

Industrial Clusters and Their Role in Enhancing the Competitiveness of Small and Medium Enterprises-Leather and Footwear Sector in Palestine

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Abstract

Examining how the cluster affects the performance of the footwear and leather industry organization in Palestine within the framework of a developing nation was the aim of this study, based on contingency and resource-based view theories during the first six months of 2022. The study investigated whether national culture, as well as perceived environmental uncertainty, had a significant impact on cluster among footwear and leather firms. The total population of Palestinian leather and footwear businesses, which consisted of 230 businesses dispersed throughout several cities, served as the example framework. Partial Least Squares Structural Equation Modeling was used to examine the data. The results showed that PEU and national culture had a substantial and advantageous impact on cluster. Additionally, cluster had a big impact on BSC. Furthermore, a significant positive association existed between BSC and organizational competitiveness. Finally, the findings showed that the connection between cluster and organizational competitiveness was largely mediated by BSC. To sum up, this study has shed significant light on the cluster of factors that drive organizational competitiveness generally and especially in Palestine. The results have opened new avenues for more theoretical, methodological, and practical study on cluster activities in Palestine and other developing countries, and worldwide.

Keywords

Industrial Clusters, Competitiveness, Small and Medium Enterprises, Leather and Footwear

1. Introduction

Small and Medium Enterprise's (SME's) play a vital role in attaining economic growth and development in developing nations, where they contribute to programs such as job creation and poverty reduction, as well as creating a just and greater distribution of income and economic opportunity (Hijazi, 2020). SMEs account for around 98.6% of all businesses in Palestine, providing 76.5% of employment and about 56 percent of added value, with leather and apparel items accounting for 14.8 percent of all jobs and 12.1% of industrial operations (PCBS, 2020). According to the Palestinian Central Bureau of Statistics (PCBS), the Leather and Footwear Sector's (LFS) contribution to total Gross Domestic Product (GDP) is 2% of all Palestinian industry and accounts for around 75% of the industry in Hebron.

The Palestinian leather and footwear industry is one of the most important national industrial sectors. Hebron has long been the center of the industry, it had 1000 enterprises, 10,000 employees, and produced almost 13 million pairs of shoes yearly at its height in the mid-nineties (the golden period) (PMNE, 2022). There are now over 230 registered footwear manufacturing enterprises in the leather and footwear sector. Staffing levels in the footwear industry have been set at approximately 2500 people, accounting for 76% of total employment. This is a considerable decline from the time leading up to the year 2000, when the sector employed nearly 10,000 individuals. Due to the second intifada, which erupted on September 28th, 2000, the yearly output has been set at four million pairs of shoes, a 70 percent fall in production compared to the time preceding up to the year 2000 (Awad & Amro, 2017).

Our study looks at the spread of clusters in competition and how it impacts businesses. According to (Porter, 1998), who was the first to recognize and exploit the cluster concept Clusters are "geographic concentrations of related enterprises and institutions in a specific area". Over the last two decades, academic study has focused on the notion of clustering, in which businesses are clustered in certain geographic locations. It is commonly acknowledged that such agglomerations help both businesses and the communities in which they are located by increasing competitiveness and expertise. According to studies, it has a significant impact on the development of industry rivalry and product quality. The literature, on the other hand, has mostly concentrated on cluster ideas and linkages, as well as their competitive advantages.

Industrial clusters may also be used as a network structure to adapt and shift markets and technology inside a company (Sultan et al., 2020). Industrial clusters are used by governments and planners because they produce better results. Developing countries should look for innovative strategies or approaches to minimize expenses and enhance productivity in their businesses these days (Awad & Amro, 2017). This can help businesses compete, therefore this study focuses on extending cluster management in competition in Palestine, a developing country. The study will help in indicating the effect of industrial cluster management

on competitiveness, taking the leather and shoe cluster as a case study by implementing the theories and knowledge gained through this study.

The economic transformations since the nineties of the last century imposed new and serious challenges and integration into the global economy and then the adjustment of economic policies in line with the WTO companies and new agreements that, by reducing customs duties, provide opportunities for small and medium-sized enterprises to enter export markets and improve access to production technologies and other inputs; however, in a highly competitive and competitive world, this path of trade liberalization creates a real risk for small enterprises unable to compete with imports of lower prices or better quality.

Many of the critical aspects of management, skilled labor, innovative tools and equipment, manufacturing, and efficient marketing systems are still lacking in SME's. In light of rising competition, both domestically and internationally, and the need to mitigate these risks, it has become a critical issue in the economy, necessitating the search for a new strategy to increase performance. The term "industrial clusters" has been used to describe this type of development.

Companies that manufacture the same or similar goods and services at a certain point in the value chain form competitor-collaborator partnerships. Companies must create and offer better goods and services, as well as improve themselves, in order to compete in today's new globalization (Bhadu et al., 2022). Every firm has a wonderful chance to supply higher quality products at a significantly reduced cost. Industrial competitive advantage may be established through clustering, according to (Porter, 1990), which will affect the economy since competitive advantage cannot be created by a single business alone. In this study, the researcher will look at the link between operating in a cluster and increased competitiveness among SMEs in the leather and footwear production industry. The cluster is driven by a single goal: to improve the SME's marketability and competitiveness. This entails expanding the industry's supply chain, acquiring new technology, improving product quality, lowering costs, boosting the implementation of best practices, and creating distinctive locations that can compete with international locations. Our study is mainly designed to address the following core questions:

- 1) Does clustering for small and medium sized companies affect the process of achieving competitiveness?
- 2) What is the role of clustering in achieving competitiveness?
- 3) Are companies' improvement within the surrounding environment, based on Porter Model, considered sufficient to achieve competitiveness?

Therefore, according to the aforementioned research questions, the following specific objectives are developed to:

- To examine the influence of the cluster on performance of footwear and leather industry organization in Palestine.
- To examine the influence of the Porters diamond on performance of footwear and leather industry organization in Palestine.

- To examine the influence of the organization performance on Balanced scored card of footwear and leather industry organization in Palestine.
- To examine the influence of the balanced scored card on competitiveness of foot-wear and leather industry organization in Palestine.

A theoretical framework was developed to examine the relationship between cluster and its antecedent factors, BSC and the organizational competitiveness. Consequently, by examining the proposed relationships, this study achieved its purpose. Essentially, the aim of this study was to investigate the influence of PEU and national culture on cluster design. Additionally, this study was conducted to assess whether BSC mediate the relationship between cluster and organizational competitiveness.

The research hypotheses can be formulated as follows:

- H1: There is a positive significant association between PEU and cluster.
- H2: There is a positive significant association between national culture and cluster.
- H3: There is positive association between cluster and Balanced scored card.
- H4: There is a positive relationship between Balanced scored card and competitiveness.

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The main research structure described in the following four parts: Review of the Literature in Section 2, the Methodology and give an evaluation in Section 3, Section 4 present the Data analysis and findings, finally Section 5 the Conclusion and Recommendations.

