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The effect of clustering on competitiveness improvement in Hebron

A structural equation modeling analysis

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Abstract

Purpose – The purpose of this paper is to map the cluster in the leather and shoes sector for improving the competitiveness of the firms. Toward this end, the study is organized to examine the impact of clustering on competitiveness improvement. The influence of competitive elements and performance (Porter's diamond) and balanced score card was utilized.

Design/methodology/approach – A random sample of 131 respondents was chosen during the period from May 2016 to July 2016. A structural equation modeling (SEM) analysis was applied to investigate the research model. This approach was chosen because of its ability to test casual relationships between constructs with multiple measurement items. Researchers proposed a two-stage model-building process for applying SEM. The measurement model was first examined for instrument validation, followed by an analysis of the structural model for testing associations hypothesized by the research model.

Findings – The main findings show that there is a unidirectional causal relationship between improvements of performance and achieve competitiveness and also reveal that the Palestinian shoes and leather cluster sector is vital and strong, and conclude that clustering can achieve competitiveness for small- and medium-sized enterprises.

Research limitations/implications – Future research can examine the relationship between clustering and innovation. The effect of clustering using other clustering models other than Porter's model is advised to be used for future research.

Practical implications – The relationships among clustering and competitiveness may provide a practical clue to both, policymakers and researchers on how cluster enhances economic firms such as a skilled workforce, research, development capacity, and infrastructure. This is likely to create assets such as trust, synergy, collaboration and cooperation for improved competitiveness.

Originality/value – The findings of this study provide background information that can simultaneously be used to analyze relationships among factors of innovation, customer's satisfaction, internal business and financial performance. This study also identified several essential factors in successful firms, and discussed the implications of these factors for developing organizational strategies to encourage and foster competitiveness.

Keywords Competitiveness, Structural equation modelling, Clustering, Developing countries, Palestine, Economics, Data collection, Business policy, Competitive manufacturing, Shoes and leather sector

Paper type Research paper

1. Introduction

The concept of "business clusters" is new in Palestine even though it has been prevalent in the business development community. Such clusters were implemented years ago and have flourished since the 1990s in European countries such as Spain, France, and Italy. For decades, they have been the subject of research that has been tackled by many scholars, the most prominent being Michael Porter, who wrote: The Competitive Advantage of Nations (1990). Hence, the concept is called the "Porterian cluster" and defined as "a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities" (Porter, 1990a; Kaplan and Norton, 2004; Kaplan, 2010).

In the Palestinian context and its "doing-business" environment, the local geopolitical and socioeconomic circumstances as well as the impact and consequences of globalization and international competition is included. The small- and medium-sized firms (SMEs) form about 99.8 percent of all enterprises in Palestine; out of 85 percent of employment, leather and apparel products form 15.1 percent of all employment and 12.3 percent are from the industrial businesses (PCSC, 2015; PFLI, 2015). So far, Hebron is the largest city in Palestine with about 750,000 inhabitants. It is a major commercial and industrial hub of Palestine, with 22 percent of Palestine's industrial establishments The contribution of the leather and footwear sector (LFS) in total gross domestic product is 1 percent of the overall Palestinian industry in general and forms about 75 percent of industry in Hebron city (PCSC, 2015; HCCI, 2016; HLSC, 2016). Palestine has recently started the development of five clusters, three of them are industrial clusters, one is a service cluster, and the last one is an agriculture cluster. It includes leather manufactures, tanners, chemical providers, accessories providers, designers, mold manufacturers (including last makers), sole makers, heels manufacturers, shoe manufacturers and retailers. Official records show that approximately 230 companies are registered and operating in this cluster (HCCI, 2016; HLSC, 2016; PFI, 2011; PFLI, 2015; Pal Trade, 2011; National Export Strategy, 2014/2018).

This research is aimed at mapping clustering, which is an aggregation of related firms, or suppliers that exist in a specific geographical area, and linked together through some common interdependencies to supply a related group of products or services (Porter, 1990a, b), and investigates how clustering could enhance the competitiveness of the industry, and answers the questions about the effect of industry clusters on companies' competitiveness. Using a structural equation modeling (SEM) analysis, we focus on the evaluation of the impact of cluster and other variables on 131 SMEs, located in Hebron (Palestine), operating in the LFS. The impact of the factors identified from the application of the SEM on the SMEs' competitiveness is assessed econometrically.

A cluster is an efficient and effective way to enhance competitiveness of firms working in the leather and shoe sector. Firms in the cluster have greater ability to access larger local markets, and they are encouraged to be more innovative because there are rivalries amongst firms in the cluster (Porter, 1990a, b). Many studies have indicated that clustering play an important role in improving the competitiveness of the industry and its product quality (Porter, 1990c; Najib et al., 2011; Zhang and Luo, 2014; Sultan, 2007, 2014; Kaplan and Norton, 2004; Kaplan, 2010; Hsu et al., 2013; Lai et al., 2014; GCR, 2015/2016; GTCI, 2017; etc.).

The study is organized as follows. The next section reviews some of the most important contributions in the literature, in order to locate the policy aims of this paper. Section 3 describes the methods employed to analyze the data: the SEM analysis, the survey, sampling and data collection, and econometric and statistical analysis. Section 4 presents the empirical findings of the paper and discussions of these results. Finally, concluding remarks and policy implications are in Section 5.

2. Literature review

2.1 Clusters and clusters initiatives

In the recent years, clusters are considered to be an important factor in enhancing the economic development worldwide, where many governments and strategy development institutions regard clusters as potential drivers for the development of companies, and enterprises, and increase of innovation, and innovative activities within a specific area, or economic sector (UNIDO, 2013).

The concept of cluster and its economic benefits were first described by Marshall (1890) by the concept of "industrial districts," where the cluster is an agglomeration of companies

that operate in the same industry sector in a well-defined and small geographical area, and mostly is an urban area, and the benefits are the reduction of the transportation costs, access to more resources, a pool of qualified workforce, and access to information. Clusters, unlike networks, do not depend on membership. However, Michael Porter (1990a, b, c) was the first to know and use clusters at Harvard Business School. Porter (1990a, c) defines clusters as "geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition."

Clusters are seen as an important factor for the explanation of the empirical phenomenon of geographical concentration of economic and innovation activities that are related to each other, and as key drivers of competitiveness and innovation in a given region and therefore for the growth or increase/improve jobs and living conditions of the population (Vlasceanu, 2014). Many different cluster definitions exist, depending on the purpose and context in which they are used. However, in many of these definitions, there is no clear distinction between the definition of "cluster" and "cluster initiatives." This distinction should be clear, the cluster being considered as real phenomena and cluster initiatives as structures/entities that aim to build new clusters or its expansion (Zahradník, 2012).

Clusters are a group of companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g. universities, standards agencies, research and development centers (R&D), and trade associations), in particular fields that are co-located in a specific geographic regions and linked by interdependencies in providing a related group of products and/or services (Porter, 1990c, 1998), while Tallman *et al.* (2004) defined clusters as geographically concentrated firms that function as strategic entities in the industry, and share a considerable interest to regional economic development agencies, corporate managers, international strategy scholars, and support institutions.

