

The Mediating Effect Of Organizational Culture On The Relationship Between The Lean Accounting And Sustainable Competitive Advantage In Jordan

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Abstract: This study aimed to identify the mediating effect of Organizational Culture on the relationship between the Lean Accounting and Sustainable Competitive Advantage. The study population consisted of all Jordanian Public Industrial Shareholding Companies, which represent of (59) companies. To achieve the objectives of the study, a questionnaire was developed and distributed to the top and middle managers of companies working in the Jordanian Industrial Public Shareholding Companies. Structural equation modeling (SEM) has been used in this study to test the relationships between the study variables which are Lean accounting, Organizational culture and Sustainable competitive advantage. Amos 23.0 and SPSS 25.0 software has been used as tools for SEM usage. The study revealed a number of results, the most important of which were: the Organizational culture had a full mediating effect on the relationship between lean accounting and sustainable competitive advantage in the Jordanian Industrial Public Shareholding Companies. Based on the results of this study, the researchers reached several recommendations, the most important was: The Jordanian Industrial Public Shareholding Companies should give more importance to the Organizational culture to enhance their lean accounting and its positive reflection on sustainable competitive advantage.

Key words: Lean accounting, sustainable competitive advantage, organizational culture, Jordan.

1. INTRODUCTION

In the past few years, researchers have been addressing one of the important topics in the accounting environment, i.e. Lean accounting, due to its significance in keeping up with the continuous development and improvement by the managements of organizations seeking to enhance their market status and improve their production processes (Beredugo&Mefor, 2012). The adoption of lean accounting tools supports the elimination of waste in production, leading to a decrease in production costs and thus achieving competitive advantage in the market and eliminating waste in production processes (Al-Dulemi&Shehadeh, 2018). Several studies addressed the topic of competitive advantage, the critical success factor of an organization and their role in outperforming competitors in the business market. Competitive advantage is defined as an organization's distinguished performance in the competition market where it practices its business. It is the ultimate outcome of the organization's value which can be created with buyers (customers), so that the value of the organization exceeds the cost of creating such value among those who deal with the organization through cost, flexibility, quality and lead time (Alamari, 2018) through enforcing information systems such as: activity based costing system and target costing and the role of these tools in reducing costs (Al-Dalabeeh & Al-Zeaud, (2012); Idowu, 2014; Malinic et al., 2012; Matarneh, & El-Dalabeeh, 2016). Accounting, controlling, measuring and managing methods that reflect lean thinking and production well constitute lean accounting that make consciously decisions possible by providing precise, understandable and applicable information (Ahakchi, Ahakchi, Yangjh, & Alilou, 2012). With the extensive application of lean production, lean accounting gets more and more attention (Wang & Yuan, 2009). Lean accounting refers to a wide spectrum of changes in managing, evaluating, controlling and accounting

processes of companies that implement lean strategies (Cesaroni & Sentuti, 2014). However, many of the obstacles to lean accounting are at least in part caused by a lack of understanding of lean management. To support a lean accounting transformation, accountants must understand the lean management system (Darabi et al., 2012). Understanding lean overcomes the barriers of fear, lack of education, and the resistance to cultural change (Darabi et al., 2012). Similarly, lean accounting should replace traditional measurement systems and accounting (Maskell, et al., 2017), because the ambiguity of lean production in practice means that the implementation process can create strategic resources to underpin sustainable competitive advantage (Lewis Michael, 2000). Primarily, Cavallini (2008) affirmed that companies applying lean Sigma in their operations not only deliver higher quality products and services, but also obtain superior financial results. Therefore, companies want to strategically invest their capital should consider lean as a source of competitive advantage. Admittedly, several aspects need to be taken into account before lean implementation including organizational culture (Taheerimashhadi & Ribas, 2018). Organizational culture plays an important role in any organization including affects the environmental performance and sustainable development of the firm (Roscoe, et al., 2019). Consequently, there are few kinds of research that have been done on lean accounting in Jordanian companies. For example, Alhosban and Alsharairi (2019) aimed to explain the effect of lean accounting on the internal control components, namely accounting control and administrative control. No research has taken into account the impact of lean accounting on competitive advantage in Jordanian companies. As well as ignoring the possible implications of determinates factors that could affect competitive advantage (e.g., Alhosban & Alsharairi, 2019). To address this gap, this research measures the possible implications of factors such as

lean accounting and organizational culture on competitive advantage.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Lean accounting and sustainable competitive advantage

