Management & Sustainability: An Arab Review

Fostering sustainability in industrial SMEs in developing countries: the mediation role of strategic flexibility

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Abstract

Purpose – The primary objective of this study is to examine the direct impact of independent variables – systematic strategic planning, strategic business innovation (SBI) and competent human capital (CHC) – on the sustainable performance (SP) of Palestinian industrial small- and medium-sized enterprises (SMEs). Additionally, the study aims to investigate the indirect mediation effect of strategic flexibility (SF) between these independent variables and SP.

Design/methodology/approach – Administering personally delivered questionnaires allowed researchers to test the study's hypotheses. Data were obtained from 235 valid survey owners and directors from industrial SMEs operating in Palestine via a random sampling technique. The analysis of results applied the partial least squares structural equation modeling approach.

Findings – The study found a significant and favorable impact of systematic strategic planning (SSP), SBI and CHC on the SP of SMEs in Palestinian industrial industries. Furthermore, the results also revealed a mediating influence of SF between SBI, SSP and SP. However, SF does not mediate the relationship between CHC and SP.

Research limitations/implications – Despite its significant theoretical and practical contributions, this study is limited to industrial SMEs in Palestine. As an exploratory study, it aims to produce results applicable to a broader context. Therefore, future research should seek to validate or contradict these findings in different sectors and business settings.

Practical implications – The research findings hold significant value for practitioners, policymakers and researchers, emphasizing the importance of CHC, SBI and SSP for SP. It also highlights the significance of SF, particularly in the unstable political and economic environment. The study recommends that government policies support SMEs' growth by creating enabling environments fostering innovation and flexible strategic planning to cope with turbulent business environments.

Originality/value – This study fulfills an acknowledged need to explore the mediation effect of SF between strategic enablers and SP of SMEs working in a dynamic business ecosystem.

Keywords SMEs, Sustainable economic growth, Sustainable performance, Strategic flexibility, Competent human capital, Strategic business innovation

Paper type Research article

1. Introduction

Small- and medium-sized enterprises (SMEs) are widely recognized as key drivers of economic development, particularly in developing countries, where they significantly contribute to job creation, poverty reduction, and economic growth (Centobelli *et al*., 2019; Zutshi *et al*., 2021). The importance of SMEs in fostering economic stability is particularly evident in Palestine, where they form the backbone of employment generation and innovation (Dwikat *et al*., 2022).

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However, SMEs in developing economies like Palestine face numerous challenges, including lack of strategic planning, poor human capital, financial constraints, and weak innovation capabilities (Dwikat *et al*., 2022; Naushad, 2021). Additionally, SMEs are constrained by external factors such as political instability, outdated regulations, and resource depletion (Gorondutse *et al*., 2020; Iqbal *et al*., 2020a, b). Prior studies have addressed individual strategic factors, such as strategic planning, human capital, and innovation, but have often treated them in isolation without considering their collective impact on SMEs' sustainability in complex, unstable environments like Palestine (Al-Tit *et al*., 2022; Ebben and Johnson, 2005).

Despite the established importance of SMEs in developing countries and the recognition of various managerial and strategic enablers, there is a significant gap in understanding how the combined effects of strategic planning, human capital, and innovation contribute to the sustainability of SMEs in politically unstable regions like Palestine. for instance, Parisi (2013) and Morioka and de Carvalho (2016) emphasize that incorporating sustainability into strategic planning continues to be a notable gap in the literature and presents a substantial challenge for firms. The interplay between these factors and how they help SMEs navigate economic and political uncertainties has not been sufficiently explored. Furthermore, while the concept of strategic flexibility (SF) has been identified as crucial for adapting to volatile environments, its role as a mediator between strategic enablers and sustainable performance (SP) in SMEs has yet to be thoroughly examined. Addressing this gap is critical, as understanding these dynamics could offer actionable insights for enhancing the resilience and long-term success of SMEs in unstable environments.

This study seeks to fill the identified gap by examining how systematic strategic planning (SSP), competent human capital (CHC), and strategic business innovation (SBI) influence the SP of SMEs in the industrial sector of Palestine. The research will also investigate the mediating role of SF in this relationship. The central research question guiding this study is: *How do the combined effects of strategic enablers (SSP, CHC and SBI) and SF impact the SP of industrial SMEs in Palestine?* To answer this question, a mixed-methods approach will be employed. First, quantitative analysis will be used to assess the relationships between the variables, followed by qualitative interviews with key stakeholders in the Palestinian SME sector to gain deeper insights into how these factors interact in practice.

This study will advance our understanding of how strategic enablers and SF contribute to the sustainability of SMEs in politically and economically uncertain environments. Specifically, it will provide a clearer picture of the combined impact of SSP, CHC, and SBI on SP, offering new insights into how these factors can be integrated to improve SME resilience. By introducing SF as a mediator, the study will contribute to the literature by highlighting how SMEs can adapt to unforeseen challenges and market dynamics. The findings of this study will not only help policymakers and business leaders in Palestine but also offer broader implications for SMEs in similar developing economies facing political and economic instability. The study will fundamentally challenge the existing literature by providing a comprehensive framework for managing uncertainty and sustainability in SMEs, especially in regions affected by conflict.

In the subsequent sections of the paper, the literature review, theoretical framework, and methodology and will be outlined, followed by a detailed presentation of the empirical findings, their implications, and the study's contributions to both theory and practice.

2. Literature review

2.1 Theoretical lens

Distinct pieces of the literature revealed a connection between the concept of sustainability and the Triple Bottom Line (TBL) framework by some researchers which has been further cited in several scholarly works on the field (Alhaddi, 2015; Jayashree *et al*., 2021; Tseng *et al*., 2020). TBL analysis criteria are used to assess the health of business organizations based on three core principles. Economic health or financial viability. Social health or equality and environmental

health or environmentally friendly (Goel, 2010). The TBL method was first introduced in the 1990s by scholar John Elkington. Elkington validated TBL by defining three components, profit, people, and the planet as the ilk of sustainability (Elkington, 1994; Jayashree *et al*., 2021). Correspondingly, it is worth remarking that implementing the method TBL in business firms is supposed to maximize the optimal use of both physical and intangible properties by appropriately identifying their value. Therefore, professional, effective, and successful optimal utilization of the companies' assets is of the utmost importance (Büyükozkan and Karabulut, 2018; Dwikat *et al*., 2023). As a result of implementing TBL, enterprises are progressively assessed by their stakeholders based on their environmental and social impact, as well as their crucial economic performance achievements.

