative and supply chain management practice and found a considerable correlation. Another study by Purwanto and Juliana (2022) found that leadership style affects supply chain adoption, impacting organizational performance. Moreover. In the context of a profit-oriented organization, it has been studied that management's commitment is the key enabler to set the goals to become a profitable organization (Gupta et al., 2020). However, in the context of non-profit organizations that do not concern profit as the goal, the commitment of management (middle and top leaders) to increase supply chain management performance is not fundamental. Thus, this study investigates the effect of management commitment on supply chain performance for a non-profit organization.

Measuring the performance of the public and nonprofit sectors is getting more common. The success of the supply chain strategy will depend on the challenges faced (Attaran, 2012). There are significant numbers of studies about the challenges of supply chain management in for-profit and not-for-profit organizations, including the problems and solutions. For example, a study found that supply chain management challenges experienced by the humanitarian sector negatively impact the performance of the SC of humanitarian organizations (Agwata, 2014; Masudin, Lau et al., 2021). Another study of collaboration and supply chain challenges of local and international non-governmental organizations (NGOs) found that the complexity of the challenges facing NGOs operating in developing countries varies. However, the most common constraints are host governments' restrictions and their desire to control NGO activities (Al Adem et al., 2018). Therefore, this study investigates the influence of supply chain challenges and supply chain performance on non-profit organization performance in Afghanistan.

The rest of this paper consists of 5 sections. The second section elaborates relevant prior studies, followed by the research methodology section (section 3). The fourth section discusses the results, hypotheses and managerial and theoretical contributions. Finally, section 5 concludes the summary of this study and recommends future studies.

2. Literature review

2.1. Supply chain challenges and organization performance

Supply chain challenges play a significant role in an organization's performance. Masudin, Jie et al. (2020) believed that the challenges in the implementation of the supply chain had a significant influence on the organization's performance. The challenges of the uncertainties of demand-supply, information technology, and government regulation are the main drivers for an organization in adopting supply chain management, affecting the organization's performance. Another study by Turi et al. (2014) study revealed that government regulation is the most influential factor affecting an organization in adopting supply chain management to improve financial performance. Moreover, F. Wu et al. (2006) indicated that digital technology had a significant role in the implementation of supply chain management. In their study, smart industry 4.0 has changed most business processes that affect the operational and financial performance of a commercial and non-profit organizations.

Nowadays, the competition among the business institutions in the supply chain global competitive environment requires organizations not only to compete in their ability to enter new markets and achieve economies of scale but also in their ability to effectively administrate knowledge flows in an information-based economy (Deveshwar & Rathee, 2010; Patil, 2015). Another research found that the supply chain challenges are different in different Organizations and countries (Askari et al., 2021; Rajah et al., 2018). Supply chain management (SCM) is how supply chain activities are managed to advantage over competitors and maximize our customers' value. It represents the efforts by which the supply chain management solutions help to develop and manage supply chain activities most efficiently. When we talk about supply chain management,

we also pertain to product development, sourcing of materials, production of quality goods and logistics. By knowing the activities involved in the scope of supply chain management, we can also identify the possible challenges. Therefore, in this study we investigate the hypothesis:

Hypothesis 1: A Supply chain challenge has a significant influence on the performance of a non-profit organization.

2.2. Supply chain performance

Analyzing the performance of supply chain systems becomes one of the significant challenges faced by researchers (Arzu Akyuz & Erman Erkan, 2010; Gharaei et al., 2022). Also, supply chain performance analysis becomes complex due to involving different entities such as suppliers, distributors, manufacturers, wholesalers, and customers. So, supply chain management performance is defined as multiple measures of performance developed by organizations to reach long-term and short-term objectives. Therefore, to better understand supply chain performance in profit and not-for-profit organizations, we have to measure the performance of supply chain management first.

Performance measurement is critical in the nonprofit sector due to increasing competition from some agencies, all competing for scarce donor funding, and increased demands from the accountability of donors, the media, and the public in general. Success for nonprofits should be measured by how effectively and efficiently they meet the needs of their constituencies. Financial considerations can play an enabling or constraining role but will rarely be the primary objective (Kaplan, 2001; Souza et al., 2022). Measuring the performance of nonprofit organizations is not free of challenges. The challenges identified for performance measurement in the non-profit organization sectors include the intangibility of the services, mission immeasurability, unknowable outcomes, and stakeholders' standards (Beamon & Balcik, 2008; Taleizadeh et al., 2022). Thus, in this study, we posit the hypothesis:

Hypotheses 2: Supply chain performance has a significant influence on the performance of Non-profit organization

