

**Journal of Social Sciences (COES&RJ-JSS)**

**ISSN (E): 2305-9249 ISSN (P): 2305-9494**

**Publisher: Centre of Excellence for Scientific & Research Journalism, COES&RJ LLC**

**Online Publication Date: 1<sup>st</sup> April 2020**

**Online Issue: Volume 9, Number 2, April 2020**

<https://doi.org/10.25255/jss.2020.9.2.505.534>



The Associations among Human Resource Management (HRM)  
Practices, Total Quality Management (TQM) Practices  
and Competitive Advantages

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**Abstract:**

The current research aimed to investigate the relationship between human resource management (HRM) practices, total quality management (TQM) practices and competitive advantages in Telecommunication organizations in Jordan. A self-administrated questionnaire was designed and distributed over a sample of telecommunication employees of 400 employees. The percentage of filled questionnaires is 80% (320 questionnaires). The research hypotheses were tested by using multiple regressions. The study concluded that there is a relationship between human resource management practices and total quality management practices. It was also concluded that there is a relationship between total quality management practices and competitive advantage. Finally, there is a relationship between human resource management practices and competitive advantage. A number of recommendations emerged in light of the findings, is that the telecommunication organization are advised to focus more on the human resource management activities and total quality management activities that improve the utilization of competitive advantages.

**Keywords:**

Human resource management, total quality management, competitive advantages, Jordan

**Citation:**

Tawalbeh, Hadeel Fareed; Jaradat, Mais (2020); The Associations among Human Resource Management (HRM) Practices, Total Quality Management (TQM) Practices and Competitive Advantages; Journal of Social Sciences (COES&RJ-JSS), Vol.9, No.2, pp:505-534; <https://doi.org/10.25255/jss.2020.9.2.505.534>.

**Introduction**

Having products and services of high quality is crucial for creating a competitive advantage whereby companies can differentiate themselves from competitors and to sustain their businesses. One of the most valued ways to create sustainable competitive advantage is by successfully implementing total quality management (TQM) practices and human resource management (HRM) practices (Usrof & Elmrsey, 2016). The most important task for many organizations today is to survive the present competitive market through the impact of privatization, liberalization, globalization, competition (Velmurugan & Akhilesh, 2013). The market environment can become more complex as companies improve competitiveness and the quality of their products and processes. As this takes place, companies can tackle these issues by using HRM and TQM as new approaches to respond effectively to the changes in such an environment (Aragón-Sánchez & Esteban-Lloret, 2010).

Enhancing the competitiveness of an organization is related to the total quality management, and human resource management practices. Many studies have found TQM to have an impact on competitiveness using quality practices for continually making improvements to meet the need of customer's and to increase a company's competitive advantage. According to Jimenez-Jimenez (2009), organizations focus on improving their competitive advantage by using TQM as an approach through which they can enhance the quality of products, human resources, services, processes, and the environment.

According to recent research, HRM practices have the following aims; facilitate employee involvement, provide support for continual company improvement, and systematically eliminate waste while improving both product and service quality by focusing on continual improvement (Alfalla-Luque et al., 2012). Human resource management practices can significantly affect total quality management practices and can also have a huge impact on both employee and customer satisfaction (Ching-Chow, 2006). HRM can be described as a characteristic approach to achieving competitive advantage (Gandhi, 2014). This can be done through an organization's capability to convert other resources such as financial capital, machinery, methods and materials into output such as products or services (Pankaj, 2012). It can also be done through the policies and

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practices for managing people which are integrated with strategic goals and objectives (Tamer & Darwish, 2009).

Telecommunication companies in Jordan are placed under pressure to control competition, globalization, fluctuation in the marketplace, and growing customer demand. Accordingly this sector must focus on performance competitive advantage and high quality customer service in order to survive in a globally competitive marketplace (Al-dalahmeh et al., 2018; Masa'deh et al., 2018). The demand for telecommunication services has increased rapidly during the last decade due to the changes in lifestyle and the living standards of people. In addition, this demand has been much triggered by the globalization of business operations through all industries along with the labor, capital and resource flexibility that are associated with the industries (Todeva & John, 2001; Abualoush et al., 2018a, 2018b).

This study focuses on the effect of HRM practices, TQM practices in telecommunication organizations in Jordan. Also, it aims to examine their impact on competitive advantage. This is analyzed using analytical framework through collecting and examining -in depth- information regarding HRM, TQM practices, and competitive advantage. This study shows the importance of having competitive advantage from telecommunication companies through the effect of HRM practices (recruitment and selection, performance appraisals, training and development, compensation and reward), TQM practices (leadership, continuous improvement, customer satisfaction, employee empowerment, and strategic). Accordingly, this study answers the following questions:

1. To investigate the effect between human resource management practices on competitive advantage.
2. To investigate the effect between total quality management practices on competitive advantage.
3. To investigate the effect between human resource management practices and total quality management practices.