The evaluation of business performance and strategic management is based on various theories, including Contingency Theory (CT) and The Resource-Based View theory (RBV). CT, in this context, refers to any aspect that is dependent on other variables. This means that there is no universal answer or approach to leading a company (Venkatraman and Ramanujam, 1986). The CT aligns key elements, for instance, limitations of industries, the external surroundings and interior context, organizational framework, and activities, in order to attain optimal efficiency and performance (Alosani *et al*., 2019; Dwikat *et al*., 2023). Hence, diverse industrial circumstances require distinct business strategies and structures. Therefore, the specific solution will not work in all situations and within the constraints of the business. According to CT, enterprises can adopt no such thing as an optimum business strategy. However, enterprises functioning in various dynamic business environments require different distinct business strategies. Furthermore, practitioners have argued that for enterprises to enhance their SP, they must formulate and execute resilient business strategies compatible with their internal and external industry and environment (Ahmad *et al*., 2020; Gorondutse *et al*., 2020; Iqbal *et al*., 2020). The RBV is acknowledged as one of the most commonly accepted and well-known management theories regarding corporate performance (Barney *et al*., 2001; Razalli *et al*., 2017). The RBV provides SMEs with a comprehensive framework for prioritizing strategic resources that could provide an advantage in the market that will last (Barney, 1991). In addition, previous studies have shown that very little attention has been dedicated to examining the important resources SMEs control and utilize to launch and endure sustainability (Dwikat *et al*., 2023). In the past, it was believed that SMEs might be resilient and conduct business operations with fewer resources in attractive and less competitive environments (Alraja *et al*., 2022). In any case, it seems that the old style of executing business and running SMEs has dramatically changed due to the intense competition that companies are experiencing in today's scarcity and expensive resources; consequently, the industrial sector is required to implement resource efficiency mechanisms that are both exceptional and outstanding to guarantee their survival (Dwikat *et al*., 2022).

Business processes in industrial firms might be made much more efficient with the incorporation of the principles of RBV, TBL, and CT theories. Their ability to provide SMEs with more adequate information about how to optimize operations and thrive in an uncertain eco-business climate depends on their ability to make the most of the skills and resources that SMEs already have. The purpose of this study was to investigate the effects of SSP, CHC, SBI, and SF on SP in industrial SMEs employing the CT, TBL, and RBV theories.

2.2 Sustainable performance

Linguistically, the term "sustainability" is commonly attributed to its Latin roots. This word is defined as the ability of an individual or element to endure its internal state alone and independently, in other words, without any outward backing or encouragement (Allen and Hoekstra, 1992; Costanza and Patten, 1995). In business, sustainability is well-defined as the capacity to maintain a business's output through a balanced mix of three essential outcome parameters: economic health, environmental protection, and social equality (Caldera *et al*., 2019; Schmidt *et al*., 2018). Therefore, sustainability initiatives are intended to advance the

value of human lives for present and upcoming generations (Alinda, 2024). On the other hand, sustainable development is the formal reproduction of the concept of sustainability (Zighan *et al*., 2024), bearing in mind that this is the most universally acknowledged and recognized interpretation of sustainable development amongst over fifty projected by academicians (Costache *et al*., 2021).

The industrial performance system is shifting from measuring only financial-economic performance indicators to measuring SP, which measures a company's financial, social, and environmental performance over time (Elkington, 1994). Hence, industrial enterprises are progressively integrating non-financial elements, such as environmental and social sub-aspects, into their comprehensive performance assessments (Malik *et al*., 2020). In the context of sustainable business practices, this holistic approach places a significant emphasis on the interconnected evaluation of social, environmental, and economic aspects (Khan *et al*., 2021; Shahab *et al*., 2020). Rather than treating these dimensions in isolation, this integrated perspective aims to optimize profit-making while concurrently enhancing overall enterprise performance (Iqbal *et al*., 2019; Issa and Hanaysha, 2023). Furthermore, it aims to foster social cohesion and ensure environmental preservation, acknowledging the intrinsic interconnectedness of these components. The SP framework emphasizes a holistic and accountable corporate strategy, prioritizing long-term sustainability and positive contributions to the social community and the environment (Ahmad *et al*., 2020).

Multiple studies in the business domain have examined several factors that impact financial performance. Nevertheless, there is a deficiency of research investigating the development and execution of long-term strategies by industrial SMEs to tackle the obstacles associated with managerial aspects and SP (Zighan *et al*., 2024; Issa and Hanaysha, 2023); Furthermore, there is still a requirement for further research using empirical methods, specifically in the context of SMEs in less developed and emerging nations (Dwikat *et al*., 2022). Hence, it is recommended to undertake additional research with the goal of producing a thorough incorporation of the three essential aspects of companies' sustainability. This highlights the need to examine SP in the private sector firms in general and SMEs in specific.

The focus on examining the sustainability of the performance of profitable organizations, particularly SMEs, has undergone a gradual evolution in both developed and emerging countries recently (Ndubisi and Seles, 2020). However, further research is defensible, especially in diverse business sectors within developing nations. The expanding interest in researching SP in SMEs can be attributed to two primary factors: the critical and dynamic roles that SMEs play in the economies of developing nations, requiring them to navigate internal as well as external factors affecting fiscal, community, and ecological outcomes (Issa and Hanaysha, 2023; Prasanna *et al*., 2019). The second factor is the essential contribution of SMEs towards the fulfillment of the global Sustainable Development Goals at the national level (Biryukov *et al*., 2021; Obaideen *et al*., 2021).

Material scarcity is a challenge due to the depletion of raw materials, which is expected to quadruplicate by 2060 due to global development and the rise in the average quality of life (OECD, 2019). Therefore, SMEs must successfully transform to the sustainability model; they should be prepared to encounter the expected scarcity of raw materials by enhancing their resource efficiency, energy efficiency, and production techniques (Lewandowski *et al*., 2018). In parallel, they must consider complying with strict environmental requirements and rising societal pressure due to deteriorating climatic circumstances (Luthra and Mangla, 2018). Furthermore, Qualman *et al*. (2020) Qualman highlighted that if the world continues to generate the same gross domestic product growth rates, population, and urbanism, the quantity of raw natural materials used in industries will increase dramatically, posing a threat to future generations. Several organizations are more motivated than ever to implement new business models, cutting-edge technologies, and supportive policies in order to address important concerns related to climate change (Iqbal *et al*., 2020).

Therefore, SMEs in all Industrial sectors should consider and effectively implement several managerial success factors, including SF, human capital, and innovation, to achieve SP in

industrial SMEs (Mengistu and Panizzolo, 2023; Purnama, 2024). For example Qureshi *et al.* (2022) identified and ranked the critical success factors for accomplishing sustainable lean implementation in manufacturing SMEs using several methodologies, highlighting sustainability principles that include innovation in resource efficiency and cleaner production, financial and employee involvement as key drivers for successful lean adoption. Furthermore, a recent study that was conducted on an SME in Saudi Arabia examined the mediating role of SF in the association between strategic planning and SME performance. It employed the RBV and contingency theories as its framework. A cross-sectional survey of 400 owners and managers collected the data. The results of the study highlighted the importance of relationships between strategic planning and firm performance, in addition to the association between strategic planning and SF. The study found that SF mediates the relationship between strategic planning and firm performance. The study offered hands-on recommendations for helping SMEs improve their organizational systems and sustainability (Abdullah Alzahrani *et al*., 2023).

A recent study Employing a psychometric meta-analytic approach with a random-effects model, the study examines a sample of 134,841 SMEs covering 99 studies and 233 study effects that explored eco-innovation and SMEs' SP and found that eco-innovation improves SMEs' economic, environmental, and social performance significantly, meaning that enabling eco-organizational innovations has a marvelous influence on sustainability in SMEs. The study aims to build upon the resource-based view of the firm (RBV) (Oduro, 2024).