2. Review of the Literature

2.1. Industry Clusters

Industry clusters have received widespread recognition in earlier literature. According to (Michaud & Jolley, 2017), clusters are described as related industrial concentrations in a certain geographic area that are “connected by comparable demands such as manufacturing inputs, skilled labor, and technology”. In other words, industrial clusters are the spatial concentration of linked companies, suppliers, service providers, academic institutions, and other organizations that are associated with a certain industry (Pominova et al., 2021; Ortuzar, 2015). Public-private partnerships are occasionally used by these clusters to interact, which may lead to the growth of businesses, the creation of jobs, and other aspects of economic development like competitive advantages and higher incomes (Wolman & Hincapie, 2015).

An industry cluster's operations and development are influenced by a variety of important players and forces. For instance, due to the difficulties of independent enterprises to develop a final product in isolation, interdependent firms frequently need to collaborate (Ehrmann, 2021). Additionally, (Mottiar & Ingle, 2007), identified adaptability, viability, and close proximity as factors that influence effective clusters. Finally, in order to create a regional industry cluster Boari, there must be significant levels of competitive success in a certain industry (Rosenthal & Strange, 2004), as well as local demand for a product (2001). Prior research in the Appalachian region has revealed that clustering of businesses promotes the creation of new businesses, notably in the technology sector, but not necessarily the expansion of employment (Feser et al., 2008). The state of Ohio has a strong wood and forest products sector, for instance. Ohio has notable enterprises, among others, in the commercial logging, sawmill, pulp and paper, and wood manufacturing industries. In spite of a sharp fall in the production of wood home furniture in the US during the previous ten years, Ohio's wood furniture sector has actually done rather well (Bumgardner et al., 2011). According to (Bumgardner et al., 2008) the north and eastern regions of the state have a competitive edge in producing well made Amish wood, which contributes to Ohio's prosperity. For instance, Holmes County, Ohio, has a sizable Amish population and a well-known wood furniture manufacturing cluster, which includes regionalized assembly and production as well as supply chains to bigger industrial hubs in Pennsylvania, Indiana, and Ohio (Bumgardner et al., 2008).

2.2. Competitiveness and Clusters

Flórez et al. (2020) define the concept of cluster or agglomerates as “geographically close group of companies from the same industry or from several industries that are interrelated and of companies and institutions that provide them with goods or services that are complementary to them”. This concept is very similar to that of Porter, and in this they emphasize that its geographical scope goes beyond the context of a nation, but also encompasses cities or nearby places and that the companies that comprise it range from companies, products or final services, suppliers of inputs, machinery and specialized services, to financial institutions, manufacturers of complementary products and government entities, among others. For their part, Valderrey et al. (2012) say that clusters mainly influence the competitiveness of organizations that belong to a certain sector, they help increase the productivity and effectiveness of the actors that comprise it, stimulate commercialization, as well as the creation of new companies and their ability to innovate. Clusters or conglomerates arise due to associated factors, among which cooperation between small companies stands out in a context in which none permanently predominates (Lara et al., 2004). Likewise, (Rodriguez et al., 2000), they explain the cluster concept based on three basic dimensions, highlighting cooperation as an important aspect in conglomerates:

- 1) Territorial Dimension: In a cluster, the companies are located in a geo-

graphical area concrete, more or less extensive or close.

2) Sectoral Dimension: companies are linked to a specific industrial value system.

3) Cooperative Dimension: Companies that belong to a cluster maintain cooperative and complementary relationships among themselves (LÓPEZ, 2004).

Alnidawi et al. (2017) focused on the impact of competitive advantage based on human capital in creating organizational sustainability represented by Jordanian telecom companies. Various (innovation, teamwork, organizational relations), the researcher notes from this previous study that it used the competitive advantage based on human capital as an independent variable and organizational sustainability with its various dimensions as a dependent variable.

2.3. Porter's Diamond

Michael Porter proposed a model that looks at why some states are more competitive and why some industries within states are more competitive than others. This model, called Porter's Diamond, has the primary purpose of facilitating the understanding of the competitive advantage that companies have in the context of the industry and the nation in which they operate (Tsiligiris, 2018). Porter's Diamond Model is one of the instruments that is most frequently applied for the evaluation of national competitiveness and one of the promoters of the creation of clusters of competitive industries of a nation, although over time, it also is used to assess the competitiveness of economic sectors (Stonkiene et al., 2016), (Brosnan et al., 2016). The study by (Kutschke et al., 2016) aimed to know the effects of loading local factors on the performance of innovation networks in the German energy sector. A relationship between the competition environment and performance, and this result, as the researchers explained, contradicts Porter's theory of the competitive environment and its role in enhancing competitiveness. The researcher notes that this study created an imbalance in Porter's theory in the negative impact of the competitive environment on performance, as well as the negative impact of government on performance. Porter's diamond is structured by 5 determinants as shown in **Figure 1**.

Bakan & Doğan (2012) focused on the effect of the variables (production factors, demand conditions, supporting industries, and the related role, and the role of government) in the diamond model of the economic scientist Porter on competitiveness. The study found many results, the most important of which are: There is a positive effect between the conditions of demand and competitiveness, and there is a positive effect between the factors of production and competitiveness, and a positively impactful relationship between the supporting industries and competitiveness. The study also indicates that there is a positive effect between the role of government and competitiveness.

2.4. The Leather and Shoes Sector in Palestine

When compared to the other components of the leather-based business, tanning

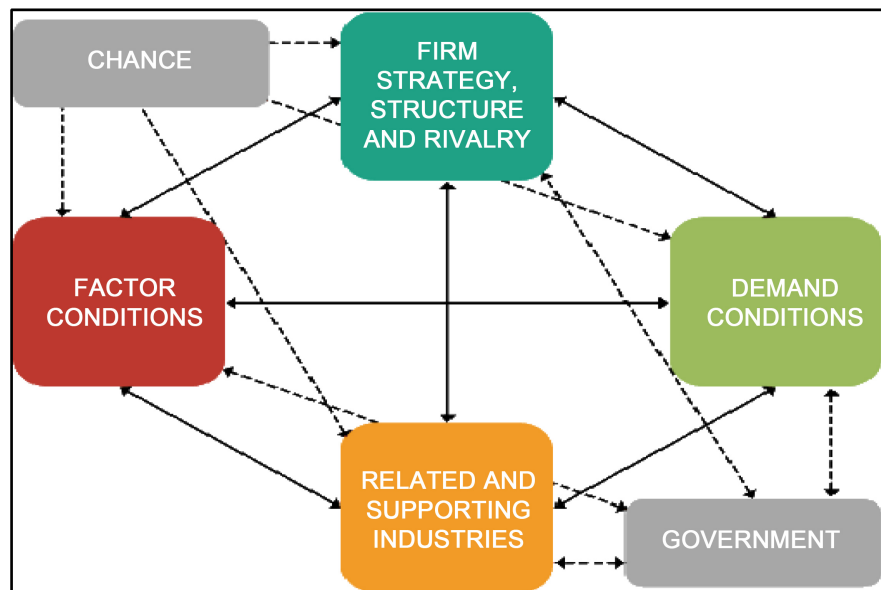


Figure 1. Porter's diamond. Source: Tsiligiris (2018).