The importance of this study comes firstly from examining the effect of HRM practices (recruitment and selection, performance appraisals, training and development, compensation and reward), TQM practices (leadership, continuous improvement, customer satisfaction, employee empowerment, and strategic) on competitive advantage (cost leadership and differentiation). In addition, this study is crucial for the services and production area, because it is currently a critical point in time to use this area for improving competitive advantage. This led to increase the interest of applying HRM practices and TQM practices (Gelade & Ivery, 2003). This study tries to increase the awareness of the importance of competitive advantage in telecommunication companies. Also, it highlights the

importance of the effect of HRM and TQM practices on improving services and product quality based on competitive advantage.

The framework used in this study examines the effect of HRM practices (recruitment and selection, performance appraisals, training and development, compensation and reward) and TQM practices (leadership, continuous improvement, customer satisfaction, employee empowerment, and strategic) on competitive advantage (cost leadership and differentiation) on competitive advantage. Figure 1 depicts the proposed theoretical framework and the three hypotheses with sub-hypotheses are proposed.

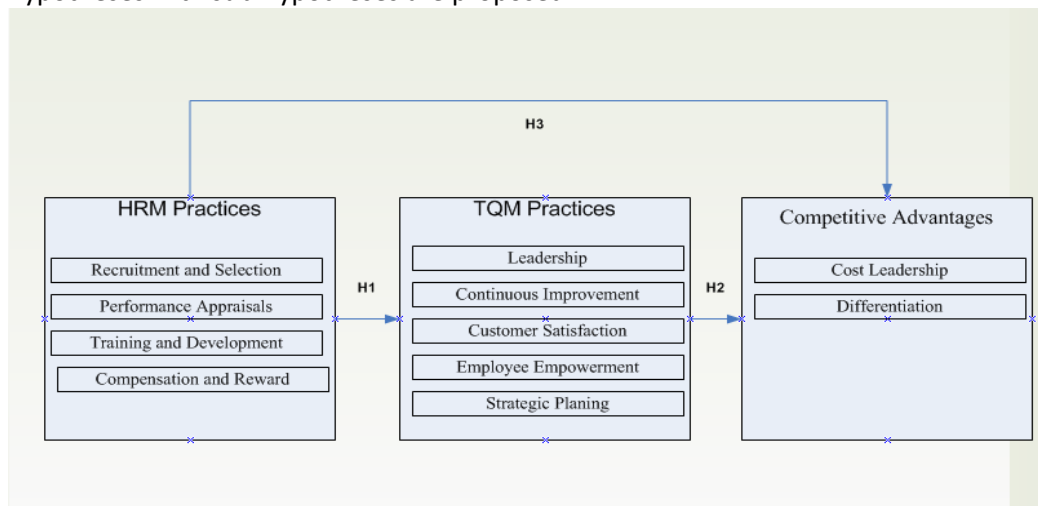


Figure 1. The proposed research framework

H0.1: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of human resource management practices on total quality management practices.

Sub-hypotheses:

H<sub>0.1.1</sub>: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of recruitment, selection on total quality management practices.

H<sub>0.1.2</sub>: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of performance appraisals on total quality management practices.

H<sub>0.1.3</sub>: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of training, development on total quality management practices.

H<sub>0.1.4</sub>: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of compensation, reward on total quality management practices.

H0.2: There is no statistically significant effect at  $(\alpha \leq 0.05)$  of total quality management practices on competitive advantage.

Sub-hypotheses:

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H<sub>0.2.1</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of leadership on competitive advantage.

H<sub>0.2.2</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of continuous improvement on competitive advantage.

H<sub>0.2.3</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of customer satisfaction on competitive advantage.

H<sub>0.2.4</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of employee empowerment on competitive advantage.

H<sub>0.2.5</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of strategic on competitive advantage.

H<sub>0.3</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of human resource management practices on competitive advantage.

Sub-hypotheses:

H<sub>0.3.1</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of recruitment, selection on competitive advantage.

H<sub>0.3.2</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of performance appraisals on competitive advantage.

H<sub>0.3.3</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of training and development on competitive advantage.

H<sub>0.3.4</sub>: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of compensation, reward on competitive advantage.

### Research Method

Although the questionnaire items were adopted from previous studies where they proved to be valid and reliable, the questionnaire was pre-tested with 20 respondents and 4 faculty members to ensure its validity before distributing it to the potential respondents. The instrument was modified and redesigned according to the feedback obtained in the pilot study.