Accordingly, examining the influence of these managerial variables (SSP, CHC, SBI, and SF) on SP in industrial firms in less developed countries with challenging and uncertain business circumstances and unsatisfactory firm performance, such as Palestine, is decisive. Hence, this study outlines SP as an industry's ability to integrate three pillars of sustainability. Consequently, the simultaneous consideration of these pillars is viewed as an interconnected entity, not in isolation. This approach serves as a method for conducting business to achieve profit-making, enhance enterprise performance, foster social harmony, and safeguard the environment. Exploring these dimensions could lead to the identification of hands-on endorsements and hypothetical frameworks beneficial for SMEs to foster, prosper, and sustain their operations.

2.3 Systematic strategic planning and SMEs' sustainable performance

Most prior studies have indicated positive results about the impact of SSP on firm well and preferred performance while some have proven mixed results and some studies have found a negative association (Dwikat *et al*., 2022). Therefore, findings are still inconclusive, and more studies in different cultures, sectors, and sizes are needed. Only a few studies have examined the link between SSP and the effectiveness of Palestine's industrial SMEs (Farajallah *et al*., 2018). Therefore, further studies to explore the influence of SSP on the SP of industrial SMEs have been recommended (Ramadan and Ahmad, 2018; Smirat and Mohd Sharif, 2014).

Multiple reasons were behind selecting SSP as the first independent variable. According to George *et al*. (2019), future investigations should focus on the direct role of SSP in improving organizational effectiveness, which in turn supports sustainability. Secondly, under-developing and developing countries have been underrepresented in research and received minimal attention, with scholars primarily concentrating on the USA, Western nations, and emerging economies when studying the effects of SSP on firm performance and sustainability (Dwikat *et al*., 2022; Elbanna *et al*., 2020; Iqbal *et al*., 2020; Yasir *et al*., 2020); thirdly, the analysis of SSP's effect on performance has predominantly revolved around large enterprises. Meanwhile, research on SMEs, especially industrial SMEs, remains scarce in this context (Arshad *et al*., 2018; Gorondutse *et al*., 2020). Fourth, this study has selected SSP as an independent variable based on the TBL and CT theories. It is considered an essential enabler that can assist industrial firms in improving their SP. Thus, successful strategies that are born from effective SSP are viewed as intangible assets, yielding firms a competitive edge (Barney, 1991). Consequently, the initial hypothesis concerning SSP is outlined as follows:

H1. SSP influences SP in SMEs.

2.4 Strategic business innovation and SMEs' sustainable performance

Findings on SBI and its role in shaping performance in businesses in Arab countries are still ambiguous considering the scant attention devoted to connection with distinctive cultural traditions (AlQershi *et al*., 2021). Even though the term "SBI" has risen to prominence as a significant predictor of firm performance, its influence on the link between the practices of types of SBI and firm performance remains uncertain (AlQershi *et al*., 2018). A thorough literature review has found that innovation in culture-driven nations may significantly impact this connection. This study augments the literature by analyzing and exploring the affairs between implementing different types of SBI and SP in industrial SMEs in a less developing country marked by an unusual business environment and significant uncertainty.

As mentioned earlier, the SP of industrial SMEs in the country research –Palestine– is relatively low at the contextual level. The Global Innovation Index does not recognize the country as being among the innovative nations (Soumitra *et al*., 2021). It is also considered an unattractive country for foreign investors due to the ongoing political conflict (Dwikat *et al*., 2023; Haloub *et al*., 2022; Soumitra *et al*., 2021). Hence, this research analyzes SBI subdimensions and offers a basis for hypothesizing SBI as a crucial catalyst alongside other factors, in various ways. Moreover, it presents hands-on recommendations aimed at enhancing support for innovation within industrial SMEs.

Prior research studies have identified multiple justifications for selecting SBI as a driving variable. AlQershi *et al*. (2018) endorsed the importance of exploring subcomponents of SBI which leads to enhancing the desired outputs and performance; second, the majority of Academic research on SBI has primarily focused on developed and emerging economies, neglecting Arab countries, especially those less developed. This highlights the need for a more comprehensive scholarly inquiry to understand SBI's role in diverse economic contexts, particularly in addressing unique challenges and opportunities in Arab nations (Al-Tal and Emeagwali, 2019; AlQershi *et al*., 2021; Haddad *et al*., 2020). Hence, the study's next hypothesis related to SBI is as follows:

H2. SBI influences SP in SMEs.

2.5 Competent human capital and sustainable performance

Human capital, directly and indirectly through dynamic marketing capabilities, plays a critical role in developing competitive advantage (Elsharnouby and Elbanna, 2021). However, researchers believe that in the literature there are notable inconsistencies exist regarding the influence of CHC on firms' efficiency and sustainability. Most past studies have indicated that CHC has a beneficial effect on a company's immediate and long-term success (Dwaikat, 2023; Abdelhamied *et al*., 2023; Yu *et al*., 2020). Hence, the CHC and SP association remains uncertain and it needs further exploration in diverse cultures and contexts, especially in less developing countries encountering severe uncertainty, like Palestine (AlQershi, 2021; Dwikat *et al*., 2023; Santana and Lopez-Cabrales, 2019).

CHC is employed as a predictor variable for multiple explanations. CHC is viewed as a substantial driver of advancement that encompasses the insight, collective expertise, ongoing learning, and discernment of personnel (Fedyk and Hodson, 2018). Likewise, it is perceived as an indispensable component for an organization to flourish amidst intense competition (Ramirez *et al*., 2021). On the other hand, substantial effort from Arab governments is compulsory to narrow the disparity with well-developed countries, given that the contribution of Arab states to human capital amounts to approximately half that of industrialized nations (Bentour, 2020). The 3rd hypothesis related to CHC in this research is presented as follows.

H3. CHC influences SP in SMEs.

2.6 Strategic flexibility as a mediator

Predicting the future has become problematic for firms due to dynamic surroundings; in this regard, SMEs face severe challenges compared to larger-sized firms (Elsharnouby and Elbanna, 2021; Twaissi and Aldehayyat, 2021), firms must be highly resilient and responsive to cope with the rapidly dynamic business environment. Arming firms with resilient and agile strategies enables them to promptly address crises and navigate unstable environments skillfully, in turn, helping them to face turbulence much better compared to firms with rigid strategies (Dwaikat *et al*., 2018; Gorondutse *et al*., 2020; Zighan *et al*., 2021). Thus, SF has emerged as a vital facilitator in helping leaders achieve their desired objectives smoothly (Alslaibi *et al*., 2025; Arshad *et al*., 2018; Fuertes *et al*., 2020). Similarly, Brozovic (2018) highlighted that prior empirical studies investigating SF are limited and their findings are still inconclusive. Therefore, scholars need to focus more on exploring its influences on performance in different economies and industries. Moreover, insufficient studies tackled the mediating role of SF among platform design, market orientation, and performance (Jiang *et al*., 2021; Thomas, 2014).