and leather dressing play a limited economic importance. Their contribution to the manufacturing sector's gross output and value added is roughly 0.2 percent and 0.03 percent, respectively. Their employment share is around 0.15 percent of overall employment. However, when seen in isolation from the leather-based industry as a whole, the economic importance of tanneries might be overlooked. Tanneries play a significant part in the footwear and leather wear sectors, providing roughly 17% and 15% of the natural leather used in the footwear and leather wear industries, respectively. Awad & Amro (2017) aimed to discuss the impact of cluster clusters on the competitiveness of small and medium-sized companies operating in the leather and footwear sector in the city of Hebron using a number of measures, namely (Porter Diamond "competitive performance", the five market forces of Porter, and BSC), to achieve the competitiveness of these companies, the results showed no direct relationship between the porters Diamond and Balanced performance (BSC) the study recommended a set of recommendations, the most important of which are: focusing on the activities of the clusters to improve the internal performance of institutions and the transition to the external environment, in addition to transferring the expertise of the clusters in other sectors as a result of its positive results in achieving efficiency, thus achieving economic growth and sustainability, which are key pillars for achieving sustainable development in Palestine.

Our study used a structural equation model (SEM), has two main components for the purpose of performing data analysis, the measurements model and the structural model. The measurements model is also known as the outer model (Henseler et al., 2009). This outer model includes unidirectional predictive association between each latent construct and its respective indicators. In the measurement model, any multiple relationships are not acceptable; thereby, the in-

dicators of constructs have to be associated merely with a single latent construct. PLS-SEM has no problem handling both the reflective and/or formative measurements model (Hair et al., 2014).

The findings from this research provide useful guidelines to organizations, specifically to their managers, for making decisions in the process of cluster design. Apart from these contributions, the research outcome has also provided useful guidance for future research especially in a developing economy and in particular to the Arab world, in which little cluster research exists.

3. Methodology

3.1. Research Design

One type of research design may be utilized in order to arrive at a solution to the research problem: 1) quantitative qualitative approach (Sekaran & Bougie, 2010; Zikmund, 2003). A quantitative method allows researchers to collect data from large sample size and statistically determine the extent to which a certain phenomenon is accurate and reliable. Hence, by using quantitative approach, researchers can examine the significance among and between research variables and are able to generalize the results to the whole population (Zikmund, 2003). After reviewing the quantitative research method, the quantitative approach was found to be more suitable for the purpose of this study than qualitative method, as it allows the researcher to compare the results of the current study with several previous studies, as well as allowing the researcher to generalize the results to the entire population.

3.2. Unit of Analysis

According to the nature of this study, which is to examine the hypothesized relationships on the firm level, the unit of analysis of the current study is the Palestinian firms represented who work in certain top management positions. Top managers can give accurate information, reflective of real situations of the company, in particular regarding the research variables to test the hypothesized relationships. Therefore, for the current study, the assumption was that the Chief Executive Officer (CEO), and Chief Financial Officer (CFO) had specific knowledge of cluster and its antecedent factors, porters diamond and firm performance, or competitiveness.

3.3. Sampling Frame and Sample Size

Sampling and the decision about which of the 230 Palestinian firms on footwear and leather industry using the Statistical Package for Social Science (SPSS) Version 22, to include in the sample size is crucial for business research (Maxwell, 2010). To that end, and as the population of this study is small, Zikmund (2003) noted that, when the sample units in the population are limited, the researcher may select to study the whole population rather than taking a sample for the study.

3.4. Variable Measurements

This section presents the measurements of the research variables based on the operational definitions of each variable. Hence, four main groups of measurements are discussed in this section including cluster, PEU, National culture, balanced scored card, and competitiveness.

3.5. Model of the Study

3.5.1. Partial Least Squares-Structural Equation Model (PLS-SEM)

A structural equation model (SEM) has two main components for the purpose of performing data analysis, the measurements model and the structural model. The measurements model is also known as the outer model (Henseler et al., 2009). This outer model includes unidirectional predictive association between each latent construct and its respective indicators. In the measurement model, any multiple relationships are not acceptable; thereby, the indicators of constructs have to be associated merely with a single latent construct. PLS-SEM has no problem handling both the reflective and/or formative measurements model (Hair et al., 2014).

3.5.2. Criteria of Assessing Structural Model (Inner Model)

Once researchers have evaluated the reliability and validity of the measurement model they can proceed to estimate the structural model (also known as the inner model) in the context of PLS-SEM on the way to testing the hypothesized relationship (Henseler et al., 2009). The inner model illustrates the relationship between latent constructs of the study model. In this context, PLS-SEM allows only recursive relationships in the structural model, in different words, no casual loops. Hence, the structural path between latent constructs can merely head in a single direction. There are two types of constructs in this structural model, exogenous and endogenous latent constructs. An exogenous term represents the constructs that do not have structural path association pointing at them. An endogenous term represents a latent construct explained by other construct (s) in the structural model (Hair et al., 2011). The fundamental criteria to examine structural model include:

a) Coefficient of determination (R^2) for the endogenous variables, Chin (1998) suggested that values of R^2 above 0.67 are considered high, while values ranging from 0.33 to 0.67 are moderate, whereas values between 0.19 to 0.33 are weak and any R^2 values less than 0.19 are unacceptable.

b) Effect size (f^2) of the exogenous variables, Cohen's (2013) criteria to determine effect size (f^2) recommended that values of f^2 above 0.35 are considered large, values ranging from 0.15 to 0.35 are medium, values between 0.02 to 0.15 small effect size and lastly any values less than 0.02 are considering with no effect size.

c) Prediction relevance (Q^2), value of cross-validity redundancy above zero ($Q^2 > 0$), indicates that there is a predictive relevance while a value of Q^2 less

than zero means that the model lacks predictive ability.

d) Goodness of fit (GoF), 0.1 means small GoF, 0.25 is considered medium and value greater than 0.36 indicates a large GoF.

e) Examining the path coefficient (using bootstrapping), the value of path coefficient should be estimated in term of magnitude, sign and significant (the later via bootstrapping), commonly used critical values for two tailed tests are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1%) (Hair et al., 2014).

4. Data Analysis and Findings

Data were collected by using mailed questionnaire as well as distributed and collected survey questionnaire personally. The sample of this study includes 165 Palestinian firms.

In our study, data collection process started in Jan 2022 and lasted until June 2022. In order to enhance the response rate for the current study, the researcher had taken several steps includes: first, survey questionnaires were emailed or personally delivered along with a cover letter that introduce the purpose of this study. Second, the respondents were assured that all information provided by survey questionnaires will be highly confidential. After two weeks of distributing the surveys, the researcher personally visited and/or calls the companies reminding them of the importance of their participation.