The target sample for this survey was Jordanian staff working at different managerial level in the three main telecom operator companies (Zain, Umniah, and Orange). Participation was on a voluntary basis and no financial incentive was offered. This study employed a convenience sampling method as it allows the researchers to select the sample subjects from the targeted population based on who are willing and easily accessible to be recruited in the research. It is also the least expensive, least time-consuming among all other techniques. A total of 400 self-administered questionnaires were distributed to the employees in these three telecom companies, the number of returned questionnaires were 318 indicating a 80% response rate. Of the 318 participants, the gender split was 194 (60.8%) male and 125 (39.2 %) female. Their age range varied from 20 to 39 years old, with 57.1% below 23years old. In terms of their academic qualifications, the majority of the participants (233 participants) hold a bachelor degree and 13 % (42 participants) hold a master degree.

The questionnaire consists of 71 questions adopted from established items previously used for measuring each HRM practices, TQM practices and competitive advantage. More specifically, the items measures the TQM practices were adopted from Anil & Satish (2016), Sweis et al. (2015), Wiengartena et al. (2013) and Kaur & Sharma (2014) using leadership, continuous improvement, customer satisfaction, employee empowerment, and strategic planning. While HRM practices were adopted from Obeidat et al. (2014) and Dedy et al., (2016) using recruitment and selection, performance appraisals, training and development, compensation and reward. Also, competitive advantage items were adopted from Alfalla-Luque et al. (2012). These items were measured using 5-point Likert scale ranging from 1- strongly disagrees to 5-strongly agree.

### Results

Table (1) presents a complete list of respondents' demographic characteristics in terms of age, gender, qualification, and years of experience. Based on this table the following can be observed:

Table 1. Demographic characteristics of respondents

Variable	Category	Frequency	Percent
Age	20 less than 30	182	57.1%
	31 less than 40	108	33.9%
	41 less than 50	29	9.0%
Gender	Male	194	60.8%
	Female	125	39.2%
Qualification	High school	17	5.3%
	Diploma	28	8.8%
	B.Sc.	233	73.0%
	MA	37	11.6%
Years of Experience	PhD	4	1.3%
	0 less than 5	154	48.3%
	6 less than 10	112	35.1%
	More than 10	53	16.6%

In regard to the gender, the majority of the samples were males (60.8%) and female represent (39.2%) of the sample. Most age of employee whose worked in telecommunication organization between 20 less than 30 and represent (57.1%), then 31 less than 40 represent (33.9%), with a few percentage for employee age between 41 and less than 50 represent (9.0%). For the qualification the majority of employee has a bachelor degree response (73.0%), with small percentage for Ph.D. level represent (1.3%) and master degree represent (11.6%) for diploma degree represent (8.8%), finally High school degree represent (5.3%). The

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experience of employee as shown in Table (4) (48.3%) have an experience the less than five years while (35.1%) have six years and less than ten years, and finally (16.6%) have above ten years.

The result shows that the age between 20-30 years represents about half of the respondents and majority of them hold a bachelor degree. From the result, it can also be seen that number of male are more than female which may imply that men have more time to apply HRM practices and TQM practices. Finally, according to the findings people with less than 5 years of experience gives effective competitive advantage to organization other than seiner employees.

The mean, standard deviation (SD) and the level of this item based on its mean the level of each item determined by (highest point in likert scale – lowest point in likert scale) / number of the levels used = the interval between each level and the another = 1.33 where 1-2.33 reflected by “Low”, 2.34-3.67 reflected by “Moderate” and 3.68-5 reflected by “High”. The study is presented as follows:

### *HRM Practices*

#### Recruitment & Selection

The mean and standard deviation measurements were used to describe and analyze the level of HRM Practices/ Recruitment & Selection, as shown in table (2).

Table 2. Mean, SD, and importance level of recruitment & selection

Rank	No	Item	Mean	SD	Mean Level
1	1	The Company follows administrative policies in the selection and recruitment process.	3.65	1.02	Moderate
2	6	The company is interested in the selection and appointment applicant's ability to work within team operations.	3.65	1.049	Moderate
3	5	Stimulate the selection and recruitment policies working to develop their administrative skills.	3.59	1.033	Moderate
4	3	The company is interested to gather information about applicants to fill vacancies for the purpose of use in the differentiation and appointment.	3.57	1.034	Moderate
5	2	The company appoints the personnel that possess the skills and experience sufficient to fill management positions.	3.53	1.06	Moderate

6	4	Strengthen the selection processes and recruitment of free and fair competition among candidates.	3.29	1.084	Moderate
Recruitment & Selection			3.55	0.869	Moderate

Table (2) shows the mean, standard deviation and importance level of Recruitment & Selection. The mean of recruitment & selection items ranged between (3.29-3.65), compared to the general mean value of (3.55). It is observed that the highest mean was for the statement "The Company follows administrative policies in the selection and Recruitment process" with a mean of (3.65), and a standard deviation of (1.02). The lowest mean was for the statement "Strengthen the selection processes and recruitment of free and fair competition among candidates" with a value of (3.29) and a standard deviation of (1.084). In general, it appears that the Importance level of recruitment & selection was moderate. This means that recruitment and selection practice in telecommunication organization in Jordan is based on some criteria and standards, and it is very sensitive to new employee, which indicates that the company is moderately applying the recruitment & selection practice.