Alsoboa & Alalaya (2015) argue that competitive advantage is the organization's possession of different resources, properties and conditions from other organizations in competitive businesses and markets, whereby such organization has an added value for its products and/ or customers and the organization as a whole. It is unique so that competitor organizations find it difficult to keep up with the same, and no alternatives are available so that the organization is distinguished from its competitors (Porter, 1985), taking the following different shapes as strategies to create competitive advantage: Cost leadership strategy, differentiation strategy, focus strategy (Bhargava, et al., 2018; Aykan & Aksoylu, 2013). The fundamentals of competition include: Continuous improvement (sustainability) and focus on human resources and talents. The topic of lean accounting was addressed by several studies. Arora & Soral (2017) argue that lean accounting is an operating system based on a principle that can be expressed in terms of customer value, flow value, minimum flow, and retention of capable people. It is an organized system to eliminate and minimize production waste, waiting, transport and storage time in order to achieve continuous improvement. In the same context, many studies found that lean accounting contributes to the reduction of costs needed to maintain inventory and productions costs (Kocamis, 2015; Ofileanu & Topor, 2014; Wang & Yuan, 2009). There are many benefits for lean accounting which make it more acceptable than traditional accounting, as it leads to better products, lower costs and timely delivery, which all reflect on the organization's market value and help it achieve the competitive advantage sought by all organizations. The importance of using lean accounting is that it: Replaces conventional performance criteria with lean ones (Monroy et al., 2014), creates a basis for the benefits increase strategy resulting from the financial impact of lean improvements to the organization's business and performance (Fullerton et al., 2014; Arbulo-Lopez & Fortuny-Santos, 2010), contributes to achieving financial surpluses through eliminating waste (Sari & Sukanata, 2017; Stojanovic & Radojevic, 2006), focuses business around creating value for the client in the first place and thus enhancing the company's value (Kocamis, 2015), which reflects positively on the competitive advantage sought by all organizations. Several studies highlighted the relationship between lean accounting and sustainable competitive advantage, whereby Ahmed (2016) and Maskell and Baggaley, (2006) argued that lean accounting tools embody quality control and continuous development activities (e.g. Kaizen) which function under two levels of planning (strategic and daily operational) to achieve integration in planning and executing strategic

plans. Also, Emiliani & Stec (2004) emphasized the role of lean accounting tools in tracking and lowering the cost of the flow of resources and information, and managing the use of such resources in the operations of the organization in order to address weaknesses and build on strengths, in a manner that creates added value against minimum cost (Abdu et al., 2016), in order to achieve competitive advantage for the organization. The same concept is expressed by Blocher et al. (2012) and Alamari (2018). Furthermore, Kbelah et al. (2019) stressed that the production of a rare commodity (a service or a product), producing a commodity in minimal time or finding low-cost resources may increase competitive advantage. Time is the essential factor in value stream mapping which focuses on managing and reducing the time needed for manufacturing and delivery (Gordon, 2010; Salah & Zaki, 2013; Woehrlé & Abou-Shady, 2010; Monteiro et al., 2015). This has led to performance improvements through avoiding the costs of non-value adding activities (Almusawi et al., 2019), and this improved decision making (Kocamis, 2015) which is an essential factor for the sustainability of competitive advantage of organizations.

