ISSN 1816-6075 (Print), 1818-0523 (Online)
Journal of System and Management Sciences
Vol. 14 (2024) No. 4, pp. 380-400
DOI:10.33168/JSMS.2024.0425

Aligning Accounting with Organizational Change: Strategic Techniques to Enhance Innovation, Sustainability, and Responsibility

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Abstract. The study verifies the impact of strategical managerial accounting methods on organizational change for Jordanian companies. The study adopted a descriptive analysis methodology, where the study instrument was an organized questionnaire covering the axes of the study and distributed to a representative sample of employees working in institutions that focus on evaluation of non-financial performance indicators by applying management accounting methods. The findings of the study indicated that there is a significant positive relationship between strategical managerial accounting methods and the organizational change. An effective impact for management accounting tools on innovation, product development, environmental sustainability and social responsibility has been demonstrated. The researchers suggest that the dimensions of the independent variable that represent accounting should be considered and incorporated into future Nonfinancial performance evaluations and implementations.

Keywords: Strategic Management, Accounting Methods, organizational change, Innovation, product development, sustainable environment, social responsibility

1. Introduction

In contemporary business environment, strategical managerial accounting (SMA) methods have emerged as crucial tools for enhancing operational efficiency and business performance. SMA involves the integration of strategic business objectives with management accounting information to improve organizational decision making, (Diaz and Bianchi, 2022). Therefore, plenty of current attention in business environment was directed to focuses on the impact of strategical managerial accounting methods on the dimensions of organizational change. Nonfinancial performance is a multidimensional construct that encompasses various aspects beyond the financial metrics (Safi et al., 2020) such as innovation and product development (Oyewo, 2022), environmental sustainability, and social responsibility (Echobu and Echobu, 2023). These dimensions hold significant value for organizations as they contribute to their long-term sustainability and competitiveness in the market. The assessment and management of Nonfinancial performance, therefore, becomes a critical concern for organizations, particularly in the context of emerging markets that operate in a competitive and rapidly evolving business environment (Al-Tarawneh et al., 2021).

Strategical managerial accounting, in this study, is conceptualized through the dimensions of strategical costing accounting methods, key performance indicators (KPIs) and value chain analysis. Managerial accounting costing methods primarily sustain efficient costing figures by implementing target costing and total life costing; the KPIs are quantifiable measurements that reflect the critical success factors of a company, they provide a focus for strategic and operational improvement, create an analytical basis for decision-making, and help focus attention on what matters most (Sultan, 2022). On the other hand, value chain analysis refers to the process of examining the activities within and around an organization and relating them to an analysis of the competitive strength of the organization. It considers the input-output relation, the value-adding activities, and the resulting margin or profitability, (Šaponja and Suljovic, 2017).

The financial performance of firms is often the primary focus of strategical managerial accounting. However, the importance of Nonfinancial performance, particularly in terms of innovation, product development, environmental sustainability, and social responsibility, cannot be understated. These dimensions are increasingly recognized as essential contributors to a firm’s long-term profitability and success, (Alvarez et al., 2021). The companies that engage in innovative practices and product development are often able to create a competitive advantage, differentiate themselves in the marketplace, and respond more effectively to changes in the business environment, (Farida and Setiawan, 2022). Similarly, environmental sustainability and social responsibility are important dimensions of Nonfinancial performance that reflect a company’s commitment to minimizing its environmental footprint, promoting sustainable practices, and contributing positively to society, (Ma et al. 2023).

The current study will examine how strategical managerial accounting methods, particularly costing methods, KPIs and value chain analysis, impact these dimensions of organizational change perspectives in Jordanian context. The study also is an attempt to donate to the current poetry by providing novel visualization on how strategical managerial accounting methods could enhance Nonfinancial performance. Additionally, it will offer practical recommendations for Jordanian companies to improve their strategical managerial accounting par actives and in turn, their Nonfinancial performance. Furthermore, the study explores the potential challenges and opportunities associated with implementing SMA methods in Jordanian companies. It will delve into the dynamics of the business environment in Jordan, the readiness of Jordanian companies to adopt and implement SMA methods, and the potential barriers that may hinder their successful application. In conclusion, the study seeks to shed the light on the critical role of strategical managerial accounting in enhancing the Nonfinancial performance of firms to provide a comprehensive understanding of how SMA methods impact innovation, product development, environmental sustainability, and social responsibility.

In addition to contributing to academic literature, this study will have significant practical implications. By demonstrating the impact of SMA methods on Nonfinancial performance, it will provide companies with evidence-based strategies to improve their operations and performance, moreover, by identifying the challenges and opportunities associated with SMA, it will guide companies in navigating their strategic and operational decisions. In essence, this originality of the study will delve into the unexplored terrain of SMA methods' influence on Nonfinancial performance in Jordanian companies. By investigating the interplay between KPIs, value chain analysis, innovation, product development, environmental sustainability, and social responsibility, it aims to offer a comprehensive, insightful, and context-specific understanding of this critical aspect of corporate strategy and performance management. This research will undoubtedly add to the scarce body of knowledge in this area and serve as a steppingstone for future empirical studies in the Jordanian business landscape.

The current poetry on this issue dedicated to more developed countries with different business environments, and thus creating a gab in knowledge regarding emerging countries particularly in middle east. Another gab concerning this subject is the lack of practical evidence regarding the impact of alignment of accounting to management from the viewpoint of management personnel; therefore, accumulating evidence on non-financial performance rather than financial performance would bring more insight for the influence of management accounting on organizational outcomes. Addressing such gabs convey greater thoughts on the role of accounting methods for enhancement of strategic organizational goals. Grounding on these annotations the main question of the study is articulated as follows:

Do managerial accounting techniques contribute to organizational change?