### 3.1.2 Performance Appraisal

The mean and standard deviation measurements were used to describe and analyze the level of HRM Practices/ Performance Appraisal, as shown in table (3).

Table 3. Mean, SD, and importance level of performance appraisal

Rank	No.	Item	Mean	SD	Mean Level
1	1	The company has available system for evaluating the performance of staff.	3.99	1.023	High
2	2	The company attaches importance to the application of performance evaluation and follow-up system	3.87	0.976	High
3	3	The employee receives feedback from the direct manager about his performance.	3.67	1.001	Moderate
4	6	Performance evaluation helps to clarify the strengths and weaknesses of the employee's performance.	3.62	1.072	Moderate
5	4	The company revision the criteria for performance evaluation system periodically.	3.49	1.098	Moderate
6	7	The company provides effective training programs to enhance the skills of the staff based on the results of performance evaluation.	3.48	1.072	Moderate



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7	5	Evaluation system applied in the company provides an opportunity for communication between the employee and the manager.	3.43	1.136	Moderate
Performance Appraisal			3.65	0.836	Moderate

Table (3) shows the mean, standard deviation and importance level of performance appraisal. The mean of performance appraisal items ranged between (3.43-3.99), compared to the general mean value of (3.65). It is observed that the highest mean was for the statement " The company has available system for evaluating the performance of staff" with a mean of (3.99), and a standard deviation of (1.023). The lowest mean was for the statement Evaluation system applied in the company provides an opportunity for communication between the employee and the manager" with a value of (3.43) and a standard deviation of (1.136). In general, it appears that the Importance level of performance appraisal was moderate. The result indicates the performance appraisal practice in telecommunication organization in Jordan is implemented due to its importance either for employee or for company.

#### 3.1.3 Training and Development

The mean and standard deviation measurements were used to describe and analyze the level of HRM Practices/ training and development, as shown in table (4).

Table 4. Mean, SD, and importance level of training and development

Rank	No.	Item	Mean	SD	Mean Level
1	5	The company provision of appropriate training for staff as required by the nature of the work of all of them.	3.82	0.99	High
2	3	the company through regular plan and a variety of tools identify of training needs	3.73	1.028	High
3	4	Characterized by the training programs offered to employees in the company's realistic and relevant document needs	3.71	1.011	High
4	1	The company relies regular training programs for the development of the performance of the new workers in the skills necessary for them.	3.64	1.011	Moderate
5	2	In your Organization, learning is planned and purposeful rather than accidental	3.51	1.046	Moderate

6	6	Training programs provide the opportunity to exchange information, knowledge and experiences among participants.	3.26	1.184	Moderate
Training and Development			3.61	0.847	Moderate

Table (4) shows the mean, standard deviation and importance level of training and development. The mean of training and development items ranged between (3.26-3.82), compared to the general mean value of (3.61). It is observed that the highest mean was for the statement "The company provision of appropriate training for staff as required by the nature of the work of all of them" with a mean of (3.82), and a standard deviation of (0.99). The lowest mean was for the statement "Training programs provide the opportunity to exchange information, knowledge and experiences among participants" with a value of (3.26) and a standard deviation of (1.184). In general, it appears that the Importance level of training and development was moderate. The result indicates the training and development practice in telecommunication organization in Jordan is one of the main activates, and each employee need to be trained and skill development.

#### 3.1.4 Compensation and Reward

The mean and standard deviation measurements were used to describe and analyze the level of HRM Practices/ compensation and reward, as shown in table (5).

Table 5. Mean, SD, and importance level of compensation and reward

Rank	No.	Item	Mean	SD	Mean Level
1	5	The company revision of the compensation and reward system based on the company's competitive environment.	3.7	0.977	High
2	1	Senior management of the company stimulate the staff through the application of compensation and reward system	3.19	1.281	Moderate
3	4	compensation and reward processes for employees based on the principles and criteria evaluation	3.1	1.13	Moderate
4	3	Appropriate compensation and reward offered by the company with the staff's expectations.	3.05	1.213	Moderate
5	2	compensation and reward system contributes to the company encouraged employees to achieve the company's	2.84	1.318	Moderate

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goals

Compensation and Reward	3.18	0.936	Moderate
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Table (5) shows the mean, standard deviation and importance level of compensation and reward. The mean of compensation and reward items ranged between (2.84-3.70), compared to the general mean value of (3.18). It is observed that the highest mean was for the statement "The company revision of the compensation and reward system based on the company's competitive environment" with a mean of (3.70), and a standard deviation of (0.977). The lowest mean was for the statement "compensation and reward system contributes to the company encouraged employees to achieve the company's goals" with a value of (2.84) and a standard deviation of (1.318). In general, it appears that the Importance level of compensation and reward was moderate. This result in general indicates that telecommunication organization in Jordan is interested to provide employee with benefit that can improve their competitive advantage.