All kinds of companies, particularly industrial firms, are advised to possess the aptitude to swiftly amend their plans in order to accommodate the constantly ever-changing external business environment, especially in uncertain situations. Hence, SF denotes the continuous ability and alertness to quickly adapt and adjust strategies in response to changing circumstances (Larabi, 2025; Zighan *et al*., 2023). This is especially beneficial for industrial SMEs living under turbulence, which enables them to come across unforeseeable circumstances (Dwikat *et al*., 2023; Radomska, 2015; Yang and Gan, 2020). Similarly, flexible strategies could enable executives in enterprises to demonstrate how they can enhance their companies' usefulness and adaptability in a world that is rapidly embryonic due to high-tech advancements (Liu *et al*., 2023). Furthermore, previous research in the field of strategic management has only partially considered the role that flexible strategies play as a mediator between managerial drivers and attaining the desired performance (Abu-Nahel *et al*., 2020; Dhar *et al*., 2022). Accordingly, this study proposed three hypotheses that are linked to SF:

H4. SF does mediate the connection between SSP and SP in SMEs.

H5. SF does mediate the connection between SBI and SP in SMEs.

H6. SF does mediate the connection between CHC and SP in SMEs.

2.7 Systematic strategic planning, strategic business innovation, competent human capital and strategic flexibility

The ability to respond and adapt accordingly in today's rapidly changing environment provides SMEs with an advantage over larger firms; that's why SMEs should adopt SF (Sen *et al*., 2023). A few prior studies have examined and summarized the effect of SF as a pillar of SSP and a link between SSP, SF and a firm's performance (Brozovic, 2018; Kornelius *et al*., 2020). Moreover, the appropriate implementation of SSP and SF could help to detect, assess, and control obstacles that face firms (Gorondutse *et al*., 2020). Accordingly, exploring the link between SSP and SF can extend existing studies and contribute to filling the knowledge gap. SF allows firms to achieve a competitive position in developing economies with low resource munificence, especially family-owned businesses, which need to consider it to survive, continue, and grow (Xiao *et al*., 2021). Additionally, Palestine is living in permanent turbulent uncertainty due to the political conflict and the Israeli occupation of the Palestinian land, where implementing SSP together with SF is extremely important to avoid external threats and be prepared for alternative options.

On the other hand, exploring the influence of strategic innovation on the performance of Arab manufacturing SMEs to extract suggestions to enhance performance at the policy and company levels requires elastic strategies (Zighan *et al*., 2024; AlQershi *et al*., 2018). In this regard, Palestine is not listed as innovative on the Global Innovation Index, which requires

adapting flexible strategies at the government and SMEs level to cope with rapid innovation and technological advancements (Dwikat *et al*., 2023; Soumitra *et al*., 2021).

Moreover, CHC is considered a significant catalyst for growth, comprising employees' knowledge, cumulative expertise, continuous education, and aptitude (Fedyk and Hodson, 2018). Subsequently, CHC is acknowledged as a critical component of a business's success in a competitive climate (Ramirez *et al*., 2021). The Middle East and North Africa region (MENA), of which Palestine is a part, faces a severe human capital deficit and regional governments should recognize the seriousness of the issue and identify and set priority actions that may assist in developing their human capital (World Bank, 2019). Moreover, considerable work is required to catch up with industrialized countries since the Arab countries' contribution to human capital is nearly half that of advanced countries (Bentour, 2020). Therefore, it recommends exploring and enhancing the role of CHC in Arab countries.

According to the reasons mentioned above and the other gaps discussed, the study's hypotheses linked to SSP, SBI, CHC and SF are given below:

H7. SSP influences SF in SMEs.

H8. SBI influences SF in SMEs.

H9. CHC influences SF in SMEs.

Based on the theoretical discussion above, Figure 1 below depicts the proposed theoretical framework.

3. Methodology

3.1 Data collection and sampling

This study examines senior management's perceptions of industrial SMEs, focusing on their knowledge, competence, and involvement in key organizational roles. It targets influential

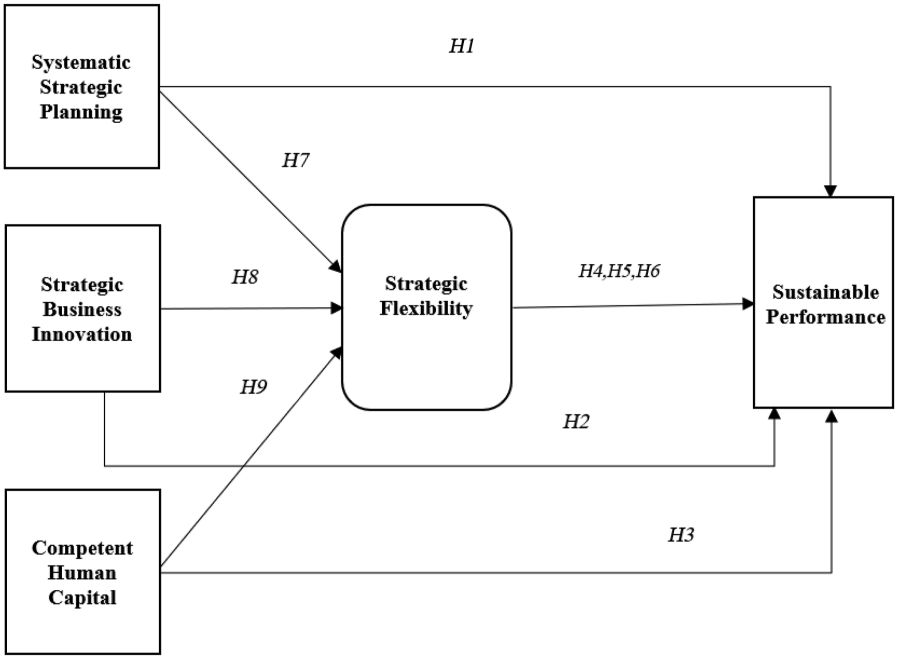

Figure 1. The Proposed Theoretical Framework (Source: Authors' own creation)

individuals, such as owners, chairpersons, and senior executives (Dwikat *et al*., 2022). The dependent variable, SP, is influenced by three independent factors: SSP, SBI, and CHC, with SF acting as a mediator.

The researchers collected data for this study using a simple random method from a variety of industrial SMEs through a prudently developed survey, drawing inspiration from existing literature. Therefore, this study used a simple random sampling strategy, which is an effective way to gather data from diverse sources and gain insights into the population as a whole. By selecting a random subset of the population, this method ensures a high level of representativeness (Chaudron and Carlier, 2014; Razalli *et al*., 2017). A sample size of 377 was determined using Krejcie and Morgan's formula (Chuan and Penyelidikan, 2006), with 235 valid surveys collected, yielding a 62% response rate. A five-point Likert scale was used to assess perceptions, with survey questions reviewed by three academics for clarity and validity (Creswell, 2012). Constructs were adapted from previous studies (Bütüner, 2016; AlQershi, 2021; Prajogo and Oke, 2016; Gorondutse *et al*., 2020; Iranmanesh *et al.*, 2019a).

