

## Impact of Using Benchmarking to Achieve Competitive Advantage: A Case Study of Tafila Technical University

نضال أحمد النوايسة<sup>(1)</sup> هبة غالب الشمايلة<sup>(2)\*</sup> ولاء موفق الرحامنة<sup>(3)</sup>

### Abstract

The objective of this study was to determine the impact of benchmarking on achieving competitive advantage in Jordanian universities, specifically from the perspective of employees at Tafila Technical University. The study design involved the descriptive analytical approach, which utilized questionnaires to collect data from the total population of 629 university employees, including administrators, faculty members, and staff, according to data from the Human Resources Department. The sample size for the study was 200 respondents, representing 32% of the total population, and the data was analyzed using statistical methods such as regression, standard deviation, and averages with the statistical package for social sciences (SPSS) program. The results of the study and hypothesis testing indicated a statistically significant relationship between the use of benchmarking in its two dimensions and achieving competitive advantage in its various dimensions in Jordanian universities, as evidenced by the advanced means and tools employed by similar universities both domestically and internationally.

**Keywords:** benchmarking, competitive advantage, Jordanian universities, Tafila Technical University.

### أثر استخدام المقارنة المرجعية في تحقيق الميزة التنافسية: دراسة حالة جامعة الطفيلة التقنية

#### الملخص

هدفت الدراسة إلى التعرف على أثر استخدام المقارنة المرجعية في تحقيق الميزة التنافسية في الجامعات الأردنية وتحديدًا من منظور الموظفين في جامعة الطفيلة التقنية، واستخدمت الدراسة المنهج الوصفي التحليلي، حيث تم الاعتماد على الاستبانة كأداة لجمع البيانات، وتألف المجتمع الكلي للدراسة من (629) شخص من العاملين في الجامعة من الإداريين وأعضاء الهيئة التدريسية والموظفين استناداً إلى بيانات قسم الموارد البشرية حيث بلغ حجم العينة التي تم اختيارها (200) من المبحوثين أي ما نسبته 32% من مجتمع الدراسة الكلي، وتم استخدام برنامج

(1) ديوان المحاسبة الأردني، الكرك، الأردن

(2) قسم الإدارة العامة، كلية الاعمال، جامعة مؤتة، الكرك، الأردن.

(3) مديرية تربية الكرك، الكرك، الأردن

\* الباحث المستجيب: [shamaylehheba@yahoo.com](mailto:shamaylehheba@yahoo.com)

الرمزة الإحصائية للعلوم الاجتماعية (SPSS) من خلال مختلف الأساليب الإحصائية مثل الانحدار والانحراف المعياري والمتوسطات ، حيث أشارت نتائج الدراسة واختبار فرضيات إلى وجود أثر ذو دلالة إحصائية بين استخدام أسلوب المقارنة المرجعية ببعديه في تحقيق الميزة التنافسية بأبعدها المختلفة في الجامعات الأردنية ودراسة تطبيقية في جامعة الطفيلة التقنية، وتوصلت الدراسة الى مجموعة من التوصيات أهمها هو أن تقوم الجامعات الأردنية بالاهتمام بتطبيق أسلوب المقارنة المرجعية فيها لتعزيز تطورها وتميزها وبحث المستمر عن الوسائل والأدوات المتطورة لمواكبة مثيلاتها من الجامعات داخل الأردن وخارجها .

**الكلمات المفتاحية:** المقارنة المرجعية، الميزة التنافسية، الجامعات الأردنية، جامعة الطفيلة التقنية.

## Introduction

What the world is witnessing recently in terms of huge and rapid transformations and developments in various economic and technological fields has led to an increase in the interest of organizations in improving their competitive performance and outperforming their competitors. Where attention was focused on the competitive position and the competitive environment and the attempt to achieve a distinctive competitive advantage and enable the organization to keep pace with these developments and overcome the challenges of intense competition in the business environment (Maalla, 2022).

As achieving a strong competitive advantage has become a strategic goal that all organizations seek to achieve, and thus modern management is required more than ever to adopt more developed strategic directions and methods to achieve an excellent competitive advantage and reach customer satisfaction compared to what competitors offer (Zarafili and Zarafili, 2021).

The competitive advantage is the unique and distinctive element that enables the organization to thrive, excel and overcome its competitors, through various methods, whether cost, quality and other factors (Souissi, and Abu Kifa, 2015).

In order to achieve a competitive advantage of high quality, organizations searched for advanced methods that raise the quality of the organization and its services in order to reach a respectable strategic competitive position, and one of the most important of these methods is the concept of benchmarking, which appeared for the first time in surveying science and then had many uses in administrative sciences and is considered one of the most important Continuous improvement approaches in organizations.

Benchmarking involves identifying standards or reference elements that are compatible with the products or work processes of the facility or group that obtain the best results and using them as comparison elements and examples for applying best practices and knowledge to other facilities (Gellart, 2017: 8).

Benchmarking data can be used to evaluate a company's financial performance and market performance, for example (Attiany, 2014). Benchmarking is a systematic method by which an organization benchmarks itself against industry best practices, promoting superior performance by providing a structured framework within which organizations learn how the "best in class" do things, and understand how these practices differ from their own. , and implementing change to bridge the gap, the core of benchmarking is the process of borrowing and adapting ideas to gain competitive advantage (Besterfield et al., 2003). Benchmarking does not only focus on making some changes, but its main goal is to add importance to the institution (Ahmed et al., 2021).

Therefore, as a result of globalization, technological complexity, and scarcity of resources, organizations change and adopt a more open and collaborative approach to build their competitive advantage (Barrett et al., 2021). So benchmarking has become increasingly important to achieve that goal, create new competitive opportunities, and achieve an ideal competitive advantage that makes it a leader in market.

## **Problem Statement**

The problem of this study arose as an attempt to remove ambiguity and confusion about identifying factors for building the application of benchmarking in Jordanian universities and keeping pace with development, as well as seeking to prove and highlight the importance of the impact of applying this method in achieving an effective competitive advantage in Jordanian universities and in a case study of Tafila Technical University in particular, where it can Summarizing the problem of the study in "that many Jordanian universities did not have the desired positive impact in achieving an appropriate competitive advantage through continuous improvement applications, the most important of which is benchmarking, and thus trying to bridge the knowledge gap regarding the previous variables and testing the extent of their application at Tafila Technical University as one of the Jordanian universities." Desire to develop and excellence.