With the aim of achieving reliability in analysing the collected data, different statistical softwares have been applied to perform data analysis represented by SPSS version 22.0 and Structural Equation Model (SEM), specifically Partial Least Square (PLS-SEM), precisely SmartPLS version 2. Hence, the current study used a mixture of both inferential and descriptive statistics method. Inferential method was applied to test the research hypotheses of the conceptual model by using SmartPLS Version 2 whereas, descriptive statistics was conducted to summarize the sample characteristics of the collected data by Statistical Package for the Social Sciences (SPSS) Version 22.0.

The population of our study is the Palestinian firms whereas, the respondents are the top managers represented by CEO and CFO. The characteristics examined included gender, age, work experience, work experience in the current position, and establishment year.

4.1. Descriptive Analysis of Constructs

4.1.1. Perceived Environmental Uncertainty

Perceived Environmental Uncertainty (PEU) is a main construct and captures four dimensions, namely, perceived political, competitive, technological and operational uncertainty. **Table 1** shows the mean, standard deviation, minimum and maximum of the PEU items.

Political uncertainty was measured by using four items. As illustrated in **Table 1**, the mean score for those indicators ranged from 3.87 to 4.02, whereas the

Table 1. Descriptive statistics of Perceived Environmental Uncertainty—PEU.

Construct	Code	Min	Max	Mean	Std.Dev
PEU—All dimensions	PEU	1	5	4.08	0.20
Political uncertainty—All items	PolitU	1	5	3.92	0.08
1) Our environment is unpredictable and hard to anticipate the political changes.	PolitU-2	1	5	4.02	0.98
2) Our external environment is very predictable; very easy to forecast the future state of the political environment.	PolitU-4	1	5	3.90	1.11
3) Political instability hinders our company to implement its strategies and plans	PolitU-3	1	5	3.89	1.09
4) Our external environment is very predictable; very easy to forecast the future state of the political environment.	PolitU-1	1	5	3.87	1.10
Competitive—All items	Compt	1	5	4.10	0.081
1) Product introductions in adjacent industries.	Compt-1	1	5	4.15	1.11
2) New industry entrants.	Compt-3	1	5	4.04	1.02
3) Market tactics of competitors.	Compt-2	1	5	3.99	1.08
Technological uncertainty—All items	Tech	1	5	4.07	0.18
1) Competitors technology.	Tech-3	1	5	4.22	0.89
2) Change in product technology that affect the relative cost/efficiency to user.	Tech-1	1	5	4.12	1.00
3) New technology.	Tech-2	1	5	3.88	1.03
Operational—All items	OperU	1	5	4.24	0.22
1) Diffusion of property knowledge outside the organization.	OperU-1	1	5	4.64	0.83
2) Increasing productive capacity.	OperU-6	1	5	4.30	0.90
3) Input costs.	OperU-4	1	5	4.22	0.88
4) Scope effect (product breadth).	OperU-3	1	5	4.12	0.91
5) Internal product enhancement.	OperU-5	1	5	4.09	1.01
6) Scale effects (product depth).	OperU-2	1	5	4.07	0.97

Notes: Participated managers were kindly asked to choose their preference from a 5-point Likert-type scale (1 = not at all, 2 = low extent, 3 = moderate extent, 4 = large extent, and 5 = very large extent). Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

mean score of all items was $m = 3.92$, which reflects the agreement level toward those political items. For example, the majority of the respondents believed that PolitU-2 (our environment is unpredictable and hard to anticipate the political changes) was a common feature of political uncertainty dominating the Palestinian environment for decades. This, in turn, reflected the difficulties that face Palestinian firms in implementing their strategies and plans due to the political instability. Similarly, the majority of respondents scored PolitU-3 (political instability hinders our company to implement its strategies and plans) highly at $m =$

3.89.

Competitive uncertainty as the second dimension in the PEU was measured by using three items. The mean score for those three items was $m = 4.10$, and the mean score of each indicator ranged from 3.99 to 4.15 (see **Table 1**). Respondents gave Compt-1 (product introductions in adjacent industries) the highest attention as its mean score was $m = 4.15$. The majority of the respondents believed that Compt-3 (new industry entrants) and Compt-2 (market tactics of competitors) were also common feature of the competitive uncertainty that dominating Palestinian business environment.

Comparing this result with political uncertainty, it is obvious that the competitive uncertainty mean score was higher than the mean score for political uncertainty. This result indicated that competitive uncertainty was more important than political uncertainty in the context of the Palestinian listed firms.

Technological uncertainty was measured using three items. The mean score for each item ranged between 3.88 and 4.22. The mean score of the total indicators was $m = 4.07$ (see **Table 1**). Respondents believed that Tech-3 (competitor technology) was the main feature of technological uncertainty with $m = 4.22$. A technological difference between competitors usually affects their competitive positions in the market. Hence, Tech-1 (change in product technology that affect the relative cost/efficiency to user), was also given proper attention in the Palestinian companies with $m = 4.12$, which emphasizes the need to look for new technology to maintain their respective competitive position.

Operational uncertainty was the final PEU dimension included in this study. Six indicators were used for the purpose of measuring operational uncertainty. The result of the mean score value of all items was $m = 4.24$, and mean score of each indicator ranged from 4.07 to 4.64 (see **Table 1**). Notably, the highest mean score of all PORTERS DIAMOND dimensions was operational uncertainty.

The highest value of for operational uncertainty items ($m = 4.64$) was given to item 1. The majority of respondents believed that OperU-1 (diffusion prosperity knowledge outside the firm) was crucial and one of the important common features of operational uncertainty. The second highest operational uncertainty item was the attention given to increasing productive capacity with $m = 4.30$. This result indicates the importance of increasing productive capacity in the Palestinian listed firms, although many obstacles and uncertainties hinder those firms from increasing their production capacity.

4.1.2. National Culture

The second variable is national culture that includes: power distance, uncertainty avoidance and collectivist culture. **Table 2** shows the mean scores and standard deviation values of the national culture dimensions.

Power distance dimension was measured by using three items. The mean score $m = 2.68$, was the lowest mean score in the present study. For each power distance item, the mean values ranged from 2.65 to 2.71 (see **Table 2**). Thus, the result shows that no value reached 3.00. This illustrates the weak influence of

Table 2. Descriptive statistics of national culture.

Construct	Code	Min	Max	Mean	Std. Dev
National Culture—All dimensions	Culture	1	5	3.40	0.18
Power distance—All items	PowDS	1	5	2.68	0.04
1) Subordinates are frequently afraid to express disagreement with superiors.	PowDS-1	1	5	2.71	1.15
2) There is considerable distance between top managers and middle managers.	PowDS-3	1	5	2.67	1.13
3) Top management usually controls most of organization activities and did not delegate controlling power to others.	PowDS-4	1	5	2.65	1.13
Uncertainty avoidance—All items	Uncerav	1	5	4.04	0.14
1) Our company extremely implements its rules, procedures, and work laws.	Uncerav-3	1	5	4.17	0.78
2) A company or organization's rules should not be broken.	Uncerav-1	1	5	4.14	0.95
3) Our company has specific rules, procedures, and work laws.	Uncerav-2	1	5	4.03	0.90
4) Our company is intolerant of deviant persons or risky ideas.	Uncerav-4	1	5	3.83	0.95
Collectivism—All items	Collect	1	5	3.49	0.21
1) Our company prefer group decision making.	Collect-3	1	5	3.72	0.93
2) Our company prefers to communicate its results with its members.	Collect-1	1	5	3.43	0.92
3) Organization managers prefer to work individually rather than to work in-group.	Collect-2	1	5	3.32	1.11

Notes: The respondents were asked to indicate their response on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

power distance characteristics on the Palestinian listed firms, which also will be discussed in the hypotheses test section.