To reach conclusions about this general impact of the expected impact of management accounting on institutional change, four dimensions will be selected that explain organizational change through the second question:

Do management accounting techniques have an effective impact on innovation, product development and environmental and social responsibility.

Answering these two questions will enable researchers to accomplish the aims of the study and enable attracted people to this subject for more understandability for the impact of strategical managerial accounting methods on organizational change of Jordanian companies. Furthermore, the organizational change represented by the Nonfinancial dimensions such as innovation, environmental sustainability, and social responsibility as representatives of organizational change will reflect the progress in these aspects as non-financial metrics of performance.

The significance of the study is originated from its input to the present literature on the role of accounting means to organizational nonfinancial performance. Thus it offers more vision to the effectiveness of such means in enhancement of organizational operations that enables managers to build future successful long term strategies.

2. Literature Review and Hypotheses Development

This section of the study conveys a comprehensive review of existing literature and research studies related to the study areas, and its core objective is to establish the theoretical framework and to identify gaps of knowledge or areas for further investigation.

Many studies have indicated that organizational change can undoubtedly only be established using effective financial tools, and management accounting tools are seen as one of the most vital tools guaranteed by companies in planning, implementing, monitoring and evaluating their organizational activities (Hornstein, 2015; Abubakar et al., 2019; Ferreira and Otley, 2009; Gimbert, et al., 2010; Melese, et al., 2004; Varsos and Assimakopoulos, 2016). Hence, our main hypothesis is:

H_1*: *Strategical managerial accounting methods has no impact on organizational change.

As a part of current study, the methodology of the study will also examine the joint effect of multiple accounting methods on several organizational change nonfinancial dimensions such as innovation, product development, environmental sustainability and social responsibility. According to several scholar's organizational change is attained not only by financial measures but also with nonfinancial measures (Naranjo-Gil and Hartmann, 2006; Naranjo-Gil and Hartmann, 2007; Kamaruzzaman et al., 2019)

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2.1. Strategical Managerial Accounting Methods

Many previous studies have stressed the need to adopt strategic accounting methods, especially those that control costs and thus have an impact on the company's financial and non-financial performance (Ojra et al., 2021; Petera and Šoljaková, 2022; Nimnual and Kanitsorn 2021; Fuadah, 2017). In a study of Setiawan and Iskak (2023) that conducted for the purpose of determining historical company performance found that owner-management characteristics, innovation and culture are the most important elements impacting MSME owner-management in Palembang City in implementing innovation. Likewise, in a research attempt by Hellal and Tagraret, (2023) to assess the impact of contingency factors on the adoption of the balanced score-cards method in Algerian companies and the impacts of adopting the balanced score-cards on Nonfinancial and financial performance, the results of the study showed that, historical financial performance, management characteristics and innovation culture have an effective impact on strategical managerial accounting procedures, the study also disclosed that there is no effective impact of the balanced score-cards on financial performance indicators or Nonfinancial performance indicators, the results suggested that, management must continue to rely on the usual management practices while increasing its integration with the company's strategy and develop more effective scientific foundations that lead to improved performance.

On the same issue a study undertaken by Imo (2022) to find the link between strategical managerial accounting and financial performance in the Nigerian markets, the study was structured to find the impact of one of the management accounting tools, which is activity based costing and the extent of its success in measuring financial performance related to bank deposits. The outcomes of the study showed a strong and important correlation between the activity based costing and the return on assets related to customer deposits in commercial banks; further, the study showed a positive and important impact of the use of activity based costing on financial performance measured by return on equity. grounding on their results, the researchers found that strategic performance accounting tools have an effective impact on improving performance, as they support the provision of reliable, timely and appropriate financial data and reports that achieve the requirements of the successful strategy of firms in general and banks in particular, and therefore the study recommended the adoption of strategical managerial accounting methods such as activity based costing in addition to linking them with advanced methodologies in management such as supply chains, which achieves to more effective financial and Nonfinancial performance.

Nowadays, performance indicators have become one of the necessary methods to be followed in order to analyze financial and accounting performance and achieve the required control over performance and in activities and operations (Sufian, 2018). In the study of Salemans and Budding (2023) on the importance of using these indicators to reach the required performance and find control systems that reap societal acceptance and satisfaction, whether for the public sector or the private sector, a study was conducted in the Danish environment, where several scientific methodologies were relied on in order to verify the strength of these indicators in achieving control and realizing the required performance. The study found that effective control systems that established to achieve strategic objectives depend entirely on the company's ability to adopt strategic performance indicators that ensure compliance with the plans and policies set and not to violate the predetermined financial and operational limits of the company, moreover, the study has confirmed that effective control systems establish a successful groundwork to achieve the existing and future strategies if effective performance indicators are developed.

In the same vein Johanson et al. (2022) whom core objective of their work is to suggest an indication for the inspirations of benchmarking dissemination and adoption in Norwegian firms. A descriptive methodology for the styles of benchmarking were exploited, the volume to which enterprise presume to implement or improve their practice in the upcoming periods, and its possible usage in combination with other management plans and strategies. The results of the study asserted that Norwegian companies clearly apply benchmarking as a management tool, and this technique is applied together with additional management accounting and control ways, the results established an evidence for the successfulness of this method in modifying and replacement of budgets; given that a more truthful picture on which benchmarking seems to be crucial complement to budgeting process. The study concluded that the practice of KPIs and Big Data analysis complicated electing the proper efficient management control packages. Overall, the founding hypothesizes about benchmarking and regarded its future value and integration with many of other management methods.

