

# **Benchmarking Culture and Its Impact on Operational Performance: A Field Study on Industrial Companies in Jordan**

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## **Abstract**

The current research paper was designed to explore the extent of benchmarking culture in industrial companies and its impact on operational performance. A total of 30 dimensions of benchmarking culture were figured out from the literature. Out of them 10 were regarded as common values among employees based on descriptive statistics. A sample consisted of 50 industrial companies was drawn randomly from Amman and Irbid. A questionnaire-based survey was conducted to collect data from employees working at these companies. Of the 315 questionnaires distributed to employees, 227 were returned complete and valid. The results indicated that all dimensions of benchmarking culture (prior benchmarking experience behavior of internal analysis behavior of external analysis continuous improvement mentality share of internal opinions searching for internal best practices comparison with a market leader quality policy communication organizational learning team development) had significant and positive influences on operational performance of industrial companies in Jordan. Hence, it was concluded that benchmarking culture play an important role in performance improvement. Therefore, Jordanian organizations, particularly industrial companies, are called to consider benchmarking culture in their way to improve organizational performance.

**Keywords:** Benchmarking Culture, Operational Performance, Industrial Companies.

## **1. Introduction**

Success-oriented organizations, a part from their characteristics and industry, seek to improve their organizational performance. One method of performance improvement reported in the literature is benchmarking (Maiga and Jacobs, 2004). Researchers defined benchmarking as a way, method, tool used to enhance organizational performance (Azhar and Omar, 2008, Babović et al., 2012 and Salem, 2013). Due to the absence of a specified definition of benchmarking culture, a literature review was conducted on benchmarking and corporate culture in order to derive a definition of benchmarking culture. Therefore, the definition of benchmarking culture used by this study is values, beliefs, assumptions, communications and behaviors prevalent all over an organization in relation to benchmarking practices. In relation to

the dimensions of benchmarking culture, Kay (2007) cited two types of benchmarking, which are internal benchmarking (sharing of opinions and internal communication process within the same organization) and external benchmarking (comparison of own performance with external parties). The author categorized external benchmarking into three types: competitive, functional and generic benchmarking. Azhar and Omar (2008), on the other hand, divided benchmarking into four forms: internal, explorative, comparative, and best practice benchmarking. Ahuja et al. (2010) added a new type of benchmarking which is the strategic benchmarking. Maiga and Jacobs (2004) used four dimensions to measure benchmarking: internal competitive analysis, external competitive analysis, benchmarking organizational commitment, and prior benchmarking experience. Lankford (2002) added new classes of benchmarking: process benchmarking (daily operations) performance benchmarking (performance comparison with other competitors), and strategic benchmarking (strategies used to achieve long-run results). Zairi and Whymark (2000) suggested dimensions of benchmarking culture such as: continuous improvement mentality, quality policy communication, satisfied employees and customers, teamwork, managerial behaviors, initiatives, performance measurement and improvement, benchmarking planning, competitor analysis, organizational learning and benchmarking training. Kyriakidou and Gore (2005) identified four dimensions of benchmarking culture: collaborative setting of organizational missions and strategies, building the future together, building the ability to learn and team development. As for the relationship between benchmarking culture and organizational performance, Saunders et al. (2016) regarded benchmarking as a method used by organizations to determine practices required to increase their organizational performance. Voss et al. (1997) found a significant association between benchmarking use and organizational performance. The results of Maiga and Jacobs (2004) showed a significant impact of different dimensions of benchmarking (internal competitive analysis, benchmarking organizational commitment, and prior benchmarking experience) on organizational performance. Kerandi et al. (2014), Hashim et al. (2012) and Attiany (2014) confirmed the positive impact of benchmarking practices on organizational performance. Parast and Adams (2012) found a non-significant relationship between benchmarking and organizational performance in oil and gas industry. Despite the former results, little studies were carried out on the same subject in Jordanian companies; in addition to that, there is no studies that identified the extent to which benchmarking culture is dominant among Jordanian organizations. Therefore, this study has two main aims: to explore the extent to which benchmarking culture is prevalent among industrial companies in Jordan, and to investigate the impact of benchmarking culture on organizational performance. The study is organized as follows: section 2 include a literature review on definition of benchmarking culture, dimensions of benchmarking culture, definition of organizational performance, dimensions of organizational performance, relationships between benchmarking culture and organizational performance. section 2 brings to light the way in which the hypotheses were developed. Section 3 highlights the methodology of the study, in which measures, research model, and sample size were demonstrated. Section 4 entitled data analysis displays descriptive statistics and correlations, validity calculations of measures, and regression

coefficients resulted for hypotheses testing. Section 5 shows the results, discussion and conclusion. Finally, section 6 clarify study limitations, implications and future research trends.

