

## IMPACTS OF ORGANIZATIONAL LEARNING CAPABILITY AND ISO 9001 EFFECTIVENESS ON FINANCIAL PERFORMANCE OF EXPORTING COMPANIES IN THE FEDERATION OF BOSNIA AND HERZEGOVINA

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### ABSTRACT

*The main purpose of this study was to investigate the relationship between Organizational Learning Capability, ISO 9001 Effectiveness and Financial Performance of Bosnian exporters. Based on literature review, a conceptual model was validated and the hypotheses were proposed. The measurement instrument used in this study is a structured survey prepared based on literature review. The target population were the managers of Bosnian exporters that have the ISO 9001 standard implemented in the company. In total, 84 surveys were completed by respondents, which is sample good enough for the entity of the Federation of Bosnia and Herzegovina. Before conducting a regression analysis in Software Package for Social Sciences, the exploratory factor analysis was conducted and five items were extracted. The regression results indicated a strong and positive influence of ISO 9001 Effectiveness on Financial Performance and Organizational Learning Capability of Bosnian exporters. A positive relationship of Organizational Learning Capability and Financial Performance was not confirmed.*

**Keywords:** ISO 9001 Effectiveness, Organizational Learning Capability, Financial Performance

**JEL:** M11, L00, L15

### 1. INTRODUCTION

Exporters have an important role in economies and this statement is greatly supported in the economic report entitled "The Role of

Exports in the US Economy" (U.S. Department of Commerce, 2014). Researchers provided empirical evidence that export companies live longer (Dai et al., 2016). Governments all around the world appoint agencies to stimulate export growth and the mechanisms of these agencies are a frequent topic of scientific research (Lederman et al., 2016). Although there is ample literature about the importance of export in many countries, few studies have dealt with exporting companies at the firm level. This emphasizes a need to investigate influencing factors that contribute to performance of exporting companies. Considering the number of articles dealing with the issue of performance of exporting companies with a focus on influencing factors, scientists did not invest significant efforts in solving this important problem. A gap in the literature that needs to be supplied with new studies is obvious.

It is important to bear in mind that exporters are required to have a proof that they conform to a minimum quality level requested by countries that import the products. As an answer to this, companies frequently use ISO 9001, whose criteria are usually obligatory as a minimum for all the companies that plan to export. Regardless of the fact that ISO 9000 certification has been globally pursued and implemented, very few studies have explored its impact on the objective measures of financial performance (Sharma, 2005). The same statement has been brought up by Lampert, et al. (2010) who concluded that even though there is a variety of research describing implementation of ISO 9000 quality systems and examining success stories, there is insufficient research that indubitably examines

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whether there is a positive correlation between the companies certified as ISO and their financial performance. All these facts served as a good basis to initiate this study and offer at least modest contribution to exporting companies by producing empirically based conclusions about the level of significance of Quality Management System ISO 9001 and Organizational Learning Capability (OLC) as factors that have an influence on Financial Performance of exporting companies.

The conclusions of this study are not only important for exporting companies to understand the impact level of ISO 9001 on OLC, but also to see how much investment in ISO 9001 is actually reflected in terms of Financial Performance of the company. Considering all relationships examined by researchers and through a thorough analysis of the existing research about OLC, ISO 9001 and Financial Performance that will be presented under Literature Review section of this study, the following questions were formulated:

- Does OLC have a significant and positive influence on Financial Performance?
- Does ISO 9001 have a significant and positive influence on Financial Performance?
- Does ISO 9001 have a significant and positive influence on OLC?

The primary objective of this study was to investigate the relationships mentioned in the questions above, and to provide a significant basis for future studies. According to the proposed conceptual model, ISO 9001 Effectiveness has a positive and significant influence on Financial Performance of exporting companies. If exporting companies choose to use the proposed model and manage to achieve a better financial performance, then the entire society may benefit from it greatly.

## 2. LITERATURE REVIEW

Many scientific articles published in various, highly indexed and relevant journals as well as books and proceedings have been examined

in order to find important information for the identification of variables, to construct the research model, explain each variable individually, clarify the relationships among the variables, but also to find out adequate scales that will be used to structure the instrument. SSCI indexed journal articles have been preferable among others. Upon an extensive literature review, three variables have been identified and they will be discussed in the coming subheadings of this section.