## Study questions

- 1- What is the level of application of benchmarking in its two dimensions (internal benchmarking, external benchmarking) from the point of view of the respondents at Tafila Technical University?
- 2- What is the level of application of competitive advantage with its dimensions (concentration, discrimination, cost leadership) from the point of view of the respondents at Tafila Technical University?
- 3- What are the respondents' perceptions of the impact of using benchmarking on the competitive advantage of Tafila Technical University?

## Study Objectives

The study mainly aims to know the effect of using benchmarking in achieving the competitive advantage at Tafila Technical University. From this objective, the following set of sub-goals emerges:

- 1- Clarifying the concept of benchmarking, competitive advantage and the dimensions of each in order to form a deep understanding and form an integrated theoretical framework.
- 2- Identifying the reality of using benchmarking in its two dimensions (internal benchmarking, external benchmarking) at Tafila Technical University.
- 3- Identifying the level of competitive advantage with its dimensions (cost leadership, discrimination, focus) at Tafila Technical University.
- 4- Reaching a set of proposals and recommendations to improve and develop the university and strengthen its reputation locally and internationally.

## Study Importance

The importance of the topic is that it explores the use of benchmarking as a tool for achieving competitive advantage in Jordanian universities, specifically at Tafila Technical University. The study aims to identify the key performance indicators (KPIs) that can be used for benchmarking and to evaluate the impact of benchmarking on the university's performance. The findings of the study can be useful for university administrators and policymakers in Jordan and other countries who are interested in improving the quality of

higher education and enhancing the competitiveness of their universities. The study can also contribute to the academic literature on benchmarking and its application in the context of higher education. Overall, the study has practical implications for university management and can help universities to improve their performance and achieve a competitive advantage in the higher education market.

## Hypotheses Development

A set of hypotheses were formulated in this study based on the study problem and were as follows:

**This study examines the impact of benchmarking in achieving competitive advantage. Based on Figure (1) below, the study hypothesizes that there is no statistically significant effect at the significance level ( $\alpha \leq 0.05$ ) of the respondents' perceptions of the application of benchmarking in achieving competitive advantage at Tafila Technical University.**

**And it emerges from this main hypothesis; Sub-hypotheses are as follows:**

H1a: benchmarking does not have a significant positive effect on cost leadership

H1b: benchmarking does not have a significant positive effect on differentiation

H1c: benchmarking does not have a significant positive effect on focus strategy

## Study Model

Figure No. (1) Represents the study model explaining the constituent variables of the study, so that it provides us with a preliminary perception of the relationship and influence between the study variables, through the various literature and opinions of researchers about the impact of using benchmarking in achieving competitive advantage, and accordingly the researchers developed a model for the study as follows

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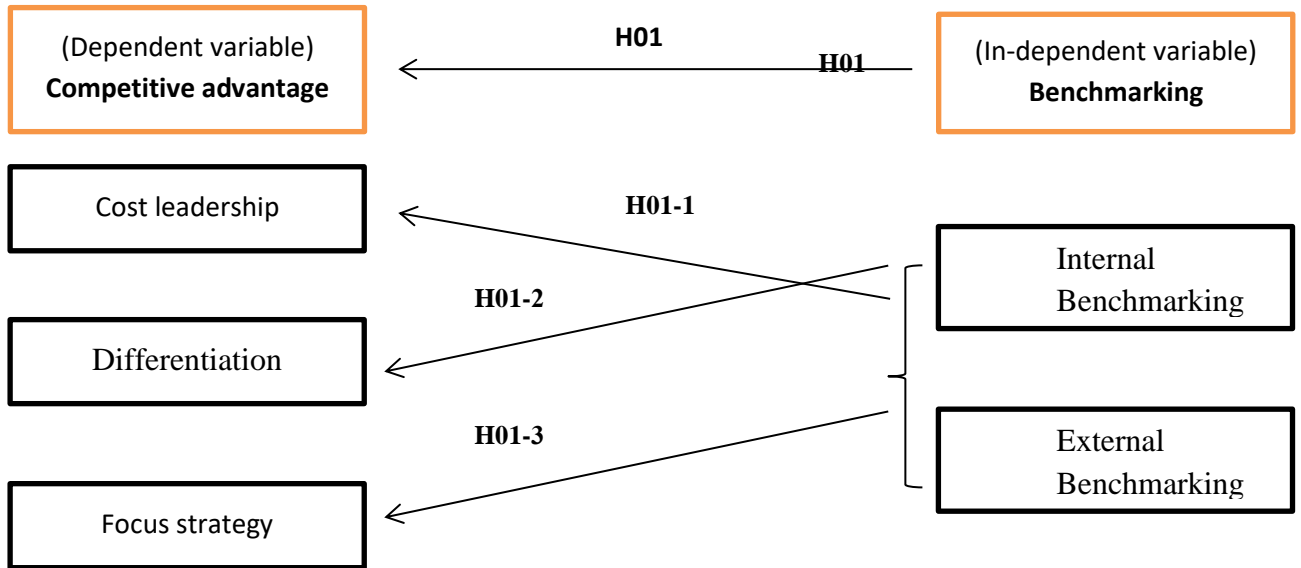


Figure No. (1) Study Model

**Source:** Prepared by the researchers based on previous studies as follows:

- Studies that included the independent variable (referenced benchmarking): (Ahmad et al, 2021); (Berezin et al, 2021)
- Studies that included the dependent variable (competitive advantage) :( Haseeb, et al, 2019) ; (Artha & Mulyana, 2018); (Avaci, 2017)

## Literature Review

### Benchmarking

In light of this huge global race, institutions in all fields today face great challenges in how to develop their performance and productivity, empower their employees and motivate them towards better institutional performance, and the existence and continuity of the institution depends on the extent of its success. Human resources to create ideas and creativity, and although humans are considered creative by nature, it is imperative not to miss the opportunities available for the advancement of the organization, and in the world and era of competition and rapid change, it has become unacceptable for the organization to lag behind in keeping up with its peers and competitors. Therefore, organizations have attached great importance to adopting the concept of benchmarking. Benchmarking is a method of searching for whatever leads to the best uniqueness (preference and difference) by

systematically continually comparing an organization's performance, internally or externally, by answering two basic questions.

- First: How have others become better?

- Second: how can we be better?

