

FACTORS IMPACTING SUSTAINABLE PROCUREMENT IN THE PHARMACEUTICAL SECTOR: AN EMPIRICAL INVESTIGATION

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Abstract

Despite the numerous advantages of sustainable procurement practices (SPP), there is a dearth of research on embracing the SPP in the pharmaceutical sector in India. The purpose of this study is to address this research gap and investigate the antecedents that affect SPP adoption within the organizations in the pharmaceutical sector in India. The hypotheses in the conceptual framework were evaluated using partial least square (PLS)-based structural equation modelling. The data was collected from 154 respondents using a 7-point Likert scale ranging from "strongly agree" to "strongly disagree". The results indicate the positive impact of top management support, regulatory pressure, competitive pressure, and organizational creativity on SPP adoption in the pharmaceutical sector in India. The present study provides valuable insights into the antecedents that affect SPP adoption within organizations in the pharmaceutical sector. The findings will help policymakers and practitioners in their efforts to promote and facilitate SPP adoption.

Keywords: Top management, Competitive pressure, Organizational creativity, Regulatory pressure.

Introduction

Sustainable business practices emphasize the requirements of the current and future generations while taking care of the economic and societal conditions (Dyllick & Hockerts, 2002). Many firms have started focusing on sustainable business practices (Agrawal & Lee, 2019; Birkin et al., 2009), especially in the area of an organization's supply chain, including its buying or procurement practices (Kannan, 2021). "Purchasing, also called procurement, is the process by which companies acquire raw materials, components, products, services or other resources to execute their operations" (Chopra et al., 2010 pp.460). The benefits of sustainable development cannot be realized without improving sustainable procurement practices (Zaidi et al., 2018). Sustainable procurement is "*consistent with the principles of sustainable development, such as ensuring a strong, healthy and just society, living within environmental limits, and promoting good governance*" (Walker & Brammer, 2009pp.128). In other words, as a practice sustainable procurement seeks to acquire goods and services that have a beneficial impact over their whole lifecycle. (ISO, 2017).

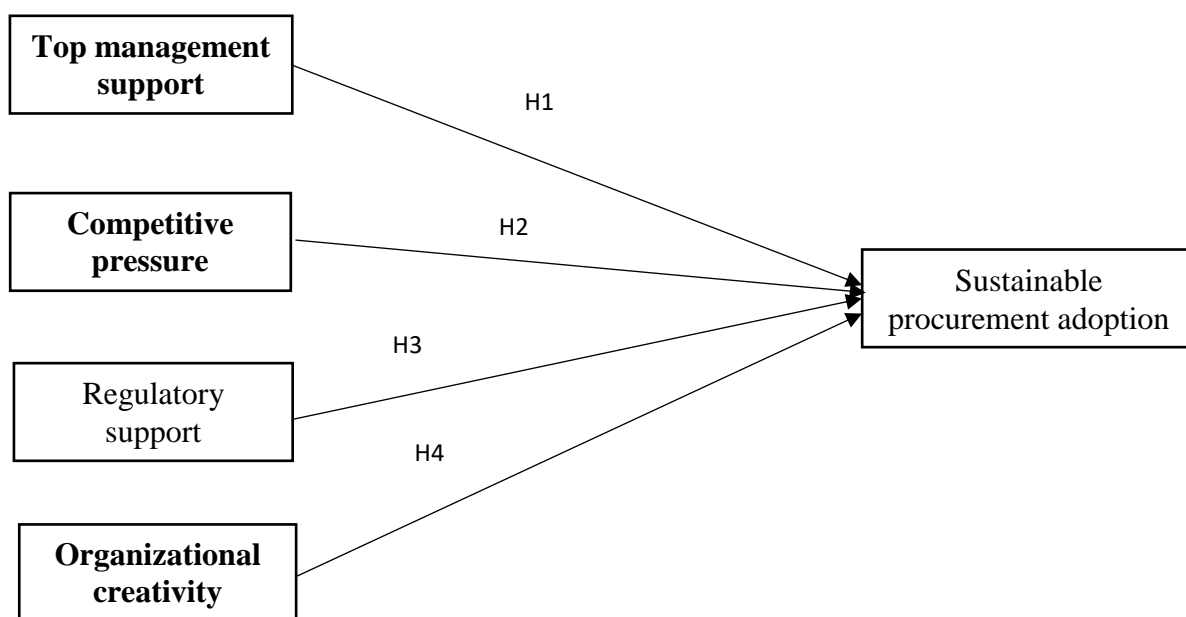
To attain sustainable development, sustainable procurement practices (hereafter, SPP) within the organizations is essential (Hasselbalch et al., 2014; Kannan, 2021; Zaidi et al., 2019). SP is defined as: "*A process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment*" (Force, 2006, pp.10). Over the last decade, SPP implementation