### 2.1. ISO 9001 Effectiveness

ISO 9001 is a series of standards that perceives quality from two aspects: quality assurance and quality management. It is widely accepted that two of the most relevant ISO standards for the furniture manufacturing industry are the Quality Management System – ISO 9001 and the Environmental Management System – ISO 14001 (Ratnasingam et al., 2010). Being an ISO 9001 certified company means that the institution has a certain capability to ensure that all the products and services meet customer demands. According to the International Standardization Organization, Quality Management System (QMS) is a simplified set of standards that will be similarly applicable to all types and sizes of organizations. In addition, the intention of the ISO 9001 QMSs to offer a systematic way of providing quality products and services to the customers (Rantasingam et al., 2013). Despite ISO certification's worldwide implementation, achieving ISO certification is time consuming, very cumbersome, and expensive (Karim and Bingi, 2015).

From another perspective, ISO 9001 Effectiveness has been defined as a degree to which results (output) meet prescribed goals (Kafetzopoulos and Gotzamani, 2014; Gotzamani et al., 2007). There is also another opinion which suggests that ISO 9001 Effectiveness refers to the extent to which its prescribed quality objectives/targets are met (Nakeeb et al., 1998). To conclude, ISO 9001 Effectiveness represents the extent to which a company truly achieved customer satisfaction. Moreover, it describes how well a company prevents non-conformance and how much its improvement is continuous.

## 2.2. Organizational Learning Capability (OLC)

Prior to understanding OLC, it is inevitable to understand what organizational learning is. According to literature, organizational learning is the process by which organizations learn, where learning refers to any change in the organization's models that maintains or improves the performance (Cyert and March, 1963; Hedberg, 1981; Dibella et al., 1996). A more comprehensive definition suggests that OLC is defined as organizational and administrative characteristics of the elements that provide an organization for learning or for encouraging the learning processes, and it is an important variable for developing organizational performance in order to gain sustainable competitive advantages (Jiménez-Jiménez and Sanz-Valle, 2011). Akgün et al. (2014) reported that Jerez-Gomez, Cespedes-Lorente, and Valle-Cabera (2005) proposed the structure of OLC that involves four dimensions: managerial commitment, systems perspective, openness and experimentation, and knowledge transfer and integration. A brief explanation of each dimension of OLC is given as follows:

- By managerial commitment, authors explain development of managerial support for, and leadership commitment to the learning process and employee motivation.
- Systems perspective refers to bringing the organization's members together to a common identity and a shared vision, interconnecting the activities of employees, and developing relationships based on the exchange of information and shared mental models.
- Openness and experimentation is related to climate of accepting new ideas and opinions, and allowing individual knowledge to be constantly renewed, widened, and improved through experimentation.
- Knowledge transfer and integration refers to the internal spread of knowledge through verbal and non-verbal communication and the information systems (Jerez-Gomez et al., 2005).

## 2.3. Financial Performance

Financial performance refers to financial data of the company, but indirectly it may be represented through secondary factors such as market share, customer satisfaction, productivity, operating income, return on assets (ROA), return on sales (ROS), and others. However, in both cases, financial performance is defined as either quantitative measure of positive or negative results (Karim and Bingi, 2015).