Uncertainty avoidance culture was measured using four indicators. Mean score results of each indicator ranged between 3.83 and 4.17, while the mean score of the all items was $m = 4.04$ (see **Table 2**). Comparing this result to the power distance values, it is obvious that the influence of the uncertainty avoidance culture was found to be higher than power distance culture in the Palestinian companies. The majority of the respondents agreed that Uncerav-3 (our company extremely implements its rules, procedures, and work laws) is one of the common features of avoiding uncertainties as its mean score $m = 4.17$ was the highest items among uncertainty avoidance indicators. Another example of avoiding uncertainties by restricted rules and procedures can be found through Uncerav-1 (a company or organization's rules should not be broken). Palestinian respondents

believed that an organization's rules are a fundamental facet of avoiding any potential uncertainty. The impacts of this result on cluster design will be discussed more in depth in the hypotheses test section.

Collectivist culture as the final national culture dimension and was measured by using three items. The mean score of each indicator was found to be above 3.00 and ranged from 3.32 to 3.72. In addition, the total mean score of all collectivism items was $m = 3.51$. The highest mean score $m = 3.72$ was given to Collect-3 (our company prefers group decision making), which is not surprising because the Arab world comprises collectivist societies in its nature, and is integrated into strong and cohesive in-groups (Hofstede et al., 2005). In comparison to power distance and uncertainty avoidance, the mean score of the collectivist culture $m = 3.49$ was than power distance $m = 2.68$ and lower than uncertainty avoidance value $m = 4.04$.

4.1.3. Cluster

The third variable is cluster. Table 3 presents the descriptive statistics of cluster. Cluster was measured by using 12 items. The mean score $m = 4.03$, for each cluster item, the mean values ranged from 3.67 to 4.49 (see Table 3). Thus, the result shows that no value less than 3.00. This illustrates the strong influence of cluster on the Palestinians firms.

4.1.4. BSC

BSC is the mediating variable of the current study. Four items were used to measure this construct. Table 4 illustrates descriptive statistics of BSC. Table 4

Table 3. Descriptive statistics of management control system—cluster.

Construct	Code	Min	Max	Mean	Std. Dev
cluster—All item	cluster	1	5	4.03	0.24
1) Culture of innovation.	P-2	1	5	3.92	0.82
2) Organizational Structure of innovation.	P-1	1	5	3.89	0.81
3) Cooperation for raw material innovation.	P-3	1	5	3.82	0.91
4) Innovation Strategy.	P-4	1	5	3.67	0.87
5) Relationships formalization.	P-12	1	5	4.01	0.87
6) Technology management.	P-7	1	5	3.82	0.91
7) Product Development Process.	P-5	1	5	3.72	0.92
8) Innovation in the manufacturing process.	P-8	1	5	3.70	0.84
9) Importance of cooperation for raw material innovation.	P-10	2	5	4.54	0.77
10) Business integration for innovation.	P-6	2	5	4.49	0.72
11) Partnerships for Innovation.	P-9	1	5	4.41	0.78
12) Cooperation for product innovation.	P-11	1	5	4.18	0.88

Notes: Respondents was kindly asked to choose their preference on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

Table 4. Descriptive statistics of BSC.

Construct	Code	Min	Max	Mean	Std. Dev
BSC All dimensions		1	5	4.37	0.14
Financial Perspective—All items	BSC	1	5	4.20	0.11
1) I notice a notable increase in revenues compared with the investment size.	BCS-1	1	5	4.24	0.85
2) There is a remarkable increase in operating profits.	BCS-2	1	5	4.22	0.85
3) There is an improvement in profitability.	BCS-3	1	5	4.05	0.91
Customer Perspective—All items		1	5	4.40	0.19
1) There exists a control of the supplier.	BCS-1	1	5	4.09	0.91
2) Your share of leather and shoes in the local market is high.	BCS-2	1	5	4.07	0.95
3) The quantity you export is high.	BCS-3	1	5	4.03	0.93
4) There is a threat on entering new alternative products (imported shoes).	BCS-4	1	5	3.93	0.93
Internal Business—All items	BSC	1	5	4.20	0.11
1) There is an improvement in employees and workers productivity.	BCS-1	1	5	4.30	0.93
2) Employees enjoy employment satisfaction.	BCS-2	1	5	4.24	0.85
3) It is possible to keep the professionals in the company.	BCS-3	1	5	4.22	0.85
Learning—All items		1	5	4.40	0.19
1) The period you need to introduce new products is long.	BCS-1	1	5	4.49	0.91
2) The percentage of introducing new products and items from the total products.	BCS-2	1	5	4.22	0.85
3) Improvements and additions conducted by employees are plenty.	BCS-3	1	5	4.32	0.89
4) The period you need to introduce new products is long.	BCS-4	1	5	4.43	0.93

Notes: Respondents were asked to record their selection based on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

shows that means ranged from 4.03 to 4.9, while mean value of all items was found to be $m = 4.37$. This result shows the agreement level about the features of PSC in Palestinian firms.

4.1.5. Organizational Competitiveness

Organizational competitiveness as the ultimate aim of this study was measured using seven items that capture the extent of organizational competitiveness in the explored organizations. The organizational competitiveness construct contains

both financial and non-financial competitiveness elements. **Table 5** illustrates descriptive statistics of organizational competitiveness. As illustrated in **Table 5** mean scores of the organizational competitiveness ranged from 3.78 to 4.38. Values of the mean score of all items was found to be $m = 4.01$. Palestinian managers as the respondents of this study believed that NFP-4 (product/services quality) was a fundamental competitiveness evaluation as it was the highest mean score $m = 4.38$. In addition to that, customer satisfaction was also considered a common feature of the competitiveness evaluation with a mean score of $m = 4.12$ item (NFP-3) in the Palestinian companies.

4.2. Testing the Structural Model (Inner Model)

Having examined the reliability and the validity of the measurement model, the next step is to evaluate the structural model. In doing so, five different tests were performed to evaluate the inner model as (Hair et al., 2011) suggested. Those are: Coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), goodness of fit (GoF), and finally path coefficient. Each test will be discussed separately in the following subsections.