More generally, clusters can be defined as a group of companies, institutions and economic agents, which are located near each other and have reached a sufficient scale to develop specialized expertise, services, resources, suppliers and skills (Clipa *et al.*, 2012). A common element in the cluster definitions is the aspect of a concentration of one or more sectors within a given region, as well as the emphasis on networking and cooperation between companies and other institutions in that cluster (Haviernikova, 2013). On the other hand, cluster initiatives can be understood as "organized efforts to increase growth and competitiveness of clusters within a region, involving cluster firms, economic and political and/or the scientific community" (Sölvell *et al.*, 2003). The cluster initiatives often play an important role as providers of services to support clustering. Cluster initiatives can be defined as a legal entity that supports, manages and directs a given cluster (Adumitroaei *et al.*, 2013).

Since cluster is often related to the industry, both terms are combined with each other and formed the concept of industrial cluster, which is a concentration of technical, economic, human resource, knowledge, etc., which reflects the level of development of the enterprise, the comprehensive development of the region, and offers the environment to improve the innovation capacity and competitive ability in the region (Zhang and Luo, 2014).

Industrial clusters are a specific type of clusters that are identified by their industrial-related activities and considered as a network-based industrial system, which aims to adapt and change the markets and technologies in the whole organization swiftly (Niu *et al.*, 2012). Many countries, governments, and planners are driving the formation of the industry clusters because clusters are generating external benefits and geographic proximity such as cost savings that result from lower input costs and increased productivity (Marshall, 1890).

According to Long and Zhang (2011), industrial clusters have many positive effects such as better access to the market and suppliers, human resources, and easy technology spillover know-how. While they say that the main advantage of clustering in

developing countries with limited financial development is to overcome some financial obstacles that firms face within clusters. Clusters could also be considered as one of the important sources for improving competitiveness of firms within clusters due to their potential for facilitating the development of market oriented and innovative behavior (Najib *et al.*, 2011).

Hsu *et al.* (2013) had argued that clustering is the trend of the future. Industry clusters have experienced rapid growth over the past ten years. The pace has remained relatively fast, despite the impact of the global financial crisis. In fact, clustering is one of the paths to the enhancement of companies' competitiveness. However, Hsu *et al.* (2013) had explained that companies within clusters gain a competitive advantage over other companies because they can benefit from the resources of the cluster and cluster relationships that exist between parties within clusters.

According to the previous studies, it is clear that all of the definitions share common aspects related to the meanings of clusters, which are as follows:

- geographic location proximity;
- related industries, or service providers; and
- share considerable interests and are linked together through some interdependences.

And it is clear that industrial clusters are termed as the industries in a specific area that are linked together through vertical and horizontal relationships. They give an indication on the development level of the area, in addition to offering improvement and innovation in the environment.
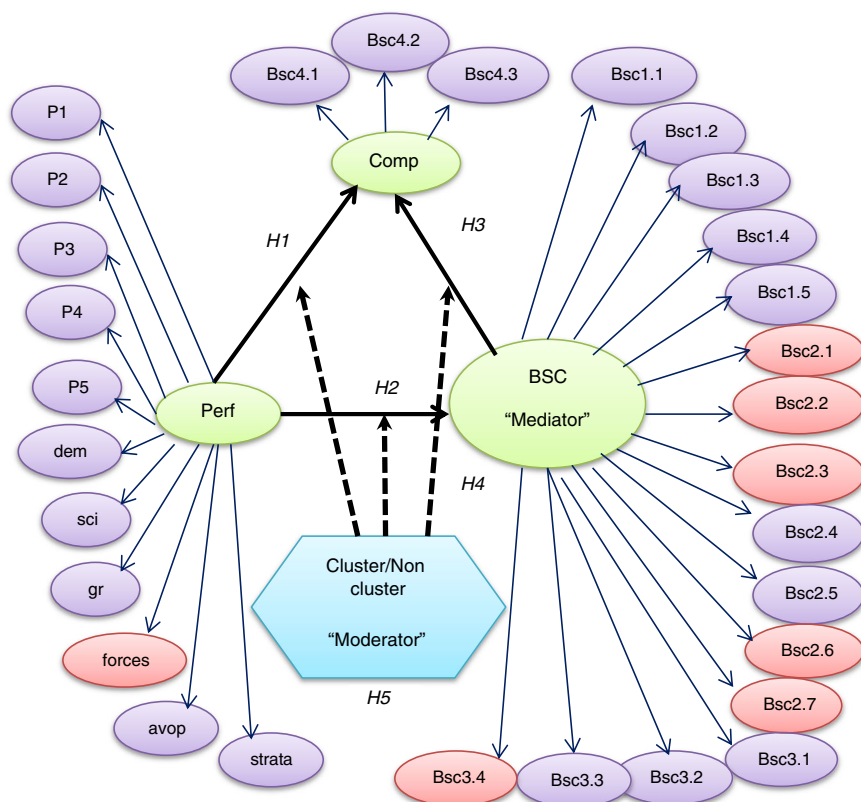
2.2 Competitiveness

Various studies have been conducted on the subject of competitiveness. These can be categorized into three levels: micro, meso, and macro. These can be further characterized as being applicable to organization competitiveness "micro level," industrial competitiveness "meso level," and national competitiveness "macro level" (Nelson, 1992). As mentioned by Man *et al.* (2002), whatever the levels of focus are, competitiveness is eventually concerned with the long-term performance of the subject relative to its competitors, the result of being competitive. From a micro-meso perspective, the concept of competitiveness at the company and industry levels has also been adopted in different contexts. Industrial competitiveness is considered as the ability of a company or industry to meet challenges posed by foreign competitors (Ketels, 2006). Najib *et al.* (2011) defined firm competitiveness as "The degree to which a firm can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its employees and owners."

Competitive firm success is measured by objective and subjective criteria. Objective one is investment, market share, benefit and sales, but subjective criteria is dealing with the reputation of customers or buyers, providers, competitors and improving services (Barney, 2002). Porter (1985) says that a firm has a competitive advantage if "industry has economic value and not many competing firms join in same actions." However, Porter (1990b) described competitiveness as the ability of citizens to have a better and higher way of living. And that can happen by continuing productivity development (Porter, 1990a, b). Porter (2000b) showed three ways clusters affect competitiveness to reflect and amplify diamond parts: raising the number of recent industries and firms; to increase participant's ability to innovate and produce; and forming business form to support innovation and expand clusters. Also, benefits are based on economies and spillovers, industry, and different institutions. And clusters' influences are based on individual or personal relationships, face-to-face communication, and individuals and

institutions networks. Organization and cultural forms can play a good role in clusters functions and development.

In this paper, we will study the competitiveness of the firms through clustering that are working in processing the leather and footwear in Hebron by analyzing the impact of the clustering on different competitive elements such as time, cost, and flexibility referring to Porter (1990a, 1998, 2004) diamond model. Porter discusses four elements in this model: factor conditions, demand conditions, related and supporting industries, and firm's strategy, structure and rivalry. In addition, Porter's (1979) five forces model is still used for the analysis of industry and firm. In order to measure the competitiveness at the firm's level, the concept of the balanced scored card (Kaplan and Norton, 2004; Kaplan, 2010) is used. The four measures of the balanced score card are as follows: financial performance, customer's satisfaction, internal business, and ability to innovate by measuring each company's performance. The respondents were asked about their competitiveness by asking about the balanced score card of their firms as an indication of their competitiveness.

Figure 1 presents the framework of the competitiveness that is used in this paper. The framework of this study consists of the microenvironment context, microeconomic context (Porter's diamond), and Porter's five forces model. Porter (1990b) says that environment is important for production and its growth, but it is not enough. The terms which decide production are human capital, research and improvement in the body structure. However, this study undertakes macroeconomic analysis.