2.3. Supply chain integration

In order to fulfill customer needs, firms must increase their delivery, reliability, and product flexibility in today's competitive environment. Several companies have utilized supply chain integration to attain this goal (Bowersox et al., 1999). According to the definition of supply chain integration, "the degree to which an organization strategically collaborates with its supply chain partners and manages intra- and inter-organization processes in order to achieve effective and efficient flows of products, services, information, money, and decisions to provide maximum value to its customers" (Zhao et al., 2008). Information sharing, planning, coordinating, and controlling supplies, components, and completed things are part of supply chain integration at the strategic, tactical, and operational levels (Stevens, 1989). When outsourcing can save money on manufacturing, supply chain integration saves money on transaction expenses and the costs of seeking, contracting, negotiating, and monitoring that come with outsourcing because there are fewer partners involved. As a result, businesses may use supply chain integration as a powerful tool to get the benefits of both "make" and "purchase" (Gharaei, Amjadian et al., 2021; Zhao et al., 2008). Despite the benefits of supply chain integration, a high level of integration comes with certain inherent risks for the companies involved in alliances (Revilla et al., 2008). Includes the risk of possible rivals gaining access to the firm's expertise, difficulty aligning business objectives and exchanging information due to frequent or overlapping suppliers, and the potential dependency formed among partners (Amjadian & Gharaei, 2022; Gulati & Singh, 1998). Integrating supply chain partners necessitates the purchase of new assets to customize technology and machinery, as well

as the development and instruction of new work and consulting programs, all of which are prohibitively expensive and increase the risk of benefiting from a partnership by exchanging the partner (W. Y. Wu et al., 2004). Furthermore, a lack of trust and dependence among supply chain partners may lead to opportunistic behavior that compromises overall supply chain performance and profitability (Heydari, 2012).

Supply chains must create collaborative partnerships and unite to build a unified virtual organization in terms of a global strategy to maximize profit and lower overall operating expenses (Ding et al., 2011). Reverberate throughout numerous industries, encouraging businesses to direct all stakeholders to pool their resources and collaborate (Yeung et al., 2009). SCI improves firm performance (Kim, 2009), flexibility (Clark & Lee, 2000), and competitive advantage (Li et al., 2009). It also reduces transaction costs (Zhao et al., 2008), inventories, and the bullwhip effect (Gharaei, Hoseini Shekarabi et al., 2021; H. L. Lee et al., 1997). Moreover, according to previous research, SCI could improve delivery quality and shorten cycle times (Cousins & Menguc, 2006). On the other hand, the endeavor to determine the link between SCI and SCP is negligible. However, empirical studies show that companies must have proper supply chain linkages to convey the benefits of SCI to SCP (Panayides & Venus Lun, 2009).

SCI, on three levels, including integration with suppliers, integration with customers, and intra-organizational integration, helps businesses boost SCP by providing a centralized approach to management throughout the extended value network, which includes a variety of parties (Gharaei & Almehdawe, 2021; Li et al., 2009). The unified control of processes and actors maximizes asset utilization internally and internationally by centralizing operations, management, and strategic choices (Flynn et al., 2010). As a result, SCI uses SCP by capturing transparency in the flow of products and information from raw material procurement to the end-user, resulting in more flexibility, shorter lead times, better inventory, and more dependable delivery (Flynn et al., 2010).

Moreover, higher levels of information technologies (IT) involved in the communication and transaction of supply chain members could strengthen security and reliable supply chain activities and facilitate coordination among supply chain partners (Cheng et al., 2010). Furthermore, SCI-enabled IT infrastructure offers fast, accurate, and trustworthy information, enabling easier and low-cost communication with less ambiguity (Gharaei et al., 2020; Li et al., 2009). Hence, SCI improves SCP by transferring real-time, reliable, accurate information across supply chain partners externally and within the functions of an individual organization. Therefore, in this study, we evaluate the hypothesis:

Hypothesis 3: Integration supply chain has a positive effect on the performance of the supply chain.

2.4. Management commitment

Having less commitment or lack of management commitment is one of the most reasons for the failure of supply chain management (Brown et al., 1994). Also, this lately management commitment has been identified as the most important element of service success, particularly service recovery (Babakus et al., 2003). A Management Commitment implies the direct participation of the highest management (top management) in all specific and critically important aspects such as an organization's safety, quality, environment, security, or programs . It is important that the responsibility for leadership and for creating the environment of continuous improvement belongs to all levels of management and members, but mainly to the highest. Also, we can identify management commitment as a critical element of supply chain performance. Commitment in an organization's management can drive that organization to a path that organization can reach its objectives and goals. As Deshpande (2012) mentioned in his research, supply chain management performance is defined as the multiple measures of performance developed by the organization to

measure the ability of a supply chain to meet an organization's long-term and short-term objectives. So to have better performance in the supply chain, we must have a good commitment in our management.