4.2.1. Coefficient of Determination (R^2)

Coefficient of determination or what known as R^2 , is one of the central criteria in the evaluation of the structural model by PLS-SEM. In fact, R^2 value represents the portion of variation in the endogenous variable (s) that can be explained by one or more exogenous variables. Hair et al. (2011) stressed the fundamental role of R^2 and noted that “the primary evaluation criteria for the structural model are the R^2 measures and the level and significance of the path coefficients. Because the goal of the prediction-oriented PLS-SEM approach is to explain the endogenous latent variables variance, the key target constructs level of R^2 should be high”.

Table 5. Descriptive statistics of the organizational competitiveness.

Construct	Code	Min	Max	Mean	Std. Dev
Organizational competitiveness—All items	FP	1	5	4.01	0.20
1) Product/services quality.	NFP-4	1	5	4.38	0.74
2) Customer satisfaction.	NFP-3	1	5	4.12	0.81
3) Developing employee competencies and skills.	NFP-6	1	5	4.07	0.90
4) Overall organizational profitability.	FP-1	1	5	3.94	0.98
5) Return on Investment.	FP-2	1	5	3.91	0.90
6) Development of new products/services.	NFP-5	1	5	3.93	0.92
7) Employee satisfaction.	NFP-7	1	5	3.78	0.92

Notes: Respondents were asked to choose their preference from a 5-point Likert-type scale (1 = not at all, 2 = low extent, 3 = moderate extent, 4 = large extent, and 5 = very large extent). Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

In the same line, Chin (1998) suggested that values of R^2 more than 0.67 are considered high, while values ranging from 0.33 to 0.67 are considered moderate, whereas values between 0.19 to 0.33 are considered weak and any R^2 values less than 0.19 are unacceptable. Thereby, the quality of structural model depends on the values of R^2 , which demonstrate the ability of the exogenous variable (s) in explaining the endogenous variables. Thus, based on the results of this study, all values of R^2 have fulfilled (Chin, 1998), criteria. Table 6 presents R-Square (R^2) of the endogenous latent variables of the second order.

Based on the results that are presented in the Table 6, the power of PEU and national culture together in explaining cluster was found to be moderate as the R^2 value was 0.617. Indicating that PEU and national culture together can account for 61.7% of the variance in the cluster in the Palestinian firms. In addition, the power of cluster in explaining BSC was considered moderate because R^2 was 0.331 indicating that cluster can account for 33.1% of the variance in the organization learning. Finally, the R^2 of the organizational competitiveness was moderate with value of 0.622 referring to the ability of the BSC and cluster explains 62.2% of variance in organizational competitiveness.

In addition to the R^2 of the second order as was discussed and presented in Table 6, the researcher also examined the R^2 for the first order. First order is concerned with the association between the dimensions of the research variables. Hence, the R^2 values of each endogenous construct in the first order was tested and presented in Table 7.

Based on the results that are presented in the Table 7, the power of PEU and national culture together in explaining cluster was considered large as the R^2 value exceed 0.67 and it was found to be 0.774. Indicating that PEU and national culture together can account for 77.4% of the variance in the cluster. In fact, this R^2 value is the largest value among all endogenous variables whether in the first or in the second order, which explaining the priority of the cluster to the Palestinian companies.

In addition, based on the results of the R^2 for each endogenous variable of the

Table 6. R-Square of the endogenous latent variables—second order constructs.

Latent Construct	R^2	Result
PEU & national culture → Cluster	0.617	Moderate
Cluster → BSC	0.331	Moderate
BSC → organizational competitiveness	0.622	Moderate

Source: prepared by researchers, depending on the SmartPLS version 2.

Table 7. R-Square of the endogenous latent variables—first order constructs.

Latent Construct	R^2	Result
PEU & national culture → cluster	0.774	Large

Source: prepared by researchers, depending on the SmartPLS version 2.

first and second order model as was shown in **Table 6** and **Table 7**, the researcher also calculated the effect size of each exogenous variables.

4.2.2. The Effect Size (f^2)

After evaluating the R^2 , determining the change in R^2 by assessing the effect size (f^2) to see whether the effect of a particular exogenous variable on an endogenous variable has a substantial effect is important. For that purpose, the formula to calculate effect size is displayed in Equation (1).

$$\text{Effectsize : } f^2 = \frac{R_{\text{Included}}^2 - R_{\text{Excluded}}^2}{1 - R_{\text{Included}}^2} \quad (1)$$

Whereas R^2 included represent the R^2 when the predictor exogenous latent variable exists in the structural model whereas, R^2 excluded are the values of R^2 when this specific exogenous latent variable omitted from the structural model respectively. In this context, and according to **Cohen (2013)**, suggestions, the operational definition for multiple regression, which represents a criteria to determine whether a predictor exogenous variables has no, small, medium or large effect size (f^2) was used. Accordingly, values of f^2 more than 0.35 are considered to be a large effect size while, values ranging from 0.15 to 0.35 are considered medium, values between 0.02 and 0.15 considered small and lastly any values less than 0.02 are consider to have no effect. **Table 8** presents the f^2 for the second order of this study.

From the **Table 8**, it is clear that the effect size of PEU on cluster was medium while, the effect size of national culture on cluster was large. In addition to the f^2 of the second order as was discussed and presented in **Table 8**, the researcher also examined the f^2 for the first order. First order is concerned with the association between the dimensions of the research variables.

In the current study, the dimensions of the national culture dimensions (i.e., high power distance, high uncertainty avoidance, and collectivist culture) and PEU were examined on cluster. **Table 9** presented the results.

As shown in **Table 9**, the effect size of the PEU and national culture dimensions (i.e., high uncertainty avoidance, high power distance, and collectivist culture) is ranging a large effect. This in turn explains the importance of such system to the Palestinian companies, which will be discussed later in the hypotheses section. However, the following section will discuss the predictive relevance (Q^2), which represents the ability of the structural model to predict.

4.2.3. Predictive Relevance of the Model (Q^2)

Predictive relevance (Q^2) is an another criteria to assess the quality of the

Table 8. The effect size of the exogenous constructs—second order.

Constructs	R^2 Included	R^2 Excluded	Effect Size— f^2	Results
PEU → CLUSTER	0.617	0.486	0.342	Medium effect
National culture → CLUSTER	0.617	0.666	0.381	Large effect

Source: prepared by researchers, depending on the SmartPLS version 2.

Table 9. The effect size of the exogenous constructs—first order.

Constructs	R ² Included	R ² Excluded	Effect Size— <i>f</i> ²	Effect
Uncertainty avoidance → cluster	0.774	0.659	0.509	Large
Collectivism → cluster	0.774	0.721	0.235	Medium
Power distance → cluster	0.774	0.759	0.066	Small
PEU → cluster	0.774	0.614	0.708	Large
cluster → BSC	0.393	0.369	0.040	Small

Source: prepared by researchers, depending on the SmartPLS version 2.

structural model to predict. The assumption of predictive relevance is that the model must have an adequate ability to predict each endogenous latent variable's indicators (Hair et al., 2011). For that purpose, the blindfolding procedure has been applied to obtain Q^2 by calculating the cross-validity redundancy (cvred) and cross-validity communality (cvcomm).