## 2.4. ISO 9001 Effectiveness and Financial Performance

Researchers mostly agreed that quality management aspects have a positive impact on financial performance (Karim and Bingi, 2015; Sharma, 2005; Muturi et al., 2015; Akgün et al., 2014; Padma et al., 2008; Candido et al., 2016; Hróbjartsson, 2012; Jeping'etich, 2010; Parvadavardini et al., 2016; Kafetzopoulos et al., 2015; Lampport et al., 2010; Tari et al., 2012). Some researchers focused specifically on the relationship between ISO9001 and financial performance (Karim and Bingi, 2015; Sharma, 2005; Muturi et al., 2015; Padma et al., 2008; Candido et al., 2016; Hróbjartsson, 2012; Jeping'etich, 2010; Kafetzopoulos et al., 2015; Lampport et al., 2010; Tari et al., 2012), while some of them took a more generic approach and researched the relationship between quality management, Total Quality Management (TQM), practices of TQM on the one side and financial performance on the other side (Akgün et al., 2014; Kampouridis et al., 2015; Parvadavardini et al., 2016). Karim and Bingi (2015) conducted meta-analyses of the current ISO literature to explain the relationship between ISO certification and company's performance in Greece. The authors came to the conclusion that numerous published studies associating ISO implementation with higher financial performance state that despite the positive relationship, ISO will not automatically help companies achieve a higher performance. In addition to ISO 9001, researchers argue that companies need to go beyond the standards and create a quality culture using other quality management tools. This means that ISO is the initial point for a serious quality management (Karim and Bingi, 2015).

Sharma (2005) suggests that companies can benefit from ISO 9000 certification if they are genuinely interested in the quality philosophy by improving their internal business processes. The study hypothesizes that ISO 9000 certification is associated with improvements across three dimensions of financial performance. This hypothesis has been accepted (Sharma, 2005).

Muturi et al. (2015) revealed that ISO9001 certification influenced return on net assets of the organizations thereby influencing their performance. The study of Akgün et al. (2014) demonstrated that the increase in financial performance is not a direct consequence of TQM, it is rather a consequence of business innovativeness and OLC transferring the impact of TQM to financial performance. Padma, et al., (2008) stated the evidence of a significant change in all critical factors and indicators of organizational performance, which shows that manufacturing firms are justified in pursuing ISO 9001:2000 certification. Others, such as Hróbjartsson (2012) concluded that ISO 9001 certified companies had a significantly higher gross profit margins and ROS ratio. Difference in financial health of the certified and non-certified companies is evident. Certified companies appeared to have a lower debt ratio than the companies that were not certified (Hróbjartsson, 2012). Issues of ISO 9001 took attention of researchers in Kenya too. The study was provided by Jepng'etich (2010) who concluded that ISO9001 certification led to improved return on asset of commercial state corporations in Kenya.

Parvadavardini et al. (2016) found a positive relationship between QM practices, quality performance and financial performance. This was confirmed in Greek manufacturing firms by Kafetzopoulos et al. (2015), who found that ISO9001 Effectiveness has a direct contribution to product quality and operational performance.

Very few researchers discussed the negative aspects of the relationship between quality management and financial performance. Kampouridis et al. (2015) concluded that utilized techniques of a total quality management could not prevent undesirable

effects regarding profitability and solvency. However, despite the efforts invested in comprehensive literature analysis, there was no study identified whose results negated the relationship between ISO 9001 Effectiveness and financial performance.

## 2.5. ISO 9001 Effectiveness and OLC

Malik et al. (2012), Akgün et al. (2014), Lambert and Ouedraogo (2008), Lam et al. (2006), and Mahmood et al. (2015), Mekić and Dinç (2017) are just a few out of many researchers who have dealt scientifically with ISO 9001 and OLC. To be more specific, Malik et al. (2012) investigated the role of quality management capabilities in developing OLC. This study presents a research dealing with a direct relationship between the two variables. Its findings indicated that OLC is contingent upon the strength of a company's quality management capabilities (Malik et al., 2012). The mediating role of OLC between TQM and financial performance was researched by Akgün et al. (2014). They found that OLC mediates the relationship between two variables, which is another empirical evidence significant for this study. Mahmood et al. (2015) tried to explain the role of OLC in understanding the relationship between TQM and organizational performance. The results revealed a full mediation of OLC between TQM and organizational performance, and confirmed the findings of Akgün et al. from 2014 (Mahmood et al., 2015). Lam et al. (2006) tried to establish the link between OLC and the quality culture for TQM implementation, and their findings suggest that TQM should be embedded in learning organization and serve as an enabler for OLC.