The development of an organization is impossible without management commitment, and there are many different reasons for this. We have to assess the importance of management commitment to supply chain development from two different viewpoints for better understanding. Firstly, we will look at supply chain management as a service. Secondly, we will use the supply chain operation reference (SCOR) model. Recovery is a significant challenge if we look at supply chain management as a service. How can the supply chain recover and continue to develop after a significant breakdown in the network? According to research (Babakus et al., 2003; Karimi, 2019), management commitment is a determinant of frontline employee service, thus critical to service quality. Furthermore, management inputs are vital to service recovery from a workers' standpoint because they assist in training and development, empowerment, and reward/recognition. "When a work involves a major component of actions that are unknown in advance but demand innovative personal judgment and rapid attention by the individual, empowerment is crucial" (Bullington, 2007; Karimi, 2019). Certainly, many supply management professionals fit this description.

The SCOR model offers even more reasons why management commitment is critical to supply chain development. Plan-Source-Make-Deliver-Return are the model's processes. Each process is addressed at four levels in the model: top-level, configuration level, process element level, and implementation level. However, the impacts of management commitment may be seen in the planning process and the environmental impacts at the top level of all processes. Therefore, all process categories need planning and enabling processes identified in the SCOR Configuration Toolkit. Furthermore, the planning and enabling processes are heavily influenced by top management (Bullington, 2007; Gharaei et al., 2018). Thus, we posit the hypothesis:

Hypothesis 4: Commitment of management levels has a positive effect on the performance of the supply chain.

2.5. Performance measurement in nonprofit organizations

Result-oriented performance perspective dominates the public and nonprofit sectors (C. Lee & Nowell, 2015). However, performance language has recently become more common, especially in public sector organizations. It has even developed within the public sector to a greater extent as they have started collecting, reposting and praising organizational performance (Hennes, 2018).

Performance ensures adequate production of results while keeping organizations relevant and active in society. Through performance in nonprofit organizations, the challenges faced by communities and people are connected to agency programs and policies. In addition, performance increases public trust in nonprofit organizations because it helps agencies contribute to society's welfare (Berman, 2015). Performance is an interaction among leaders, clients, and many other stakeholders (Hennes, 2018). It stands for efficient and effective use of resources to achieve results, and it can be obtained through performance management and performance measurement.

Nonprofits use fewer financial measures because they do not endeavor to profit. However, since other aspects exist, nonprofits are capable and interested in measuring performance. Medina-Borja and Triantis say that "the survivability of non-profit social service organizations is contingent upon their capability of measuring and evaluating performance" (Larsson & Kinnunen, 2008).

The National Council for Voluntary Organizations has produced several studies on performance measurement in the voluntary sector in the UK. In one of those studies, Wainwright concludes that many tools to measure impact are available for voluntary organizations (Wainwright, 2002). In

addition, performance measurement systems from the private sector have been adopted to fit nonprofit organizations. For example, Kaplan has adopted the Balanced Scorecard to fit these organizations better. However, one significant difference between nonprofits and for-profits is that nonprofits have more intangible goals and services and are harder to define. Thus, measuring performance provides a greater challenge for nonprofits (Larsson & Kinnunen, 2008).

Even though nonprofits lack pressure from shareholders to show the value created by the organization, there is pressure to show how well they perform, which derives from a wide range of stakeholders. Zimmermann and Stevens studied 149 nonprofit organizations in South Carolina, and their findings show that the requirement from external stakeholders was the most frequent motivator and reason for measuring performance. The second most frequent motivator was in order to increase accountability and effectiveness. Performance measurement was also motivated to get more funding and improve services (Larsson & Kinnunen, 2008).

Another study by Sawhill and Williamson also presents several reasons nonprofits should measure performance. First, nonprofits can use performance measurement to obtain control of local office efforts and get the whole organization to work towards the same mission and goals. Managerial skills are needed in order to be able to incorporate these benefits. Moreover, performance measurement can be used for other purposes, such as influencing public attitudes. Finally, Sawhill and Williamson have noticed an emerging marketing trend that suggests nonprofit organizations take advantage by presenting performance measurement results to stakeholders to serve as an effective marketing tool (Sawhill & Williamson, 2001).