## **2. Literature Review and Hypotheses Development**

This section comprises five sub-sections: definition of benchmarking culture, dimensions of benchmarking culture, definition of organizational performance, dimensions of organizational performance, and relationships between benchmarking culture and organizational performance. On the basis of these sections, the research hypotheses and model were developed.

### **2.1 Definition of Benchmarking Culture**

The main idea behind benchmarking theory is the comparison of an organization's performance with other excellent organizations. In doing so, organizations seek to ensure continuous improvement, maintain quality, and satisfy customers (Kay, 2007). One of the most important advantages of benchmarking cited in the literature was the enhancement of organizational performance (Voss et al., 1997 and Maiga and Jacobs, 2004). For organizations to achieve these goals, Azhar and Omar (2008) asserted that the main way is to compare an organization's business performance against other model organizations. The benchmarking literature contains many definitions of this term. Babović et al. (2012) deemed benchmarking as a method of measuring and comparing an organization's business performance with a reference organization. The definition of the Xerox Corporation as cited in Salem (2013) regarded benchmarking as a continuous process of measuring and comparing an organization's practices in products and services with superior organizations. Based on these definitions, one could conclude that benchmarking is a process of comparison between an organization's business performance and a reference business performance. Voss et al. (1997) described benchmarking as a way of marking out best practices of superior organizations and adopting these practices in order to achieve new goals. With the aim of defining benchmarking culture, both benchmarking and corporate culture should be integrated into one concept. Salem (2013) built the significance of culture in business domain on reasonable grounds, e.g., differences between organizations in factors such as communications, motivations as well as leadership styles. Ahmed and Shafiq (2014) defined culture as a framework consists of individuals' knowledge, values, beliefs, communications, and behaviors that direct their actions. In the organizational context, Al-Tameemi and Alshawi (2014) defined corporate culture as an organization's behaviors and attitudes. In their paper on benchmarking organizational culture, Kyriakidou and Gore (2005) regarded culture as values and assumptions shared by individuals in an organization. Joining benchmarking and culture conceptions into one vein, this study conceptualizes benchmarking culture as values, beliefs, assumptions, communications and behaviors prevalent all over an organization in relation to benchmarking practices. In order to clarify the intended practices of benchmarking culture used in this study, a literature review was conducted on related works and the results can be seen in the following section.

## **2.2 Dimensions of Benchmarking Culture**

In the first place, benchmarking culture dimensions refers in this study to organizational behavior-based practices. According to Fowler and Campbell (2001), benchmarking types constitute a major source of its dimensions. Kay (2007) categorized benchmarking into two groups: internal and external benchmarking. According to him, internal benchmarking encompasses sharing of opinions and internal communication process within the same organization. External benchmarking, on the other hand, is a process of comparing an organization's performance with external organizations in the same sector. He indicates that external benchmarking consists of three major types, which are competitive benchmarking, functional benchmarking, and generic benchmarking. Fowler and Campbell (2001) defined competitive benchmarking as a direct comparison of an organization's performance with another competitor. Therefore, competitive benchmarking occurs between organizations in the same sector. Ahuja et al. (2010) argued that a successful implementation of competitive benchmarking requires two conditions, which are a third party to conduct the benchmarking process, and the benchmarking process itself should be directed at the general managerial process. Additionally, Ahuja et al. (2010) regarded generic or parallel benchmarking as process of comparison between organizations from different sectors with similar products or services. Functional benchmarking, for Elmuti and Kathawala (1997), is done against leader companies with best functional processes. Azhar and Omar (2008) divided benchmarking into four forms, which are internal, explorative, comparative, and best practice benchmarking. The main theme of these types is the comparison of an organization's performance with other organizations regardless of competition. For Ahuja et al. (2010), internal benchmarking refers to the comparison between an organization's departments or units. Azhar and Omar (2008) described explorative benchmarking as the comparison with competitive and non-competitive organizations. Ahuja et al. (2010) defined best practice benchmarking as a comparison with a specific market leader who have similar processes. They add a new type of benchmarking called strategic benchmarking, in which comparison is directed at organizational strategies instead of operational processes. In their study on the relationship between benchmarking and organizational performance, Maiga and Jacobs (2004) used four dimensions to measure benchmarking, which are internal competitive analysis, external competitive analysis, benchmarking organizational commitment, and prior benchmarking experience. Lankford (2002) added new classes of benchmarking: process benchmarking (daily operations) performance benchmarking (performance comparison with other competitors), and strategic benchmarking (strategies used to achieve long-run results). Kouzmin et al. (1999) identified several elements of benchmarking process, hence, organizational behaviors or attitudes reflect these elements deemed as dimensions of an organization's benchmarking culture. Those elements include search for best practices, definition of benchmarking indicators, collecting data on internal and external processes, organization participation in quality awards, participation in benchmarking training programs. Zairi and Whymark (2000) discussed how to build a culture of benchmarking and continuous learning in an organization. Their findings suggested that benchmarking culture should be grounded on continuous improvement mentality in addition to quality policy communication and organizational values delivered in