### **Definition of benchmarking**

The benchmarking has historical roots dating back to the year (1810) when the English industrialist (Franci Lowell) studied the best methods used in British flour mills to reach the most successful and powerful applications in this field. (Abdul-Wahhab, 2009: 232)

In the fifties of the last century, Japan was at the forefront of countries that applied the concept of benchmarking and continued to apply it to this day. Despite the success of Japanese organizations in developing products, they did not stop conducting benchmarking studies with the aim of continuous improvement, which is the philosophy of Kaizen. Which refers to continuous improvement. Then, the benchmarking applications moved to the United States of America around the year (1979), then it developed in the eighties and nineties, especially in measuring government performance through the benchmarking applied in the private sector, to this day and with the rapid changes and competition, the benchmarking gained the attention of organizations.

It was defined by (Lenz) as a continuous and systematic process for evaluating services, products and activities in comparison with the most serious competitor or with those leading firms in the markets (Lenz, 2020:16). Benchmarking is the systematic search for best practices, ideas and innovative operating procedures with the aim of learning from others and what they are doing right and then imitating it to avoid reinventing the wheel (Besterfield et al, 2011). (HUBERAC Jean-Pierre, 2001) also identified it as a model that aims to improve the organization's operations by comparing them with similar processes that are implemented in a better way in other institutions.

Based on the foregoing, benchmarking can be defined as a continuous and organized process based on the idea of comparison, which is to compare the activities, products and services of the organization with the best organizations and their leaders and developments with the aim of continuous improvement of the organization and raising its productivity and global classification.

## Types of Benchmarking

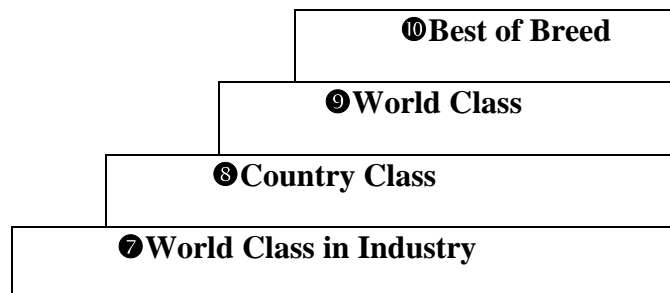
There are several types of benchmarking, the most common of which are: (Dwai Ismail, 2008)

**1- Internal Benchmarking:** Internal benchmarking ensures the approval and adoption of organizational units with outstanding performance within the unit or department and considers it as a basis for benchmarking with the aim of improving the performance of other organizational units. This process includes a benchmarking between the various activities and businesses within the organization itself, i.e. between the various business units, divisions and branches therein, identifying the units, divisions or businesses with outstanding performance, and circulating them to the rest of the departments or branches in the organization to work in the same way.

**2- Benchmarking External:** It includes making a benchmarking with other leading and distinguished units in the same field of work or another field. It also includes comparing the company's performance with other leading local or international companies, as the organization resorts to this type of benchmarking when it lacks good practices within its production units. Benchmarking provides good opportunities to learn and transfer ideas from leading institutions to other institutions (Jean Brilman, 2001).

## Why Benchmarking is Necessary?

The benchmarking process is about helping organizations move up this "stairway to success". The following figure illustrates the steps necessary to become "the best". There can only be "best of the best" for each performance measurement item in the benchmark. Most organizations can consider themselves successful if they reach Step 6 or 7. But a few of the best organizations will reach Step 8 or 9, and that organization will very own to step 10.





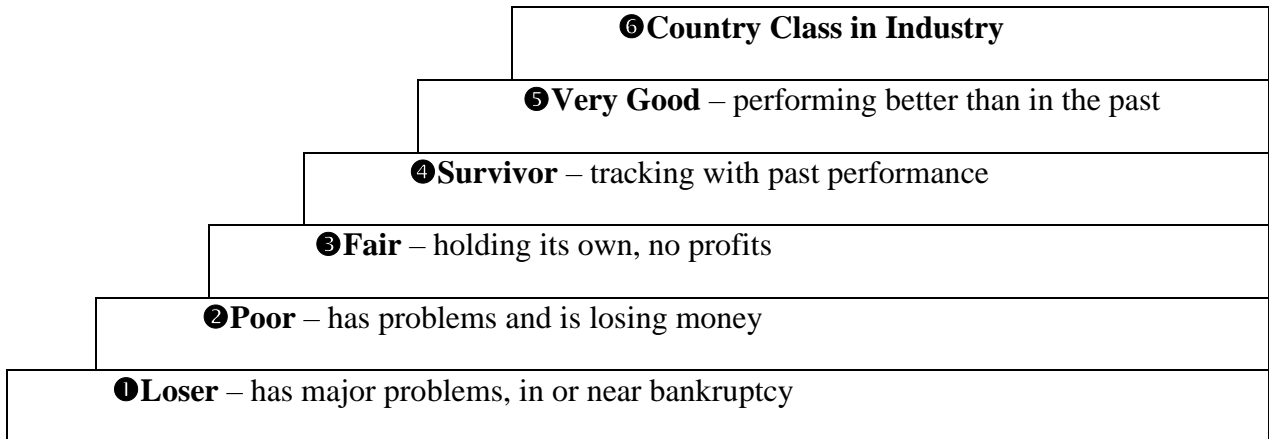


Figure No. (2) stairway to success

**Source:** André Knipe. 2002. BENCHMARKING FOR COMPETITIVE ADVANTAGE

- Striving for world class project management practices. Conference: African Rhythm Project Management.

### Benchmarking Steps

The benchmarking consists of a set of systematic and organized steps, and the organization that is looking for excellence and success is supposed to apply them strictly to achieve the best desired results, which are shown in the figure(3):