Performance measurement in nonprofits can be costly and consume a lot of time and resources, making performance measurement challenging to motivate sometimes since resources often are scarce in nonprofits. Further, it is hard to motivate performance measurement if one is unsure that it will improve performance (Robson, 2004). Moreover, because of the nature of the nonprofit sector, we assume that it is even more problematic in these situations. The number of nonprofit organizations has increased steadily in the last few years. The nonprofit sector has continued to grow while providing critical social services and other acts of assistance (Baruch & Ramalho, 2006). These nonprofit organizations worldwide respond to public needs that cannot be met by governments or businesses (McHargue, 2003).

An extensive spectrum of values, resources, mission areas, and history is found in the nonprofit field worldwide. These legal entities, which function from the desire to make communities, cities, states, countries, or the world a better place, are generally founded for educational, charitable, and civic purposes. Consequently, a nonprofit organization's structure, size, and programming can vary remarkably based on the mission and the purpose (Hennes, 2018).

Organizations that are not profit-maximizing are mainly referred to as third-sector organizations (Moxham, 2009). Therefore, many of these global nonprofit organizations rely strongly on external funding to ensure that they can continue their work and provide social services (Papadimitriou, 2007). Unlike profit organizations, nonprofit organizations' goals are not to create profits. They will never simulate businesses that can measure their success solely based on economic terms because there is no profit-maximizing focus. Instead of distributing its revenues to owners and stakeholders, nonprofit organizations use their surplus revenues to achieve their mission. A nonprofit organization's revenue consists of the funds that are received from private donors, corporate donations, government grants, foundations and fees received for the delivery of programs and services (Baruch & Ramalho, 2006; Boland & Fowler, 2000; Zimmer, 2010).

3. Methodology

The research object of this study is NPOs and NGOs located in Afghanistan's two major cities Herat and Kabul. According to the Ministry of Economics of Afghanistan, there are 1,387 active NGOs in Kabul and 85 active NGOs in Herat. Moreover, 22 United Nations NPO agencies in Afghanistan, as

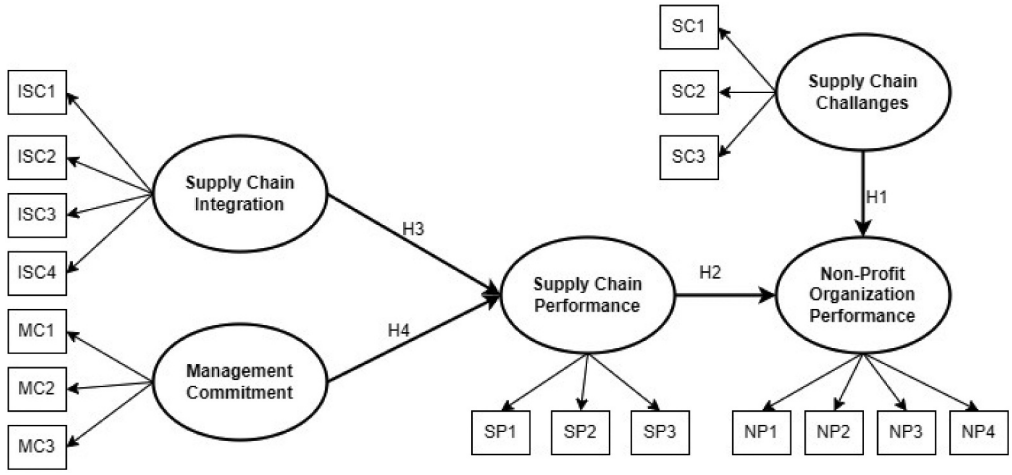


Figure 1. Research framework and Hypothesis.

stated on the UNHCR website. All top-level, middle-level, and lower-level managers were selected on a random sampling method, and out of 94 sample sizes, 55 questionnaires were returned and filled. A confirmatory research design is used in this study, and based on the focus of this study, a quantitative technique is adopted as a research design. Questions in this term focus on the supply chain integration, management commitment, and supply chain challenge to nonprofit organizations' performance.

The research framework developed in this study investigates the effect of supply chain integration, management commitment, and supply chain challenges on Afghanistan's nonprofit organizations' performance. In this study, 34 questions were sent to the respondents about integrations, supply chain, management commitment, supply chain challenges, and NPO performance. Four hypotheses were developed based on the research model plan framework. Integration supply chain, management commitment, supply chain performance, and supply chain challenges are the independent variables and NPO performance, on the other hand, is the dependent variable.