2.2 Lean accounting and organizational culture

Organizational culture is a set of ideas and values followed by a group of people who practice such culture in their work and their decision making process. It enjoys a supportive role by the management to be communicated and informally used to address the issues faced by workers, which necessarily affect their behavior and the performance of the organization as a whole (Kane-Urrabazo, 2016; Lim, 1995). Several studies have examined the relationship between lean accounting and organizational culture and the role of this relationship in promoting functional compliance (Dwivedi, et al., 2014) in the presence of the employee in his physical capacity and his intellectual presence, which is a manifestation of loyalty and creativity in his work and the innovation of creative ideas and investing them in improving strategic decisions made by management as shown by (Bermiller & McCright, 2009; Wong, 2007) in order to strengthen the organization's status among competing organizations. This requires the organization to provide an appropriate business environment for learning, devise a plan for developing the capacity and rehabilitation of its staff. Augustrianto, et al. (2018) believes that there is a guarantee for continuous improvement in the performance of the organization under the creative or supportive culture or other types of organizational cultures. The organization's culture works through lean accounting and its tools where it deals with lean culture such as value stream maps (Klimecka-Tatar, 2017; Nandikolmath, et al., 2012), the cost of Kaizen examined by Kumar, et al. (2018), and the target costing as in the study by Maskell (2017) and the need to find out the if the company can or cannot apply these tools (Al-Dalabeeh, 2012). By using such tools, workers' thinking becomes in line with lean thinking as a valuable addition to the client. JungbaeRoh, et al. (2008) found that this eliminates losses and influences the employees behavior to comply with business requirements through the adoption of lean behavior and the application of lean

accounting focused on creativity in identifying activities that do not add value to be excluded and thus improve performance (Wnuk-pel, 2018), where Kaizen emphasizes the need to strengthen the culture of the organization and disseminate it among employees (Sani & Allahverdizadeh, 2012; Pakdil & Leonard, 2014) and thus contribute to reduce cost, which of course requires support for continuous improvement and dissemination of a culture of total quality by eliminating waste and damages.

2.3 Organizational culture and sustainable competitive advantage

An advantage is competitive when it is continuous and sustainable, i.e. always keeps up with developments. It should be creative in a proactive manner towards the changes in the tastes and desires of the organization's customers. It aims to increase the company's market share and facilitate its success. This requires the quality management of the product's elements and the production of a successful commodity in comparison with competitor companies (Economou & Chatzikonstantinou, 2009). In all cases, it should play a major role in achieving the organization's long term and short term goals. Creativity and innovation are fundamental for creating value for organizations, thus creating competitive advantage, whether through creating rare commodities (services or products), producing them in a short time or finding low-cost resources (Kbelah et al., 2019) by obtaining more accurate cost information to reach better management for the organization through a highly effective information system (Abood, 2019), which are all fundamentals of competitiveness which achieve competitive advantage (Kumar & Mahto, 2013). Also, Hatch & Zibler (2012) emphasized that there is a relationship between an organization's reputation and image and excellence and organizational culture. Organizations are differentiated by their cultures to create incentives for its staff to be creative and to spread creative culture (Yesil & Kaya, 2012; Sarros et al. 2008) and creating a unique identity for the organization through finding creative ideas that make the organization's products unique and distinguished (Ali Taha et al., 2016), help in achieving its long-term goals (Buschgens et al., 2013) and reduce, save and manage processing time which can all boost competitive advantage (Kwan & Walker, 2004). This will lead to continuous and sustainable competitive advantage for the organization in the business market (Barney, 1986; Madu, 2012). The review of the above literature leads to the proposal of the following hypotheses;

H1: Lean accounting positively affects sustainable competitive advantage.

H2: Lean accounting positively affects organizational culture.

H3: Organizational culture positively affects sustainable competitive advantage.

H4: Organizational culture mediates the relationship between lean accounting and sustainable competitive advantage.

3. METHODOLOGY

3.1 Sample and procedure

The present study employed 295 managers (top and middle) from Jordanian Public Industrial Shareholding Companies. However, from these 295 respondents, only 138 gave beneficial responses. Apart from that, more than 13 questionnaires of the responses were lost or deemed to be deceitful. Also, in this study, anonymity and confidentiality of the data were observed. In terms of the demographic distribution of the sample, a large portion were: male approximately (95%) had significant amount of working experience that is between 15 and 20 years (61.6%).

3.2 Measures

A structured instrument was used to collect data from respondents. The items of study constructs were adapted from previous studies and measured using five-point Likert scales ranging from "strongly disagree" to "strongly agree". Items were adapted from previous studies to ensure content validity. The scales for lean accounting were adapted from Iranmanesh, et al. (2019); the scales for organizational culture were adapted from Rastgoo, (2017). and the scales for Sustainable competitive advantage were adapted from Alamri, (2018).