Literature review conducted for this study indicated that many studies investigated the relationship between TQM and OLC, but very few dealt with the relationship between more specific aspects of TQM business philosophy such as QMSs (i.e. ISO 9001). Therefore, it has been decided to expand the literature by investigating the relationship between ISO 9001 Effectiveness and OLC. The authors assumed that OLC contracts are the same in the organizations with implemented TQM and ISO 9001 certified organizations. Therefore, they

conducted an empirical investigation of ISO 9001 QMS's impact on organizational learning. The findings led to the conclusion that ISO 9001 may be a useful tool for the organizational learning (Lambert and Ouedraogo, 2008).

## 2.6. OLC and Financial Performance

Numerous authors have examined the relationship between OLC and Financial Performance. It is worth mentioning some of them such as Jiménez-Jiménez and Sanz-Valle (2011), Kalmuk and Acarab (2015), Jiang and Li (2008), Akgün et al., (2014), Abiola (2013), Alegre et al., (2012), and Yeung et al., (2007).

While some authors have indirectly concentrated on the relationship between OLC and Financial Performance by focusing on Financial Performance as part of the overall organizational or business performance (Yeung et al., 2007; Kalmuk and Acarab, 2015; Jiménez-Jiménez and Sanz-Valle, 2011), others paid attention to a direct relationship between OLC and Financial Performance as a specific variable (Jiang and Li, 2008; Akgün et al., 2014; Abiola, 2013). After the review of articles and empirical evidence provided by different researchers, one may conclude that there is almost a consensus among researchers that OLC has a positive influence on the Financial Performance (Jiménez-Jiménez and Sanz-Valle, 2011; Kalmuk and Acarab, 2015; Jiang and Li, 2008; Akgün et al., 2014; Abiola, 2013; Alegre et al., 2012; Yeung et al., 2007).

## 2.7. Proposed Research Model and Hypotheses

Once extensive literature review provided a deep understanding and explanation of all the variables as well as relationships among them, the most relevant research model to be used in this study has been selected. Mekić and Dinç (2017) offered conceptual model and recommended its further validation and testing (see figure 2.1).

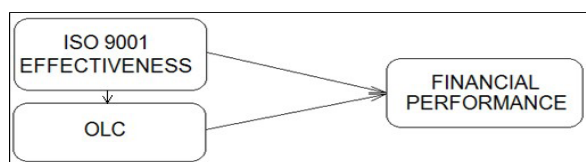


Figure 2.1 Proposed Research Model (Mekić and Dinç, 2017)

Based on the reported literature, according to the proposed research model, there are three hypotheses to be investigated in this study:

H1: ISO 9001 Effectiveness has a significant and positive influence on Financial Performance of Bosnian exporters

H2: ISO 9001 Effectiveness has a significant and positive influence on OLC of Bosnian exporters

H3: OLC has a significant and positive influence on Financial Performance of Bosnian exporters

## 3. METHODOLOGY

### 3.1. Measurement Instrument

The primary data used in this study were collected by means of a structured survey. This instrument was prepared using the scales previously used by researchers and already proven as both reliable and valid in measuring ISO 9001 Effectiveness, OLC and Financial Performance.

The questionnaire was comprised of seven demographic questions, 15 questions measuring ISO 9001 Effectiveness, 13 questions measuring OLC and four questions measuring Financial Performance. In total, the questionnaire included 39 questions grouped in four sections.

The questions were adapted from the previously developed and widely used scales having reputation of the reliable and valid ones. For the purpose of ISO 9001 Effectiveness scale, the work of Evangelos L. et al. (2012) was considered while for the purpose of OLC scale, the study of Chiva et al. (2007) was significant. For the purpose of measuring Financial Performance, the scale of Carr and Pearson (1999) was used.

### 3.2. Sample

The companies were non-randomly selected and the selection criteria covered the companies operating in the Federation of Bosnia and Herzegovina (FBiH) which have

implemented ISO 9001 QMS and are exporting their products/services. According to the official database of certified organizations in BiH provided on the official website of Foreign Trade Chamber of BiH, the total number of such companies in FBiH is 269 (VTK, 2015). The research was conducted in the period February 2017 - April 2017. A total of 84 companies agreed to fill in the survey, which gave the response rate of 31.22% (84/269).