Figure 1.
The research model and variables measurement: the pre-analysis assumed study model (matrix involved in the analysis and generated from the sample)

Competitiveness might be defined to be achieved through creation, growth, and entrepreneurship for small- and medium-sized companies through measuring the following:

(1) learning and growth dimension and employees' ability of improvements and other additions on the product;

(2) it also includes the percentage of introducing new products and types (categories) which also depend on the relationship between the supplier and customers; and

(3) the period needed by the company to introduce new products. This process depends on the information system available in the company.

Clustering improves companies' competitiveness in the field of learning and education on the long run rather than the short run (creativity achieves long-run competitiveness). Regarding the creativity that encourages long-term competitiveness, and due to the fact that improvement in the institution's internal performance affects the achievement of learning, growth, and long-term creativity, the study research conform with the study conducted by Uyarra and Ramlogan (2012) and Porter (1990a, c). In addition, the capacity to innovate has been identified by scholars as the key determinant of long-term competitiveness for firms, regions and nations (Porter, 1990a, c; Malmberg, 2003). It has been noted that innovation seems to take place at a higher degree in clusters than elsewhere (Maskell and Malmberg, 1999a, b; Porter, 2000a).

In the course of this study, the researchers managed to choose Porter's model in order to assess the competitiveness of the industry, as this model covers the whole criteria that may affect the firms' competitiveness and the industry. Condition factors of firms' strategies, demand and status of the market, physical infrastructure, and government policies were taken into consideration. While the focus of this study was to improve the competitiveness of leather and shoes companies, competitiveness was reviewed in detail, and from a micro perspective, i.e., organization or/and firm competitiveness.

2.3 Competitive advantages of clusters

Many studies have indicated that clustering plays an important role in improving the competitiveness of the industry and its product quality (Porter, 1990b), (Najib *et al.*, 2011), (Zhang and Luo, 2014). Hsu *et al.* (2013) and SDAG (2001) measured the competitive advantages of clusters by measuring their effects on the company's performance, these effects are as follows: revenue increases, operating profit increases, operating cost decreases, profitability improvements, overall technology upgrades, innovation and R&D, and competency enhancements, as an overall enhanced competitiveness.

Clusters increase the competitiveness of all the cluster members and play an important role in the economic growth of the whole region, and this is possible because of the following reasons (Stejskal and Hajek, 2012):

(1) clusters increase productivity through the possibility of having access to specialized inputs (including human capital), information, and institutions;

(2) clusters increase innovative capacities (due to competitiveness inside the cluster);

(3) clusters stimulate quick production and attract new firms to the cluster; and

(4) clusters make regional strategic planning of higher quality possible; this is caused by the knowledge of the entrepreneur environment.

Clusters also add a competitive advantage to the industry by producing a condition that leads to more developments and innovation, such conditions are as follows: sheer pressure, peer pressure, competitive pressure, comparison between firms, better contact with the market needs, attraction of public institutions like investment in training and education,

formation of new businesses, and good attraction of the related businesses (Porter, 1998). Working in a cluster has been shown to promote productivity, innovation and competition in a number of ways, e.g., the reduced cost of sharing resources, the critical mass created by having a pool of specialized skills, expertise and value-added products (Sultan, 2014).

2.4 Measurement model

Literature has highlighted a number of firm's specific factors and models, in order to assess the competitiveness of the firms which is the dependent variable (DV). However, the researchers applied the multiple indicator approach, where the indicators selected to assess companies' competitiveness are based on the balanced scored card model (Kaplan and Norton, 2004; Kaplan, 2010), in addition to the diamond model (Porter, 1990b).

At the individual firm level competitiveness concept includes various disciplines such as comparative advantage, price competitiveness perspective, strategy and management perspectives, and the historical and socio-cultural perspectives (Man *et al.*, 2002). To analyze the competitiveness of firms, Porter's theory is used as a dominant tool for the past two decades, because of its merits such as its simplicity, and its strong theoretical underpinnings (Miller and Dess, 1993). On the other hand, Porter's theory has got so much criticism due to its openness. For instance, it does not address the internal mechanisms by which a company converts the influence of a challenging external environment into useful internal abilities (Lado *et al.*, 1992).

This study is designed based on the first school of corporate competitiveness theories of the industrial organization view of competitive advantage, because it is an open theory, is simple, has strong theoretical underpinnings (Miller and Dess, 1993), and covers every part in the value adding chain of the industry.

Intense competition among industrial firms requires these firms to improve their competitiveness. Competition not only forces firms to improve themselves, but also exerts a direct positive impact on the competitiveness of the industry as whole. There has been some debate as to how the competitiveness of organizations should be measured and what factors affect their competitive performance (Dess *et al.*, 2010). Recognizing that Porter's diamond factors affect competitiveness is still debatable, particularly measuring only a single performance criterion such as profitability or financial indicators such as return on investment or return on assets is insufficient to determine the excellence of an industry. A number of non-financial performance indicators are also important. These non-financial performance indicators include overall customer satisfaction, productivity, performance in sales, growth of sales, market share, growth of market share, and overall competitiveness (Sirikrai and Tang, 2006).

Man *et al.* (2002) suggested three key aspects contributing to a firm's competitiveness which are as follows: the internal firm factors, the external environment and the influence of the entrepreneur; the internal aspects of a firm's competitiveness represented by the capital and resource dimensions focusing on external environment of the availability of opportunities to generate increased long-term profitability inherent in the external environment; and the influence of the entrepreneur and the key player in the market.

To measure the competitiveness of a company, through reviewing the literature on competitiveness assessment approaches, two main approaches are mostly used, which are the indicator approaches and the modeling approaches. Modeling approaches is an assessment method for organizational or company's competitiveness. The effectiveness of application of a specific competitiveness assessment method will depend upon whether the principles of the method are suitable to the characteristics of the leather and shoes industry, on the other hand the Porter's (1990a) diamond model was developed by Michael Porter and it was one of the most used methods in clusters assessment worldwide. Given that, the researchers applied the multiple indicator approach, where

indicators were selected to assess companies' competitiveness based on the balanced scored card model (Kaplan and Norton, 2004; Kaplan, 2010) and diamond model (Porter, 1990a, b). Companies' comprehensive competitiveness will be the summation of all of these indicators.

3. Methodology
On the one hand, the paper has undertaken experimental research design; especially it examines relationships between variables of a model. In this study, the main variables of the study model comprise: competitive elements and performance; balanced score card; and competitiveness, which are measured numerically and analyzed using a range of statistical techniques. On the other hand, exploratory research tries to describe the current situation of the research and give a clear picture on it, through asking open questions to discover what is happening and gain insights about a topic of interest, which is a qualitative issue and could not be answered just by numbers (Saunders *et al.*, 2015).

3.1 Study site and sample
A stratified random sampling (Thompson, 2012) was adopted in this study. The population of this study is divided into five strata based on the value chain distribution (tanneries, shoes raw materials, designers, manufacturers, and market). A simple random sample was selected for each stratum. Simple random subsamples are drawn from within different strata that share some common characteristic. This type of sampling was adopted because it offers more representative samples and less random sampling error; however, the disadvantage of this type is represented in complex information on the strata that might be difficult to obtain. As shown in Table I, the division of the study population into a relevant series indicates that the sample is more likely to be representative, and each stratum is represented proportionally within the sample.

The population is the sum of all the SMEs working in processing the shoes and leather in Hebron. The total number of 262 firms is distributed as 12 in tanneries, 10 in shoes raw materials supplies, 15 in designers, 200 in manufacturers, and 25 in market.