terms of satisfied employees and customers, teamwork, managerial behaviors, initiatives, performance measurement and improvement, benchmarking planning, competitor analysis, organizational learning and benchmarking training. Kyriakidou and Gore (2005) provided good examples of benchmarking culture in small enterprises from different sectors. They identified four dimensions of benchmarking culture, which were collaborative setting of organizational missions and strategies (commitment to objectives and future planning, trust, feedback), building the future together (clear vision, information flow, management support), building the ability to learn (employee empowerment and, training, willingness to develop, and open communication), and team development (clear role, information and resources sharing, informal communication). Table 1 summarizes benchmarking culture dimensions found in the literature. For the current study, ten of these dimensions of benchmarking were regarded as independent variables as shown in Figure 1. Therefore, these dimensions were used to explore the extent to which benchmarking culture is common among the organizations under study. The significant dimensions of benchmarking culture will be used as independent variables.

**Table 1. Dimensions of benchmarking culture**

No.	Dimensions	Authors(s)
1	Prior benchmarking experience	Maiga and Jacobs (2004)
2	Behavior of internal competitive analysis	
3	Behavior of external competitive analysis	
4	Benchmarking organizational commitment	
5	Definition of benchmarking indicators	Kouzmin et al. (1999)
6	Collecting data on internal and external processes	
7	Participation in benchmarking training programs	
8	Share of opinions within the organization	Kay (2007)
9	Searching for internal best practices	Fowler and Campbell (2001)
10	Comparison between business departments	Azhar and Omar (2008)
11	Performance comparison with competitive and non-competitive organizations	
12	Performance comparison with another direct competitor	Fowler and Campbell (2001)
13	Employing a third part benchmarking agency	Ahuja et al. (2010)
14	Benchmarking directed at general managerial processes	
15	Comparison with organizations from different sectors similar products or services	
16	Comparison between organizational strategies	
17	Comparison with a specific market leader	
18	Continuous improvement mentality	Zairi and Whymark (2000)
19	Quality policy communication	
20	Employee satisfaction	
21	Customer satisfaction	

23	Organizational learning	
24	Organizational / individual initiatives	
25	Performance measurement and improvement	
26	Benchmarking planning	
27	Collaborative setting of organizational strategies	Kyriakidou and Gore (2005)
28	Building the future together	
29	Building the ability to learn	
30	Team development	

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### **2.3 Definition of organizational performance**

The concept of organizational performance had been evolved over many years due to the different point of views on which the assessment of performance is based. Gavrea et al. (2011) identified three main conceptualizations of performance after the 1950s, i.e., the fulfillment of organization objectives, exploitation of an organization environment, as well as effectiveness (accomplishment of goals) and efficiency (using fewer resources). Therefore, numerous definitions of organizational performance were provided. Daft (2000) considered organizational performance as the achievement of an organization's objectives using fewer resources. Ho (2008 as cited in Chong et al., 2011) defined organizational performance in terms of an organization's ability to achieve its objectives.