has increased in many industries and countries (Opoku et al., 2022). This is driven by several factors, including reducing environmental impact, improving social and ethical standards, and addressing rising costs.

Sustainable procurement in the pharmaceutical sector refers to sourcing and procuring materials, products and services to minimize negative environmental and social impacts. It also includes maximizing the positive impacts of procurement on people, planet and profits. The benefits of sustainable procurement for pharmaceutical companies include reduced costs, improved brand reputation and increased customer satisfaction. Sustainable procurement can also help companies meet their regulatory obligations and comply with industry standards. The sector is also facing increasing costs, putting pressure on margins. Over the years, the Indian pharmaceutical industry has experienced remarkable expansion and significantly impacted the worldwide market. Indian pharmaceutical sector satisfies more than fifty percent of the world's vaccination demand for several medicines, 40% by generic manufacturers in the United States, and 25% by all pharmaceutical manufacturers in the UK (IBEF, 2022). India is the world's largest supplier of generic medicines and is renowned for its inexpensive vaccines and generic medicines. The Indian pharmaceutical business has grown at a CAGR of 9.43% over the last nine years (IBEF, 2022).

With increasing pressure on the sector to adopt SPP, limited studies highlight the factors supporting adopting sustainable procurement practices in the pharmaceutical sector. Further, Opoku et al. (2022) highlighted that SPP is far behind in developing countries compared to developed countries. Several factors, such as regulations, lack of funding, knowledge, and awareness, affect the adoption of SPP (Opoku et al., 2022; Ruparathna & Hewage, 2015). Numerous studies focus on the barriers (Zaidi et al., 2018) and drivers (Ruparathna & Hewage, 2015; Walker & Brammer, 2009) of the SPP. However, to the best of the author's knowledge, no study yet focuses on investigating the relationship between the factors affecting the SPP within the organization in the pharmaceutical sector in India. Some notable exceptions are Roman's (2017) study, which explores the conditions under which SPP can be engaged and prioritized within the organization. The data was collected from US public agencies. However, the study has not considered different pressures from the stakeholders to adopt SPP within the organizations. Therefore, the study aims to investigate the antecedents that affect SPP adoption within the organizations in the pharmaceutical sector in India. The hypotheses are shown in Figure 1.

Figure 1: Conceptual framework



Top management support is critical for successfully implementing SPP within an organization. SPP is the practice of purchasing products and services with minimal negative environmental impact. Several studies have

demonstrated that top management plays a critical role in enhancing SPP adoption (Koster et al., 2017; Walker & Brammer, 2009; Zaidi et al., 2018). As such, top managers need to be aware of the environmental impacts of the products and services their organization procures and to minimize these impacts. Therefore, the following hypotheses is suggested:

H1: Top management support contributes significantly and positively relates to sustainable procurement adoption

Competitive pressure has been widely acknowledged as a powerful stimulant in the literature on innovation, and diffusion (Lin & Lin, 2008). Competitive pressure is the pressure organization feels from its competitors (Zhu et al., 2003). The competitive pressure to improve sustainable procurement adoption is becoming increasingly intense. With the ever-growing awareness of the importance of sustainability, organizations are under increasing pressure to adopt more environmentally friendly practices. One key area where this pressure is being felt is procurement, where organizations are being asked to source more environmentally friendly products and services. Research reported a positive relationship between competitive pressure and SPP (Appolloni et al., 2014; Opoku et al., 2022). Therefore, the following hypotheses is suggested:

H2: Competitive pressure contributes significantly and positively relates to sustainable procurement adoption.

The successful implementation of sustainable procurement practices requires strong regulatory support. A number of studies have shown that firms are more likely to engage in sustainable procurement when laws or regulations mandate or encourage such practices (Brammer & Walker, 2011; Opoku et al., 2022; Zaidi et al., 2018). This is likely since firms perceive regulatory support as a signal of the importance of sustainability and, thus, are more likely to invest resources in SPP.