### 3.3. Statistical Methods Used for Analysis

For the purpose of statistical analysis of the collected data, Software Package for Social Sciences (SPSS) was used, and the analysis encompassed the following statistical operations: factory data analysis, reliability test, descriptive statistics and regression analysis.

## 4. RESULTS

### 4.1. Demographics

In total 84 respondents participated in the survey. There are slightly more male participants compared to the female ones. The sample was well distributed when it comes to age, job experience, education level, and company size. For each characteristic of the sample, there are numbers of participants belonging to different categories. More details on sample characteristics are available in Table 4.1.

Considering the fact that there are 19 small, 31 medium and 27 big companies, the sample of 84 companies can definitely provide a good basis for generalizing the conclusions at the FBiH level. Definition of company size in BiH is regulated by Article 4 of the Law on Accounting and Auditing which defines small companies as the ones with less than 50 employees, medium companies as the ones with 50-250 employees and big companies having more than 250 employees (Official Gazzete of FBiH, 2010).

Table 4.1 Sample Characteristics

Variable	Demographics	Number	Valid Percent
Gender	Male	49	58.33
	Female	35	41.67
Age	20-30	16	19.05
	30-40	26	30.95
	40-50	29	34.52
	50+	12	14.29
	N/A	1	1.19
Job Experience ( <i>In managerial position</i> )	1-5	33	39.29
	6-10	21	25.00
	11-20	15	17.86
	20+	4	4.76
	N/A	11	13.10
Education Level	High school	12	14.29
	Undergraduate	41	48.81
	Master	13	15.48
	PhD	3	3.57
	N/A	1	1.19
Company Size	Small	19	22.62
	Medium	31	36.90
	Big	27	32.14
	N/A	7	8.33

### 4.3. Exploratory Factor Analysis and Reliability Test

With the aim of reducing the items from the survey where necessary, exploratory factor analysis was performed for each variable at

the dimensional level. After five iterations conducted, five items were removed due to overloading. All the removed items were related to ISO 9001 Effectiveness variable, and more information is presented in Table 4.2.

Table 4.2 List of Removed Items

Item	Code	Iteration
ISO 9001 EFFECTIVENESS	ISO	-
<i>Continuous Improvement</i>	ISO CI	-
In my organization, the improvements of the quality management system (QMS) are confirmed through internal audits	ISO CI5	1
Employee performance is continuously improved in my organization	ISO CI3	2
Measured and explicit quality goals have been set for all employees in my organization	ISO CI4	3
<i>Customer Satisfaction</i>	ISO CS	-
Identification of and focus on customer needs and requirements is regular practice in my organization	ISO CS1	4
In my organization, managers and supervisors encourage activities that improve customer satisfaction	ISO CS2	5

To be more specific, the removed items are three out of five items measuring Continuous Improvement and two out of five items measuring Customer Satisfaction dimension of ISO 9001 Effectiveness.

After the removal of overloaded items, another iteration of exploratory factor analysis was conducted, and satisfactory loadings were obtained for each item. In addition,

reliability test was performed at the level of each dimension within the variable. Table 4.3 represents factor loadings and Coefficient Alpha for all items and dimensions of ISO 9001 Effectiveness variable. Based on the table, one can conclude that Cronbach's Alpha values indicate a reliable instrument for each dimension of ISO 9001 Effectiveness variable (see Table 4.3).

Table 4.3 Factor Loadings and Coefficient Alpha for ISO 9001 Effectiveness

ISO 9001 Effectiveness (Cronbach's Alpha 0.679)	Factor Loading	Chronbach's Alpha
<i>1. Continuous Improvement (ISO CI)</i>		0.679
An effective business plan for continuous quality improvement has been developed in my organization (ISO CI1)	0.679	
The processes, procedures and products are continuously monitored, reviewed and improved in my organization (ISO CI2)	0.814	
<i>2. Prevention of Nonconformities (ISO PN)</i>		0.907
The products and procedures are controlled throughout the production steps in my organization (ISO PN1)	0.692	
In my organization, the products conform to specifications (ISO PN2)	0.778	
My organization assures that the final product quality is further controlled before delivery (ISO PN3)	0.843	
The product and process design is efficient in my organization (ISO PN4)	0.825	
In my organization, the company adopts the "zero defects" mentality (ISO PN5)	0.804	
<i>3. Customer Satisfaction (ISO CS)</i>		0.81
In my organization, customer satisfaction surveys are carried out and the complaints are monitored (ISO CS3)	0.833	
Information with regard to customer expectations and suggestions are gathered by my organization (ISO CS4)	0.888	
Information with regard to customer understanding of the perceived product value is gathered by my organization (ISO CS5)	0.704	