3.2 Data analysis

Given the explanatory nature of the research problem, this study utilizes the partial least squares structural equation modeling (PLS-SEM) technique to predict the proposed conceptual model using Smart-PLS 4.0 software. The PLS-SEM method allows researchers to bypass the assumption of data distributions (Dwaikat, N. 2023), enabling the calculation of complex models with multiple constructs, signal parameters, and structural relationships (Hair *et al*., 2019a, b; Gentle *et al*., 2010). Thus, the collected data was analyzed using the PLS-SEM technique, which addresses the apparent conflict between explanation, emphasized in academic research, and prediction, which underpins managerial implications. This process was carried out in two stages. In the first stage, known as the measurement model, the validity and reliability of the constructs were assessed. In the second stage, hypothesis testing was conducted to evaluate the relationships between the constructs. In addition, SPSS 26 was used to screen, handle missing data, and identify outliers. The early use of SPSS 26 was crucial in ensuring good data, which was subsequently analyzed using Smart-PLS 4.0 for further analysis.

4. Results

Following the PLS-SEM method by researchers, the data was analyzed in the present study, which was carried out with the assistance of the Smart-PLS 4.0 software program. Moreover, PLS-SEM was suggested as a preferable option compared to the software program that uses covariance-based SEM. because it had originally been formed for the calculation (Sarstedt *et al*., 2017). Additionally, having multivariate normal sample data is not strictly required for PLS-SEM, as it is more robust to small sample sizes (Henseler and Sarstedt, 2013). In addition, the measurement models and the structural models were incorporated into the analysis of this study together.

Validity and reliability are the two primary evaluation criteria for measuring research models. In this regard, reliability refers to the consistency with which a measuring tool evaluates the measured concept, while validity examines how well an instrument assesses the concept it is supposed to assess (Sekaran, 2011; Sekaran and Bougie, 2016). In principle, the researchers followed the recommendations of scholars (Ringle *et al*., 2014; Sarstedt *et al*., 2017) while evaluating the reflective scale items. Construct, convergent, and discriminant validity were evaluated; then, a reliability analysis was conducted.

4.1 The measurement model

The exploration of the PLS method for the measurement framework demonstrates that all items have been reliably confirmed. This confirmation stems from examining the external

loadings of the reflective indicators. Table 1 and Figure 2 below demonstrate that all of the outside loadings exceed 0.6, indicating strong item reliability considering that this study set a critical cut-off point for factor loadings of 0.60. It likewise signifies that the objects have been properly assigned to their respective variables (Hair *et al.*, 2011, 2019a, b). Therefore, a bootstrapping process was used to assess the significance of the outer loadings as shown in Figures 3 and 5 for the direct and indirect relationships, respectively. The outer factor loadings for the produced items in Table 1 have been determined to be highly appropriate, since they exceed the threshold value of 0.7 ($p < 0.001$), except for some items, as shown in Figure 4, which are still considered acceptable as they are above 0.63 according to Hair *et al.* (2019a, b, 2021).

4.2 Structure model

The structural model involves examining the determination coefficient, R^2, variables reliability, and testing hypotheses. Illustrated in Figure 2, the R^2 value for the dependent

Table 1. Outer loadings of the reflective indicators

	CHC	SBI	SF	SP	SSP
CHC1	*0.794*	0.424	0.345	0.466	0.315
CHC2	*0.85*	0.45	0.404	0.519	0.381
CHC3	*0.847*	0.382	0.347	0.461	0.324
CHC4	*0.808*	0.419	0.375	0.484	0.328
CHC5	*0.809*	0.405	0.416	0.482	0.372
SBI1	0.323	*0.741*	0.626	0.516	0.415
SBI2	0.423	*0.762*	0.627	0.545	0.421
SBI3	0.422	*0.741*	0.607	0.536	0.461
SBI4	0.383	*0.700*	0.454	0.444	0.384
SBI5	0.327	*0.653*	0.453	0.413	0.4
SBI6	0.358	*0.723*	0.541	0.536	0.371
SBI7	0.41	*0.733*	0.578	0.526	0.457
SBI8	0.243	*0.664*	0.506	0.454	0.386
SF1	0.402	0.658	*0.781*	0.534	0.448
SF2	0.28	0.604	*0.752*	0.453	0.402
SF3	0.318	0.489	*0.69*	0.445	0.403
SF4	0.302	0.468	*0.662*	0.471	0.407
SF5	0.31	0.522	*0.725*	0.432	0.418
SF6	0.396	0.636	*0.782*	0.628	0.48
SP1	0.435	0.433	0.439	*0.68*	0.49
SP2	0.392	0.482	0.434	*0.672*	0.41
SP3	0.47	0.389	0.389	*0.65*	0.378
SP4	0.334	0.51	0.5	*0.734*	0.464
SP5	0.286	0.467	0.486	*0.71*	0.417
SP6	0.33	0.36	0.409	*0.626*	0.352
SP7	0.366	0.539	0.512	*0.604*	0.43
SP8	0.471	0.584	0.569	*0.751*	0.503
SP9	0.525	0.512	0.448	*0.746*	0.503
SSP1	0.349	0.459	0.468	0.536	*0.849*
SSP2	0.351	0.423	0.412	0.452	*0.784*
SSP3	0.274	0.427	0.464	0.487	*0.801*
SSP4	0.288	0.471	0.453	0.546	*0.84*
SSP5	0.35	0.494	0.51	0.532	*0.854*
SSP6	0.401	0.54	0.548	0.534	*0.829*
SSP7	0.381	0.467	0.461	0.575	*0.755*

Source(s): Authors' own creation

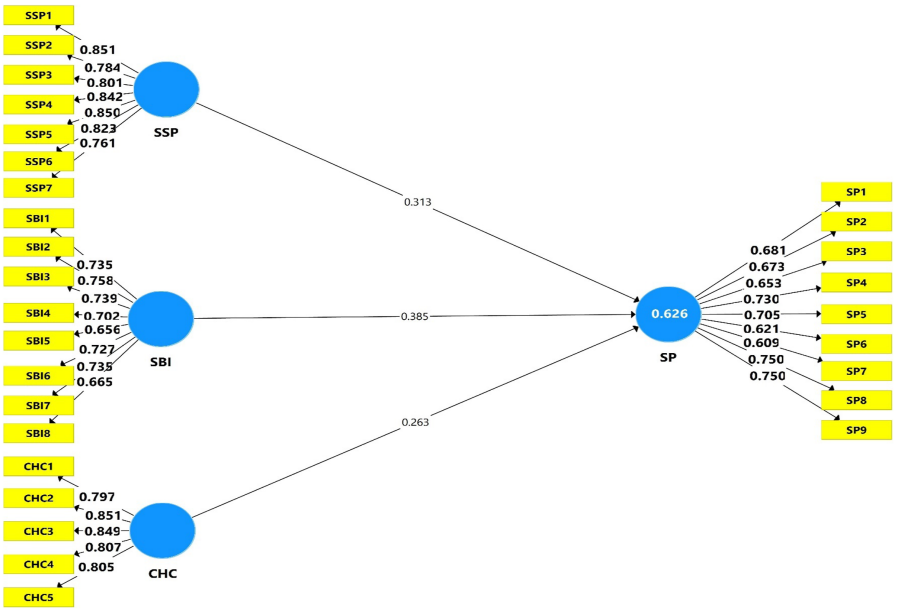

Figure 2. PLS algorithm direct relationships (Source: Authors' own creation)