Blindfolding procedures will remove data from the data set based on a predetermined distance value called D. The D value can be any number between 5 - 10. The only requirement is that the sample size n divided by D should be a round number. Thus, the assumption of removing amounts of data and then handle them as missing values will estimate the model parameters. However, blindfolding should only applied if the endogenous latent variables have reflective measurements (Hair et al., 2011; Henseler et al., 2009), which is the case of the current study.

As mentioned previously, predictive relevance (Q^2) has two forms: 1) cross-validity communality and 2) cross-validity redundancy. Hair et al. (2011) recommended using cross-validated redundancy as it estimates both the structural model and the measurement model for data prediction, which is a perfect fit with the PLS-SEM approach. According Bagozzi's (Bagozzi & Heatherton, 1994), suggestion, if the value of cross-validity redundancy is above zero ($Q^2 > 0$), this indicates that predictive relevance while a value of Q^2 less than zero means that the model lacks predictive relevance. Table 10 shows the results of the predictive relevance of the endogenous latent variables. Table 10 shows obvious that all cross-validity redundancies (Q^2) of the endogenous latent variables were above zero, which supports the claim that this study model has an adequate ability to predict.

4.2.4. Hypotheses Testing (Path Coefficient)

The final step in evaluating the structural model is examining the research hypotheses through assessing the path coefficient. To achieve that end, the hypothesized relationship was examined by running bootstrapping. Bootstrapping is a procedure whereby a large number of subsamples (e.g., 5000) are taken from the original sample with replacement to give bootstrap standard errors, which, in turn, provides approximate t-value for significance testing of the structural path.

Because PLS-SEM does not assume that the data are distributed normally,

Table 10. Predictive relevance of the endogenous latent variables.

Construct	Validated Redundancy	Results
CLUSTER	0.328	$Q^2 > 0$ Explanatory variable provides predictive relevance
BSC	0.243	$Q^2 > 0$ Explanatory variable provides predictive relevance
Organizational competitiveness	0.400	$Q^2 > 0$ Explanatory variable provides predictive relevance

Source: prepared by researchers, depending on the SmartPLS version 2.

bootstrapping results estimate the normality of data. The reason for this is that the character of PLS-SEM is distribution-free. Consequently, PLS-SEM applies nonparametric bootstrapping, which represents the precision of PLS estimates. Accordingly, randomly repeated samples with replacements from the original sample will be created in order to obtain standard error to test the research hypotheses (Hair et al., 2011).

For that purpose, bootstrapping sampling process works under the assumption that the distribution of the sample is a reasonable representation of the intended population distribution. Therefore, a bootstrapping sample in PLS-SEM enables the estimated coefficient to be examined for significance. In general, applying the bootstrapping approach provides an estimate for the spread, shape and the bias of the sample distribution of a specific statistic (Henseler et al., 2009). The results of all bootstrapping samples in PLS-SEM, provide standard errors and t-values (t-tests) for each path coefficient model to measure the significance of such a path model relationship (Chin, 1998).

Based on that, bootstrapping analysis enables a researcher to test statistically the research hypotheses. However, the criteria to determine whether the assumed relationship is significant is based on the t-value. Commonly used critical values are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1%). When a study is exploratory in nature, researchers often assume a significance level of 10%. Ultimately, the choice of the significance level depends on the field of study and the study's objective. However, Instead of t-values, researchers routinely report p-values that correspond to the probability of erroneously rejecting the null hypothesis, given the data at hand (Hair et al., 2011). The smaller the p-value the stronger the significance of the relationship will be. **Table 11** shows the findings of the path coefficient used to test research hypotheses of the second order (main hypotheses).

4.3. Testing the Mediation Relationship

The theoretical design of this study provides a unique opportunity to test whether BSC mediate the relationship between CLUSTER and organizational competitiveness. Baron and Kenny (Baron & Kenny, 1986), define the mediator as a variable that account for all or part of the relationship between a predictor and outcome. The predictor in this study is CLUSTER while, the outcome is the organizational competitiveness. **Figure 2** presents the proposed mediating role of

Table 11. Path coefficient of the research hypotheses—second order.

Hypo	Relationship	Std. Beta	Std. Error	T-value	P-value	Decision
H1	PEU → cluster	0.444	0.123	3.612	0.00	Supported**
H2	NC → cluster	0.462	0.129	3.571	0.00	Supported**
H3	cluster → BSC	0.568	0.130	4.373	0.00	Supported**
H4	BSC → OC	0.573	0.091	6.323	0.00	Supported**

Notes: Significant level at ** = $p < 0.01$ and * $p < 0.05$. Where, PEU = perceived environmental uncertainty, NC = national culture, BSC = business scored card, and OC = organizational competitiveness.

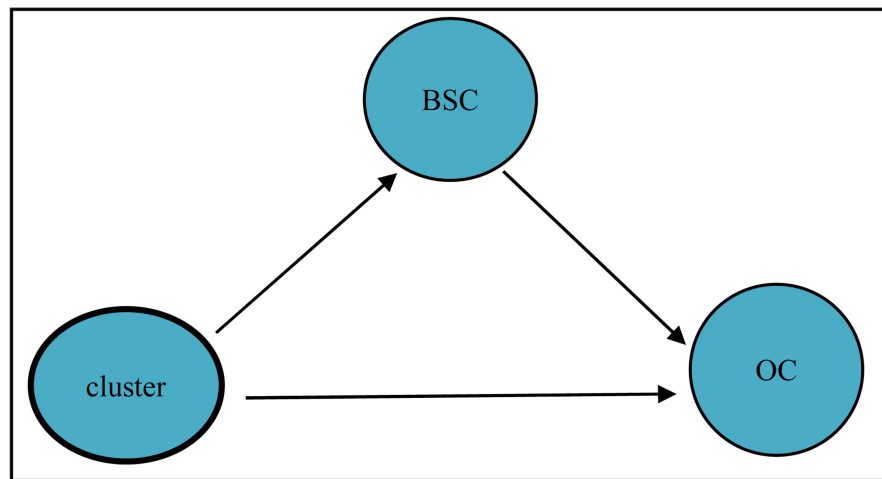


Figure 2. Mediating role of BSC. Source: compiled by the authors based on previous studies.

The BSC between CLUSTER and organizational competitiveness.

Nevertheless, although this study does not have problem with either point of view, the exogenous (cluster) significantly affect the endogenous (organizational competitiveness) in the absence of BSC ($\beta = 0.771$, $t\text{-value} = 10.363$, $p < 0.000$) and that is the first step of the mediation analysis. **Table 12** and **Figure 3** introduce the findings of this direct relationship:

However, despite the fact that the exogenous variable of this study (CLUSTER), significantly influenced the endogenous variable (organizational competitiveness), in the absence of the mediator (BSC), another requirement must be considered with respect to the occurrence of mediation. When paths a & b are controlled, a previously significant direct relationship between the exogenous (CLUSTER) and endogenous (organizational competitiveness) changes its value significantly (path c). **Table 13** illustrates the results.