No	Category			Population	Sample size (50% of population)
1		Tanneries		12	6
2	Shoes raw materials supplies	Shoes raw materials supplies		10	5
		Chemicals supplies			
3		Designers		15	8
4	Manufacturers	Shoes Factories	Men shoes	200	100
			Women shoes		
			All shoes		
			Injection		
			Medical shoes		
			Sports shoes		
		Shoes workshop			
		Sole producer			
		Heel producers			
		Mold producers			
		Template producers for the sole factory			
5	Market	Wholesaler		25	12
		Retailer and shows			
	Totals			262	131

Table I.
Population and sample distribution

Sample size = 50 percent of population documentation (Saunders *et al.*, 2015). A sample size of 131 firms is chosen, as we were able to get 177.

Definitions of key terms of leather and shoes value chain, as shown in Table I are as follows (HCCI, 2016; HLSC, 2016; PFLI, 2015):

(1) Tanneries: tanning the rawhide leather to become ready shoe making.

(2) Shoe maker or manufacturers: there are two types: first is the whole shoe making where all the process are carried out in house. Second is the part making workshop where only one process is carried out like stitching or cutting.

(3) Whole seller and retailers: those who distribute shoes to the final shop or directly to the customers.

(4) The chemical supplier: people, traders importing from abroad, who usually supply the needed chemicals to tanneries and to shoe makers.

(5) Last makers: the ones who finalize the products based on the design which is needed for shoe making. "The last is mainly plastic and it takes the shape of a foot."

(6) Heel maker: although they are few, they dominate the local market as they produce all different types of heel.

(7) Machineries and spare part suppliers: technicians who maintain machines at the shoe factory, some of them are specialized in shoe machines while some other perform the job based on their general knowledge.

(8) Labels and leases: these are mainly imported through the shoe suppliers shop. But there are few workshops that produce customized labels.

(9) Boxes: the main packaging method for shoe, they are cartons locally produced with all needed labeling.

(10) Sole manufacturers: they are manufacturers that produce sole (in and out) from different materials, by injecting it in a template.

(11) Template producers: those who produce the shape of the sole on a template using either CNC or casting.

(12) Designer: those who design the shoe and the shoe patterns.

3.2 Development of the questionnaire

The questionnaire is addressed to the owner/manager of these firms. The purpose of the survey is descriptive-exploratory with some explanatory analysis. Surveys are frequently conducted to make descriptive assertions about the population (i.e. discovering the distribution of certain traits or attributes (Babbie, 1990)). The questionnaire consists of seven parts: the first part includes information about the respondent; the second part covers the different elements of Porter's diamond and five forces model. It also comprises the necessary sources to make shoes and leather in Palestine, in addition to the factors based on their threats on firms, to measure the recent situation and companies' competition in Palestine. Scale items were tested regarding the reliability and validity of the final test in order to examine the consistency of the constructs and related items. All constructs were measured using multiple items, which were measured using a five-point Likert-type scale (ranging from 1 = strongly agree to 5 = strongly disagree); often the scale is used as a semantic differential. Five-point Likert scales are perhaps most commonly used but may cause problems due to lack of statistical normality conditions; the third part investigates the firms' performance and balanced score card.

The respondents were asked about their competitiveness by asking about the balanced score card (innovation, customer's satisfaction, internal business and financial performance) of their firms as an indication of their competitiveness. It was measured with a five-point scale (up to high level to up to low level); the fourth part focuses the advantages of cluster whether or not it is participatory, in addition to the reason behind its non-involvement in the activities of the cluster; the fifth part covers the work mechanism of clustering, and whether or not the enterprise are currently working within the same cluster activities; the sixth part consists of demographic data and the SMEs' profiles, i.e., total number of employees, firm's size, capital, legal form of your firm, year of establishment, firm's location, the type of firm, member in Hebron Chamber of Commerce, and the type of business you work for; and the seventh part was designed to evaluative the survey.

Scale items were tested regarding the reliability and validity of the final test in order to examine the consistency of the constructs and related items. The researchers checked the reliability and the validity of the questionnaire using a randomly small pilot sample of 30 respondents from the firms. The study was calculated using the Cronbach's α formula to ensure internal consistency. Accordingly, the reliability coefficient was 0.94, which fits the purpose of the study. All respondent companies are either family owned or small or medium sized and are within the same sector. The subsector of all companies is the same, considering the common factor; therefore, the structure was not considered. Market structure includes five sections: tanneries, shoe raw material supplies, market, designers and manufacturers. As for the strategy question in Porter's model, it focused on the product and the price, in addition to various segments; however, it has not focused on (FOCUS) or NICH. Based on the interview with Mr Tariq Abu Filat, Head of Leather Industries Union, he told me that all factories and companies work for various segments with the same machines and without NICH. For example, Toesetti is one of the companies that produces medical and normal shoes that are sold either with a high or low prices.

3.2.1 Administrating the study survey. This questionnaire survey was applied to managerial and owners in shoe and leather firms in Hebron city. The scenario used for face-to-face (in-person) interviews. The questions listed in this survey are designed to investigate companies' performance and the application of "cluster theory" in the leather and shoes sector in Hebron city as one of influential factors to increase the competitive feature. This process took approximately two months. Careful attention was given to the structure and ordering of questions to ascertain the expressions which can potentially impact the valuation issue. The expressions were presented in a logical sequence to minimize as much as possible the degree to which respondents may be affected by the questions posed. The questions were close and open ended. The interviews lasted 20-25 minutes.

3.3 Model of the study

In Figure 1, the variables show the variable performance (Perf) as a latent variable for the variable (Competeveness, Balance Score Card) and the DV for variables (P1, P2, P3, P4, dem, sci, gr, avop, P5, strata), and variable Balance Score Card (BSC) is an independent variable for variables (Competitiveness) and is a latent variable for variable (perf, Bsc1.1, Bsc1.2, Bsc1.3, Bsc1.4, Bsc1.5, Bsc2.4, Bsc2.5, Bsc3.1, Bsc3.2, Bsc3.3).

The variable competitiveness (Comp) is a latent variable for the measured variables (BSC, Perf, Bsc4.1, Bsc4.2, Bsc4.3), and DV for variables (Performance, Balance Score Card).

Figure 1 indicates the assumed model of the study which was composed by the researcher with the help of experts in the field of clustering. Both primary and secondary data were used. Primary data were collected to measure Perf (Industry performance),

BSC (balanced scored card) and subjective Competitiveness Performance. Secondary data were used to measure archival performance:

- to measure the industry performance, a standardized scale was used, based on the study of Porter (1990b); and

- to measure the balanced scored card, a standardized scale was used, based on the study of Kaplan (2010).

Moreover, this research studies the application of Porter's diamond model, Porter's five forces model, balance score card, and impact of the clustering on business environment as a conceptual framework. The study discusses Porter's diamond model in a microenvironment context, and Porter's five forces model as an industry structure.

3.3.1 Research framework. As aforesaid, this paper concentrates on assessing the existing situation in the Palestinian shoes and leather industry sector, whether it applies the clustering concept or not, or what is the current situation inside this sector concerning clustering. And also evaluates the comprehensive competitiveness of the Palestinian shoes and leather companies. In order to know what is the effect of clustering on the companies' competitiveness, this study investigates the elements of Porter's diamond. The research structure consists of three dimensions: assessment of current firms' situation through covering the different elements of Porter's diamond and five forces model. It contains necessary sources to make shoes and leather in Palestine, in addition to the factors based on their threats on firms, to measure the recent situation and companies' competition in Palestine; companies' competitiveness assessment through assessment of competitive advantages and competitiveness of each one of the companies based on assessment of firms' performance and balanced score card of each company. Assessment of the competitiveness of each company through financial analysis was taken into account. Respondents were asked about their competitiveness through asking about the balanced score card (innovation, customer's satisfaction, internal business and financial performance) of their firms as an indication of their competitiveness; and effects of clustering on companies' competitiveness.