H3: Regulatory support contributes significantly and positively relates to sustainable procurement adoption .

Organizations must pay attention to innovation and creativity, which are closely related and essential for organizations. In organizations, creativity means generating new ideas, while innovation means implementing these ideas successfully (Gaspersz, 2005; Woodman et al., 1993). Thus, creativity acts as a catalyst for innovation (Amabile, 1998). An organization's ability to innovate products, processes, or services depends on managing creativity as an organizational phenomenon and understanding how to generate new ideas (Fetrati et al., 2022). The organization's innovation capacity is a prerequisite for SPP's effective and successful implementation. On the other hand, introducing new processes within the organization generally comes with challenges and opportunities, resulting in changes to managerial practices and new organizational structures. Hence, the following hypotheses is suggested:

H4: Organizational Creativity contributes significantly and positively relates to sustainable procurement adoption.

Methodology

PLS-based SEM was used to test the relationship (hypotheses) proposed in this study. PLS was preferred due to its ability to predict relationships between variables (Urbach & Ahlemann, 2010). PLS provides theoretical parsimony and reduces model complexity (Wamba & Akter, 2019).

Measurement scales

A structured questionnaire was used to capture the variables in this study. A thorough review of relevant literature on credible published studies was conducted. The measurement scales employed in this research were adapted from past research. The items were modified to reflect sustainable procurement in the pharmaceutical sector. Top management support was measured using 4 item scale (Chen et al., 2015). Competitive pressure was measured on 4 item scale. Regulatory support was measured on 3 items scale (Mikalef et al., 2022). Organizational creativity was measured on 5 items scale (Mikalef & Gupta, 2021). Sustainable procurement adoption was measured on 3 items scale (Tu, 2018).