Value chain is regarded as avital component of supply chain that aimed to deliver proper value of products and services via a set of activities that fulfill this objective. In an effort to introduce the notion of value chains as the basis for strategical managerial accounting scheme to provide input to the for competitive advantages in order to recover the excellence of private institutes (Ussahawanitchakit, 2017). Aids to the formation of strategical managerial accounting are also conducted to evaluate their absolute location in relative to competitors. In a study of Minggu et al., (2020) after realizing the ten key themes of value chain suggested that the use of strategic accounting tools enables the organization to improve its financial performance by developing indicators through which the value chain costing and supply chain costing to improve its performance.

According to Porter's value chain idea, business support activities contribute to the value development process of a company organization. Management accounting is a traditional business support function that adds to the value chain of the company organization. Daraban (2017) conducted a study on this purpose to illustrate one viable approach for determining value contribution through the use of value driven performance indicators. Using value-based performance metrics, the value contribution of intangible assets like as data, information, and expertise is highlighted. Because of the paradigm change caused by the information age, in which data, information, and knowledge are the primary commodities, management accounting is playing a critical role in the economy. Moreover, supporting of management decisions cannot be achieved only through necessary, detailed, and accurate data and information (Liu, et al., 2022). The value that provided by management accounting for modern company in the information age of the twenty-first century is significant and is a vital component of the management decision process.

After reviewing and discussing the different management accounting methods, within the subsequent subsections, the dimensions of organizational change will be reviewed and discussed and the sub-hypotheses will be formulated on the relationship between management accounting methods and the dimensions of organizational change.

2.2. Innovation

Innovation at the present time is viewed one of the tools and administrative approaches followed by most companies to improve products and services or provide new products and services in order to achieve survival and sustain the competitive advantage in the market, and this can only be realized by a strong financial position and financial returns that allow companies to develop, grow and exploit the

element of innovation as one of the tools to improve or raise financial performance.
Jamai et al., (2021) after undertaking a scoping review technique to evaluate the influence of altered methods of innovation on entities performance in SMEs where A sum of 47 investigations were selected to inspect the affiliation amongst innovation kind and efficiency of entities in term of performance in order to allocate the key characteristics that have a weighty effect on business advancement categorized according to type of industry. The outcomes of the study revealed that there is a variance in innovation effect reliant on the targeted sector type; the final fallouts of the study approved the strong affiliation between firm innovation and performance and innovation has a significant inspiration to company's performance growth, whereas marketing and product innovation have the greatest impact on agro-food business growth. Similarly, organizational and product innovation have a significant impact on company Nonfinancial improvement in both the manufacturing and service industries. In a study conducted by (Alhaddadeh, 2020) for investigating the impact of innovation on financial and Nonfinancial performance in Palestinian organizations. A regression study of 49 completed questionnaires revealed a substantial positive relationship between product and service innovation, process innovation, organizational culture, and financial success. Furthermore, the results show that process innovation has a good impact on financial organizational innovation performance (product and service performance). On the contrary, the findings show little indication of a link between product and service innovation and Nonfinancial performance (employee, customer, and product), process innovation and employee and customer satisfaction and there is also no evidence that cultural innovation influences Nonfinancial performance.

In two studies conducted by (Williams and Seaman, 2002; Seaman and Williams, 2006) on the role of modern accounting systems in improving institutional performance, the study proved a strong relationship between the modernization and development of accounting systems and the adoption of advanced accounting methods that directly leads to the improvement of institutional performance, whether financial or non-financial. Based on the above, the first sub-hypothesis can be developed, that is:
$H_{1\text{-}1}$**:** *There is no impact for strategical managerial accounting methods on organizational change represented by innovation.*

2.3. Product Development

The development of products and services is one of the main pillars that are planned at the beginning of the research and development phase, where the competitive environment, the evolution of customer tastes and sustainability requirements led to continuous review of products and services to improve their performance to become more acceptable in the market. Most companies have set financial allocations aimed at following up the development of their products and services, which preserves their financial position.

Magnacca and Giannetti (2023) verified the development of products impact on performance, and whether such development provides more growth opportunities in performance as a reaction to the existing awareness of favors of product development. The outcomes of the methodization effort of findings recognized the distinctiveness of management accounting in developing new products; furthermore, the conclusions proposed a theoretical outline for assembling existing donations along the research field that progressively moves the emphasis from technical-oriented facets of management accounting to more sociological-oriented features. Conclusively, the results pointed out that management accounting procedures and designs, management accounting information forms and parts, and accountants' contributions improving the new products development surroundings; therefore, empowering the awareness of production process in the future.

Strategic agility always directed to embrace business partner switching capabilities and market orientation in order to embrace the inter-partner cooperation dimension. in Indonesia environment Kurniawan et al (2020) conducted a study to show how product development provide more value consumers, their results assumed that agile project management must be framed by market orientation, however, market orientation alone is insufficient to ensure firm nonfinancial performance; the organization also requires strategic agility. Market orientation mediates the relationship between balanced APM and strategic agility, and strategic agility mediates the relationship between market orientation and firm performance, on company nonfinancial performance through the mediating function of market orientation and strategic agility of medium and large communications technology providers.