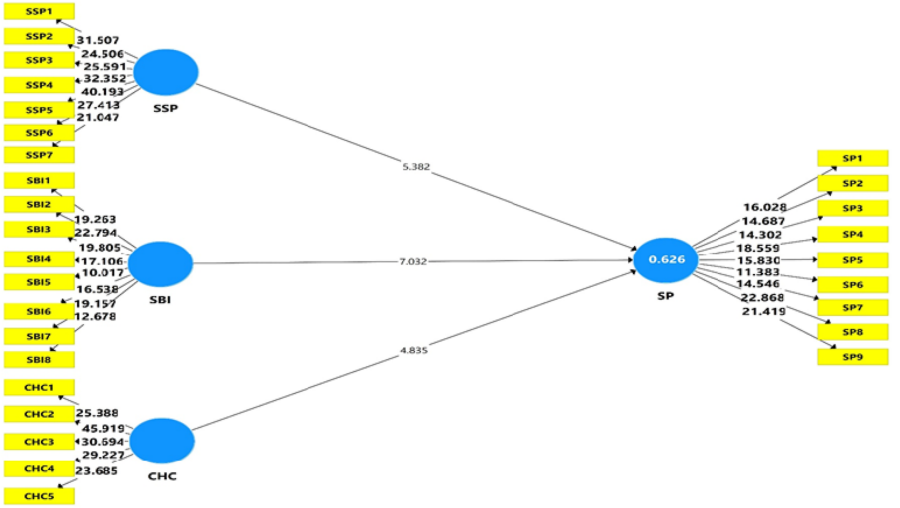

Figure 3. PLS-SEM bootstrapping direct relationships (Source: Authors' own creation)

variable which is SP is strong (at 0.641), indicating that 64.1% of the variance is accounted for by SSP, SBI, and CHC (independent variables).

As described in Table 2, for every variable, the Composite reliability (CR) values and Cronbach's Alpha values exceed 0.7. As well, Average Variance Extracted (AVE) outdoes 0.5 for all variables except for SP which is a bit below 0.5 and is still acceptable according to Lam (2012) as the researcher highlighted that even if the AVE is less than the minimum threshold of 0.5, the internal reliability of the measurement items is still acceptable, provided the CR is

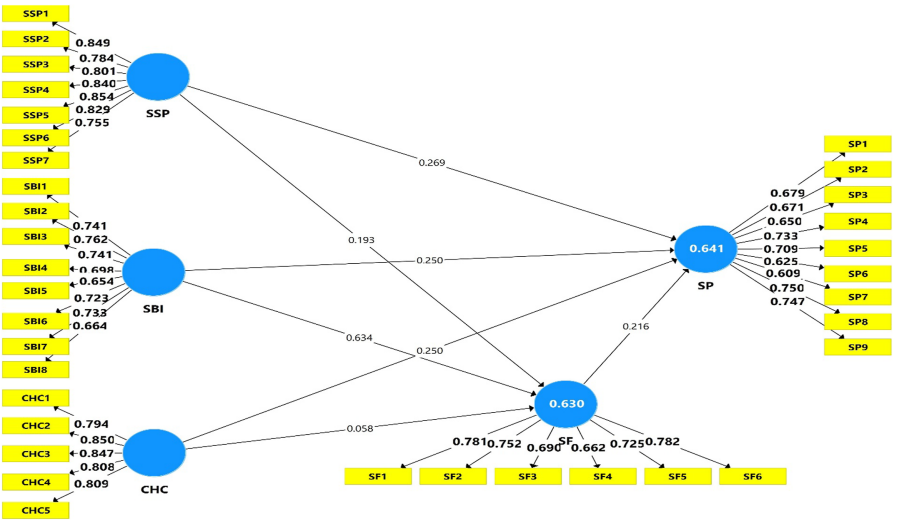

Figure 4. PLS algorithm results- indirect relationships (Source: Authors' own creation)

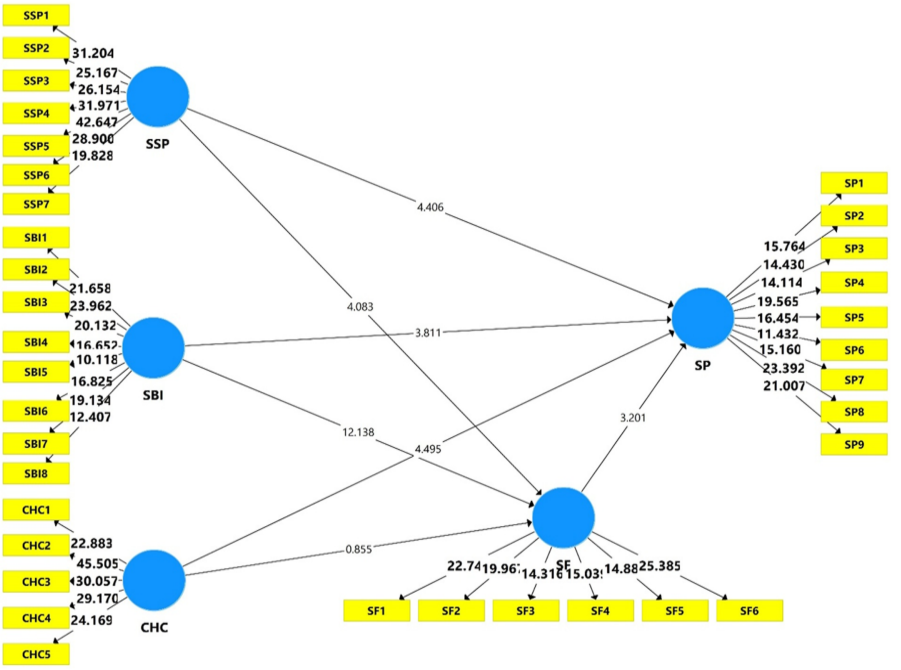

Figure 5. PLS-SEM bootstrapping – indirect relationships (Source: Authors' own creation)

greater than the acceptable level of 0.6. This result is consistent with the recommendation of the study (Fornell and Larcker, 1981).

Table 2. Construct reliability

Variable	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
SSP	0.916	0.933	0.667
CHC	0.88	0.912	0.675
SBI	0.864	0.893	0.512
SF	0.828	0.874	0.538
SP	0.86	0.889	0.473

Source(s): Authors' own creation

Furthermore, the findings reveal favorable (B-values) of the path coefficient. For instance, the B-value representing the association between SSP (an independent variable) and the SP (dependent variable) is 0.269, exceeding the threshold of 0.1 (Afthanorhan, 2013; Awang *et al*., 2015; Henseler and Sarstedt, 2013). Moreover, the B-values for the relationships between SBI and CHC (independent variables), and the SP, stand at 0.25 and 0.25, respectively, both surpassing the threshold of 0.1.