Table 4.4 (above) indicates that the smallest loadings of ISO 9001 Effectiveness variable occurred at item ISO PN1 (loading of 0.692) and ISO CI1 (loading of 0.679). For all other items of this variable, loadings were above 0.70 while the highest loading occurred at item ISO CS4 (loading of 0.888).

Speaking of OLC variable, highly reliable scores were achieved by reliability test, but also very satisfactory loadings by factory data analysis

test. Table 4.4 speaks in favor of this statement. All factor loadings regarding exploratory factor analysis were above 0.717. The smallest loading of OLC occurred at item OLC PD1 (loading of 0.717), while the highest loading of this variable occurred at item OLC R2 (loading of 0.927). In addition, based on the table, one can conclude that Cronbach's Alpha values are very high and indicate a reliable instrument for each dimension of OLC variable.



Table 4.4 Factor Loadings and Coefficient Alpha for Organizational Learning Capability

Components of Organizational Learning Capability	Factor Loading	Chronbach's Alpha
<i>1. Experimentation (OLC E)</i>		0.885
In my organization, people receive support and encouragement when presenting new ideas (OLC E1)	0.782	
In my organization, initiative often receives a favourable response, so people feel encouraged to generate new ideas (OLC E2)	0.755	
<i>2. Risk Taking (OLC R)</i>		0.859
People are encouraged to take risks in my organization (OLC R1)	0.849	
In my organization, people often venture into unknown territory (OLC R2)	0.927	
<i>3. Interaction with the External Environment (OLC EE)</i>		0.8
There are systems and procedures for receiving, collating and sharing information from outside the organization (OLC E1)	0.858	
In my organization, people are encouraged to interact with the environment: competitors, customers, technological institutes, universities, suppliers, etc. (OLC E2)	0.789	
<i>4. Dialogue (OLC D)</i>		0.898
In my organization, there is free and open communication within my work group (OLC D1)	0.812	
In my organization, managers facilitate communication (OLC D2)	0.805	
Cross-functional teamwork is a common practice in my organization (OLC D3)	0.861	
<i>5. Participative Design Making (OLC PD)</i>		0.845
Managers in my organization frequently involve employees in important decisions (OLC PD1)	0.717	
In my organization, policies are significantly influenced by the view of employees (OLC PD2)	0.855	

In the end, speaking of a very significant dependent variable Financial Performance (FP), Cronbach's Alpha value of 0.754 indicated a high reliability level (see Table 4.5). Exploratory factor analysis with all loadings values above 0.7

was more than satisfactory. The lowest loading occurred at item FP2 (loading of 0.725) and the highest loading occurred at item FP3 (loading of 0.834).

Table 4.5 Factor Loadings and Coefficient Alpha for Financial Performance

Financial Performance	Factor Loading	Chronbach's Alpha
Financial Performance - not dimensional scale (FP)		0.754
Considering the past five years, I feel that the following indicator of my organization's financial performance...		
Return on Investment (FP1)	0.759	
Profits as a percent of sales (FP2)	0.725	
The firm's net income before taxes (FP3)	0.834	
The present value of the firm (FP4)	0.717	

### 4.3. Correlation Analysis

When it comes to means and standard deviation values, all dimensions provided satisfactory results. Correlations indicated optimum values leading to the conclusion that items are neither overrelated nor overrelated among each other. Means, standard deviations and correlations are all fully presented in Table 4.6.

There were no negative correlations, and only four out of 36 correlations seemed to be not statistically significant. As many as 25 relationships were statistically highly significant with p value lower than 0.01, while six relationships were statistically significant with p value lower than 0.05.