### **2.4 Dimensions of organizational performance**

Salem (2003) considered three dimensions that can be used to measure organizational performance: economy, efficiency, and effectiveness. According to her, economy measures are concerned with the operational level, while efficiency measures are deals with the tactical levels in comparison with effectiveness measures that focus on the strategic level of an organization. In his study on measuring organizational performance, Carton (2004) identified tendimensions of organizational performance: efficiency, growth, profit, liquidity, market share, leverage, size, survival, operational, and market. Kerandi et al. (2014) classified organizational performance into two types: financial and non-financial measures. Maiga and Jacobs (2003) regarded organizational performance as an outcome of product cost improvement and performance of product quality). Long (2005) investigated the relationship between benchmarking management practices and manufacturing performance of industrial companies and measured manufacturing performance using two types of performance measures: direct manufacturing performance (product quality, flexibility, cost efficiency, and delivery performance) and indirect manufacturing performance (customer service and customer satisfaction). In order to measure organizational performance, Chong et al. (2011) used: reduction of cost, minimization of lead-time, inventory turnover, as well as avoidance of product return or reject and effectiveness in meeting customer needs. Gautam (2015) used the followings to measure organizational performance: rate of innovation, employee commitment and satisfaction, labor productivity, product quality, financial performance, and market share. As the current study, the operational performance was measured as a whole construct using a



subjective assessment of direct, indirect, internal and external measures of organizational performance as shown in Table 2.

**Table 2. Dimensions of organizational performance**

No.	Dimensions	Examples of measures	Author(s)
1	Economy	Procurement of inputs	Salem (2003)
2	Efficiency	Rational use of resources	
3	Effectiveness	Achievements of goals	
4	Efficiency	Return on investment	Carton (2004)
5	Growth	Market share growth, change in sales	
6	Profit	Net profit margin, pretax profit	
7	Liquidity	Current ratio, quick ratio	
8	Market share	Firm to industry product sales	
9	Leverage	Debt to equity, times interest earned	
10	Size	Sales - revenues for one year	
11	Survival	Survival through a point in time	
12	Operational	Assessment of overall effectiveness	
13	Market	Return to shareholders	
14	Operational	Internal quality results such as: Human resource management Process improvement Information systems.	Parast and Adams (2012)
15	Product-based	Improvement of product cost, Performance of product quality.	Maiga and Jacobs (2003)
16	Outcome-based	Return on assets and investments	Shang (2004)
17	Behavior-based	Order fill capacity Responsiveness to customers Advanced notification Customer service flexibility.	
18	Direct	Product quality Flexibility Cost efficiency Delivery performance	Long (2005)
19	Indirect	Customer service Customer satisfaction	
20	Internal	Return on investment Balanced scorecard	Moballegghi et al. (2011)
	External	Benchmarking with competitors	

## 2.5 Relationship between Benchmarking Culture and Organizational Performance

According to Saunders et al. (2016), benchmarking can be described as a tool utilized by organizations to determine practices required to boost organizational performance. Collecting

data from 660 European manufacturing companies in 1993 and 1994, Voss et al. (1997) investigated the relationship between benchmarking and organizational performance and find a significant association between companies' usage of benchmarking and organizational performance. Garg and Ma (2005) conducted a study to investigate cultural and performance differences between Chinese-owned and managed companies and foreign-owned and managed companies in China. The study explores also benchmarking efforts used by Chinese companies. Their results indicate that foreign companies perform better than Chinese companies do. In addition, the results find a good evidence of benchmarking success among Chinese companies as these companies learn from foreign companies. Maiga and Jacobs (2004) examined the association between benchmarking and organizational performance using a sample consisted of 223 managers working at U.S. manufacturing plants. They used four benchmarking-related dimensions to measure benchmarking, which are internal competitive analysis, external competitive analysis, organizational commitment, and prior benchmarking experience, as well as three dimensions to assess the organizational performance, i.e., respondents' ratings on rate of growth in sales, profitability, and return on assets. Their results showed a significant impact of the extent of internal competitive analysis, benchmarking organizational commitment, and prior benchmarking experience on organizational performance and non-significant impact of external competitive analysis on organizational performance. Kerandi et al. (2014) investigated how commercial banks can improve their performance utilizing benchmarking and found a significant positive impact of benchmarking practices on banks' performance. Hashim et al. (2012) conducted a study in Malaysia to examine the relationship between benchmarking process and organizational performance. Their results confirmed that benchmarking process and organizational performance are significantly correlated. On the other hand, Parast and Adams (2012) found a non-significant relationship between benchmarking and organizational performance in oil and gas industry. In a Jordanian study carried out on the industrial companies listed in Amman Stock Exchange, Attiany (2014) highlighted the importance of benchmarking types in performance improvement. The aim of this study is twofold. First, to explore the extent to which benchmarking culture is prevalent among organization and second to investigate the impact of benchmarking culture on organizational performance. The first one can be achieved using the descriptive statistics of participants' responses, while the second is met employing inferential statistics. The above-mentioned literature review on benchmarking culture, dimensions of benchmarking culture, conceptualization of organizational performance as well as relationship between benchmarking and performance was used to suggest one general hypothesis that represents the potential relationship between benchmarking culture and organizational performance, which was:

H1: Benchmarking culture has a significant impact on organizational performance.

The hypothesis was divided into 10 hypotheses proposed based on 10 dimensions of benchmarking culture investigates as follows:

H1-1: Prior benchmarking experience is positively related to operational performance.

H1-2: Behavior of internal analysis is positively related to operational performance.

H1-3: Behavior of external analysis is positively related to operational performance.



- H1-4: Continuous improvement mentality is positively related to operational performance.
- H1-5: Share of internal opinions is positively related to operational performance.
- H1-6: Searching for internal best practices is positively related to operational performance.
- H1-7: Comparison with a market leader is positively related to operational performance.
- H1-8: Quality policy communication is positively related to operational performance.
- H1-9: Organizational learning is positively related to operational performance.
- H1-10: Team development is positively related to operational performance.

### **3. Methodology**

This study was carried out in two phases. The aim of the phase one was to explore the extent to which benchmarking culture is exist in the targeted organizations. The ultimate objective of the phase was to identify the dimensions of benchmarking culture that can be used in phase two. Phased two was designed to investigate the impact of benchmarking culture on organizational performance of industrial companies in Jordan.

#### **3.1 Measures**

Benchmarking culture was measured on the basis of ten dimensions adopted from previous studies (Maiga and Jacobs, 2004, Zairi and Whymark, 2000, Kay, 2007, Fowler and Campbell, 2001 and Kerandi et al., 2014). These dimensions include: prior benchmarking experience (2 items), behavior of internal analysis(2 items), behavior of external analysis(2 items), continuous improvement mentality(2 items), share of internal opinions(2 items), searching for internal best practices(2 items), comparison with a market leader(2 items), quality policy communication(2 items), organizational learning(2 items)and team development(2 items).Operational performance was measured as a whole construct using the following dimensions (Long, 2005 and Moballegghi et al., 2011): direct performance (Product quality, flexibility, cost efficiency, and delivery performance), indirect performance (customer service and customer satisfaction), and external performance (benchmarking with key competitors).

### 3.2 Research Model

The research model as depicted in Figure 1 shows the relationship between benchmarking culture as an independent variable and operational performance as a dependent variable.