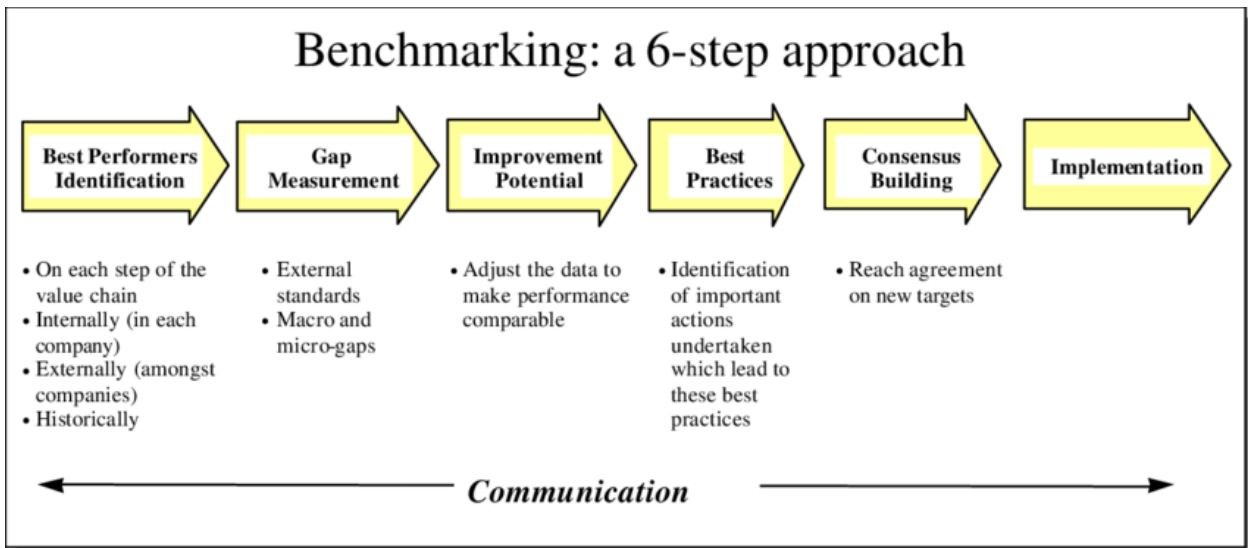


Figure No. (3) Benchmarking Steps

**Source:** Gillen et al. (2017). "Benchmarking and Performance Measurement: The Role in Quality Management", (Ed.) Handbook of Logistics and Supply-Chain Management (, Vol. 2), Emerald Group Publishing Limited, Bingley, pp. 325-338.

### **Factors of success and failure of benchmarking**

#### **1- Benchmarking Success Factors: (CAMP Robert, 1992)**

- Effectively motivating executives and making them aware of the importance of the performance measurement program and its impressive results.
- Thorough knowledge of the organization's operations to enable it to compare it with the best technologies of other leading organizations.
- Awareness of the increasing competition and striving to achieve the greatest level of performance.
- The desire and strong management to change and keep pace with development and the findings of the benchmarking.
- Giving priority to searching for the best ways and leading institutions to improve institutional performance.
- Encourage individuals to be creative and accept the idea of having institutions that perform the activities of the institution in a better and more effective way.

#### **2- Factors of failure of benchmarking: (DETRIE Philippe, 2001)**

- The large volume of information, or its inaccuracy
- Lack of frameworks specialized in analyzing performance differences, and failure to allocate the required resources to achieve benchmarking and its results.
- Absence of desire for change and innovation.
- Not accepting the idea of institutions with the best performance.

### **Competitive advantage**

We can say that the competitive advantage expresses the state of exclusivity and distinction in which the organization is compared to other competitors. This leads us to say that any organization, small or large, can have a competitive advantage, provided that it harnesses its capabilities and capabilities in the correct investment of the opportunities

available in the market compared to other competitors. Thus, the interest in environmental monitoring and surveying has formed a great interest from the organizations' departments to know the challenges they face and how to deal with them, in a way that achieves them the field of excellence or uniqueness by being different from them. The importance of the competitive advantage emerged as the lifeblood of the organization, and it is the basic code for the success of the organization and its continuity in an environment of fierce competition, which carries with it many challenges and problems, so focusing on the competitive advantage and trying to enhance it is a permanent and haunting problem for managers.

### **Competitive Advantage Definition**

The concept of competitive advantage in small and medium enterprises was invented by (Sultan, S., & Mason, M., 2010) Where they explained that business sustainability is achieved through competitive advantage. That is, when formulating business strategies, it is important to create distinct values for customers. These values may be in the aspect of cost leadership that offers products and services to customers at good prices, or in the aspect of differentiation between products and services .So, Competitive advantage is the ability of an organization to differentiate itself from other competitors. Moreover, competitive advantage is also a basis for devising business strategies to achieve sustainable growth and desired development. (Simpson, et al, 2004),Competitive advantage appears as soon as the organization discovers new methods that are more efficient and better than those used by competitors, as it is able to embody this goal by adopting a process of creativity in its broadest meanings and forms (Porter.M, 1993).

The complex situation surrounding organizations prompted them to create an effective and optimal competitive advantage (Stajkovic and Sergent, 2019). The role of achieving competitive advantage has been widely studied in the literature (Quaye and Mensah, 2019). It was found that competitive advantage is one of the most important pillars of the well-being of the organization and is the basis for evaluating its success and progress.

Thus, the study conclude that the competitive advantage also expresses everything that distinguishes the organization from other competitors, and everything that is unique in its kind is providing it and working to make it a feature that indicates its identity and reputation among competitors in the labor market.

### **Competitive advantage objectives**

The organization seeks through a competitive advantage to reach a set of goals, which are (Ahmed, 2023):

1. Creating new marketing opportunities.
2. Entering a new competitive field or entering a new market
3. Formation of a new future vision for the goals that the organization wants to reach.

### **Competitive Advantage Dimensions**

Many researchers have identified a group of these dimensions that are considered as entry points to the competitiveness of the organization. The most common and widely used dimensions are (cost leadership, focus, and differentiation), which were approved by most researchers, such as (Jones & Tilley, 2003) who he devised three general strategies, which consist of cost leadership, differentiation, and focus. These competitive strategies are able to respond efficiently to business objectives and are generally adopted by companies and organizations. In addition to the compatibility and suitability of these dimensions of the objectives of the study and the nature of the work environment in Jordan and the Arab countries, this can be addressed as follows:

1. Cost leadership: According to (Porter, 2008), the cost leadership strategy targets a specific segment of customers who are mainly interested in the price of the product, and with the aim of convincing these customers, low-priced products are offered compared to competing companies in the market, and this leads to an increase in market share and profits. Whereas (Russell & Millar, 2014) considered that reducing product prices leads to an increase in demand for them by customers, and thus achieves a decrease in fixed production costs.
2. Differentiation: One of the most important things that organizations seek is differentiation or uniqueness to create high value for their customers and satisfy their desires and renewed needs. (Avaci, 2017) has identified a set of methods and procedures that make the organization more distinguished, including:
  - Cut costs and Focus on customers
  - Educating customers and giving full information to the customer about the product / service, its specifications, and even its defects, with full transparency.

- The use of modern technology in the production and development process

3. Focus: This strategy relates to focusing on a specific group of customers, a sector of the product line, or a specific geographical market. Here, organizations seek to gain competitive advantage in their target market by offering products/services at lower prices than competitors due to focus on cost reduction. , or offering products that are unique in terms of quality, specifications, or after-sales services to customers, etc.