Correlations analysis indicated that dimensions of ISO Effectiveness, OLC and Financial Performance variables were highly correlated. The relationships among them seem to be statistically significant considering both confidence levels:  $P < 0.05$  and  $P < 0.01$ .

The strongest correlation appeared between ISO Prevention of Nonconformities and ISO Continuous Improvement with loading of 0.629. The weakest correlation was between OLC Risk Taking and ISO Continuous Improvement with loading of 0.187.

Table 4.6 Mean, Standard Deviations, and Correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
ISO Continuous Improvement	4.09	0.59	1								
ISO Prevention of Nonconformities	4.23	0.67	0.629**	1							
ISO Customer Satisfaction	4.07	0.71	0.473**	0.434**	1						
OLC Dialogue	4.21	0.69	0.48**	0.558**	0.441**	1					
OLC Risk Taking	3.48	0.88	0.187	0.211	0.397**	0.294*	1				
OLC Interaction with External Environment	4.00	0.70	0.455**	0.533**	0.576**	0.517**	0.442**	1			
OLC Participative Decision Making	3.78	0.88	0.455**	0.483**	0.402**	0.614**	0.469**	0.529**	1		
OLC Experimentation	4.04	0.80	0.484**	0.557**	0.544**	0.732**	0.413**	0.538**	0.687**	1	
Financial Performance	4.02	0.57	0.416**	0.233*	0.228*	0.277*	0.207	0.193	0.272*	0.23*	1

\* $P < 0.05$ ; \*\* $P < 0.01$

#### 4.4. Regression Analysis

Confidence interval level considered in regression analysis was 95%, which means that all significance alpha values lower than 0.05 would be considered as accepted hypotheses. Regression analysis was done at the level of all dimensions encompassing two independent (ISO 9001 Effectiveness and OLC) and one dependent (FP\_TOTAL) variable.

Regression analysis that investigated the relationship between dimensions of ISO 9001 Effectiveness and those of OLC showed different results. In fact, as many as seven out of 15 relationships were confirmed. The only

dimension which did not show the relationship at any item was OLC\_PD (OLC Participative Decision Making).

ISO\_PN (Prevention of nonconformities) seemed to have a significant impact on OLC\_D (OLC Dialogue with sig. 0.02), OLC\_I (OLC Interaction with the External Environment with sig. 0.006) and OLC\_E (OLC Experimentation with sig. 0.03). ICO\_CS (Continuous Improvement) seemed to be significantly related with OLC\_D (OLC Dialogue with sig. 0.044), OLC\_R, OLC\_I (OLC Interaction with the External Environment with sig. 0.000) and OLC\_E (OLC Experimentation with sig. 0.001). All the discussed relationships are presented in Table 4.7.

Table 4.7 Path Analysis of the Relationship among Financial Performance, Aspects of ISO 9001 Effectiveness and Five Components of OLC

	Financial Performance (FP)	Organizational Learning Capability (OLC)				
		OLC_D	OLC_R	OLC_I	OLC_PD	OLC_E
<b>ISO 9001 Effectiveness</b>						
Continuous Improvement	.009**	.230	.793	.573	.209	.347
Prevention of Nonconformities	.779	.002**	.635	.006**	.320	.003**
Customer Satisfaction	.780	.044*	.002**	.000***	.115	.001**
OLC Dialogue	.356					
OLC Risk Taking	.392					
OLC Interaction with External Environment	.621					
OLC Participative Decision Making	.515					
OLC Experimentation	.372					

\*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001

Speaking of the relationship between dimensions of ISO 9001 Effectiveness and FP\_TOTAL, out of three dimensions, only ISO\_CI (ISO Continuous Improvement) seemed to be significant with Significance Alpha value of 0.009. When it comes to the relationship between dimensions of OLC and FP\_TOTAL, none of five dimensions of OLC indicated a positive relationship with FP\_TOTAL. More details are available in Table 4.7.