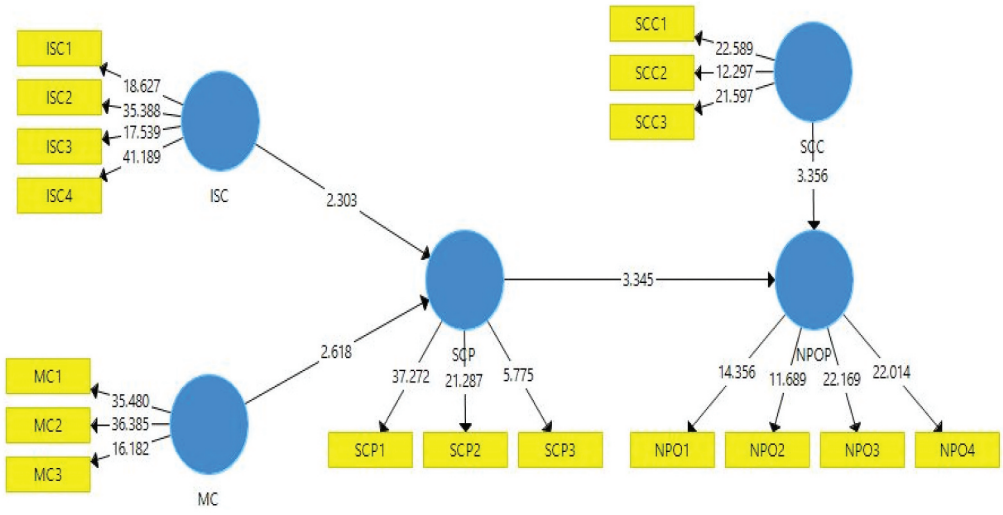
PLS-SEM analysis is used in this study to analyze all constructs between latent variables. This study is formed by the manifest variable (indicator) reflective model and the framework illustrated in Figure 1. There are two types of model fit criteria in PLS-SEM: outer and inner models. The outer model is a measurement of the relationship between variables and manifest variables in terms of validity and reliability; in other words, the outer model's suitability evaluates the measurement model, whereas the inner model is more about regression to assess the effect of one variable on other variables (construct) or it is known as the structural model evaluation (J. F. Hair et al., 2011).

4. Results and discussion

4.1. Demographic information of the respondents

Based on the data we obtained from the questionnaire of this study (Table 1), 76.4% of respondents were males, whereas; just 23.6% of our respondents were females. Of 55 respondents, 49.1% were aged 31–45, and 34.5% were aged 26–3. However, 12.7% were youngsters aged 18–25, but just two persons, 3.6%, were older people aged 46–60. More than half of our respondents' educational level was a bachelor's degree, consisting of 52.7%, and just 3.6% of our respondents held a doctoral degree. About 27% of our respondents had a basic level of 1–5 years of work experience in the management field or organization. More than one-third of them had sufficient work experience of 5–10 years, and just 16.4% had more than 15 years of work experience. More than half of our target respondents were employees of International NGOs, 29.1% were working in National NGOs, and just 14.5 percent were working with United Nations Agencies. The highest portion of our respondents is working in Middle-level management, 54.5 percent. Extraordinarily

Figure 2. Final structural model partial least square (PLS) .



few top-level management people are responding to our questionnaire and, to be exact, 18.2 percent of them.

The reliability test results indicate that the Composite Reliability and Cronbach's alpha value of all the constructs of this study are more than 0.70, as seen in Table 2. Therefore, it shows that all constructs are reliable and can proceed to the next step. This study uses the standard value of composite reliability ≥0.60 (Nunnally & Bernstein, 1994), standard Cronbach's α ≥ 0.70 (Allen & Yen, 1979), and average variant extracted (AVE) ≥0.50 (J. J. F. Hair et al., 2016). The results of the outer loading test results to examine the data constructs' validity and reliability of the data constructs are shown in Table 3. It shows that all constructs are valid.

This study uses determination coefficient analysis (R^2) to determine the influence of the independent variable on the dependent variable, the value of the coefficient of determination can be shown in Table 4 (J. F. Hair et al., 2011; J. J. F. Hair et al., 2016).

The value of the coefficient of determination or R-square of the supply chain performance variable is 0.582 (58.2%), meaning that the supply chain integration variable can explain the variance of the supply chain performance variable and management commitment variable by 58.2%, and the remaining 41.8% explained by other variables outside of this study. The value of R-square on the non-profit organization performance variable is 0.659 (65.9%). It means that the variance of the non-profit organization performance variable can be explained by the supply chain performance variable and supply chain challenges of 65.9%. Other variables outside the study explain the remaining 34, 1%. Figure 2 show the final structural model from partial least square (PLS).