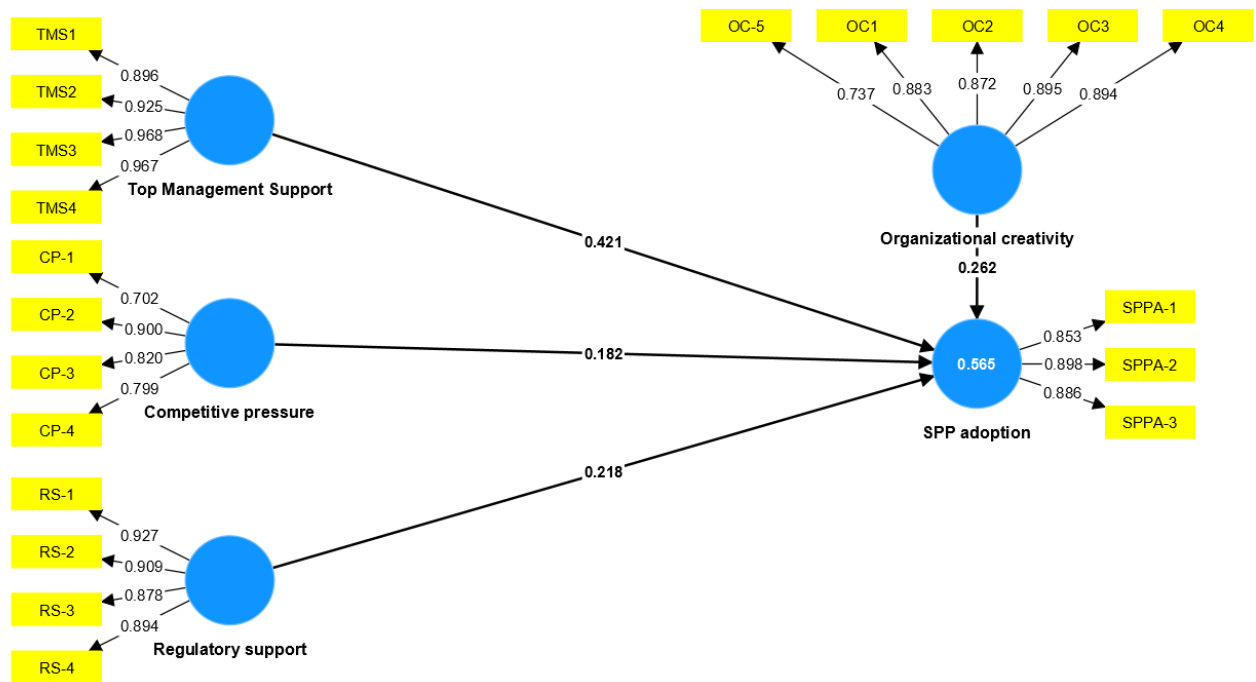
Data collection

Three hundred forty questionnaires were distributed, and in the final analysis, 154 usable responses were utilized for the study (45 % response rate). The current study's minimal sample size, calculated using a 5% error rate is in line with the earlier studies on PLS SEM. The sample size is deemed sufficient for the PLS-based SEM empirical analysis. Therefore, we can proceed with the data analysis.

Results

The constructs were evaluated for reliability, convergent validity (CV), and discriminant validity (DV). The factor loading for each item is more than 0.7 (See Figure 2), ensuring the item level's reliability. The value of Cronbach's alpha (CA) and composite reliability (CR) for all constructs was more than 0.70, ensuring the reliability at the construct level (Nunnally, 1994). High CR and significant factor loading ensure CV. It is recommended that the square root of AVE exceeds the coefficients of correlation with other constructs (Fornell & Larcker, 1981), ensuring DV.

Figure 2: Hypotheses testing results



The findings of structural equation modelling are indicated in Table 1. The results demonstrate the positive impact of top management support, competitive pressure, regulatory support and organizational creativity on sustainable procurement adoption in the pharmaceutical sector. Thus, accepting hypotheses H1, H2, H3 and H4.

Table 1: Hypotheses testing results

Hypotheses	Path coefficient	P values	Result
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H1: Top management support -> Sustainable procurement adoption	0.421	0.000	Supported
H2: Competitive pressure -> Sustainable procurement adoption	0.182	0.004	Supported
H3: Regulatory support -> Sustainable procurement adoption	0.218	0.002	Supported
H4: Organizational creativity -> Sustainable procurement adoption	0.262	0.000	Supported

Discussion and implications

There is a growing awareness of the need to adopt SPP to protect the environment and ensure long-term economic stability (Molin et al., 2021; Roman, 2017). As a result, many organizations are looking for ways to incorporate sustainability into their procurement processes (Walker et al., 2012; Walker & Brammer, 2009). The study findings indicate the positive impact of top management support, competitive pressure, regulatory support and organizational creativity on sustainable procurement adoption in the pharmaceutical sector.

There are a number of ways in which top management can support SPP within their organization (Koster et al., 2017). Firstly, they can provide clear guidance and direction to procurement staff on the organization's commitment to reducing its environmental impact. This could include setting targets for reducing emissions or waste or increasing the proportion of renewable energy used by the organization. Secondly, top management can ensure that environmental criteria are included in tenders and contracts for goods and services. This will ensure that suppliers are aware of the organization's expectations about environmental performance. Finally, top management can use their position within the organization to champion SPP and raise awareness for employees.

Sustainability is becoming essential in how organizations are evaluated and chosen by stakeholders (Appolloni et al., 2014). As a result, many organizations feel pressure to adopt sustainable procurement practices to remain competitive (Gholizadeh et al., 2020). This is also driven by a growing awareness of the environmental and social impact of business operations and the desire to improve organizational performance and competitiveness. The pressure from stakeholders is having a real impact on businesses. Many are now seeing the benefits of sustainable procurement, such as reduced costs, improved brand reputation, and increased customer loyalty. There are a number of reasons why stakeholders are pressuring businesses to adopt sustainable procurement. Firstly, they want to see businesses reduce their environmental impact. Secondly, they want to ensure that the products and services they purchase are not contributing to environmental degradation. And thirdly, they want to support businesses that are taking steps to protect the planet.

As governments and businesses start recognizing the benefits of sustainable procurement, they are beginning to implement policies and regulations to support its adoption (Oruezabala & Rico, 2012; Rahman & Subramanian, 2012; Walker & Brammer, 2009). For example, many governments now require their suppliers to meet specific sustainability criteria. This provides a strong incentive for businesses to adopt sustainable procurement practices. The private sector is also playing an essential role in promoting sustainable procurement. A number of leading companies have committed to adopting sustainable procurement practices and are sharing their knowledge and expertise with others. This is helping to create a market for sustainable products and services.

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