The research was measured the extent of clustering on enhancing the competitiveness throughout using Invalid source specified. Diamond model includes the following factors: factor conditions; demand conditions; related and supporting industries; firm strategy, structure and rivalry; chance; and government.

3.4 The structural model of analyzing the path
The general pattern of analyzing the path as follows.
  Path analysis equation:
  The general formula of the path analysis equation is as follows:

$$Y_{p\times1} = B_{p\times p}Y_{p\times1} + \Gamma_{p\times q}X_{q\times1} + \xi_{p\times1}$$

Y_{p*1}: dependent variables matrix, p is the number of dependent variables. $B_{p \times p}$: direct effects matrix of endogenous variables. $\Gamma_{p \times q}$: direct effects matrix of exogenous variables, q is the number of independent variables. $X_{q \times 1}$: independent variables matrix. $\xi_{q \times 1}$: random errors matrix.
  The general formula of the suggested path analysis equation of our research is as follows:

$Perf = \alpha P1 \times P1 + \alpha P2 \times P2 + \alpha P3 \times P3 + \alpha P4 \times P4 + \alpha P5 \times P5 + \alpha dem \times dem$

$\quad + \alpha sci \times sci + \alpha strata \times strata + \alpha gr \times gr + \alpha avop \times avop + \alpha forces \times Forces + e1.$

$$BSC = \alpha Perf \times Perf + \alpha Bsc11 \times Bsc11 + \alpha Bsc12 \times Bsc12 + \alpha Bsc13 \times Bsc13$$

$$+ \alpha Bsc14 \times Bsc14 + \alpha Bsc15 \times Bsc15 + \alpha Bsc21 \times Bsc21 + \alpha Bsc22 \times Bsc22$$

$$+ \alpha Bsc23 \times Bsc23 + \alpha Bsc24 \times Bsc24 + \alpha Bsc25 \times Bsc25 + \alpha Bsc26 \times Bsc26$$

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$$+ \alpha Bsc27 \times Bsc27 + \alpha Bsc31 \times Bsc31 + \alpha Bsc32 \times Bsc32 + \alpha Bsc33 \times Bsc33$$

$$+ \alpha Bsc34 \times Bsc34 + e2.$$

$$Comp = \alpha BSC \times BSC + \alpha Perf \times Perf + \alpha Bsc41 \times Bsc41 + \alpha Bsc42 \times Bsc42 + \alpha Bsc43 \times Bsc43 + e3,$$

where:
Perf: performance.
P*: P1, P2, P3, P4, P5: Production Elements.
dem: demand factors.
sci: supportive and complementary industries.
Strata: company's strategy, competition, and market structure.
gr: government role.
avop: available Opportunities.
Forces: forces factors based on their threats.
BSC: Balance Score Card.
Bsc1.1: I notice a notable increase in revenues compared with the investment size.
Bsc1.2: generally, there is an improvement in revenues.
Bsc1.3: there is increase in employment profits.
Bsc1.4: there is a noticeable decrease in production costs.
Bsc1.5: there is an improvement in profitability.
Bsc2.1: the customer's control over the commodity is high.
Bsc2.2: There exists a control of the supplier.
Bsc2.3: a threat of having new competitors.
Bsc2.4: your share of leather and shoes in the local market is high.
Bsc2.5: the customer is satisfied by your products.
Bsc3.1: there is an improvement in research, development, and innovation.
Bsc3.2: there is an improvement in employees and workers' productivity.
Bsc3.3: it is possible to keep the professionals in the company.
Bsc3.4: employees enjoy employment satisfaction.
Comp: competitiveness.
Bsc4.1: The period you need to introduce new products is long.
Bsc4.2: The percentage of introducing new products and items from the total products.
Bsc4.3: Improvements and additions conducted by employees are plenty.
e1, e2, e3: Random Error Terms.
All (α's) are the direct effect parameters.
The search form consists of following:
Latent variables:

(1) (External latent variable) exogenous: perf: performance.

(2) (And some variable rate of latent internal) endogenous: BSC: Balance Score Card.

Observe variables:

(1) Comp: competiveness: dependent variable (Y).

3.5 Econometric methods: a SEM

SEM is a series of statistical methods that allow complex relationships between one or more independent variables and one or more DVs. Though there are many ways to describe SEM, it is most commonly thought of as a hybrid between some form of analysis of variance (ANOVA)/regression and some form of factor analysis. In general, it can be remarked that SEM allows one to perform some type of multilevel regression/ANOVA on factors. You should therefore be quite familiar with univariate and multivariate regression/ANOVA as well as the basics of factor analysis to implement SEM for your data.

Variables that are not influenced by other variables in a model are called exogenous variables. Variables that are influenced by other variables in a model are called endogenous variables. A variable that is directly observed and measured is called an indicator variable. A variable that is not directly measured is a latent variable. The "factors" in a factor analysis are latent variables. For the purposes of SEM, specifically, moderation refers to a situation that includes three or more variables, such that the presence of one of those variables changes the relationship between the other two. In other words, moderation exists when the association between two variables is not the same at all levels of a third variable. One way to think of moderation is when you observe an interaction between two variables in an ANOVA. For the purposes of SEM, specifically, mediation refers to a situation that includes three or more variables, such that there is a causal process between all three variables. Note that this is distinct from moderation. In many respects moderation and mediational models are the enterprises of SEM. In fact, they can be considered as simple structural equation models themselves. Therefore, it is very important to understand how to analyze such models to understand more complex structural equation models that include latent variables. Generally, a mediation model like the one above can be implemented by doing a series of separate regressions.

SEM can conceptually be used to answer any research question involving the indirect or direct observation of one or more independent variables or one or more DVs. However, the primary goal of SEM is to determine and validify a proposed causal process and/or model. Therefore, SEM is a confirmatory technique. Like any other test or model, we have a sample in which we discuss about the population that comprises the sample. We have a covariance matrix to serve as our data set, which is based on the sample of collected measurements. The empirical question of SEM is therefore whether the proposed model produces a population covariance matrix that is consistent with the sample covariance matrix. Because one must specify a priori a model that will undergo validation testing, there are many questions SEM can answer.

SEM can tell us if our model is adequate or not. Parameters are estimated and compared with the sample covariance matrix. Goodness of fit statistics can be calculated that will tell us whether our model is appropriate or needs further revision. SEM can also be used to compare multiple theories that are specified a priori. SEM can tell us if the amount of variance in the DVs – both manifest and latent DVs – is accounted for by the IVs. It can also tell us the reliability of each measured variables. And, as previously mentioned, SEM allows us to examine mediation and moderation, which can include indirect effects. SEM can also tell us about group differences. We can fit separate structural equation models for different groups and compare results. In addition, we can include both random and fixed effects in our models and thus include hierarchical modeling techniques in our analyses (Kline, 2011).

3.6 Ethical considerations

In this section, the researchers represent a number of ethical considerations that were taken into account through this study.