Moreover, The discriminant validity study's variables have been established, as shown in Table 3, a determination made through scrutiny via the Fornell–Larcker criterion (Ab Hamid *et al*., 2017; Henseler *et al*., 2015). According to this criterion, the square root of a construct's AVE exceeds its correlation with any other construct, thus affirming distinctiveness.

Besides, as revealed in Table 4 below, considering that the *p*-values are lower than 0.05 and the *T* statistics are higher than 1.96, it can be concluded that the associations among SSP, SBI, CHC, and SP are statistically significant which is demonstrated by the *T*-statistics values in addition to *p*-values. This denotes that the three hypotheses of the direct relationships are significant.

As for the mediation role of SF between the (SSP, SBI, CHC) and SP, as shown in Table 5 below, the *T*-statistics and *p*-values reveal that SF acts as a mediator in the association between SSP

Table 3. Correlations among constructs and discriminant validity

	CHC	SBI	SF	SP	SSP
CHC	*0.822*				
SBI	0.507	*0.785*			
SF	0.462	0.776	*0.793*		
SP	0.581	0.628	0.683	*0.688*	
SSP	0.421	0.577	0.584	0.64	*0.817*

Source(s): Authors' own creation

Table 4. Results of hypotheses testing – direct relationship

Hypotheses/path		*T* statistics	*p*-Value	Decision
H1	SSP → SP	5.295	0.000	Supported
H2	SBI → SP	7.012	0.000	Supported
H3	CHC → SP	4.734	0.000	Supported
H7	SSP → SF	4.149	0.000	Supported
H8	SBI → SF	11.707	0.000	Supported
H9	CHC → SF	0.893	0.398	Not Supported

Source(s): Authors' own creation

Table 5. Results of Hypotheses testing – Indirect Relationship

Hypotheses/Path		*T* statistics	*p*-Value	Decision
H4	SSP → SF → SP	2.438	0.015	Supported
H5	SBI → SF → SP	3.036	0.002	Supported
H6	CHC → SF → SP	0.773	0.44	Not Supported

Source(s): Authors' own creation

and SP, as well as between SBI and SP. This is evident from the *p*-values being below 0.05 and the *T* statistics exceeding 1.96. However, there is no indication that SP mediates the link between CHC and SP, as shown by the *p*-value exceeding 0.05 and the *T*-statistic falling below 1.96.

5. Discussion and conclusion

Regarding the first fundamental aim of our research, SSP, SBI, and CHC emerge as crucial and play a vital role in enhancing the SP of industrial SMEs. Each independent variable—SSP, SBI, and CHC—exerts a remarkable (positive) direct impact on the SP of industrial SMEs in Palestine. This is also evidenced by the B-values exceeding 0.1 in the relationship between these independent variables and the dependent variable. Additionally, the significance of these relationships is underscored by the *T*-statistics and *p*-values, which are below 0.05 and higher than 1.96. The results are aligned with earlier research which revealed that SSP has a positive association with SP (Ali, 2018). Enterprises which develop strategic plans and emphasize on sustainable management attain effective long-term performance, particularly in times characterized by various environmental, financial, and social challenges (Thaher and Jaaron, 2022). Such enterprises respond by developing appropriate strategies that relatively enable them to stay vigilant in turbulent business markets and secure long-term advantage (Lloret, 2016). Other researchers contended that SSP can minimize the adverse effects of a firm's activities on the ecological environment and the community at large, while reinforcing enterprises by establishing contemporary models of action, scanning new market segments, and increasing the overall industry's market share (Broman and Robèrt, 2017). Therefore, SSP enables enterprises to forecast future trends and be ready to address possible challenges that may affect a firm's competitiveness and SP.

Another key finding from this research is related to the positive link between SBI and strategic performance. This was supported by earlier research which documented that SBI is vital for enhancing the SP of businesses (Khan and Naeem, 2018; Dwikat *et al*., 2022, 2023). Other scholars also regarded innovation as a key predictor of long-term business growth (Agarwal *et al*., 2003; Ben Amara and Chen, 2022) and an important approach for competitiveness in target markets (Elbanna and Abdel-Maksoud, 2023; Farida and Setiawan, 2022). Other scholars also verified that SBI positively affects the SP of enterprises (Lin and Chen, 2007; Maletič *et al*., 2014; Mir *et al*., 2016). Similarly, Hajar (2024) reported that firms which have limited resources should focus on continuous innovation in order to attain sustainable competitive advantage and enhance their SP. Building upon the resource-based view, it was also established by Zhang and Feng (2021) that the utilization of an enterprise's valuable and unique resources is positively associated with business growth and SP.

Moreover, the results supported the positive impact of CHC on SP. Further support can be observed in earlier research which declared that CHC enables enterprises to contribute to sustainable development and improve their standings (Al Frijat and Elamer, 2025; Shaaban, 2022; Ying *et al*., 2019). Thus, CHC is a key strategic resource which explains the success and growth of enterprises because the adequate knowledge and efficient skills of staff are deemed to be necessary in today's dynamic business environment (Subramaniam and Youndt, 2005). Furthermore, CHC is a key predictor of financial performance (Nawaz and Ohlrogge, 2023).

For these reasons, it can be concluded that CHC is a fundamental aspect that should be received significant emphasis from enterprises in SMEs' context for enhancing employees' productivity, creative performance, and attaining greater economic growth. From a social perspective, it improves well-being and group efforts, leading to better social performance. However, environmentally, CHC can enable firms to respond to ecological challenges and ensure environmental performance through knowledge sharing and promising ideas.

The outcomes of the study also confirmed that SSP and SBI positively affect SF, whereas the impact of CHC on SF was not supported. The results align with past literature, which supported the positive effect of SSP (Brozovic, 2018; Dibrell *et al*., 2007) and SBI (Schneider and Spieth, 2014; Soumitra *et al*., 2021) on SF. The findings reveal that SSP allows corporate managers to align their strategic plans with emerging opportunities as well as threats based on internal and external forces that shape a business environment. By developing systematic strategic plans, decision makers can stay alert to the dynamics in the market environment and respond accordingly. Similarly, SBI urges organizations to be vigilant in responding to various challenges that could influence their SP by setting strategies that allow them to compete and stay up to date. Through regular innovations, firms can maintain their market share, satisfy customers' needs and expectations, and address environmental issues.

Furthermore, the results showed no relationship between CHC and the SF. Links between variables could be because SMEs in developing countries have limited CHC resources. Also, the unstable business environment, problems with short-term and long-term planning, a lack of strategic innovation, and a lack of flexibility skills may not motivate human capital to work harder to overcome the firm's development challenges. Under such circumstances, CHC may not affect SF. Moreover, most related studies that found a positive relationship between CHC and SF have been conducted in developed countries where companies have adequate resources, an innovation culture, and are more flexible in preparing for alternative scenarios to encounter the changing business environment and obtain more social capital to engage in overall development. For example, a recent study conducted in Italian SMEs to explore how CHC fuels flexibility to accomplish strategic objectives discovered that CHC significantly enhances both skill and behavioral flexibility (Giampaoli *et al*., 2025). However, the present study was conducted in Palestine, where firms continue to face a lack of resources and weak skills in strategic planning, innovation, and flexibility. The lack of support for the relationships between CHC and SF variables may be attributed to the limited availability of human capital resources in manufacturing SMEs in developing countries.