Some studies, after examining the power of management accounting tools on organizational change, have suggested that it is difficult to sustain consumer satisfaction except by fulfilling their requirements for goods and services. In Alsharari study (2019), which examined the role of management accounting on organizational change, the researcher showed that large companies with high-quality products and services and appropriate costs adopted modern financial and accounting methods in order to reach this position. In addition, Ma and Tayles (2009) pointed out that the modern reality of competition that imposed itself between companies in economic markets led to the introduction of management accounting methods as strategic tools capable of moving the financial and non-financial performance of companies from a current level to a higher level. Consequently, in order to measure the impact of management accounting methods on organizational change represented by product development, the second sub-hypothesis was hypothesized as follows:

$H_{1\text{-}2}$: *There is no impact for strategical managerial accounting methods on organizational change represented by product development.*

2.4. Environmental Sustainability

Recently, many demands were imposed on companies, these demands and did not rest only on companies to take into account customers in the quality of products and prices, but exceeded that to meet the requirements of sustainable development, which evolved to include sustaining of the economic requirements of the company, the social requirements of the public, the requirements of harmony with the environment, in addition to technological requirements (Bokolo, 2019; Nugrahani and Artanto, 2022). In a study for Gleißner et al (2022) that verified the influence of sustainability reportage on financial stability from the economical, societal, and environmental dimensions. Their findings revealed that the economic performance measured ROA was negatively affected by environmental dimensions; as a result, they suggested that firms that publish their economic and environmental performance will have a lower ROA whilst disclosing social performance has little effect on ROA. The final outcome of the study demonstrates that relying on idea of shareholders benefits is insufficient to achieve profitability, and businesses must consider the substantive parts of sustainability reporting.

Considering sustainability in firm's action was also suggested by Oyedokun and Mary (2022) after examining the impact of environmental conservation, sustainability, and financial performance on Nigerian listed oil and gas businesses from 2011 to 2020. Ecological accounting clearness was inspected by conservatism reporting, sustainable reporting and financial performance was noted in return of assets, return on shareholders' equity, and the income after tax. The multivariate analysis results supported the impact of sustainable environment practices on financial performance. The study recommended the importance of adhering to sustainability standards in all its axes in order to achieve sustainability in the company's returns and improve its financial performance. In a study of Aladwan (2018) concerning the role of new accounting method on performance found that modern accounting methods evidently supports industrial company's performance particularly sustainability of environment which directly upgrade the financial and nonfinancial position of organizations. Based on previous arguments the third sub-hypothesis is formulated as follows:

$H_{1\text{-}3}$: *There is no impact for strategical managerial accounting methods on organizational change represented by environmental sustainability.*

2.5. Social Responsibility

According to the Legitimacy theory that sustain the continuity of the facility, companies cannot survive or continue and achieve the desired profits until its goals are balanced with the goals of society; companies that neglect community benefits, whether economic or social, lose one of its important rewards that achieve their acceptance in the market and collective community support. Afandi (2021), stated that the relationship between corporate social responsibility (CSR) and company performance is crucial for financial performance or firm profitability. Corporate ethical behavior has emerged as one of the most important aspects influencing an organization's long-term viability. Ethical and responsible behavior assists businesses in fostering a good reaction among society, especially its employees, in order to assure their ongoing support. Therefore, companies must pay close attention to their community in order to understand what they anticipate from them. Equally, Rasheed et al., (2018) in Pakistan's context examined the impact of corporation societal responsibility on entities financial performance by questioning how social company responsibility might be computed in order to predict performance. While the study was carried out in an experimental in character, the empirical findings show that corporate social responsibility has a favorable influence on firm performance.

A company's responsibility disclosure is critical for implementing government regulations and public demands related to the disclosure of the company's sustainability in terms of economic, social, and environmental sustainability, which has a significant impact on the company's financial and Nonfinancial performance. Wahyuningtyas et al., (2021) once investigated the influence of sustainability reporting on the financial and Nonfinancial performance of firms in Indonesia, beside their assertion on the economic variable that has a large beneficial influence on financial performance they also reported that company's sustainability reports based on social, economic, and environmental concerns are vital to performance. They also approved that the economics-based sustainability reports had a positive and substantial influence on Tobin's Q (market value).

The dimension of social responsibility, on the other hand, is closely tied to a company's reputation and its relationship with various stakeholders. In the wake of global corporate scandals and increasing demands for transparency, societal obligation has arisen as a serious feature of business scheme (Wirba, 2023). By integrating social responsibility metrics into their SMA methods, companies can monitor their progress and demonstrate their commitment to ethical practices and social welfare (Balon et al., 2022). Referring to prior argument the fourth sub-hypothesis is:

$H_{1\text{-}4}$: *There is no impact for strategical managerial accounting methods on organizational change represented by social responsibility.*

2.6. Research Model

A research model is proposed in (Figure 1) below demonstrating the independent variables of managerial accounting strategic approaches (SMA) and the dependent variable of organizational change that discussed and explained earlier in the introduction, literature review, and operational definitions sections.

The dimensions of the independent variable were three (Management costing methods; Key performance indicators and value chain costing) and for the dependent variable the organizational change was presented by (Innovation, Product Development, Environmental Sustainability, and Social Responsibility).