The researchers use the Research Ethics Framework to ensure that participants are appropriately handled during interviews (Finlay and Ballinger, 2006). Consent forms were also taken into consideration in the questionnaire. There are also sessions to help in expounding all the details in these forms to allow each one to sign with sobriety (Silverman, 2005). Researchers shall ensure confidentiality and anonymity with each participant getting this assurance. This will be achieved through researcher integrity based on behaviors and their consequences. Any limitations in this study will get a mention in the participation forms and the consent forms so that each participant understands the rules (Saunders *et al.*, 2015).

4. Empirical findings

The main objective of this research is to investigate the extent of clustering on competitiveness improvement in the leather and shoes sector.

To meet this objective, the study will answer the following 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) Is companies' improvement within the surrounding environment, based on Porter Model, considered sufficient to achieve competitiveness? Is there any role for BSC mediator that links current situation of companies' performance with achieving competitiveness, and the involvement and non-involvement in clustering?

4.1 Confirmatory factor analysis (CFA)

Using the maximum likelihood method of estimation, the researcher first uses a CFA on the data in order to analyze and validate the latent variables and their components. There are many benefits of fit indices that ensure the appropriateness of the SEM research model and its components: χ^2 index is the most common index of fit which represents the fit between implied and observed covariance matrices, small p-values (e.g. < 0.05) indicates a bad fit. The comparative fix index (CFI) compares performance on the suggested model to performance on baseline or the null model that assumes zero correlation between all the observed variables. The goodness of fit index (GFI) based on the percentage variance is explained (as R^2 in regression). The root mean square error of approximation (RMSEA) is an index based on residuals matrix which looks at discrepancies between observed and predicted covariance, practical experience indicates that a value of the RMSEA of about 0.05 or less would indicate a close fit of the model in relation to the degrees of freedom (AMOS, Version 24); (Müller *et al.*, 2003).

The following guideline table exhibits the goodness of fit rules and the indices results for each main variable of the study. As shown in the Table II, the results of CFA indicate an adequate fit, and the performance variable satisfies the goodness of fit rules. In all, 10 elements remained from 11 elements of the performance latent variable components. The variable "five forces" is not statistically significant so it is deleted.

Index	Goodness of fit rule	Performance
χ^2-test significance level	> 0.05	0.247
Goodness of fit (GFI)	> 0.9	0.969
Comparative fit index (CFI)	> 0.9	0.995
Root mean square error of approximation (RMSEA)	< 0.05	0.032
CMIN/DF	< 5	1.180

Table II.
Fitting index of confirmatory factor analysis of performance

GFI = 0.969 (96.9 percent is the percentage variance explained), CFI = 0.995 (99.5 percent is the performance of our suggested model compared with the performance on baseline or the null model that assumes zero correlation between all observed variables), and RMSEA = 0.032 (about 3 percent discrepancies between observed and predicted covariance).

As shown in the Table III, the results of CFA indicate an adequate fit, and the balance score card variable satisfies the goodness of fit rules. In all, 6 statements remained from 16 statements of the Balance Score Card latent variable components, the items deleted were statistically insignificant. GFI = 0.963 (96.3 percent is the percentage variance explained), CFI = 0.992 (99.2 percent is the performance of the suggested model compared with the performance on baseline or the null model that assumes zero correlation between all observed variables), and RMSEA = 0.047 (about 4.7 percent discrepancies between observed and predicted covariance). As for the DV which is the competitiveness, there is no need to proceed with the CFA because it consists of three statements only.

4.2 Path analysis of study hypothesis test

In order to examine the study results, direct and indirect (mediatory) and overall impacts of the variables, a bootstrap data-resampling procedure was adopted since it is considered the strongest statistical tool to check direct, indirect, and overall impacts of variables because it is not affected by the sample size in its estimations. This method considers the largest number of random samples along with constant change where the possibility of choosing any sample is equal in each random selection (Mallinckrodt, 2006).

We test the full structural equation model using the bootstrap data-resembling procedure for the data, and after that, we carried out the path analysis using statistical software AMOS (Amos is short for analysis of moment structures). A general approach to data analysis known as SEM was performed for hypotheses testing. The researcher presents the overall model fit and the test of each hypothesis.

To achieve the overall objective of the study, five hypotheses are formulated and tested. Table IV shows the path analysis results:

H1. Performance is positively related to competitiveness of SMEs that work in LFS.

The results of the Table IV showed that the performance influence on competitiveness is not significant which is opposite to what was hypothesized in *H1* ($\beta = 0.066$, p-value = $0.539 > 0.05$). As a result, the conclusion is to reject *H1*:

H2. Performance is positively related to balance score card of SMEs that works in processing LFS.

Index	Goodness of fit rule	Balance score card	
χ^2-test significance level	> 0.05	0.096	**Table III.**
Goodness of fit(GFI)	> 0.9	0.963	Fitting index of
Comparative fit index(CFI)	> 0.9	0.992	confirmatory factor
Root mean square error of approximation (RMSEA)	< 0.05	0.047	analysis of balance
CMIN/DF	< 5	1.384	score card

Hypotheses	Path	Standardized coefficient	C.R.	p-Value	Result	
H1	Perf→Comp	0.066	0.614	0.539	Reject *H1* (alternative)	**Table IV.**
H2	Perf→BSC	0.755	9.103	< 0.001	Not reject *H2* (alternative)	Parameters estimated
H3	BSC→Comp	0.844	6.626	< 0.001	Not reject *H3* (alternative)	for research model

The results of the Table IV showed that the positive influence of performance on balance score card is significantly similar to *H2* ($\beta = 0.755$, p-value < 0.05). Therefore, the conclusion here is to not reject *H2*.

H3. Balance score card is positively related to competitiveness of SMEs that work under the LFS.

The results of the Table IV indicate that the positive influence of balance score card on competitiveness is significant as the same as we hypothesized in *H3* ($\beta = 0.844$, p-value < 0.05). As a result, the conclusion here is to not reject *H3*.

The next includes the analysis of the direct, indirect, and total impact of performance (Perf) on competitiveness (Comp) in order to test *H4*:

H4. Balance score card is a mediator in the relationship between performance and competitiveness of SMEs working in processing the LFS.

The results in Table V show the direct, indirect, and total impact of performance (Perf) on competitiveness (Comp). The direct impact of performance on competitiveness is 0.066 which is insignificant (p-value $= 0.7 > 0.05$), while the indirect impact is 0.637 which is considered significant (p-value $= 0.023 < 0.05$). Since indirect impact is larger and significant than the direct one, the relationship between performance and the competitiveness is fully mediated by the balance score card (BSC). As a result, this supports *H4*.

As revealed in the research findings, performance is not positively related to competitiveness of SMEs that work in the LFS, but performance is positively related to balance score card of SMEs and BSC is positively related to competitiveness of SMEs. The results also show that the relationship between performance and balance score card is positively significant for the two groups of cluster and non-cluster. However, this relationship is stronger when firms are non-cluster membership. Thus, we conclude that clustering is not considered a vital moderator in the relationship between performance and competitiveness of SMEs working in processing the LFS. Given that, the institutions' creativity that achieves long-term competitiveness is of a moderate value due to the existence of shortage in human resources investment, weak infrastructure, lack of governmental role to encourage creativity, in addition to the clusters' approach that does not enhance short-term creativity. Rather, this process might take four to five years (Sölvell *et al.*, 2003):

H5. Clustering is a moderator in the relationship between performance and competitiveness of SMEs working in processing the LFS.