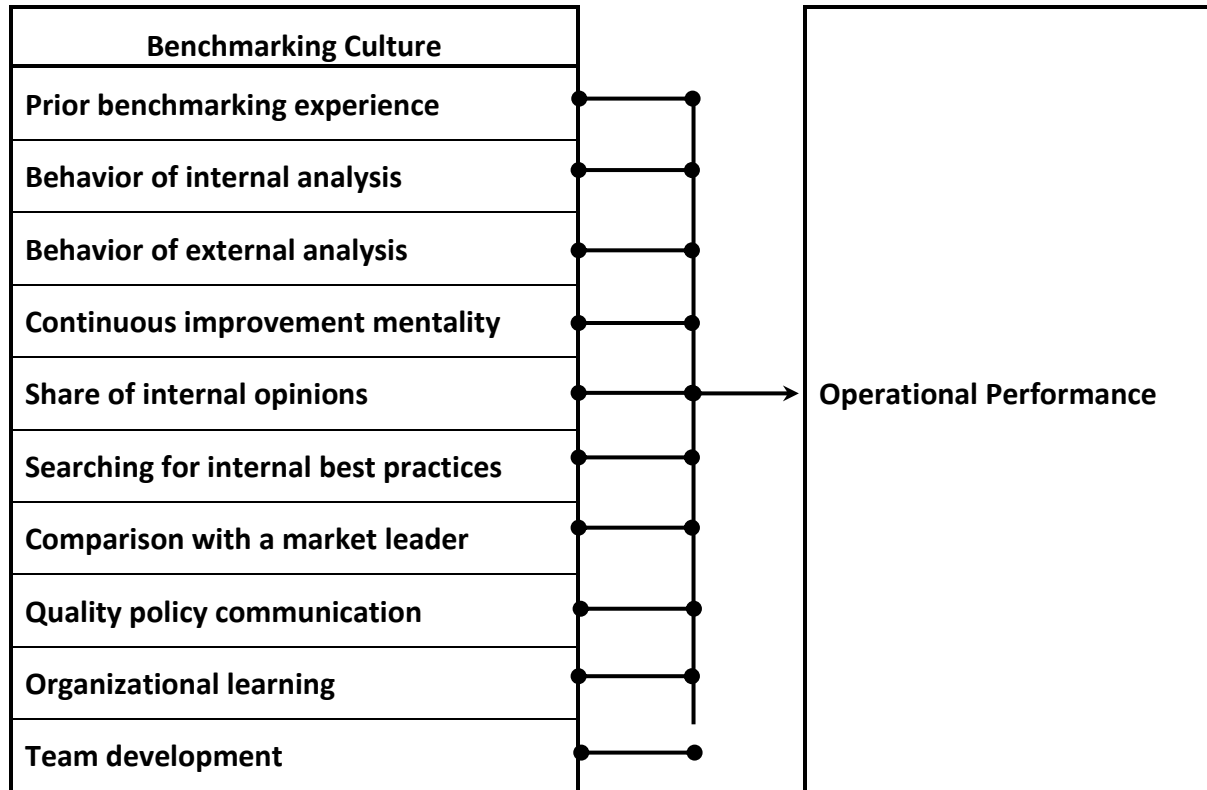


Figure 1. The research model

### 3.3 Sample and data collection

A sample consisted of 50 of industrial companies in Amman and Irbid was randomly selected. From which, 315 employees were received a questionnaire in order to collect the data required for the study. Out of the distributed questionnaires, 227 were returned complete and valid for analysis purpose. The response rate reached 72%.

## 4. Data analysis

### 4.1 Descriptive statistics and correlations

The results of means, standard deviations and zero-order correlations are shown in Table 5. It was noted that independent variables are correlated to each other (the lowest value of  $r = 0.29$ , largest value of  $r = 0.57$ ). All independent variables are significantly correlated to operational performance. The correlation between the behavior of external analysis and operational performance was larger than correlation with other independent variables ( $r = 0.67$ ,  $P < 0.000$ ). The smaller correlation was between Searching for internal best practices ( $r = 0.36$ ,  $P < 0.001$ ).

**Table 5. Means, standard deviations, and zero-order correlations**

Var.	M	SD	1	2	3	4	5	6	7	8	9	10	11
1	3.01	0.56	-	0.63	0.54	0.40	0.38	0.61	0.55	0.46	0.57	0.36	0.45
2	2.99	0.61		-	0.44	0.34	0.39	0.57	0.33	0.31	0.41	0.36	0.51
3	3.00	0.52			-	0.42	0.37	0.38	0.48	0.31	0.55	0.36	0.67
4	3.41	0.49				-	0.33	0.39	0.43	0.41	0.50	0.37	0.49
5	3.50	0.54					-	0.61	0.37	0.35	0.43	0.32	0.58
6	2.78	0.59						-	0.32	0.31	0.44	0.41	0.36
7	3.75	0.71							-	0.29	0.40	0.35	0.44
8	3.60	0.68								-	0.65	0.42	0.58
9	3.09	0.58									-	0.51	0.60
10	3.66	0.55										-	0.54
11	3.45	0.69											-

P<0.1. 1: Prior benchmarking experience, 2: Behavior of internal analysis, 3: Behavior of external analysis, 4:Continuous improvement mentality, 5: Share of internal opinions, 6: Searching for internal best practices, 7: Comparison with a market leader, 8: Quality policy communication, 9: Organizational learning, 10: Team development, 11: Operational Performance.