Hypothesis 3: Integration supply chain has a positive effect on the performance of the supply chain

The first Hypothesis test, whether integration supply chain has a significant positive effect on supply chain performance, shows that the T-statistic is 2.303. It is more than 1.96, and the P-value of the first hypothesis is 0.022, which is less than 0.05. Based on hypothesis testing using SmartPLS3, it can say that the first hypothesis is accepted. It means that supply chain integration significantly impacts supply chain performance. The results also support the study of (Mansoori et al., 2014), which indicates that supply chain integration help to share information between all the supply chain members, leading to solidarity and coordination among all supply chain partners.

Table 1. Demographic information of the respondents

Gender	Frequency	Percentage
Male	42	76.40%
Female	13	23.60%
Total	**55**	**100%**
Age		
18–25	7	12.70%
26–30	19	34.50%
31–45	27	49.10%
46–60	2	3.60%
Total	**55**	**100%**
Education Level		
Diploma	5	9.1%
Bachelor	29	52.7%
Master	19	34.5%
Ph.D.	2	3.6%
Total	**55**	**100%**
Year of Service		
1_5	15	27.30%
5_10	19	34.50%
10_15	12	21.80%
More than 15	9	16.40%
Total	**55**	**100%**
Type of Organization		
United Nations (UN) Agencies	8	14.50%
International NGOs	31	56.40%
National NGOs	16	29.10%
Total	**55**	**100%**
Level of management		
Top level management	10	18.20%
Middle level management	30	54.50%
Lower level management	15	27.30%
Total	**55**	**100%**

Table 2. Reliability test

Variable	Composite Reliabilty	Cronbach's Alpha	Remarks
IS	0.939	0.913	Reliable
MC	0.927	0.882	Reliable
NPOP	0.910	0.868	Reliable
SCP	0.872	0.776	Reliable
SCC	0.870	0.779	Reliable

Moreover, the findings align with a study by Piprani et al. (2020), who found that supply chain integration contributes to supply chain performance sustainability through supply chain resilience. In the context of a non-profit organization, Ngoto and Kagiri (2016) believed that supply chain partners' integration and relationship considerably affect supply chain management performance

Table 3. Validity test

Variable	Composite reliabilty	Cronbach's Alpha	AVE	Remarks
IS	0.939	0.913	0.794	Reliable and valid
MC	0.927	0.882	0.809	Reliable and valid
NPOP	0.910	0.868	0.717	Reliable and valid
SCP	0.872	0.776	0.691	Reliable and valid
SCC	0.870	0.779	0.695	Reliable and valid

Table 4. Determination test result

Variable	*R-square* (R^2)
Non-profit organization performance	0.659
Supply chain performance	0.582

Table 5. Path coefficient

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistic	P-value
ISC -> SCP	0.364	0.395	0.158	2.303	0.022
MC -> SCP	0.451	0.424	0.172	2.618	0.009
SCC -> NPOP	0.449	0.435	0.134	3.356	0.001
SCP -> NPOP	0.445	0.463	0.133	3.345	0.001

through non-governmental organizations. In addition, Ataseven et al. (2020) found that external and internal integration strongly influence supply chain performance for not-for-profit food banks.

The results in the first hypothesis show the integrated supply chain information sharing indicator, which had the most negligible significant value in the statistics results. This could be the level of NGOs involved in this study. It is shown in Table 6 that 70.90 percent of the respondents are from international NGOs located in Afghanistan (14.50% of United Nations NGOs and 56.40% of international NGOs). Huong Tran et al. (2016) stated that most top management of organizations perceived that information sharing across external supply chain interfaces could be risky for competition reasons. Moreover, (Zhang & Li, 2006) believed that although information sharing in supply chain networks is critical for improving supply chain performance, however many organizations are reluctant to share information with their supply chain partners. This is due to the fear of confidential information leakage, lack of trust, and security attack risks. Table 5 show the path coefficien from each hypothesis.

Hypothesis 4: Commitment of management levels has a positive effect on the performance of the supply chain.

The results of the statistics calculation show that commitment of management levels has a positive effect on the performance of the supply chain. It is proven by the value of the T-statistic of the hypothesis is 2.618 (more than 1.96), and the P-value is 0.009 (less than 0.05). So from the results, we can acknowledge that commitment of management levels positively impacts supply chain performance. The finding of this study is also relevant to the results of the