In order to test clustering differences among the regression weights, the critical ratio (C.R.) test ($> \pm 1.96$, $p < 0.05$) can be employed to assess the critical ratio statistics for the differences between regression weights of non-cluster and cluster memberships subjects. The critical ratio of an estimate pair tests the hypothesis to confirm the equality of the two parameters. This analytical method is repeated to investigate the clustering moderating effects in the three relationships for the research model. Table VI indicates that, although relationships among

		Standardized estimates				
Independent	Dependent	Direct coefficient	(p-value)	Indirect coefficient	(p-value)	Total
Perf	Balance score card	0.755	(0.010)	–		0.755 (0.010)
Balance score card	comp	0.844	(0.021)	–		0.844 (0.021)
Perf	Comp	0.066	(0.700)	0.637	(0.023)	0.703(0.004)

Table V.
Results of direct, indirect, and total impact of research model

three main constructs are positive and significant for all groups, the three variables investigated the extent of the influence of these groups. Therefore, the variable of firm's age, size, and type act as moderators in the research model which supports the *H5* of this study.

Based on our results of the Table VI, the relationship between balance score card and competitiveness is positively significant for both groups (cluster and non-cluster). However, this relationship is stronger when the firms are non-cluster membership. The relationship between balance score card and competitiveness is moderated by the clustering variable since the C.R difference in this relationship is significant (-3.132 with p-value < 0.05). On the other hand, and based on the results of the Table VI, the relationship between performance and competitiveness is not significant for both groups (cluster and non-cluster). Finally, based on the results of the Table VI below, the relationship between performance and balance score card is positively significant for both groups (cluster and non-cluster). However, this relationship is stronger when firms have non-cluster membership. The relationship between performance and balance score card is not moderated by the clustering variable since the C.R difference in this relationship is not significant (1.768 with p-value > 0.05). Thus, we conclude that clustering is not considered a vital moderator in the relationship between performance and competitiveness of SMEs working in processing the LFS.

As shown in Figure 2, the following items deleted from the research model were not statistically significant and have an insignificant impact:

(1) Forces: forces factors based on their threats;

(2) Bsc2.1: the customer's control over the commodity is high;

(3) Bsc2.2: there exists a control of the supplier;

(4) Bsc2.3: a threat of having new competitors;

(5) Bsc2.6: the quantity you export is high;

(6) Bsc2.7: there is a threat on entering new alternative products (imported shoes); and

(7) Bsc3.4: employees enjoy employment satisfaction.

The estimated path analysis equation.

Using the previous analysis, the general formula of the suggested estimated path analysis equation of our research will be as the following:

$$Perf = (1.09 \times P1) + (1.17 \times P2) + (1.25 \times P3) + (0.71 \times P4) + (0.24 \times P5) + (0.98 \times \text{dem})$$

$$+ (\text{sci}) + (0.25 \times \text{strata}) + (0.68 \times \text{gr}) + (0.70 \times \text{avop}).$$

The variable five forces model is not statistically significant so it was deleted:

$$BSC = (0.71 \times \text{Perf}) + (1.45 \times \text{Bsc11}) + (1.3 \times \text{Bsc12}) + (\text{Bsc13}) + (1.53 \times \text{Bsc14})$$

$$+ (1.61 \times \text{Bsc15}) + (1.36 \times \text{Bsc24}) + (0.75 \times \text{Bsc25}) + (1.37 \times \text{Bsc31})$$

$$+ (0.58 \times \text{Bsc32}) + (1.81 \times \text{Bsc33}).$$

Path	Non-cluster	Cluster	C.R. difference
Perf→comp	−0.006	−0.070	0.526
Perf→balance score card	0.822*	0.646*	1.768
Balance score card→comp	1.015*	0.875*	−3.132*
Note: *p < 0.05			

Table VI.
Moderating test for research model
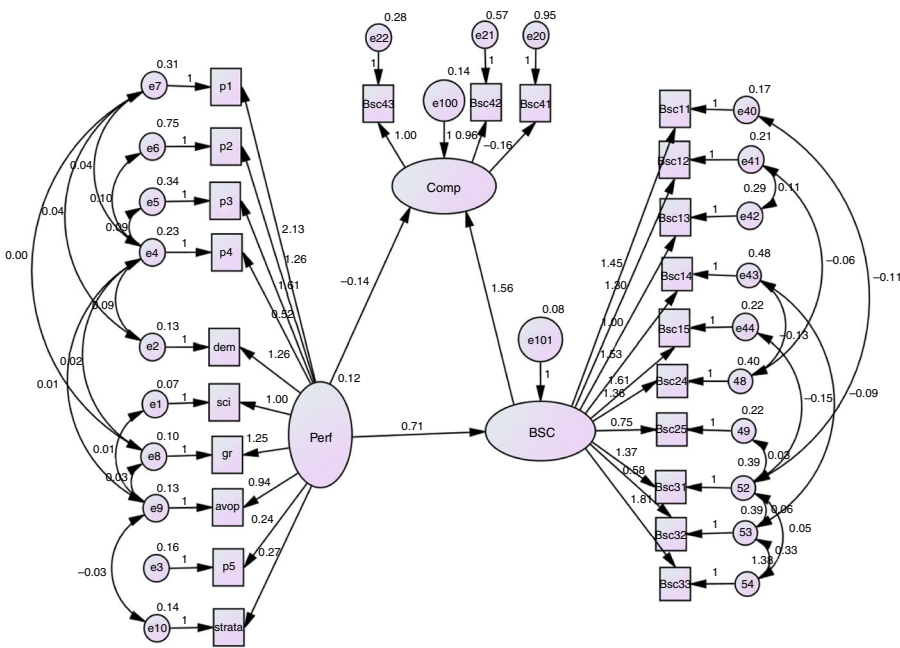
Figure 2.
A structural model
(The matrix results
from the analysis)

(Deleted variables: Bsc21, Bsc22, Bsc23, Bsc26, Bsc27, Bsc34):

$$Comp = (1.56 \times BSC) - (0.14 \times Perf) - (0.16 \times Bsc41) + (0.96 \times Bsc42) + (Bsc43).$$

4.3 Discussion of empirical results
In the context of this section, researchers discuss how significant clustering affects competitiveness the LFS. The paper confirms the positive and direct relationship between the application of the concept of clustering and the achievement of competitiveness, this is proved through the new study model which indicates that competitiveness is achieved through the existence of a mediator variable BSC. This issue conforms with previous studies which indicated that the improvement of enterprises' performance to reach competitiveness, which means achieving long-term creativity and growth, will not be accomplished except through the improvement of the enterprise's internal performance, i.e. through the dimensions of BSC (internal processes, financial performance, and relationship with customers), this result is in line with researchers (Uyarra and Ramlogan, 2012), who stated that creativity in the enterprises is achieved on the long term. In their study, they touch on the relationship between competitiveness and creativity as follows: there is no clear evidence to indicate that long-term clusters will be able to generate strong and sustainable impacts in terms of innovation, productivity or employment.

From the reviewed literature of empirical studies, many studies described success factors for industry cluster initiation and development, and how clusters can improve competitiveness. Also many critical success factors of cluster development and the benefits of clustering have been written and reported, but there is little work that discusses the obstacles to cluster development. Moreover, most of the obstacles are discussed at length in terms of clusters than in terms of clustering due to the engaging characteristics,

objective of collaboration, definition of cluster and how these clusters manage to achieve competitiveness through clustering process and so on.