There are two alternatives to implement this strategy (Artha & Mulyana, 2018):

A- Focusing while reducing the cost: That is, relying on reducing the cost of the product in this by focusing on a specific sector of the market (Chen, 2018).

B- Focus with differentiation: This model relies on differentiating the product by targeting a limited segment of the market rather than the entire market or a group of customers.

## **Related Studies**

Ahmed (2021) study aimed to achieve a competitive advantage and improve performance through benchmarking in the banking sector. It proposes a conceptual framework that hypothetically links benchmarking, competitive advantage, and organizational performance. It also highlights various critical aspects of benchmarking and its process which are essential for successful implementation. Perhaps the most important results of the study is its focus on the application of the two dimensions of the reference pairing (internal and external) due to their importance in evaluating the competitive performance of the bank in addition to setting the framework assumption regarding the significant impact of competitive advantage on regulation, and the main recommendations indicate that the proposed framework may also include other industries as it deems appropriate.

Attiany (2014) study aimed to investigate the impact of different types of benchmarking in achieving competitive advantage. The study also assesses benchmarking application at the Jordanian industrial companies listed in Amman Stock Exchange (ASE). The data collection instrument used was a questionnaire which was administrated and distributed to a total sample of (228) managers at the headquarter of (38) companies at the rate of (6) questionnaire for each. The response rate was (80%) while (75%) was usable questionnaires. The data were analyzed using statistical methods such as reliability (Cronbachs Alpha), normality Kolomogrov-Simirnov (K-S), correlation between independent

and independent variables, simple and multiple also employed to predict the impact of benchmarking in achieving competitive advantage. The research finding supported the hypotheses that benchmarking has a significant and positive impact on achieving competitive advantage. The finding also showed that Jordanian industrial firms applied benchmarking approach to learn from others.

Knipe (2002) study aimed at trying to test the relationship between benchmarking and competitive advantage and help organizations to continuously improve the performance of their project management practices through: designing an effective benchmarking strategy, defining the objective of each performance measurement initiative from the outset to avoid unnecessary use of resources and to ensure the achievement of organizational goals, planning For the benchmarking project, the implementation of the benchmarking project, structuring the results in an easy-to-use manner to ensure that the maximum strategic benefit is achieved through performance measurement exercises, as the study emphasized the phantom of benchmarking in reaching the required competitive advantage.

## **Research Methodology**

This study adopted the descriptive analytical approach, where a survey of the published literature related to the subject of the study and its Arabic and foreign variables was conducted, and a field survey was conducted for the study sample individuals through the use of the questionnaire that was developed for this purpose, and to collect data that included the study variables, which was represented by the use of benchmarking(independent variable) and competitive advantage (dependent variable), where the data collected from the respondents were entered into the computer, and the necessary statistical analyzes were conducted to answer the study questions and test hypotheses.

### **- The study population and the sample**

The study population consists of all employees at Tafila Technical University, who number about 629 employees, as the study included a simple random sample of the employees at the university; where the number of sample members was about 200 participants which represent a 32% of the total population. In selecting the sample, the following categories were represented: 1-Gender: male / female. 2- The group of administrative units or departments in which the employee works.

## - Analysis

### Reliability and Stability

It is clear from Table (1) that the values of the Cronbach alpha coefficient ranged between (0.616) as the lowest value, and (0.779) as the highest value, and the total value was (0.901) with a total number of (32) paragraphs, which is a high value.

**Table 1.** Alpha Cronbach's

Variable	Number of paragraphs	Alpha Cronbach's value
- Internal benchmarking	6	0.616
- External benchmarking	12	0.752
- independent variable (benchmarking)	18	0.782
- cost leadership	5	0.666
- Differentiation	7	0.779
- the focus	8	0.630
- The dependent variable (competitive advantage)	20	0.833
<b>Total</b>	32	0.901

**Source:** Prepared by the researchers based on SPSS

### Normal distribution

It is clear from table number (2) that all values of skewness were between (1, -1), and this supports that all values are close to the normal distribution, and thus allows the use of parametric statistical methods.

**Table 2.** Normal distribution of data based on Skewness

kurtosis	Torsion	The Field
-0.351	-0.194	Internal benchmarking
-0.285	-0.237	External benchmarking
-0.059	-0.403	cost leadership
-0.467	-0.091	Differentiation
-0.507	-0.157	Focus

**Source:** Prepared by the researchers based on SPSS

### Hypotheses Testing

This part of the study deals with testing the hypotheses that were formulated through the use of inferential statistics methods, in order to answer the questions of the study, and to achieve its objectives, in addition to providing solutions to its problems. The main objective of hypotheses is to find and clarify the relationship between the independent and dependent variable. Therefore, the aim of the hypotheses of this study is to clarify the effect of benchmarking in terms of its dimensions on the competitive advantage from the point of view of the respondents at Tafila Technical University. Next, the study hypotheses were tested as follows:

**Main-hypothesis Testing:** There is no statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the competitive advantage in its dimensions (leadership in cost, differentiation, focus,) from the point of view of the respondents at Tafila Technical University.

Table (3) following up the values of the (t) test, shows that the sub-variables related to the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) have a statistically significant effect on the level of competitive advantage with its dimensions combined, as the (t) values calculated for the internal benchmarking and the external benchmarking, respectively, were (15,731 - 18,264), all of which were significant values at the significance level ( $0.05 \geq p$ ).

**Table 3.** H1 testing

Dependent Variable	Model Summary		ANOVA				Coefficients			
	R	R Square	Df		F	Sig.F	Model	B	T	Sig.t
Independent Variable	0.911	0.831	Regression	2	483.389	0.000	(Constant)	0.054	0.442	0.659
			Residual	197			Internal benchmarking	0.472	15.731	0.000
			Total	199			External benchmarking	0.513	18.264	0.000

\*a The independent variable is the benchmarking represented by its dimensions (internal benchmarking, external benchmarking)

b The dependent variable is the competitive advantage with its dimensions combined

**Source:** Prepared by the researchers based on SPSS

And from another direction, it is noted that the value of the correlation coefficient for the relationship between the benchmarking with its dimensions and the competitive advantage with its dimensions combined amounted to ( $R = 0.911$ ), and the coefficient of determination was ( $R^2 = 0.831$ ), meaning that the benchmarking as an independent variable with its dimensions explains (83.1%) of The variance in the competitive advantage with its dimensions combined, and the calculated F value was ( $F = 483.389$ ), which is a significant value at the significance level ( $0.05 \geq p$ ).