3.3 Analytical method

Structural equation modeling (SEM) has been used in this study to test the relationships between the study variables which are Lean accounting, Organizational culture and Sustainable competitive advantage. Amos 23.0 and SPSS 25.0 software has been used as tools for SEM usage.

4. RESULTS

4.1 Exploratory Factor Analysis (EFA)

This study executed the EFA procedure on the three study constructs namely lean accounting, organizational culture and sustainable competitive advantage. The measurement items for each construct was adopted from literature, where four items were adopted to measure lean accounting, four items to measure organizational culture and four items to measure competitive advantage constructs, which are attitude and character. The study results are tabulated in Table 1. From the table, it is evident that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of the constructs varied between 0.603 and 0.806, exceeding the 0.60 threshold value according to prior studies (e.g., Ahmad, 2019; Hoque, et al., 2017; Obeid, et al., 2017; Shbail, et al., 2018). The results meet the requirements of KMO. Also, from the table, the EFA results of all the constructs are presented, particularly, the construct's components, the respective components items and every item's factor loading. Value of internal reliability for each component is also included in the table, which supports the items reliability in this field of study. Figure 1 displays the main constructs along with their components, and from the figure, there are three types of validity sought for the constructs; construct validity, convergent validity and discriminate validity with composite reliability. All the above validity requirements had to be satisfied prior to further analysis.

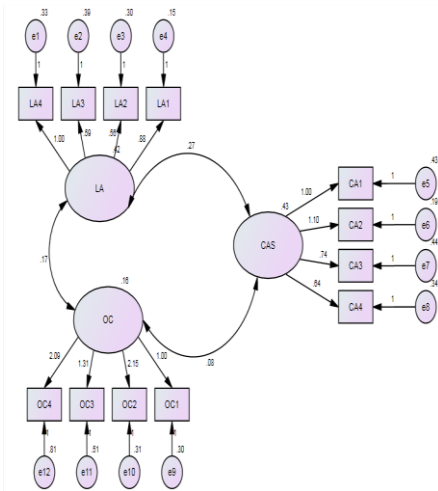


Figure 1. The Measurement Model

4.2 Confirmatory Factor Analysis

The confirmatory factor analysis (CFA) was employed to assess the measurement model, using pooled measurement model method, following the recommendation provided by Mohamad, et al., (2017). The method combines the entire latent variables in one measurement model to obtain and establish their unidimensionality, reliability and validity. Refer to Table 1 for the constructs reliability, validity and uni-dimensionality values.

Table 1: Validity and Reliability

Construct	Items loading	CR	Cronbach's Alpha	AVE	
Sustainable Competitive Advantage (SCA)	SCA1	.774	0.683	0.726	0.549
	SCA2	.823			
	SCA3	.727			
	SCA4	.626			
Organizational Culture (OC)	OC1	.781	0.708	0.763	0.565
	OC2	.709			
	OC3	.763			
	OC4	.752			
Lean Accounting (LA)	LA1	.780	0.806	0.907	0.586
	LA2	.795			
	LA3	.697			
	LA4	.786			

The study achieved convergent validity of constructs using Average Variance Extracted (AVE), where the values all exceeded the 0.50 threshold value – a criterion mentioned in prior studies including Al-Shbiel, et al., (2018), Mohamad et al. (2017). Moreover, the discriminate validity of the constructs was confirmed using Discriminate Validity Index Summary, necessitating higher diagonal values (AVE square root) compared to any other values within the rows/columns (constructs correlations). Meanwhile, the study achieved composite reliability of constructs by obtaining CR values and ensuring that they all exceeded 0.60 threshold as recommended by Hoque et al. (2017) and Mohamad et al. (2017). With regards to reliability, internal reliability and composite validity was employed – in the former, the

value of Cronbach's alpha has to be more than 0.70 and based on Table 1, the Cronbach's alpha value of every construct exceeded the cut-off value and thus establishing internal reliability. Lastly, composite reliability of the constructs was established by assessing the measurement model's reliability in the latent construct measurement. Here, the CR value has to be higher than 0.60 for reliability confirmation. The CR values of the constructs in this study are tabulated in Table 1, and from the table, it is clear that they all exceeded 0.60, which confirms the constructs composite reliability.