Table 6. Definition of operational variable

Variable	Definition	Indicator
Supply chain challenges	Supply chain challenges are different in different countries and organizations (Rajah et al., 2018). When we talk about supply chain management, we also pertain to product development, sourcing of materials, production of quality goods, and logistics. By knowing the activities involved in the scope of supply chain management, we can also identify the possible challenges.	a. Government Regulation b. Customer pressure c. Internet
Supply chain management performance	Performance measurement is fundamental as a strategic tool and provides means to achieve the objectives required, fulfilling a firm's mission/strategy statement. Consequently, many firms have evaluated performance primarily based on cost and efficiency (Skinner, 1971).	a. SC delivery flexibility b. Inventory Cost c. Customer Responsiveness time
Supply chain integration	Supply chain integration involves information sharing, planning, coordinating, and controlling materials, parts, and finished goods at the strategic, tactical, and operational levels (Stevens, 1989).	a. Sharing information b. Planning c. Controlling materials d. Coordinating materials
Management commitment	Management commitment is a critical element of supply chain performance. It implies the direct participation by the highest level of management (top management) in all specific and critically important aspects such as safety, quality, environment, security, or an organization's programs (Bullington, 2007).	a. Top-level management. b. Middle-level management. c. Lower level management.
Non-profit organizations performance	Performance increases public trust in nonprofit organizations because it helps agencies contribute to society's welfare (Berman, 2015). Performance is an interaction among leaders, clients, and many other stakeholders (Hennes, 2018). It stands for efficient and effective use of resources to achieve results. It can be obtained through performance management and performance measurement.	a. Public trust. b. Efficient and effective use of resources. c. Community service. d. Funds and donors.

study by Masudin, Wastono, et al. (2018) and Leksono et al. (2020). They found that management initiative and top management commitment positively influence the organization's supply chain performance. From the perspective of a non-profit organization, Del Pilar Quiroz Galvan et al. (2021) believed that transactional, integrative, and transformational management plays a significant role in non-profit-oriented organization sustainable performance. Moreover, Poligadu and Moloo (2014) indicated that management and stakeholders' commitment is the predictor of non-profit organization performance, including supply chain performance.

Lower-level managers had the least value of the three indicators measured by management commitment. It could be because of fewer respondents from lower-level managers than from top-

level and middle-level. Some studies indicated that the top management level plays the most critical role in strategic decision-making, including adopting supply chain management. Sandberg and Abrahamsson (2010) described four archetypes for top management roles: supply chain thinker, relationship manager, controller, and organizer for the future. Moreover, Masudin, Ramadhani et al. (2021) found that top management commitment positively moderated the relationship between the adoption of supply chain practices on food cold chain performance.

Hypothesis 1: Supply chain challenges have a significant influence on the performance of Non-profit organization

The results from the SmartPLS application indicate that the T-statistic of supply chain challenges to non-profit organization performance is 3.356, which is much more than 1.96, while the p-value is 0.001 (less than 0.05). It concludes that supply chain challenges significantly affect non-profit organization performance. The results support a study done by Rifani and Balqiah (2017) about "The impact of strategic planning implementation on nonprofit organizations performance effectiveness," which indicates that non-profit organizations need to respond to challenges in dynamic environmental forces that can be a threat to organizations. Forces such as government policies and regulations complicate the process for nonprofits to implement strategic planning. The results of this study are also in line with the study of Ngoto and Kagiri (2016). They indicated that the complexity of supply chain networks is the most challenging factor for non-profit organizations to improve performance. Another study by Masudin, Lau et al. (2021) showed that smart technology information is a crucial challenging factor for a better performance of humanitarian logistics organizations. Moreover, Masudin, Safitri et al. (2020) also found that the quality of humanitarian logistics technical services is one of the required variables by the customer to improve the performance of humanitarian logistics providers.

Among three indicators of supply chain challenges, government regulation has the most significant value in affecting organizational performance. The reason for this could be the numerous numbers of International and National NGOs and NPOs and their obligation to follow regulations set by the local government of Afghanistan. In addition, the international NGOs and NPOs in Afghanistan also have obligations to follow their government and international regulations. Zhu et al. (2011) stated that government regulation is the most challenging factor for international organizations to improve their performance. Moreover, Antoni et al. (2020) indicated that the environmental performance of the organizations should meet government regulations.

Hypotheses 2: Supply chain performance has a significant influence on the performance of Non-profit organization

The statistics results shown in Table 4 indicated that the value of the t-statistic of the relationship between the variable of supply chain performance and non-profit organization performance is 3.345 (higher than 1.96), and the p-value is 0.001, which is far less than 0.05. From the results, it can be concluded that supply chain performance significantly affects non-profit organization performance. The relationship between those two variables is in line with prior studies such as Beamon and Balcik (2008). They found that measurement performance for the humanitarian relief supply chain could bring feedback on agency performance and motivate employees to work better. Jamous and Müller (2013) also indicated that supply chain management performance could help non-profit organizations improve environmental performance. Moreover, it is believed that the firm performance is enabled by supply chain activity performance (Butt et al., 2021; Masudin, Jie et al., 2020).