Regression analysis of ISO 9001 Effectiveness

with OLC with Financial Performance provided the main feedback for testing the three hypotheses defined in section 2.7 of this study. Two out of three hypotheses were accepted with sig. alpha values of 0.041 (for H1) and 0.000 (for H2). Completely in line with regression results conducted at the dimensional level, variable level regression analysis indicated that OLC, with sig. value of 0.489 has no impact on the Financial Performance of Bosnian exporting companies (Table 4.8).

Table 4.8 Summary of Key Hypotheses

H1	ISO 9001 Effectiveness has a significant and positive influence on Financial Performance of Bosnian exporters	0.041	Supported
H2	ISO 9001 Effectiveness has a significant and positive influence on OLC of Bosnian exporters	0.000	Supported
H3	OLC has a significant and positive influence on Financial Performance of Bosnian exporters	0.489	Not supported

All the results presented in this section will be further discussed.

## 5. DISCUSSION

The main reason why the structured survey used in this study relied on the scales of Carr and Pearson (1999), Chiva et al. (2007) and Evangelos L. et al. (2012) is the fact that these scales, even though tested by many researchers over time, always showed reliable results. Considering thorough literature review conducted and careful selection of the scales to collect data, it is not surprising that all reliability tests performed in SPSS for the purpose of this study indicated high reliability levels. Despite a careful selection of scales for the structured survey, while doing Exploratory Factor Analysis (EFA), five items were removed. All of them belonged to ISO 9001 Effectiveness variable. The removal of all these items by EFA could be easily explained by the typical Bosnian context and characteristics of respondents.

Speaking of ISO 9001 in BiH, it is important to have in mind that there are still many companies which implemented ISO 9001 not because of quality improvement, but because it was the condition of their strategic suppliers or customers. In other words, ISO 9001 is implemented not because of the quality, but rather because of the certificate per se.

The confirmation of the first hypothesis tested in this study supported the previous literature saying that *"ISO 9001 Effectiveness has a significant and positive influence on Financial Performance of Bosnian exporters"*. This hypothesis (considering ISO 9001 as a type of QMS) has been confirmed in the literature by many researchers who agreed that quality management aspects have a positive impact on Financial Performance (Karim and Bingi, 2015; Sharma, 2005; Muturi et al., 2015; Akgün et

al., 2014; Padma et al., 2008; Candido et al., 2016; Hróbjartsson, 2012; Jepng'etich, 2010; Parvadavardini et al., 2016; Kafetzopoulos et al., 2015;

Lamport et al., 2010; Tarí et al., 2012). The second hypothesis of this study confirmed the previous literature. In fact, Malik et al. (2012), Akgün et al. (2014), Lambert and Ouedraogo (2008), Lam et al. (2006), and Mahmood et al. (2015), are just a few out of many researchers who have dealt scientifically with the relationship between ISO 9001 and OLC. Following the assumption of Lambert and Ouedraogo (2008) that OLC contracts are the same in the organizations with implemented TQM and ISO 9001 certified organizations, this study revealed that ISO 9001 Effectiveness has a significant and positive influence on OLC of Bosnian exporters. The third hypothesis did not confirm the studies of many authors who almost had consensus on OLC's positive influence on Financial Performance (Jiménez-Jiménez and Sanz-Valle, 2011; Kalmuk and Acarb, 2015; Jiang and Li, 2008; Akgün et al., 2014; Abiola, 2013; Alegre et al., 2012; Yeung et al., 2007). In other words, Bosnian exporters are of the opinion that OLC does not contribute to their Financial Performance.

## 6. CONCLUSION

With the aim to investigate the relationship between Organizational Learning Capability (OLC), ISO 9001 Effectiveness and Financial Performance of Bosnian exporters, based on literature review, three hypotheses were proposed and tested. The measurement instrument used in this study was a structured survey, prepared based on literature review. The

managers of 84 Bosnian exporting companies in FBiH responded to the survey. Regression results indicated a strong and positive influence of ISO 9001 Effectiveness on Financial Performance of Bosnian exporters and on OLC of Bosnian exporters. However, regression results did not confirm the third hypothesis and there is no relationship between OLC and Financial Performance of Bosnian exporting companies.

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