4.3 Model-Fit Summary

The measurement model of a construct should meet three model fit categories, which are absolute fit, incremental fit and parsimonious fit in order to establish validity (Mohamad et al., 2017). Based on the analysis results, construct validity was confirmed, with chi-square of 285.323, and degree of freedom equal to 51, p-value equal to 0.000 – all confirming the fit between the model and data. Owing to the sensitive nature of chi-square statistics, other fit measures have been recommended for the model fit confirmation and as such, the study employed other measures and obtained the following values; 5.595 for CMIN/df, 0.722 for NFI, 0.756 for CFI, 0.857 for GFI, and 0.08 for RMR, further establishing the model-data fit in the study.

4.4 Hypotheses Testing

First Hypothesis (H1): Lean accounting positively affects sustainable competitive advantage. Following the hypothesis testing, the findings explained in-depth details of the examined variables in light of the phenomenon under study. Beginning with the first hypothesis, the main model proposed a significant effect from lean accounting to sustainable competitive advantage (H1), and the results showed support for the hypothesis (p<0.05), with changes in the lean accounting changes at 16.8%, as presented in Table 2.

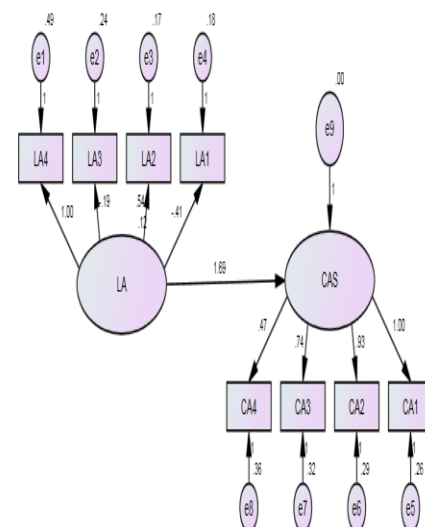


Figure 2. Relationship between lean accounting and sustainable competitive advantage

Table 2: First Hypothesis

Relationship	Estimate	S.E.	C.R.	P	Decision
LA--> SCA	1.687	.344	4.909	***	Supported

***indicate a highly significant at p<0.05.

Second Hypothesis (H2): Lean accounting positively affects organizational culture.

Lean accounting explained 19% of the organizational culture changes (refer to Figure 3). In Table 3, lean accounting's influence on organizational culture was supported in its significance (5% with beta value, 0.992), in the positive direction. The second hypothesis (H2) is therefore supported.

Relationship	Estimate	S.E.	C.R.	P	Decision
OC---> SCA	.274	.059	4.687	***	Supported

***indicate a highly significant at p<0.05.

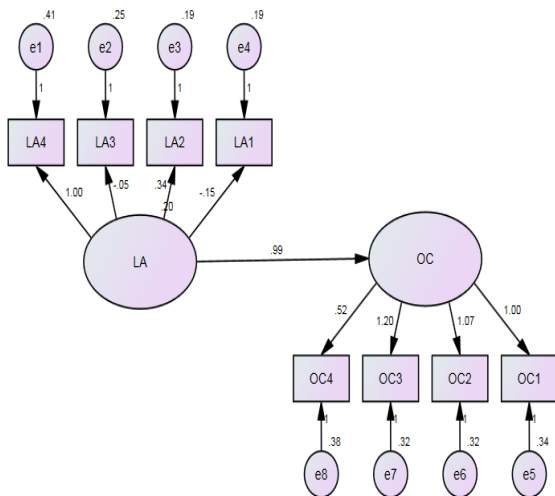


Figure 3. Relationship between lean accounting and organizational culture

Table 3: Second Hypothesis

Relationship	Estimate	S.E.	C.R.	P	Decision
LA--> OC	.992	.123	8.074	***	Supported

***indicate a highly significant at p<0.05.

Third Hypothesis (H3): Organizational culture positively affects sustainable competitive advantage.

Based on the results of the third hypothesis, organizational culture explained 43.9% of the sustainable competitive advantage changes (refer to Figure 4),

indicating its statistical significant positive effect on sustainable competitive advantage at the level of significance of 5% at beta value of 0.274, as presented in Table 4. Thus, on the basis of these results, hypothesis H3 is supported.