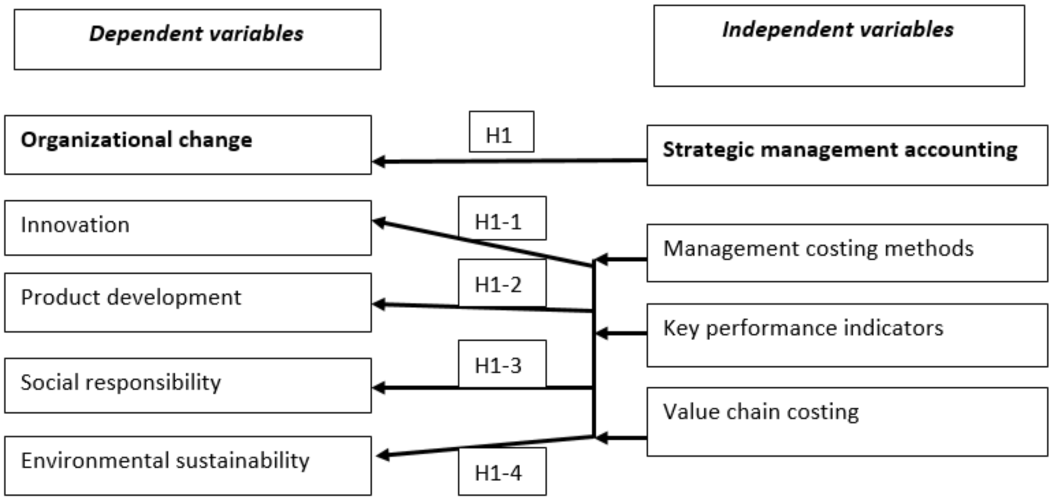

Fig. 1: Researchers Proposed Study Model

3. Method

In this section the research design, data collection methods, and data analysis techniques that used for this research are explained and the research questions are addressed, the sample size and selection, and any instruments or tools used for data collection.

3.1. Data Collection

As the study's main focus is to verify the impact of strategical managerial accounting methods on the organizational change of company. Qualitative and quantitative data were used to complete this study. To complete the study's analysis, a random sample of 500 employees working in Accounting departments in Aqaba Governorate companies were targeted by a well-structured online questionnaire, the questionnaire was constructed on Likert scale elicited options from (1-5); (strongly disagree, disagree, neutral, agree, and strongly agree), it consists of nine sections, 4 questions in the respondent's demographic profile, 15 questions for the independent variable, and 25 questions for the dependent variable. And only 134 of online questionnaire were obtained and where valid for analysis.

3.2. Data Analysis

Within the procedures of research analysis, a set of tests will be conducted, where the demographic variables of the respondents will first be reviewed, and before starting the analysis to prove the hypotheses, tests such as the normal distribution using ((Kolmogorov-Smirnov and Shapiro-Wilk) test, and reliability of instrument using (Cronbach's Alpha) test, also Bartlett's test will be applied as factor analysis, together with KMO values for each variable. KMO is used to test the correlation strength of how the factors explain each other among variables; and finally correlation and multiple regression tests will be conducted to prove or reject the hypotheses of the study.

3.3. Variables of The Study

Table 1 shows the classification of study variables and variable codes and a summary showing the concept of both independent and dependent variables

Table 1. Variables of the Study

Variables type	Name	Symbol	Summary
Independent variables	*Strategic Management Costing Methods*	*SMCM*	Strategical managerial costing accounting (SMCM) are a collection of management accounting tools that applied to provide information that supports strategic decision-making within an organization ((Petera and Šoljaková, 2022)
	Key Performance Indicators	*KPIs*	operationalized as metrics that reveal the effectiveness and efficiency of an organization's strategic management initiatives (Sultan, 2022)
	Value Chain Costing	*VCHC*	the process of examining, understanding, and evaluating the activities that an organization performs to create value (Doktoralinaa, 2019; Zarzycka and Krasodomska, 2022)
dependent variables	*Innovation*	*INOV*	process of translating an idea or invention into a good or service that creates value for which customers will pay (Jamai et al., 2021)
	Product Development	*PD*	the process of creating new products or improving existing ones to meet the changing demands of customers (Rizk et. al, 2022)
	Environmental Sustainability	*ENVS*	the practice of making decisions and taking actions that are in the interests of protecting the natural world with particular emphasis on preserving the capability of the environment to support life (Ortiz-Martínez et al., 2023)
	Social Responsibility	*SR*	social responsibility is operationalized as the commitment of companies to ethical behavior and contributions to economic development while improving the quality of life of the workforce, their families, the local community, and society at large (Bahurmoz, 2019)

4. Results and Discussion

4.1. Data description

The study included a sample of personnel in accounting departments in the companies under study who have the required knowledge and background of management accounting methods and organizational change, where a sample of 500 employees was selected to whom a questionnaire was sent, and 215 questionnaires were returned from these questionnaires, i.e. 43%, while the number of questionnaires that are suitable for analysis was 134 questionnaires, or about 27%. The sample of employees consisted of accounting controllers, senior accountant, junior accountants, staff accountant and management accountant. The sample comprised both male and female respondents with the age between 20 and 70 years.

Table 2 represent the demographic description of respondents.

Table 2. Demographic Variables Frequency

Demographic variable		N=134	%
gender	male	53	39.6
	female	81	40.4
age	21-29	27	20.1
	30-39	31	23.1
	40-49	39	29.1
	50-59	19	14.2
	60-70	3	2.2

Current position	junior accountant	23	17.2
	staff accountant	20	14.9
	senior accountant	37	27.6
	accounting manager	29	21.6
	controller	25	18.7
Years of Accountancy Experience	Less than 1 year	23	17.2
	2-5 years	28	20.9
	6-10 years	50	37.3
	More than 11 years	33	24.6

Source: Personal development, via Smart PLS version (3.0)

4.2. Data Normality, Reliability and Validity

In order to verify the normal distribution of the respondents' answers and before conducting the essential statistical tests to examine the hypotheses, a normal distribution test was conducted, the results of the normal distribution as presented in table 3, the normality test show that all dependent and independent variables do not follow the normal distribution, where the test values of (Kolmogorov-Smirnov) are less than 5%, even the results of (Shapiro-Wilk) test did not prove the normal distribution of study variables.