#### 4.2 Validity of Measures

Following Parast and Adams (2012), the content validity was evaluated based on academic scholars from Jordanian universities. Reliability was calculated using Cronbach’s alpha. The overall value for benchmarking culture was 0.77 and 0.79 for operational performance. Moreover, model validity was assessed using the confirmatory factor analysis (CFA).Five indices were utilized, which were the Chi square to degree of freedom ( $\chi^2/df$ ), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), the Incremental Fit Index (TLI), and the Normed Fit Index (NFI). The results can be seen in Table 6. All values were fall under the recommended ranges. The value of  $\chi^2/df$  is less than 3.0, CFI values is greater than 0.90, RMSEA value is less than 0.08, TLI value is greater than 0.90 and NFI value exceeds 0.90.

**Table 6. Results of measurement model goodness of fit**

$\chi^2/df$	CFI	RMSEA	TLI	NFI
2.81	0.95	0.07	0.96	0.95

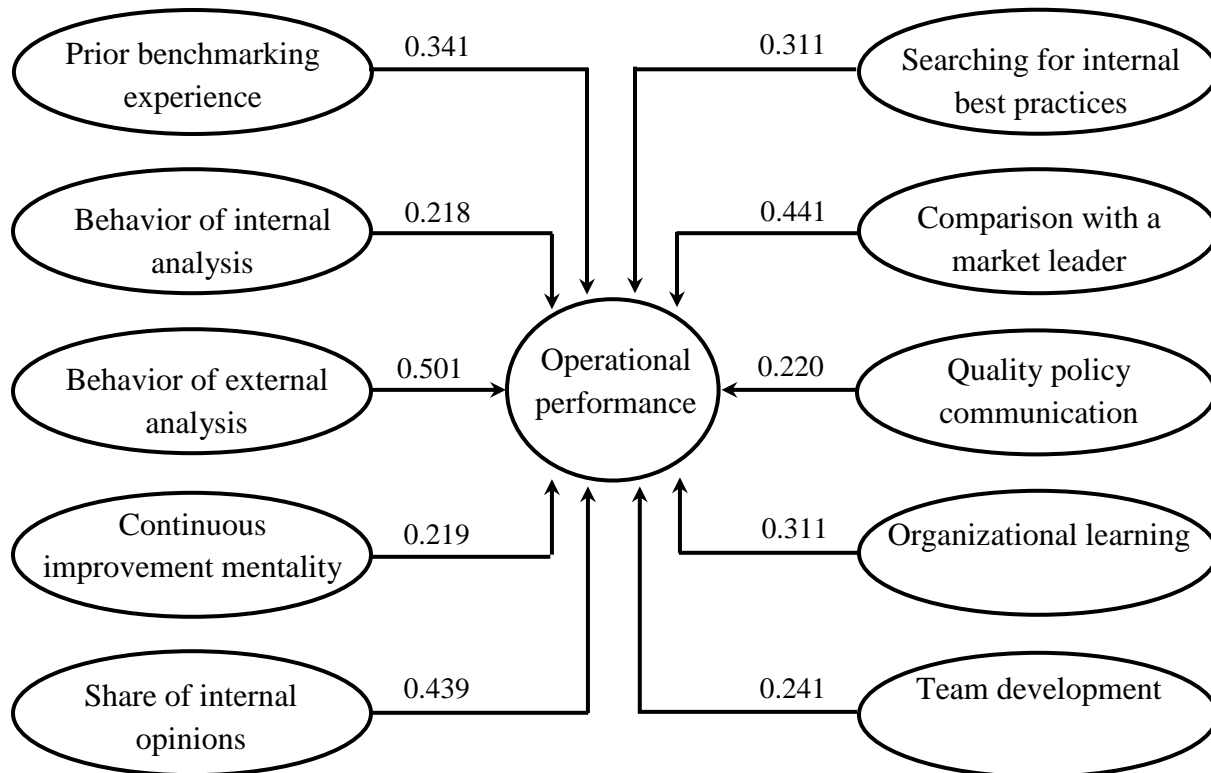
#### 4.3 Regression coefficients

The estimate of paths, as shown in Table 7 and Figure 2, highlights a significant association between prior benchmarking experience and operational performance ( $\beta = 0.341$ ,  $P < 0.000$ ), behavior of internal analysis ( $\beta = 0.218$ ,  $P < 0.000$ ), behavior of external analysis ( $\beta = 0.501$ ,  $P < 0.000$ ). On the other hand, the results showed a significant association between continuous improvement mentality and operational performance ( $\beta = 0.219$ ,  $P < 0.000$ ), share of internal opinions ( $\beta = 0.439$ ,  $P < 0.000$ ), and searching for internal best practices ( $\beta = 0.311$ ,  $P < 0.000$ ), comparison with a market leader ( $\beta = 0.441$ ,  $P < 0.000$ ), quality policy communication ( $\beta = 0.220$ ,  $P < 0.000$ ), organizational learning ( $\beta = 0.311$ ,  $P < 0.000$ ), and team development ( $\beta = 0.241$ ,  $P < 0.000$ ). In a word, the results supported the hypotheses that independent variables (prior benchmarking experience, behavior of internal analysis, behavior of external analysis, continuous improvement mentality, share of internal opinions, searching for internal best practices, comparison with a market leader, quality policy communication, organizational learning and team development) are significantly and positively related to the operational performance of industrial companies in Jordan.

**Table 7. Standardized Regression coefficients**

Path	$\beta$	Sig.	Result
Prior benchmarking experience → operational performance	0.341	0.001	Accepted
Behavior of internal analysis → operational performance	0.218	0.002	Accepted
Behavior of external analysis → operational performance	0.501	0.041	Accepted
Continuous improvement → operational performance	0.219	0.000	Accepted
Share of internal opinions → operational performance	0.439	0.003	Accepted
Searching for internal practices → operational performance	0.311	0.001	Accepted
Comparison with a market leader → operational performance	0.441	0.008	Accepted
Quality policy communication → operational performance	0.220	0.000	Accepted
Organizational learning → operational performance	0.321	0.000	Accepted
Team development → operational performance	0.241	0.070	Accepted

Figure 2 depicts the same results of the impact of benchmarking culture on operational performance of industrial companies in Jordan. It was concluded that the greatest influence on operational performance was from behavior of external analysis, followed by comparison with a market leader, share of internal opinions, prior benchmarking experience, organizational learning, searching for internal practices, Team development, Quality policy communication, continuous improvement mentality and behavior of internal analysis,