### 3.2 TQM Practices

#### 3.2.1 Leadership

The mean and standard deviation measurements were used to describe and analyze the level of TQM Practices/ leadership, as shown in table (6).

Table 6. Mean, SD, and importance level of leadership

Rank	No.	Item	Mean	SD	Mean Level
1	4	Management believes that quality is the way and philosophy in the conduct of its business.	4.07	0.993	High
2	2	Leadership is working to spread the culture of quality in all departments and administrative levels.	3.98	0.994	High
3	3	The company is working hard to be the company's outstanding services.	3.91	0.999	High
4	1	The company has clear plan about the quality of certain specific goals and committed management application.	3.8	0.987	High
5	5	Leaders seek to build a reputation among customers, based on the quality and workmanship	3.74	1.06	High
6	6	Adopts senior management standards of quality in the work encourages outstanding performance among employees Environment	3.73	0.932	High

Leadership	3.87	0.813	High
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Table (6) shows the mean, standard deviation and importance level of leadership. The mean of leadership items ranged between (3.73-4.07), compared to the general mean value of (3.87). It is observed that the highest mean was for the statement "Management believes that quality is the way and philosophy in the conduct of its business" with a mean of (4.07), and a standard deviation of (0.993). The lowest mean was for the statement "Adopts senior management standards of quality in the work encourage outstanding performance among employees Environment" with a value of (3.73) and a standard deviation of (0.932). In general, it appears that the Importance level of leadership was high. The above table shows that almost all items of leadership have a high level of importance, which helps to maximize efficiency and to achieve organizational goals.

### 3.2.2 Continuous Improvement

The mean and standard deviation measurements were used to describe and analyze the level of TQM Practices/ continuous improvement, as shown in table (10).

Table 7. Mean, SD, and importance level of continuous improvement

Rank	No.	Item	Mean	SD	Mean Level
1	7	The company is constantly working to get rid of activities that do not add value to the service	3.98	0.902	High
2	3	Management relies on advanced technological programs	3.93	0.937	High
3	4	The company is based on the results of its performance compared to competitors in the development of plans to improve performance	3.89	0.971	High
4	2	the company engage employee in the development plans to achieve quality	3.83	1.015	High
5	5	the company monitor the extent of improvement in the quality of services provided by the company and compare it to previous years	3.68	1.058	High
6	6	There is a continuous improvement in working conditions and conditions	3.58	1.078	Moderate
7	1	There is a clear and specific strategy that includes improving the quality of work plans	3.43	1.093	Moderate

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Continuous Improvement	3.76	0.773	High
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Table (7) shows the mean, standard deviation and importance level of continuous improvement. The mean of continuous improvement items ranged between (3.43-3.98), compared to the general mean value of (3.76). It is observed that the highest mean was for the statement " The company is constantly working to get rid of activities that do not add value to the service" with a mean of (3.98), and a standard deviation of (0.902). The lowest mean was for the statement "There is a clear and specific strategy that includes improving the quality of work plans" with a value of (3.43) and a standard deviation of (1.093). In general, it appears that the Importance level of continuous improvement was high. The above table shows that almost all items of leadership have a high level of importance, which it important to improve services, products and even processes.

### 3.2.3 Customer Satisfaction

The mean and standard deviation measurements were used to describe and analyze the level of TQM Practices/ customer satisfaction, as shown in table (8).

Table 8. Mean, SD, and importance level of customer satisfaction

Rank	No.	Item	Mean	SD	Mean Level
1	3	The company focuses on achieving customer satisfaction through the study of their requirements.	4	0.95 7	High
2	2	The company responds quickly to meet the wishes of customers.	3.93	0.95 1	High
3	1	The company's management realizes study the market to know the needs and desires of consumers.	3.9	0.91 5	High
4	4	The company is keen to offer a wide range of products to meet the needs and desires of the largest number of customers.	3.85	1.01 3	High
5	5	The company's management is interested in the customers' complaints and suggestions	3.84	1.00 2	High
6	6	The company is fully covered for the various needs of the market	3.39	1.08 2	Moderate
Customer Satisfaction			3.82	0.81 7	High

Table (8) shows the mean, standard deviation and importance level of customer satisfaction. The mean of customer satisfaction items ranged between (3.39-

4.00), compared to the general mean value of (3.82). It is observed that the highest mean was for the statement "The company focuses on achieving customer satisfaction through the study of their requirements" with a mean of (4.00), and a standard deviation of (0.957). The lowest mean was for the statement "The company is fully covered for the various needs of the market" with a value of (3.39) and a standard deviation of (1.082). In general, it appears that the Importance level of customer satisfaction was high. Almost all customer satisfaction items have a high level of important which mean that the telecommunication organizations in Jordan are highly focuses in customer need and satisfaction, which it help predict future revenue and help to outpace your competition.