This study proposes a framework and methodology for studying competitiveness of the Palestinian shoes and leather sector through clustering. Previous studies have recommended implementing the concept of clusters to improve the competitiveness of this industry, so we should study the case in the shoe and leather sector in Hebron city. This result is likely to be consistent with other previous research (Uyarra and Ramlogan, 2012; Porter, 1990a, c, 2000a; Najib *et al.*, 2011; Zhang and Luo, 2014; Sultan, 2007, 2014; Kaplan and Norton, 2004; Kaplan, 2010; Hsu *et al.*, 2013; Lai *et al.*, 2014; GCR, 2015/2016; GTCI, 2017; etc.).

5. Conclusions and managerial implications

5.1 Evaluation and conclusions

As aforesaid, the main objective of this research is to discuss the impact of clustering on competitiveness in the Hebron city. Although there is slight disparity at the study results on companies, it was clear that they have common issues and face the same challenges. Cluster map shows that those companies will overcome challenges and increase their competitiveness by forming a cluster initiative. With regard to the diagnosis of findings carried out by researchers, most of the firms are competing against each other in terms of prices and quality. Accordingly a number of customers are still trusting local products rather than foreign products. The leather and shoes manufacturers have a good number of strengths, such as their continuous development, high adaptability to change, availability of skilled labor, competitive wages, good quality of products, and significant local market share. The cluster's greatest obstacle is the absence of adequate research and development centers (R&D), which is a key requirement for innovation. Nonetheless, there are opportunities for clustering, including exports, and increased local market share through greater participation in government tenders. Establishment of a national R&D center of the leather and shoes clustering is of a significant value to local external common organization for recruiting, training, and developing human resources. Dividing a bulk production will enhance competitiveness and offer a better price.

Clustering will enhance the relationship between the cluster members, and encourage them to undergo some collaborative and collective project which will enhance their competiveness. The relationship is very strong and promotes sharing of information, technology transfer, and co-production. However, with a cluster approach those parameters will be possible, where there will be a support from the universities in R&D, testing, supplying the industry with a skilled workforce, and on the contrary the firms will supply the universities in training opportunities in the firms, and could supply some finance for the projects of the universities. According to the results the leather and shoes companies apply most clustering action such as exchange information and acquire knowledge, reach to new demanding markets, marketing and joint communications, institutional connection and partnerships, reach (research, technological development, innovation and equipment), and exchange support services (training, procurements, consultancy services, quality). The reason of having higher competitiveness between companies unregistered in the cluster is the difficulty to measure the cluster in the short term, because cluster development is a process that does not happen overnight; it typically takes place over a period of up to ten years. To move forward in a desired direction, a long-term vision is needed. Therefore, persons charged with developing such economies must understand that cluster development is a strategic step that will take time; it is not a quick fix for resolving economic problems. In addition, most of the unregistered companies in the cluster are huge and competitive in contrast to those registered in the cluster, which are considered small and of a medium size whose competitiveness is low and registered in the cluster to improve their

competitiveness and performance. The researchers conclude that non-involvement of certain companies in the cluster's activities is based on their desire to work alone since most companies are family-owned ones. Additionally, clustering is a new concept applied for the first time in Palestine; therefore, this concept might appear new and unclear for them, but the impression of unregistered companies in the cluster's activities indicates a high satisfaction which encourages them to join the cluster activities in the future. On the other hand, the firms will talk as one part, and can get more power in front of the public sector, and in addition they could have a shared brand for the cluster which would ease the export for them, help in entering new markets, and keep the operating costs low. All in all, clustering will significantly improve the leather and shoes firms in Hebron.

5.2 Practical and managerial implications

Learnings from findings: an attempt is made to draw implications for professionals in academia and industry. This study is interesting from both theoretical and practical perspectives. Theoretically, this study proposed a research model for empirical studies to study competitive elements and performance (Porter's diamond); balanced score card; and clustering, on competitiveness, and whether it leads to superior firm competitiveness improvement. The results from an SEM approach provide quite a strong support for the hypothesized relations. The results show that there is a unidirectional causal relationship between improvements of performance and achieving competitiveness.

This study is one of the few in the developing countries and the only study in Palestine that has utilized SEM model for assessing competitiveness of the Palestinian LFS through clustering. This study consists of different statistical tests such as the ANOVA, path analysis test, CFA, and SEM analysis which are not to testify the model itself rather than to testify whether there are significant differences between cluster and non-cluster, and the identification of influential variables in the process of competitiveness. The statistical test proves that the study is the first of its kind in the sector to measure the influence degree of clusters over the achievement of competitiveness. This study applies Porter's diamond, five forces, and balance score card framework on these SMEs in order to contribute toward a better understanding of the sources of competitiveness. Thus, in order to build a sustainable competitiveness for the SMEs in Palestine, there is a need to improve the sources of competitiveness on the SMEs working in processing the leather and shoes sector. These methods and variables help the researchers to introduce a new model other than that proposed by the researchers. Without using such statistical methods and techniques, the study is unlikely to succeed in generating a new model which indicates that competitiveness between companies cannot be achieved except through a mediator variable (BSC), as well as the existence of other category variables which used clustering as a moderator. Moreover, this research studies the application of Porter's diamond, Porter's five forces, balance score card, and impact of the clustering on business environment as a conceptual framework.

From a practical perspective, the relationships among clustering and competitiveness may provide a clue regarding how the cluster enhances economic enterprises such as providing a skilled workforce, research and development capacity and infrastructure. This is likely to create assets such as trust, synergy, collaboration and cooperation, which are all essential to achieve competitiveness. From a managerial perspective, this study identified several factors essential to successful firms, and discussed the implications of these factors for developing organizational strategies that encourage and foster competitiveness. For a firm, the management of the cluster is responsible for promoting productivity, innovation and competition of the participants in a number of ways, e.g., the reduced cost of sharing resources, the creation of critical mass by having a pool of specialized skills, expertise and value-added products. Such studies are likely to provide policy

recommendations to both, researchers and policymakers, which is necessary for improving the Palestinian manufacturing sector.

The Palestine government, Ministry of National Economy, and institutions working in the leather industry are keen to understand and identify the benefits and obstacles of applying clustering in this important field. Most institutions prefer to work alone and avoid cooperating with other. However, policymakers are encouraged to conduct cooperation and networking between small- and medium-sized institutions. Accordingly, the researchers recommend that leather and shoes firms should work as a cluster. Business Support Organizations that are related to the leather and shoes industry such as chamber of commerce, union of the leather, and shoes industries should play more attention to create and organize a cluster initiative for the leather and shoes industry in order to expand this industry to reach more markets, and attract new investments that may affect the Palestinian economy positively. The researchers recommend policymakers to establish a special center to support the shoe making and leather industry through the development of models and designs, laboratory for quality checking, and providing specialized training courses related to manufacturing shoes and leather, R&D center, which is a key requirement for innovation. Additionally open shoe shops for only the cluster products targeting the end consumer. And to find the suitable legal status that would allow the cluster to implement activities and development.

5.3 Further research
This study tried to identify success factors of competitiveness of the SMEs working in processing the leather and shoes sector in Hebron city in Palestine. The findings revealed that clustering is not considered as a vital moderator in the relationship between performance and competitiveness of SMEs working in processing the LFS. Accordingly, further research might be directed to use other technical dimensions, i.e., Porter's diamond, balanced score card, five forces, and value chain besides the clustering ones in order to achieve competitiveness. Based on studying other factors and dimensions that can achieve creation and innovation, future research might concentrate on key success factors of enterprises that work in clustering.

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