**Table 4.** The results of the multiple linear regression coefficients graded to reveal the effect of the benchmarking with its dimensions on the competitive advantage with its dimensions combined

Model		Coefficients		
		B	T	Sig. t
1	Internal Benchmarking	0.691	17.901	0.000
2	Internal and External Benchmarking	0.513	18.264	0.000
		0.472	15.731	0.000

Source: Prepared by the researchers based on SPSS

Based on the foregoing, we reject the first null hypothesis and accept the alternative hypothesis, which states that there is a statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the competitive advantage with its dimensions combined.

### Sub-hypothesis Testing

**Ho.1.1 The first sub-hypothesis:** There is no statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the cost leadership dimension from the point of view of the respondents at Tafila Technical University.

Table (5), following up on the values of the (t) test, shows that the sub-variables related to the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) have a statistically significant effect on the level of the leadership dimension in cost, as the (t) values calculated for the internal benchmarking reached And the external benchmarking, respectively, were (13.239 - 6.678), and all of them were significant values at the level of significance ( $0.05 \geq p$ ). And from another direction, it is noted that the value of the correlation coefficient for the relationship between the benchmarking with its dimensions and the cost leadership dimension was ( $R = 0.798$ ), and the coefficient of determination was ( $R^2 = 0.638$ ), meaning that the benchmarking as an independent variable with its dimensions explains (63.8%) of The variation in the leadership dimension in the cost of the dependent variable is the competitive advantage, and the calculated F value was ( $F = 173.226$ ), which is a significant value at the significance level ( $0.05 \geq p$ ).

**Table 5.** Standard multiple regression analysis to identify the impact of the benchmarking dimensions (internal benchmarking, external benchmarking) on the cost leadership dimension from the point of view of the respondents at Tafila Technical University

Dependent Variable	Model Summary		ANOVA			Coefficients				
	R	R Square	Df	F	Sig.F	Model	B	T	Sig.t	
Independent Variable	0.798	0.638	Regression	2	173.226	0.000	(Constant)	-0.237	-1.068	0.287
			Residual	197			Internal benchmarking	0.715	13.239	0.000
			Total	199			External benchmarking	0.338	6.678	0.000

\*a The independent variable is the benchmarking represented by its dimensions (internal benchmarking, external benchmarking)

b The dependent variable the cost leadership dimension.

**Source:** Prepared by the researchers based on SPSS

**Table 6.** The results of the multiple linear regression coefficients to reveal the effect of the benchmarking with its dimensions in the cost leadership dimension

Model		Coefficients		
		B	T	Sig. t
1	Internal Benchmarking	0.859	15.729	0.000
2	Internal and External Benchmarking	0.715	13.239	0.000
		0.338	6.678	0.000

**Source:** Prepared by the researchers based on SPSS

Based on all the above, we reject the first sub-zero hypothesis and accept the alternative hypothesis, which states that there is a statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the cost leadership dimension.

**Ho.1.2 The second sub-hypothesis:** There is no statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the differentiation dimension from the point of view of the respondents at Tafila Technical University.

Table (7) following up on the values of the (t) test, shows that the sub-variables related to the benchmarking represented by its dimensions (the internal reference benchmarking, the external reference benchmarking) have a statistically significant effect on the level of the differentiation dimension, as the (t) values calculated for the internal benchmarking and the external benchmarking respectively (5.380 - 14.519), all of which are significant values at the significance level ( $0.05 \geq p$ ). And from another direction, it is noted that the value of the correlation coefficient for the relationship between the benchmarking with its dimensions and after differentiation amounted to ( $R = 0.804$ ), and the coefficient of determination was ( $R^2 = 0.647$ ), meaning that the benchmarking as an independent variable with its dimensions explains (64.7%) of the variation in After differentiation of the dependent variable competitive advantage, the calculated F value was ( $F = 180.148$ ), which is a significant value at the significance level ( $0.05 \geq p$ ).

**Table 7.** Standard multiple regression analysis to identify the impact of the benchmarking represented by its dimensions (internal reference benchmarking, external reference benchmarking) on the differentiation dimension from the point of view of the respondents at Tafila Technical University

Dependent Variable	Model Summary		ANOVA				Coefficients			
	R	R Square	Df		F	Sig.F	Model	B	T	Sig.t
Independent Variable	0.804	0.647	Regression	2	180.148	0.000	(Constant)	-0.589	-2.339	0.020
			Residual	197			Internal benchmarking	0.329	5.380	0.000
			Total	199			External benchmarking	0.833	14.519	0.000

\*a The independent variable is the benchmarking represented by its dimensions (internal benchmarking, external benchmarking)

b The dependent variable is the differentiation dimension.

**Source:** Prepared by the researchers based on SPSS

**Table 8.** The results of multiple linear regression gradient coefficients to reveal the effect of the benchmarking with its dimensions in the differentiation dimension

Model		Coefficients		
		B	T	Sig. t
1	Internal Benchmarking	0.957	17.040	0.000
2	Internal and External Benchmarking	0.833	14.519	0.000
		0.329	5.380	0.000

Source: Prepared by the researchers based on SPSS

Based on all the above, we reject the second sub-zero hypothesis and accept the alternative hypothesis, which states that there is a statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the differentiation dimension.

**Ho.1.3 The third sub-hypothesis:** There is no statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the focus dimension from the point of view of the respondents at Tafila Technical University.

Table (9) following up on the values of the (t) test, shows that the sub-variables related to the benchmarking represented by its dimensions (the internal reference benchmarking, the external reference benchmarking) have a statistically significant effect on the level of the focus dimension, as the (t) values calculated for the internal benchmarking and the external benchmarking respectively (7.680 - 6.327), all of which are significant values at the significance level ( $0.05 \geq p$ ). And from another direction, it is noted that the value of the correlation coefficient for the relationship between the benchmarking with its dimensions and after the focus amounted to ( $R = 0.674$ ), and the coefficient of determination was ( $R^2 = 0.455$ ), meaning that the benchmarking as an independent variable with its dimensions explains (45.5%) of the variation in After focusing on the dependent variable, the competitive advantage, the calculated F value was ( $F = 82.194$ ), which is a significant value at the significance level ( $0.05 \geq p$ ).