#### Employee Empowerment

The mean and standard deviation measurements were used to describe and analyze the level of TQM Practices/ employee empowerment, as shown in table (9).

Table 9. Mean, SD, and importance level of employee empowerment

Rank	No.	Item	Mean	SD	Mean Level
1	5	The company management give material or moral rewards to employees for their participation in achieving outstanding performance.	3.68	0.95	High
2	4	The company management authorizes for workers the powers to act in emergency situations.	3.18	1.17 4	Moderate
3	3	The company management provides freedom for workers to make decisions independently	3.17	1.15 1	Moderate
4	1	The company is interested in the participation of all workers to improve quality and performance.	3.14	1.18 2	Moderate
5	2	Employees are involved in the preparation of plans to improve quality.	2.99	1.18 3	Moderate
Employee Empowerment			3.23	0.94 9	Moderate

Table (9) shows the mean, standard deviation and importance level of employee empowerment. The mean of employee empowerment items ranged between (2.99-3.68), compared to the general mean value of (3.23). It is observed that the highest mean was for the statement "The company management gives material

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or moral rewards to employees for their participation in achieving outstanding performance" with a mean of (3.68), and a standard deviation of (0.95). The lowest mean was for the statement "Employees are involved in the preparation of plans to improve quality" with a value of (2.99) and a standard deviation of (1.183). In general, it appears that the Importance level of employee empowerment was medium. When employees are confident within their work and with their employer, they are more willing to identify problems and suggest ways to improve quantity and quality of output.

### 3.2.5 Strategic

The mean and standard deviation measurements were used to describe and analyze the level of TQM Practices/ strategic, as shown in table (10).

Table 10. Mean, SD, and importance level of strategic

Rank	No.	Item	Mean	SD	Mean Level
1	4	The company management uses scientific methods and advanced technological tools for the purpose of achieving its strategic plan.	3.9	0.97 1	High
2	3	The company is seeking to modify its strategic objectives according to the changing needs in a competitive market	3.87	0.91 8	High
3	5	The strategic goals of the company are related to its mission and vision of the future	3.86	0.92 8	High
4	1	The company management aware the concept of strategic planning and the fields.	3.82	0.86 9	High
5	6	The company set a timetable appropriate to achieve each strategic goal	3.76	0.90 7	High
6	2	The company choose appropriate strategies to achieve the most appropriate to fit internal and external conditions by the present and future	3.74	0.92 5	High
Strategic			3.83	0.78 7	High

Table (10) shows the mean, standard deviation and importance level of strategic. The mean of strategic items ranged between (3.74-3.90), compared to the general mean value of (3.83). It is observed that the highest mean was for the statement "The company management uses scientific methods and advanced technological tools for the purpose of achieving its strategic plan" with a mean of (3.90), and a standard deviation of (0.941). The lowest mean was for the

statement "The company choose appropriate strategies to achieve the most appropriate to fit internal and external conditions by the present and future" with a value of (3.74) and a standard deviation of (0.925). In general, it appears that the Importance level of strategic was high. The above table shows that almost all items of leadership have a high level of importance. It is fundamental to the success and sustainability of any organization.

### 3.3 Competitive Advantage

#### 3.3.1 Cost Leadership

The mean and standard deviation measurements were used to describe and analyze the level of competitive advantage/ cost leadership, as shown in table (11).

Table 11. Mean, SD, and importance level of cost leadership

Rank	No.	Item	Mean	SD	Mean Level
1	6	The company works to achieve a distinctive brand of their services compared to competitors	4.03	0.883	High
2	5	The company is working to develop a rapid and effective distribution channels for the delivery of its services to customers better than competitors	4.01	0.911	High
3	3	The company is seeking to gain access to new markets are difficult to access by competitors.	3.99	0.887	High
4	4	The company is working to provide new services and benefits from competitors	3.95	0.901	High
5	1	The company employs advanced technologies in the provision of services	3.88	0.909	High
6	2	The company offers its services in a manner to ensure excellence and uniqueness of all competitors	3.88	0.838	High
Cost Leadership			3.96	0.728	High

Table (11) shows the mean, standard deviation and importance level of cost leadership. The mean of cost leadership items ranged between (3.88-4.03), compared to the general mean value of (3.96). It is observed that the highest mean was for the statement "The company works to achieve a distinctive brand of their services compared to competitors" with a mean of (4.03), and a standard deviation of (0.883). The lowest mean was for the statement "The company



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offers its services in a manner to ensure excellence and uniqueness of all competitors" with a value of (3.88) and a standard deviation of (0.838). In general, it appears that the importance level of cost leadership was high. The above table shows that almost all items of leadership have a high level of importance.

### 3.3.2 Differentiation Advantage

The mean and standard deviation measurements were used to describe and analyze the level of competitive advantage/ differentiation advantage, as shown in table (12).