This research's secondary aim is to test SF's mediating role between SSP, SBI, CHC, and SP. Through an examination of *T*-statistics and *p*-values, notable findings emerged. It is revealed that SF does mediate a positive association between SSP and SP ($t = 2.438$; $p = 0.015$), as well as the positive link between SBI and SP ($t = 3.036$; $p = 0.002$) which aligns with previous studies such as AlQershi (2021), Dwikat *et al*. (2022), Gorondutse *et al*. (2020). However, there is no significant mediation effect of SF on the relationship between CHC and SP ($t = 0.773$; $p = 0.44$). In other words, Hypotheses H5 and H6 were supported, while Hypothesis H6 was rejected. Additionally, the direct relationships among SSP, SBI, CHC, and SF were examined, as indicated in Table 4, revealing a positive correlation between SSP, CHC, and SF, whereas no significant association was found between CHC and SP. To reiterate, H7 and H8 are supported while H9 was rejected.

5.1 Theoretical implications

The research findings highlight the critical role of employing SF in strengthening the linkages between SSP and the attainment of SP in industries mainly SMEs, as well as between SBI and SP, in that way facilitating the acquisition of competitive advantages in SMEs. This highlights the consequence of prioritizing SF within structural strategies, particularly in light of the rising uncertainties prevalent in today's dynamic global business environment. In this context, flexibility in strategic planning arises not only as beneficial but almost as an obligation for

businesses striving to establish and sustain their competitive edge, especially considering the challenges faced by companies in regions like Palestine, marked by conflict and instability. Simultaneously, the study emphasizes the imperative for companies, particularly those in developing countries, to intensify their investments in human capital and enhance their capabilities. These kinds of efforts are necessary for these businesses to improve the long-term success of their businesses and stay flexible and quick to respond to changing business conditions they work in.

Based on the TBL framework, RBV, and CT theories, this research offers a different way of looking at how CHC, SBI, and SSP directly affect SP in SMEs. Furthermore, it highlights the essential role of SF in mediating the relationships between SSP, SBI, and SP. The existing literature abounds with studies exploring the impact of individual independent variables—strategic planning, strategic innovation, and human capital—on business performance. However, there is a notable scarcity of studies examining these variables collectively, especially within the context of SMEs in unstable political environments. Equally, there have been limited studies within the context of developing nations facing turbulent business environments. Moreover, few studies have researched the mediation effect of SF between these independent variables and SP, thus, this study presents a novel theoretical framework in this field.

5.2 Managerial and practical implications

Because of persistent political instability and ongoing conflict, Palestine is perceived as an inherently unstable country with limited foreign investment and a notable neglect of emphasis on industrial sectors despite its importance as one of the largest job-absorbing sectors. Additionally, the majority of Palestinian companies are SMEs with constrained resources leading to an insufficient understanding of how managerial aspects including strategic enablers such as SSP, SBI, CHC, and SF could impact their SP and enhance the endurance of those SMEs. This implication aligns with Hsu and Lin (2016), who acknowledge that, unlike large companies, SMEs often face resource limitations, making it more difficult to adopt sustainable strategies and invest in implementing sustainability controls. Consequently, Palestinian SMEs often neglect business strategy, focusing on immediate commercial outcomes while disregarding long-term strategic implications.

This study provides insights for owners and senior management of industrial SMEs in Palestine on optimizing company resources to enhance SP. It highlights that SSP, SBI, and CHC are critical variables for achieving high SP in SMEs, with a particular emphasis on fostering CHC. Furthermore, SME senior executives are required to recognize the competencies of SSP and SBI in influencing sustainability. In a developing country context like Palestine, industrial SMEs may not be able to adopt all categories of business innovation, but material efficiency, cleaner energy, markets, and financial invention are key forms.

The paper's findings indicate that experts should prioritize the adaptation and implementation of flexible strategies and set sustainability-efficient practices in order to maintain competitiveness in a dynamic business setting. In the current global landscape characterized by escalating unpredictability, adaptability has become a need for enterprises to ensure their continued success, particularly in the context of Palestine where political instability and violence impose an extensive impact on all aspects of business activities and transactions. These findings can guide business owners and directors in identifying practices to improve the effectiveness and SP of businesses in a fluctuating and uncertain environment. Researchers expect that the empirical conclusions will help SME leadership focus on directing resources to enhance the performance of their companies. Furthermore, executives can use the study's measurements as diagnostic tools for assessing SP. The findings also highlight the importance of SF in improving SME sustainability.

In terms of policy implications, the study advocates that the government should provide an enabling environment for SMEs to promote sustainability. This includes emphasizing drivers such as business innovation, promoting innovative activities, prioritizing investment in skillful

human capital, alongside encouraging the implementation of proper strategic planning at the SME level. The study also suggests fostering SF and analyzing the impact of turbulent environments on Palestinian SMEs. Additionally, the government should address structural problems facing SMEs to enhance the business environment and support the growth of industrial SMEs.

5.3 Limitations and directions for future research

This study offers valuable insights into the SP of Palestinian industrial SMEs, yet several limitations warrant attention—and simultaneously present opportunities for future research grounded in the specific realities of this context.

First, the study focused on industrial SMEs in a politically and economically constrained environment. As a result, the findings may not fully reflect the sustainability dynamics in service-oriented SMEs, which face different operational risks and innovation demands. Future research should therefore explore how SSP, SBI, CHC, and SF influence SP in Palestinian service sectors such as tourism, information and communication technology, and healthcare—industries that are increasingly vital for economic resilience.

Second, the current model emphasized internal resources. However, in the Palestinian context, external factors—including international aid, regulatory frameworks, and geopolitical instability—may significantly mediate the relationship between internal capabilities and performance. Future research should extend the model to include external institutional enablers or constraints, examining, for instance, the moderating role of donor-funded capacity-building programs on SP outcomes.

Third, while this study identified creativity and innovation (CHC) and SF as key mediators of SP, it did not explore the mechanisms through which these capabilities are developed, particularly under resource scarcity. Future studies could investigate how SMEs cultivate CHC and SF in fragile or low-resource environments, perhaps through partnerships, diaspora engagement, or informal knowledge networks.

Fourth, due to its cross-sectional design, the current study offers a snapshot of relationships at a single point in time. Yet in the Palestinian context—marked by frequent economic disruptions—organizational adaptability is likely dynamic. Longitudinal studies could capture how changes in SBI or SF over time affect sustainability outcomes under prolonged uncertainty, offering valuable insights for SME strategy in fragile states.

Finally, this study is one of the first to examine these constructs within the Arabic region, and its conceptual framework may yield different outcomes in neighboring contexts with similar challenges but distinct institutional settings (e.g. Jordan, Lebanon, Iraq). Future comparative research across MENA economies could explore how cultural values, conflict exposure, and government support interact with SSP, SBI, CHC, and SF to influence sustainable SME performance.

By grounding future research in these contextual nuances, scholars can deepen theoretical understanding and offer more actionable strategies for SME development in Palestine and comparable settings.

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