Table 3. Normality Test

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
SMCM	0.092	134	0.008	0.968	134	0.003
KPI	0.108	134	0.001	0.957	134	0.000
VCHC	0.106	134	0.001	0.948	134	0.000
INOV	0.113	134	0.000	0.952	134	0.000
PD	0.108	134	0.001	0.938	134	0.000
ENVS	0.122	134	0.000	0.932	134	0.000
SR	0.124	134	0.000	0.951	134	0.000
a. Lilliefors Significance Correction						

Source: Personal development, via SPSS version (20)

Moreover, the accuracy of the variables also was tested using Cronbach's alpha that scored 0.957, which is within the acceptable range, thereby providing the accuracy of the scale. Such value confirms the consistency of data and its reliable and related to the set of items as a group, (Vinerean and Opreana, 2021).

Table 4. Reliability Test

Reliability Statistics	
Cronbach's Alpha	**N of Items**
0.957	8

Source: Personal development, via SPSS version (20)

From the other tests that applied is Bartlett's and KMO test to examine the correlation strength among variables. The value adequacy amounted to 0.898 which is greater than 0.5, so it's acceptable, also the KMO value of study's variables of Bartlett's test is 0.000, which is significant, (Nigam and Shukla, 2018).

Table 5. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.898**
Bartlett's Test of Sphericity	Approx. Chi-Square	1293.204
	df	28
	Sig.	**0.000**

Source: Personal development, via SPSS version (20)

4.3. Descriptive Statistics

In order to capture a general view for all variables values a descriptive statistic were applied to all variables of the study. The results of the statistical description for all the variables of the study in table 6 demonstrate that the mean of all variables answers ranged approximately between 3.46 and 5, and this is an indicator that the study questions were able to measure the reactions of the respondents clearly about the study variables. Moreover, these results give an indication that the strategic management tools and organizational change are applied in Jordanian companies.

Table 6. Descriptive Statistics of Study Variables

	Minimum	**Maximum**	**Mean**	**Std. Deviation**
SMCM	1.2	4.8	3.46	0.858
KPI	1	5	3.69	0.893
VCHC	1	5	3.76	0.913
NFP	1	5	3.69	0.954
INOV	1	5	3.67	0.965
PD	1	5	3.65	0.997
ENVS	1	5	3.68	0.972
SR	1	5	3.69	0.924

4.4. Hypotheses Testing

With the intention of testing the bilateral relations between the study variables and accumulating a preliminary evidence for the relationship among variables a correlation test was conducted. Table 7 shows the different relationships between the independent and dependent study variables. When reviewing the correlation values in table 7, we find that there is an important statistical correlation between the methods of strategic cost accounting and all dimensions of organizational change. Where strategic accounting methods positively related to innovation, product development, sustainable environmental development and social responsibility, and the correlation values were approximately more than 60%, where the correlation with innovation was 63.4%, with product development 59.6%, with environmental conservation 64.7%, and finally with social responsibility 66.3%. These results provide preliminary evidence of the impact of strategic cost accounting methods alone on the four dimensions of organizational change.

The results related to the single impact of performance indicators on organizational change measures also confirmed the existence of a statistically important relationship, as the impact of performance indicators ranged between 61.5% and 76.4%, and this also provides important evidence for the impact of strategic accounting tools on organizational change. The results of this single impact of performance indicators on innovation showed a correlation of 72.5%, while the correlation of performance indicators with product development was 61.5%, the correlation with environmental sustainability was 70.5%, and finally the value of the correlation of performance indicators with social responsibility was 76.4%.

The results for the individual association among value chain costing and organizational change represented by its four perspectives showed a strong correlation between value chain costing and the four perspectives of organizational change. The correlation ranked from 62.7% to 75.4%; the correlation of value chain costing with innovation scored 73.4%, the correlation with product development was 62.7%, with environment sustainability 65.4% and finally with social responsibility 75.4%. such results also approved the high impact for strategic management tools on organizational change.

Table 7. Correlation Matrix of Study Variables

	SMCM	KPI	VCHC	NFP	INOV	PD	ENVS	SR
SMCM	1							
KPI	0.759**	1						
VCHC	0.691**	0.829**	1					
INOV	0.634**	0.725**	0.734**	0.849**	1			
PD	0.596**	0.615**	0.627**	0.691**	0.745**	1		
ENVS	0.647**	0.705**	0.654**	0.760**	0.776**	0.783**	1	
SR	0.663**	0.764**	0.754**	0.854**	0.973**	0.777**	0.821**	1

4.4.1. Testing the First Hypothesis

Validating the main proposed hypothesis requires from us to test the four derived sub-hypotheses that suggested previously. And since the main objective of the study is to examine the joint effect for strategic accounting methods on dimensions of organizational change, a multiple regression test will be performed to validate each effect. It should be noted here that, because there is no normal distribution for the study variables, an ordinal multiple regression is found the most appropriate test to estimate the explanatory power and fitness of models.