Table 12. Mean, SD, and importance level of differentiation advantage

Rank	No.	Item	Mean	SD	Mean Level
1	5	The company is seeking to get the price advantages of suppliers to reduce costs	4.08	0.905	High
2	4	The company is working to control administrative cost	4.06	1.023	High
3	3	The company is working to reduce distribution costs and promote as much as possible	3.87	1.024	High
4	2	The company employs its potential to meet the needs and specific requirements in the local market the lowest possible cost	3.84	0.894	High
5	1	The company is working on the optimal utilization of available resources in order to achieve competitiveness at all levels	3.79	0.864	High
6	6	The company is seeking to enhance the productivity of individuals within the physical capabilities	3.78	1.013	High
Differentiation Advantage			3.90	0.743	High

Table (12) shows the mean, standard deviation and importance level of differentiation advantage. The mean of differentiation advantage items ranged between (3.78-4.08), compared to the general mean value of (3.92). It is observed that the highest mean was for the statement "The company is seeking to get the price advantages of suppliers to reduce costs" with a mean of (4.08), and a standard deviation of (0.905). The lowest mean was for the statement "The company is seeking to enhance the productivity of individuals within the physical capabilities" with a value of (3.78) and a standard deviation of (1.013). In general, it appears that the Importance level of differentiation advantage was high. The above table shows that almost all items of leadership have a high level of importance.

### 3.4 Descriptive Statistics of the Constructs

The descriptive statistics showed that the majority of participants indicate positive responses to the constructs that are measured in this study (see Table 13). All means were greater than the mid-point 2.5 and also the standard deviation ranged between 0.73 to 0.93 which indicated a narrow spread around the mean. The reliability of the data was measured using Cronbach's Alpha. According to Sekaran and Bougie (2010), if Cronbach's Alpha is closer to 1, the reliability of the measures is higher. A Cronbach's Alpha of 0.6 is considered poor, while 0.7 is acceptable and 0.8 is categorized as good. As can be shown in Table 13, the results show that the constructs has adequate reliability.

Table 13. Reliability analysis using the approach of cronbach's alpha

Number	Item		Cronbach's Alpha	Mean	SD
1	Recruitment and Selection		0.94	3.55	0.869
2	Performance Appraisals		0.91	3.65	0.836
3	Training and Development		0.90	3.61	0.847
4	Compensation and Reward		0.94	3.18	0.936
Human Resource Management Practices			0.95	3.50	0.872
1	Leadership		0.95	3.87	0.813
2	Continuous Improvement		0.93	3.76	0.773
3	Customer Satisfaction		0.93	3.82	0.817
4	Employee Empowerment		0.90	3.23	0.949
5	Strategic		0.95	3.83	0.787
Total Quality Management Practices			0.96	3.66	0.813
1	Differentiation		0.89	3.90	0.743
2	Cost Leadership		0.88	3.96	0.728
Competitive Advantage			0.91	3.93	0.733

### Hypotheses Testing

A correlation analysis was performed to determine the effect of the four HRM practices, the five TQM practices on the two competitive advantages. Second, inferential statistics using multiples regression were used to test the hypotheses of the research.

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H0.1: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of human resource management practices on total quality management practices.

Multiple regressions were used to test the effect of human resource management practices on total quality management practices, at a confidence level of (95%), and table (14) shows that:

Table14. Multiple regression analysis of the effect of human resource management practices on total quality management practices

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F-value	Sig*	Standardized Beta	t-value	Sig*.
	0.875	0.766	0.763	257.055	0.00*			
Recruitment & Selection						0.239	5.782	0.00*
Performance Appraisal						0.215	4.829	0.00*
Training and Development						0.465	0.956	0.00*
Compensation and Reward						0.078	2.162	0.031*

The correlation coefficient  $R = 0.875$  indicates that there is a positive correlation between human resource management practices and total quality management practices. The  $R^2$  value is 0.766; therefore, the model is regarded as being fit to be used for multiple regressions with the data. The results of the multiple regression analysis that regress the four sub variables human resource management practices are shown on table (14). It shows that the four sub-variables together explained 76.6% of the variance, where ( $R^2 = 0.766$ ,  $F = 257.055$ ,  $Sig. = 0.00$ ). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is effect of human resource management practices (Recruitment & Selection, Performance Appraisal, Training and Development, Compensation and Reward) on total quality management practices, at level ( $\alpha \leq 0.05$ ).

In addition to table (14) shows that the training and development sub-variable has the most contribution on total quality management practices, where ( $Beta = 0.465$ ,  $sig. = 0.00$ ). Thus, it indicates that the training and development sub-variable is the most significant, and it positively and directly regresses to total quality management practices. Followed by recruitment & selection sub-

variable, where (Beta=0.239, sig. =0.00), then performance appraisal sub variable, where (Beta=0.215, sig. =0.00). Finally, compensation and reward sub-variable where (Beta=0.078, sig. =0.031).