**Figure 2. Final model**

**5. Results, Discussion and Conclusion**

The first aim of this study was to explore the extent of benchmarking culture existence among industrial companies in Jordan. The results indicated that there were ten major dimensions of benchmarking culture from employees' perspectives. i.e., prior benchmarking experience, behavior of internal analysis, behavior of external analysis, continuous improvement, share of internal opinions, searching for internal practices, comparison with a market leader, quality policy communication, organizational learning and team development. The second aim of the study was to investigate the impact of benchmarking culture on operational performance of industrial companies in Jordan. The results accepted the hypotheses that all dimensions of benchmarking culture approved in the first phase of the study are significantly as well as

positively associated with operational performance. According to Salem (2013), benchmarking is a continuous process that can be utilized to measure and improve organizational performance. Maiga and Jacobs (2004) found a significant positive impact of three dimensions of benchmarking (prior benchmarking experience, internal competitive analysis and external competitive analysis) on organizational performance. In a study conducted by Long (2005) on the relationship between benchmarking management practices and organizational performance of manufacturing firms, the results confirmed the significance of the relationship between these variables. Similarly, Kerandi et al. (2014) found a significant association between benchmarking and performance of commercial banks. Hashim et al. (2012) pointed out a positive influence of benchmarking process and its related variables such as organizational commitment and prior benchmarking experience. Inconsistent with these results, Parast and Adams (2012) found a non-significant relationship between benchmarking and operational performance as measured by internal and external quality results. The study concluded based on its results that benchmarking culture dimensions such as play a significant role in improving organizational performance.

#### **6. Limitations, Implications and Future Research**

A major limitation of this study is the sample size, which is relatively small in comparison with the number of industrial companies. The current sample size consisted of 315 employees selected from industrial companies in Amman and Irbid. Therefore, the results of the current study cannot be generalized on all industrial companies in Jordan. However, the study contributes to the literature by investigating the impact of benchmarking culture on organizational performance of industrial study. The results of the study help researches as well as managers in understanding that benchmarking culture is a cornerstone if organizations look forward performance enhancement. According to Fowler and Campbell (2001), there are major differences between benchmarking theory and practice. Theoretically, benchmarking departments within an organization or leader organization is possible. In practice, in some cases it is very difficult to benchmark even internal business units. Therefore, future studies should consider the mediating role of some factors that hinder the process of benchmarking. On the other hand, future studies should use larger sample size and consider different sectors in order to gain a deep understanding of benchmarking culture and its impact on organizational performance.



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