Table 8 shows the results of ordinal multiple regression for the first null sub-hypothesis. It appears from the results that the three variables of strategic accounting, namely strategic costing methods, key performance indicators and value chain costing, have significant positive impact on innovation for companies under study, where the coefficients values of variables appeared in order as follows; value chain costing 1.606, key performance indicators 1.168 and accounting costing methods 0.571, all of which were statistically significant. The regression results also indicate the fitness of the study model where the value of Chi-Square was 157 and was statistically significant. The explanatory power of strategic accounting methods showed an explanatory power of 69.4% of the change in company's innovation. Furthermore, the value of Chi-Square for parallel lines shows a value of 26.206, which is statistically significant. These outcomes for the effect of accounting methods on innovation were found consistent with the results of company's financial and non-financial performance for Nimnual and Kanitsorn (2021) and simmillarly in line with the findings of Setiawan and Iskak (2023). Based on these results we can reject the first null sub-hypothesis and confirm the existence of an important positive relationship for strategic accounting tools on organizational change represented by innovation.

Table 8. Regression results for the impact of strategic management methods on Innovation

Parameter Estimates				**Model Fitting**		**Pseudo R-Square**	**Test of Parallel Lines**	
variables	**Estimate**	**Wald**	**Sig.**	**Chi-Square**	**Sig.**	**Nagelkerke**	**Chi-Square**	**Sig.**
SMCM	0.571	4.105	0.043	157.058	0.000	0.694	26.206	0.998
KPI	1.168	10.764	0.001					
VCHC	1.606	24.008	0.000					
Dependent variable: Innovation								
Independent variables: SMCM, KPIs, VCHC								

4.4.2. Testing the Second Hypothesis

Table 9 exhibit the results for the ordinal multiple regression for the second sub-hypothesis. It can be seen from the results that the two variables of strategic accounting, namely, key performance indicators and value chain costing, have significant positive impact on product development for companies, whilst the managerial costing methods failed to prove its significance on product development, where the coefficients values of variables appeared in order as follows; value chain costing 1.352, key performance indicators 0.939 and accounting costing methods 0.478. The regression results also indicate the fitness of the study model where the value of Chi-Square was 124 and was statistically significant. The explanatory power of strategic accounting methods showed an explanatory power of 60.8% of the change in company's product development. Furthermore, the value of Chi-Square for parallel lines shows a value of 1.000, which is statistically significant. As the result show the positive linkage amongst accounting methods and product development; these results were also approved the previous evidence that suggested by Magnacca and Giannetti (2023), Kurniawan et al (2020) which also confirmed the positive impact for costing accounting methods on product development. grounding on these results we also reject the second null sub-hypothesis and confirm the existence of an important positive relationship for strategic accounting tools on organizational change represented by product development.

Table 9. Regression results for the impact of strategic management costing methods on product development

Parameter Estimates				**Model Fitting**		**Pseudo R-Square**	**Test of Parallel Lines**	
variables	**Estimate**	**Wald**	**Sig.**	**Chi-Square**	**Sig.**	**Nagelkerke**	**Chi-Square**	**Sig.**
SMCM	0.478	2.941	0.086	124.584	0.000	0.608	19.779	1.000
KPI	0.939	7.204	0.007					
VCHC	1.352	17.960	0.000					
Dependent variable: Product development								
Independent variables: SMCM, KPIs, VCHC								

4.4.3. Testing the Third Hypothesis

The results in table 10 screen the results for the ordinal multiple regression for the third study sub-hypothesis. It can be noted from the results that all of the three variables of strategic accounting, namely, strategic management methods, key performance indicators and value chain costing, have significant positive impact on environmental sustainability of companies, the coefficients values of variables appeared as follows; value chain costing 0.662, key performance indicators 1.247 and accounting costing methods 0.683. The regression results also indicate the fitness of the study model where the value of Chi-Square was 106 and was statistically significant. The explanatory power of strategic accounting methods showed an explanatory power of 55.2% of the change in company's environmental sustainability. Furthermore, the value of Chi-Square for parallel lines shows a value of 1.000, which is statistically significant. In this dimension also we realize that our results were comparable to those of (Bokolo, 2019; Nugrahani and Artanto, 2022) and the findings of Gleißner et al (2022) whom all verified the influence of sustainability reportage on financial stability from the economical, societal, and environmental dimension's. According these results, we also reject the third null sub-hypothesis and confirm the existence of an important positive relationship for strategic accounting methods on organizational change represented by environmental sustainability.

Table 10. Regression results for the impact of strategic management costing methods on Environmental Sustainability

Parameter Estimates				Model Fitting		Pseudo R-Square	Test of Parallel Lines	
variables	**Estimate**	**Wald**	**Sig.**	**Chi-Square**	**Sig.**	**Nagelkerke**	**Chi-Square**	**Sig.**
SMCM	0.683	5.908	0.015	106.740	0.000	0.552	21.701	1.000
KPI	1.247	12.332	0.000					
VCHC	0.662	4.666	0.031					
Dependent variable: Environmental Sustainability								
Independent variables: SMCM, KPIs, VCHC								

4.4.4. Testing the Fourth Hypothesis

The values in table 11 represents the results for the ordinal multiple regression of the fourth sub-hypothesis. Similar to previous results It can be noted from the results that all of the three variables of strategic accounting, namely, strategic management methods, key performance indicators and value chain costing, have significant positive impact on environmental sustainability of companies, the coefficients values of variables appeared as follows; value chain costing 1.294, key performance indicators 1.243 and accounting costing methods 0.526. The regression results also indicate the fitness of the study model where the value of Chi-Square was 136 and was statistically significant. The explanatory power of strategic accounting methods showed an explanatory power of 64.9% of the change in company's social responsibility. Furthermore, the value of Chi-Square for parallel lines shows a value of 0.968, which is statistically significant. The results of this variable, which is social responsibility, coincided with several previous studies such as Afandi (2021) and Wahyuningtyas et al., (2021) where it was proven in our study and previous studies the direct impact of management accounting tools on the environmental dimension. Consequently, these results also caused a rejection for the fourth null sub-hypothesis and approve the existence of an important positive relationship for strategic accounting methods on organizational change represented by social responsibility.