**Table 9.** Standard multiple regression analysis to identify the effect of the benchmarking represented by its dimensions (internal reference benchmarking, external reference benchmarking) on the focus dimension from the point of view of the respondents at Tafila Technical University:

Dependent Variable	Model Summary		ANOVA			Coefficients				
	R	R Square	Df	F	Sig.F	Model	B	T	Sig.t	
Independent Variable	0.674	0.455	Regression	2	82.194	0.000	(Constant)	0.800	3.359	0.001
			Residual	197			Internal benchmarking	0.445	7.680	0.000
			Total	199			External benchmarking	0.343	6.327	0.000

\*a The independent variable is the benchmarking represented by its dimensions (internal benchmarking, external benchmarking)

b The dependent variable is the focus dimension.

Source: Prepared by the researchers based on SPSS

**Table No. (10)** The results of multiple linear regression gradient coefficients to reveal the effect of the benchmarking with its dimensions in the concentration dimension

Model		Coefficients		
		B	T	Sig. t
1	External Benchmarking	0.591	10.192	0.000
2	External and Internal Benchmarking	0.445 0.343	7.680 6.327	0.000 0.000

Source: Prepared by the researchers based on SPSS

Based on all the above, we reject the third sub-zero hypothesis and accept the alternative hypothesis, which states that there is a statistically significant effect at a significant level ( $P \leq 0.05$ ) of the benchmarking represented by its dimensions (internal benchmarking, external benchmarking) in the focus dimension.

### Questionnaire responses

It can be seen from Table (11) that the most important paragraphs of the internal benchmarking were “the university searches for the best procedures for conducting benchmarking between the various departments and departments in it” with an arithmetic mean (4.07) and the lowest ratios are paragraph (4) with an arithmetic mean (3.67) and indicates (there are tools Regulatory and standard for work evaluation and evaluation of the quality of the benchmarking process at the university) with a total number of items (6) and a total arithmetic mean (3.83).

**Table 11.** Arithmetic means and standard deviations of the respondents' answers to the internal benchmarking items

Parag. Number	Rank	Parag.	Mean	Std. Deviation	Ratio Importance
1	1	The university is looking for the best procedures to do the benchmarking between the various departments and departments in it	4.07	0.821	High
6	2	The university arranges the internal benchmarking indicators according to the best rank among the various departments and units in it	3.97	0.701	High
5	3	The university converts successful internal benchmarking experiences into formal and standard operating procedures	3.92	0.766	High
2	4	The internal benchmarking process is carried out between the university's departments and activities in order to develop integrated performance	3.67	0.577	Medium
3	5	Clear foundations and criteria are adopted to conduct the benchmarking process successfully within the university	3.67	0.577	Medium
4	6	There are control and standard tools for evaluating work and evaluating the quality of the benchmarking process in the university	3.67	0.577	Medium
<b>Total</b>			3.83	0.670	High

Source: Prepared by the researchers based on SPSS

It can be seen from Table (12) that the most important paragraphs of the external benchmarking were “The administration at the university constantly avoids gaps in the benchmarking process” with an arithmetic mean (4.07) and the lowest ratios are paragraph (4) with an arithmetic mean (3.73) and refers to (the university follows up with all interest in operations conducted in other universities) with a total number of paragraphs (12) and a total arithmetic mean (3.90).

**Table 12.** Arithmetic means and standard deviations of the respondents' answers to the external benchmarking items

Parag. Number	Rank	Parag.	Mean	Std. Deviation	Ratio Importance
7	1	The administration at the university constantly avoids gaps in the benchmarking process	4.07	0.925	High
12	2	The university arranges the benchmarking indicators according to the best rank compared to the competing universities	4.06	0.957	High
1	3	The university is looking for the best procedures to carry out the external benchmarking with high quality	4.05	0.816	High
6	4	The university has the ability to choose the best methods applied in other universities	3.95	0.920	High
5	5	Clear foundations and criteria are adopted to successfully compare with other universities	3.93	0.894	High
10	6	The university believes in the need for continuous improvement compared to other universities	3.89	0.765	High

9	7	The university transforms successful benchmarking experiences into formal and standard work procedures	3.87	0.847	High
3	8	The administration at the university has clear skills in approving benchmarking steps	3.85	0.768	High
2	9	The university understands the importance of competing with other universities	3.83	0.712	High
11	10	The university benefits greatly from the experiences of other universities	3.80	0.858	High
8	11	The university transforms successful benchmarking experiences into action procedures	3.78	0.544	High
4	12	The university follows with interest the processes taking place in other universities	3.73	0.700	High
<b>Total</b>			<b>3.90</b>	<b>0.809</b>	<b>High</b>

Source: Prepared by the researchers based on SPSS

Table (13) shows that the most important cost leadership items were “the university implements its services at the lowest costs and with the highest possible quality” with an arithmetic mean of (4.07) and the lowest ratios are paragraph (3) with an arithmetic mean of (3.67) and refers to (the university’s revenues cover its expenses and costs of services Therein) with a total number of paragraphs (5) and a total arithmetic mean (3.82).

**Table 13.** Arithmetic means and standard deviations of the respondents' answers to the cost leadership items

Parag. Number	Rank	Parag.	Mean	Std. Deviation	Ratio Importance
1	1	The university implements its services at the lowest possible costs and with the highest possible quality	4.07	0.821	High
5	2	The university provides affordable facilities and services to students and staff	3.85	0.768	High
4	3	The university is interested in formulating an excellent budget that guarantees its success and avoids indebtedness	3.83	0.712	High
2	4	The university provides competitive offers and discounts on its fees compared to similar universities	3.67	0.577	Medium
3	5	University revenues cover its expenses and service costs	3.67	0.577	Medium
<b>Total</b>			<b>3.82</b>	<b>0.691</b>	<b>High</b>

Source: Prepared by the researchers based on SPSS

It can be seen from Table (14) that the most important paragraphs of differentiation were “The university is constantly searching for talents and investing their energies and talents in the best ways to be pioneering and distinguished” with an arithmetic mean of (4.05) and the lowest ratios are paragraph (7) with an arithmetic mean of (3.78) and indicates (the university is keen to develop The skills of its employees to raise their efficiency and the quality of their services) with a total number of paragraphs (7) and a total arithmetic mean (3.92).