The findings of the relationship between supply chain performance and non-profit organization performance also found that out of three indicators of supply chain performance, supply chain delivery flexibility had the greatest value among other indicators. It means that the respondents of non-profit and humanitarian organizations realize that the relief works in the country of Afghanistan require a responsive delivery in supply chain practices. This is relevant to prior studies by Cozzolino (2012) and Shafiq and Soratana (2019), indicating that delivery issues in humanitarian supply chain practices are the most crucial factors in supply chain performance.

4.2. Managerial implication

Managerial implication is expected to contribute to improving the performance of supply chain and non-profit organizations by giving some recommendations. It is based on the indicators with the factor loading values exogenous variables that raise issues regarding the policy recommendation to stakeholders involved in the case study. The first issues are lack of trust, security, and leakage risks of information sharing among the supply chain partners. The NGOs should develop trust in sharing information among their partners and the supply chain network. Information technology could be the option to improve the trust of NGOs in sharing their information with supply chain partners. Birkel and Hartmann (2019) found that information technology could improve trust and security between vocal organizations and their supply chain partner in information sharing. Moreover, Bechini et al. (2008) believed that traceability technology could improve data sharing security and reduce the risk of leakage or malicious cyber attracts. Other studies show that blockchain technology could be applied in information sharing with high-security protocols within supply chain members. Masudin, Ramadhani, and Restuputri (2021) found that blockchain, electronic data interchange (EDI), and radio frequency identification (RFID) could improve the security of information sharing within the member of the supply chain.

The finding of this study also indicates that only top management plays a crucial role in the supply chain performance of an organization. Implementing a supply chain strategy in an organization requires the involvement of all management levels at any time. Therefore, non-profit organizations should enhance cross-functional communication to upgrade managers' and employees' understanding of supply chain management strategies. Rao Tummala et al. (2006) indicated that cross-functional communication between the management levels could be implemented for better management commitment. Moreover, Eng (2006) believed that cross-functional coordination could mediate the linkage between organizational norms and supply chain performance. Other studies also indicated that inter-organizational coordination among management levels could help the organization achieve the highest supply chain success (Fawcett et al., 2006).

This study shows that regulation is the most challenging factor for non-profit organization performance. The Afghanistan government should support NGOs in running their relief activities. The government could support NGOs by providing technical assistance such facility and infrastructure. The infrastructure related to high-speed internet access would help NGOs develop information technology regarding information sharing among SCM members. Babenko et al. (2020) indicated that high-quality and high-speed internet access should be provided for the sustainable supply chain management. Moreover, Graham and Hardaker (2000) believed that internet infrastructures are an essential communication facility in supporting organizational performance.

5. Conclusion

This study investigates the linkage of supply chain integration and management commitment to supply chain performance. It also discusses the relationship between supply chain performance on non-profit organizational performance in Afghanistan. This study revealed that supply chain integration has a positive effect on supply chain performance, meaning that consistent integration through the supply chain can enhance the performance of the supply chain in a particular product or service. Moreover, management commitment positively affects supply chain performance, which means the more committed management levels are, the more supply chain performance

will increase. Other findings of this study also indicate that supply chain challenges significantly influence nonprofit organization performance. It means that supply chain management challenges can negatively affect non-profit organizations' performance. Finally, supply chain performance has a significant effect on nonprofit organization performance. Thus, the higher the supply chain performance, the more performance of non-profit organizations.

This study's findings can guide the NGOs and Afghanistan government to cooperate well, specifically when government regulation is the biggest challenge facing NGO's supply chain management. The limitation of this study is that due to the current situation in Afghanistan and considering Afghanistan as a warzone country, the data collection is becoming challenging in this study. Moreover, regarding the warzone and politics, non-profit NGOs in Afghanistan frequently face emergencies that might affect their supply chain implementation. Thus, for further study, it is essential to develop the model by adding more external variables to see their impact on NGOs' performance. For further research, it is believed that many international non-profit organizations in developing countries have different supply chain strategies and networks based on the type of organizations. Thus, further investigation could be focused on the specific non-profit organization's supply chains.

Funding
The author(s) reported there is no funding associated with the work featured in this article.

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Disclosure statement
No potential conflict of interest was reported by the author(s).

Citation information
Cite this article as: The effect of supply chain integration, management commitment and supply chain challenges on non-profit organizations performance: Empirical evidence from Afghanistan, Sayed Momin Hashemi, Eko Handayanto, Ilyas Masudin, Fien Zulfikarijah & Muhammad Jihadi, *Cogent Business & Management* (2022), 9: 2143008.

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Cogent Business & Management **(ISSN: 2331-1975) is published by Cogent OA, part of Taylor & Francis Group.**