Table 11. Regression results for the impact of strategic management costing methods on Social Responsibility

Parameter Estimates				Model Fitting		Pseudo R-Square	Test of Parallel Lines	
variables	**Estimate**	**Wald**	**Sig.**	**Chi-Square**	**Sig.**	**Nagelkerke**	**Chi-Square**	**Sig.**
SMCM	0.526	3.532	0.040	139.361	0.000	0.649	18.919	0.968
KPI	1.243	12.235	0.000					
VCHC	1.294	16.550	0.000					
Dependent variable: Social Responsibility								
Independent variables: SMCM, KPIs, VCHC								

Since this research aims to investigates the linkage between the strategical managerial accounting methods impact on organizational change of the company. Strategical managerial accounting methods proved to have a straightforward impact. However, other prior studies have found no association or mixed results, some found no impact others revealed impact for certain dimensions. Our study results were found consistent with several previous studies that showed an association between strategical managerial accounting methods and organizational change of firms.

Returning to the study outcomes, it can be concluded that the use of strategic accounting tools that are adopted by companies has an effective impact on organizational change in general, as the detailed results proved that strategic accounting methods, which depend on focusing on optimizing costs, improving the value chain, and developing financial and non-financial performance indicators capable to increase innovation and improving the level of products, in addition to increasing companies' interest in environmental impacts and more community participation and public support.

These detailed results led to a complete rejection of the proposed main null hypothesis at the beginning of the study that there is no effect of strategic accounting methods on organizational change. The inspection of single relationships by correlation have demonstrated a single impact of all dimensions of strategic accounting methods on all dimensions of organizational change. Furthermore, when testing the sub-hypotheses of the collective impact of strategic accounting methods on each dimension of organizational change a statistically significant positive relationships were found that were demonstrated through explanatory power of R-squire and through Chi-Square results. Based on previous results and discussion it is concluded that:

1. Strategical managerial accounting methods has significant positive impact on organizational change.
2. There is a positive relationship between the use of strategical managerial accounting methods and the organizational change dimension of innovation.
3. There is a positive relationship between the use of strategical managerial accounting methods and the organizational change dimension of product development.
4. There is a positive relationship between the use of strategical managerial accounting methods and the organizational change dimension of environmental sustainability.
5. There is no positive relationship between the use of strategical managerial accounting methods and the organizational change dimension of social responsibility.

The study found that strategical managerial accounting methods on organizational change of the company, as indicated by all of results have essential impact. This finding suggests that companies should consider incorporating these strategical managerial accounting methods through, managerial costing methods, KPIs and value chain analysis into their Nonfinancial performance to achieve better results. It is worth noting that further research may be necessary to confirm and expand upon these initial findings. Overall, the integration of strategical managerial accounting methods on Nonfinancial performance dimensions is essential for any business looking to thrive in the contemporary evolving economic markets.

It can be concluded that this study was able to highlight the importance of adopting management accounting methods in establishing change in the organization, especially for non-financial dimensions, and it can be noted after these discoveries that the study provided a set of implications for example, the study provided practical Suggestions like bringing more valuable insights for Jordan firms seeking to enhance their Nonfinancial performance in terms of innovation, environmental sustainability, and social responsibility; therefore, the study recommends companies implement strategical managerial accounting methods effectively. Furthermore, the study introduced Academic contribution by enhancing existing body of knowledge on the relationship between strategical managerial accounting methods and Nonfinancial performance by examining it within the unique context of Jordanian companies. It will enrich the literature on management accounting and performance measurement practices. From the implications that related to Policy Guidance the outcomes asserted to policymakers in Jordan the potential benefits of strategical managerial accounting methods in promoting sustainable business practices and social responsibility. This could lead to the development of supportive policies and regulations. As for broad Generalizability, the insights gained from this study may have broader implications beyond Jordan, Other countries and industries can draw lessons from the findings and apply them to their own contexts, thereby promoting Nonfinancial performance improvement globally. Future research on this topic, can be developed to include other management accounting tools or other organizational change factors, and future researchers can also adopt quantitative analysis methods that illustrate organizational change based on growth in sales, profits or the rise in company value.

5. Conclusion

This study makes key contributions to research on management accounting and organizational change. The findings reveal strategic costing, performance measurement, and value chain analysis can positively influence innovation, product development, sustainability, and social responsibility. This suggests incorporating non-financial metrics into accounting practices may benefit organizational change initiatives. However, further studies should validate these relationships across various contexts.

From a practical perspective, the results provide evidence of the potential advantages of strategic accounting approaches that align with and support broader organizational goals. By implementing techniques like target costing, KPIs, and value chain analysis, companies can monitor progress on strategic nonfinancial outcomes. Yet realizing the benefits likely requires training and an integrated performance measurement perspective. As the business environment evolves, exploring the interplay between accounting and organizational change remains imperative. This study offers an informative step toward better understanding their intersection.

The study provided significant practical implications; demonstrating the impact of SMA methods on Nonfinancial performance and provided companies with evidence-based strategies to improve their operations and performance, moreover, identifying the opportunities associated with SMA that guides companies in navigating their strategic and operational decisions.

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