**Table 14.** Arithmetic means and standard deviations of the respondents' answers to the differentiation items

Parag. Number	Rank	Parag.	Mean	Std. Deviation	Ratio Importance
7	1	The university is constantly looking for talents and investing their energies and talents in the best ways to be pioneering and distinguished	4.05	0.887	High
1	2	The university has characteristics and services that distinguish it from other universities	4.04	0.901	High
5	3	The university aims to be a pioneer and unique compared to its competitors	3.96	0.749	High
6	4	The university is interested in obtaining continuous feedback from beneficiaries, stakeholders and partners about their satisfaction regarding the quality of services provided	3.92	0.819	High
2	5	The university is keen on innovation, renewal and creativity in its services and specializations	3.87	0.800	High
4	6	The university is constantly concerned with the ever-changing and diverse needs and desires of its customers to satisfy them in a unique and excellent way	3.84	0.749	High
3	7	The university is keen to develop the skills of its employees to raise their efficiency and the quality of their services	3.78	0.668	High
<b>Total</b>			3.92	0.796	High

Source: Prepared by the researchers based on SPSS

It appears from Table (15) that the most important focus items were “the university focuses on continuing its development and preserving its reputation and name among other universities” with an arithmetic mean of (4.05) and the lowest ratios are paragraph (2) with an arithmetic mean of (3.67) and indicates (the university focuses on activities and services Contribute to its development and competition) with a total number of items (8) and a total arithmetic mean (3.84).

**Table 15.** Arithmetic means and standard deviations of the respondents' answers to the focus items

Parag. Number	Rank	Parag.	Mean	Std. Deviation	Ratio Importance
7	1	The university focuses on continuing its development and maintaining its reputation and name among other universities	4.05	0.890	High
1	2	The university takes care of certain groups and provides them with services and activities specific to them and their needs	4.01	0.827	High
5	3	The university keeps pace with the continuous and rapid development in the work environment	3.98	0.868	High
6	4	The university focuses on obtaining feedback from beneficiaries and stakeholders through the Complaints and Suggestions Fund	3.84	0.792	High
4	5	There is an effective supply chain system at the university to ensure that services and facilities are implemented on time and with high quality	3.75	0.721	High
8	6	The university aspires to be specialized in certain	3.72	0.726	High



		fields that will achieve a reputation and prestige in higher education in Jordan			
3	7	The university is interested in obtaining advanced devices and equipment to satisfy its customers	3.71	0.591	High
2	8	The university focuses on activities and services that contribute to its development and competition	3.67	0.578	Medium
<b>Total</b>			3.	0.749	High

Source: Prepared by the researchers based on SPSS

## Results

The results showed confirmation of the adoption of the alternative hypothesis and the rejection of the null hypothesis, and that benchmarking has a significant impact on achieving competitive advantage. With regard to the first main hypothesis, the study found that:

- benchmarking represented by its dimensions (the internal benchmarking, the external benchmarking ) have a statistically significant effect on the level of competitive advantage with its combined dimensions.
- The internal benchmarking and the external benchmarking) have a statistically significant effect on the level of the cost leadership dimension.
- For the second sub-hypothesis, the study found that all types of benchmarking have a significant effect on the level of the differentiation dimension, as the calculated (t) values for internal benchmarking and the external benchmarking respectively (5.380 - 14.519), all of which are significant values at the significance level ( $0.05 \geq p$ ).
- As for the third sub-hypothesis, it appears that the sub-variables related to the benchmarking represented by its dimensions (internal benchmarking and the external benchmarking) have a statistically significant effect on the level of the focus dimension, as the (t) values calculated for the internal benchmarking and the external benchmarking, respectively, reached (7.680 - 6.327). All of which are significant values at the significance level ( $0.05 \geq p$ ).

## Discussion

The current study aimed to measure the effect of using the benchmarking method in achieving competitive advantage in Jordanian universities. The study was conducted at Tafila Technical University as one of the Jordanian universities searching for continuous development and improvement. For this purpose, and depending on a questionnaire as a tool

to test the hypotheses of the study, the primary data collected from the sample was appropriate (200), and SPSS were used to process the collected data. Where the study was able to access the following results:

1. The individuals who answered the questionnaire showed a high level of awareness regarding Study variables.
2. The main hypothesis of the study was accepted and there was a statistically significant effect of applying the benchmarking method with its dimensions (internal benchmarking, external benchmarking) in achieving the competitive advantage with its combined dimensions (cost leadership, differentiation, and focus).
3. All other sub-hypotheses were also accepted, as it appeared that the application of benchmarking had a high level of impact on achieving competitive advantage in its dimensions, cost leadership, differentiation and focus, each one of them separately.
4. All the results of the analysis indicated that the main objective of the study had been achieved and that the effect was clear between using the benchmarking method and achieving competitive advantage.

Thus, the current study agreed with Ahmed's study (2021) in terms of study dimensions and variables (internal benchmarking and external benchmarking) and their impact on achieving competitive advantage, and they also agreed in terms of results. Ahmed's study (2021) concluded that there is a statistically significant effect of applying benchmarking in achieving competitive advantage. The current study agreed with the study of Attiany (2014) in terms of the variables (benchmarking and its impact on competitive advantage), as it agreed with the study in choosing the internal benchmark dimension specifically and other types of benchmarking, and they agreed in addition to the study of Knipe (2002) in confirming the importance of benchmarking and its impact on achieving competitive advantage.

We conclude from the above that many previous studies have been focus on the role of benchmarking in achieving competitive advantage or continuous improvement. It is widely argued that Benchmarking is the process of understanding what is important for organization success, through deciding what to be benchmarking, understanding current performance,

planning, studying others, learning from data, and using the findings. Besterfield (2003). Most of studies emphasize the importance of applying benchmarking. Attiany (2009) found high correlation between the benchmarking and continuous product and process improvement in the Jordanian pharmaceutical firms. Thus, the study is consistent with a lot of literature that has proven this relationship and shows that Tafila Technical University is working hard for continuous improvement.

## **Conclusion and recommendations**

The current study concluded that the success of organizations in all their forms, whether educational institutions or others, is largely linked to the continuous search for advanced and innovative methods and tools whose main goal is continuous and endless improvement, which in turn helps these institutions to keep pace with the massive and rapid development in the business environment, intense competition and new innovations in the surrounding environment.

Thus, we can say that the use of the benchmarking method has a vital impact on the success and continuity of organizations, which affects their competitive advantage and success. Therefore, senior management must be able to make sound decisions based on diagnosis and analysis of the surrounding environment and its needs, and to employ advanced continuous improvement tools, the most important and widespread of which is the benchmarking method. Therefore, the study reached a set of recommendations that would improve the university's performance and development, represented by points next:

1. The need to pay more attention to these tools and methods in order to maintain the performance of the institution or university within a high level.
2. The results of the benchmarking should be converted into standard procedures adopted by the university in achieving its objectives.
3. Building a permanent competitive advantage by strengthening the research and development processes at the university.

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