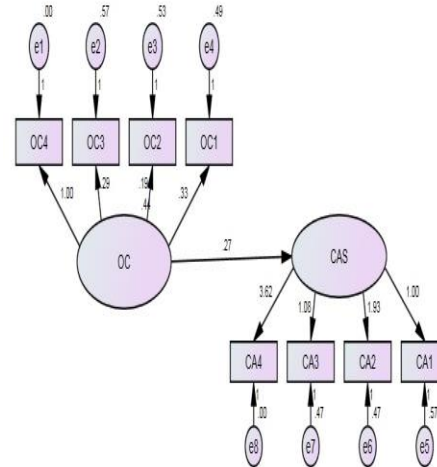


Figure 4. Relationship between organizational culture and sustainable competitive advantage
Table 4: Third Hypothesis

4.5 Mediation Test

Fourth Hypothesis (H4): Organizational culture mediates the relationship between lean accounting and sustainable competitive advantage.

Prior to including the mediating variable (organizational culture), it was noted that lean accounting positively influenced sustainable competitive advantage (beta value of 1.687 at 5% significance level). When the mediating variable was included, lean accounting lost its statistical significance at 95% confidence interval, with beta value of 0.012 and p=0.516 (p>0.05). This result indicates that organizational culture has a full mediating effect on the lean accounting- sustainable competitive advantage relationship and as such, hypothesis H4 is supported.

As for the organizational culture (OC) mediating role on the relationship between lean accounting and competitive advantage, it was integrated in the firm model, illustrated in Figure 5.

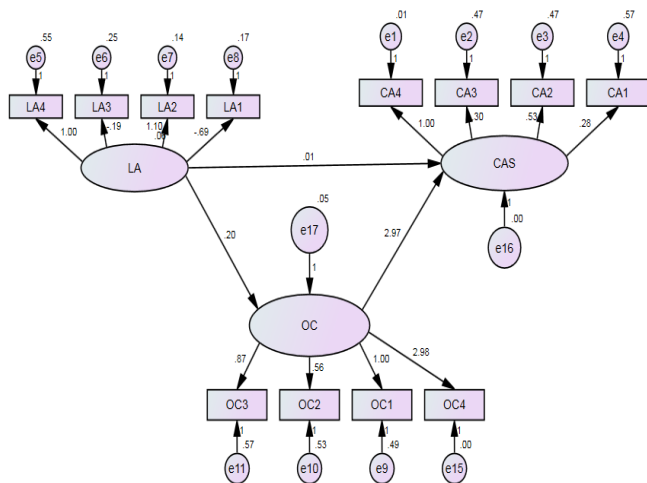


Figure 5. Relationship between LA and CA with OC as a mediator

5. CONCLUSIONS

This study aimed to identify the mediating effect of Organizational Culture on the relationship between the Lean Accounting and Sustainable Competitive Advantage. The study revealed a number of results as follows : the results showed a positive effect of lean accounting on sustainable competitive advantage which approve the success of lean accounting and its tools in helping companies management to compete and sustain their competitive advantage, which agree with studies of Kocamis, (2015), Ofileanu & Topor (2014) and Wang & Yuan (2009).our study has produced a strong evidence for the positive effect of lean accounting on organizational culture, and that imply the homogeneity between the sustainable improvement as a tool of lean accounting and organizational culture which agree with: Augustrianto, et al. (2018), Dwivedi, et al., (2014), (Bermiller & McCright (2009) and Wong, (2007).moreover, the findings indicates that there is a positive effect of organizational culture on sustainable competitive advantage ,so when the company has creative and innovative employees the then it will lead to sustain its competency relating to their competitors which agree with each of Kwan & Walker (2004), Kbelah et al. (2019) and Madu (2012). our study is the first to be able to report that the Organizational culture had a full mediating effect on the relationship between lean accounting and sustainable competitive advantage in the Jordanian Industrial Public Shareholding Companies. Based on the results of this study, the researchers reached several recommendations such as; the Jordanian Industrial Public Shareholding Companies should pay more attention concerning the organizational culture to enhance the lean accounting tools for achieving their sustainable competitive advantage. as well as Implementing the model of this study in other domains.

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