However, two additional necessary steps must be taken to analyses further the mediator. First, is calculating the bootstrapping of the indirect relationship between CLUSTER and organizational competitiveness via BSC, in different words, the t -value of the total effect (path a and path b together). To achieve that, researchers should calculate the sum of the standard beta (β) of (path a ×

Table 12. Path coefficient of the relationship between cluster and organizational competitiveness.

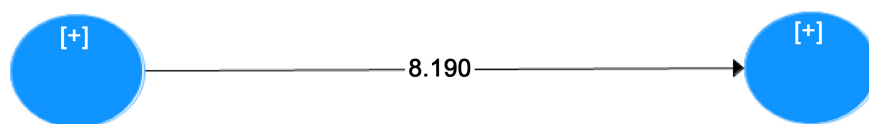
Path C	Std. Beta	Std. Err	T-Value	P-Value	Decision
CLUSTER → competitiveness	0.771	0.074	10.363	0.000	Supported**

Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

Table 13. Path coefficient of the relationship between cluster and organizational competitiveness.

Path C	Std. Beta	Std. Err	T-Value	P-Value	Decision
CLUSTER → Organization Performance	0.668	0.118	5.664	0.000	Supported**

Notes: Significant level at ** = $p < 0.01$ and * $p < 0.05$.

**Figure 3.** Direct association between cluster and competitiveness in the absence of the mediator variable (BSC). Source: Compiled by the authors based on previous studies.

path b) and then divide the result by the standard error of (path a × path b) (Hair et al., 2014). The formula to calculate the t-value of the indirect relationships is illustrated below:

$$\frac{\text{Standard beta of (path a} \times \text{path b)}}{\text{Standard error of (path a} \times \text{path b)}} \quad (2)$$

Thereby, calculating the bootstrapping (t-value) of the indirect relationship (path an and path b) between CLUSTER and organizational competitiveness via BSC, the t-value was found to be = 3.326, consequently, the conclusion can be made that the relationship via BSC was significant with ($\beta = 0.325$, $t = 3.326$, $p < 0.000$).

The second step is to determine the extent to which the variance of the endogenous construct is directly explained by the exogenous one, and how much the endogenous construct is explained by the indirect relationship via the mediator (how much the mediator variable absorbs), stated in a different way, the value of VAF (Variance Accounting for) to determine the strength of this mediation. Consequently, if VAF value is less than 20%, the conclusion can make that no mediation takes place, whereas VAF value ranges between 20% to 80%, the result can be characterized as partial mediation. Finally, when the VAF is more than 80% full mediation is assumed (Hair et al., 2014). According to Hair et al. (2014), for the purpose of calculating VAF, a researcher should:

Table 14. Results of the indirect relationship between cluster and organizational competitiveness via BSC (bootstrapped confidence interval).

Std. Beta		Indirect Effect	Std. Err	t-value	p-value	VAF	Result
Path a	Path b						
0.568	0.573	0.325	0.098	3.326	0.000	32.72%	Partial mediation

Source: prepared by researchers, depending on the statistical program (SPSS) Version 22.0.

- 1) Compute the sum of standard beta (β) for path a times the standard beta (β) for path b. ($a \times b$);
- 2) Add to the results of ($a \times b$) the standard beta of path c ($a \times b + c$); and
- 3) Divide the first equation ($a \times b$) by the results of the second equation as illustrated below:

$$\frac{\text{Standard beta of (path a} \times \text{path b)}}{\text{Standard beta of (path a} \times \text{path b)} + \text{(path c)}} \quad (3)$$

As illustrated in the above formula, the value of VAF determining the strength of the mediator in this relationship was found to be 32.72%, which is more than 20% and that means partial mediation takes place (Hair et al., 2014). **Table 14** illustrates the results of the mediating variable of this study:

5. Conclusion

Among the practical issues presented in chapter one was a concern with the weak and fluctuating financial competitiveness of leather and footwear Palestinian firms. To study this issue, this research empirically examined four main hypotheses, which made theoretical, methodological, and managerial contribution to the existing knowledge regarding cluster and its use in the leather and footwear Palestinian firms.

The results of the present study contribute in bridging the literature gap between developed and less developed countries as most previous cluster research has been conducted in the context of developed economy. Indeed, this study opens a path of hope to expand cluster research in the Arab world and looks to assist organizations in designing more effective cluster as a way of enhancing their performance.

For that purpose, this study has extended the literature in linking the relationship between cluster and its antecedents and also between cluster and its outcomes. Accordingly, the current study has presented a detail investigation on cluster design, diagnostic and an interactive control with respect to its internal and external antecedent factors, specifically the influence of PEU that encompasses political and competitive external sources of uncertainty and operational and technological uncertainties that create internal uncertainty.

The empirical findings of PLS-SEM path coefficient indicated that PEU is a

fundamental key for the purpose of designing an effective control environment. Specifically, competitive and operational uncertainty are strong influential factors on cluster design in the Palestinian listed firms studied.

The study found that national culture also is an essential antecedent factor that influenced cluster design in the Palestinian listed firms, which confirms the theoretical background of this research that embraced contingency and culture theories. In particular, uncertainty avoidance is the main cultural dimension that determines the final design of the cluster, and as such, this should be accounted for with respect to designing an effective control environment in Palestinian companies. However, based on the association between national culture and cluster (levers of control), this study established an important basis for future international cross-cultural research that might assist in understanding how levers of control work under culture differences.

In addition to the antecedents of cluster, this study also investigated the outcome of control system represented in building BSC. The empirical finding showed that the association between cluster and BSC can create a tool for strategic that may be used to solve problems while also improving on what has already been learned (Lee & Widener, 2012; March, 1991).

The final direct association examined in the current study concerned the influence of BSC on organizational competitiveness. The PLS-SEM finding confirmed a strong significant association between these two constructs, which adds to the existing literature that accumulating learning is a fundamental key to enhancing performance through building a sustainable competitive advantage. Hence, the present study confirms the fundamental role of the resource based view theory (RBV) as a theoretical background in exploiting organizational resources through intelligent design of cluster.

The theoretical design of this study provides a unique opportunity to test indirect relationship. In particular, whether BSC mediates the relationship between cluster and organizational competitiveness. The empirical analysis confirmed the role of the BSC as a mediator variable between cluster and organizational competitiveness in the Palestinian listed firms.

Based on the findings from this study, it is important to realize that a firm's competitiveness is greatly dependent on cluster, which, in turn, depends upon external factors and firm characteristics. Briefly, cluster in Palestine companies as product of PEU (due to a relatively high level of PEU in Palestine), and the characteristics of the national culture.

In conclusion, the findings from this research provide useful guidelines to organizations, specifically to their managers, for making decisions in the process of cluster design. Apart from these contributions, the research outcome has also provided useful guidance for future research especially in a developing economy and in particular to the Arab world, in which little cluster research exists.

Conflicts of Interest

The authors declare no conflict of interest.

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