The analysis indicates that there is statistically significance effect of human resources management practices on total quality management practices, where R= 0.86. So human resources management practices are positively related to total quality management practices. The result is consistent with the study of Wickramasinghe (2012), who found that human resource management practices have a positive impact on total quality management. Firms have become more focused on HRM issues, more closely integrated with business needs, and more involved in strategic decision making due to TQM initiatives. This result is supported also by [González et al. \(2016\)](#) results which suggest that there is close effect of HRM practices on TQM practices.

H0.2: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of total quality management practices on competitive advantage. Multiple regressions were used to test the effect of human resource management practices on total quality management practices, at a confidence level of (95%).

Table 15. Multiple regression analysis of the effect of human resource management practices on competitive advantage

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F-value	Sig*.	Standardized Beta	t-value	Sig*.
	0.827	0.684	0.679	135.634	0.00*			
Leadership						0.104	3.487	0.001*
Continuous Improvement						0.143	2.552	0.011*
Customer Satisfaction						0.120	3.616	0.000*
Employee Empowerment						0.305	5.844	0.000*
Strategic						0.338	5.364	0.013*

As can be shown in table 15, the correlation coefficient R= 0.827 indicates that there is a positive correlation between total quality management practices and competitive advantage. The R<sup>2</sup> value is 0.684; therefore, the model is regarded as being fit to be used for multiple regressions with the data. The results of the multiple regression analysis that regress the four sub variables total quality management practices are shown on table (15). It shows that the five sub-variables together explained 68.4% of the variance, where (R<sup>2</sup> =0.684, F=135.634,

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Sig.=0.00). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is effect of total quality management practices (leadership, Continuous Improvement, Customer Satisfaction, Employee Empowerment, strategic) on competitive advantage, at level ( $\alpha \leq 0.05$ ).

In addition to table (15) shows that the strategic sub-variable has the most contribution on competitive advantage, where (Beta=0.338, sig. =0.00). Thus, it indicates that the strategic sub-variable is the most significant, and it positively and directly regresses to competitive advantage. Followed by employee empowerment sub-variables, where (Beta=0.305, sig. =0.00), then continuous improvement sub variable, where (Beta=0.143, sig. =0.011). Then, customer satisfaction sub variable, where (Beta=0.120, sig. =0.000). Finally, leadership sub-variable where (Beta= 0.104, sig. =0.001). The analysis indicates that there is statistically significance effect of total quality management on competitive advantage, where R= 0.62. So, total quality management practices are positively related to competitive advantage. The result is consistent with Firend (2015) study which stated that total quality management practices have a positive significant effect with the competitive advantage. Also, [Singla et al \(2013\)](#) indicated that there is a close effect of TQM practices on competitive advantage. H0.3: There is no statistically significant effect at ( $\alpha \leq 0.05$ ) of human resource management practices on competitive advantage.

Multiple regression was used to test the effect of human resource management practices on competitive advantage, at a confidence level of (95%).

Table 16. Multiple regression analysis of the effect of human resource management practices on competitive advantage

variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F-value	Sig*.	Standardized Beta	t-value	Sig*.
	0.723	0.523	0.517	86.203	0.00*			
Recruitment & Selection						0.348	8.311	.000*
Performance Appraisal						0.138	2.407	.017*
Training and Development						0.125	2.240	.026*
Compensation and Reward						0.332	5.367	.000*

As can be shown in Table 16, the correlation coefficient R= 0.723 indicates that there is a positive correlation between human resource management practices and competitive advantage. The R<sup>2</sup> value is 0.523; therefore, the model is

regarded as being fit to be used for multiple regressions with the data. The results of the multiple regression analysis that regress the four sub variables human resource management practices are shown on table (16). It shows that the four sub-variables together explained 52.3% of the variance, where ( $R^2 = 0.523$ ,  $F=86.203$ ,  $Sig.=0.00$ ). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is effect of human resource management practices (Recruitment & Selection, Performance Appraisal, Training and Development, Compensation and Reward) on competitive advantage, at level ( $\alpha \leq 0.05$ ).

In addition to table (16) shows that the recruitment & selection sub-variable has the most contribution on total quality management practices, where (Beta=0.348, sig. =0.00). Thus, it indicates that the recruitment & selection sub-variable is the most significant, and it positively and directly regresses to competitive advantage. Followed by compensation and reward sub-variable, where (Beta=0.332, sig.=0.00), then performance appraisal sub variable, where (Beta=0.138, sig.=0.017). Finally, training and development sub-variable where (Beta= 0.125, sig.=0.026).

The analysis indicates that there is statistically significance effect of human resource management on competitive advantage. Nikaeen (2012) results that suggest that HRM is a core strategy align internal behavior and skills with the strategic direction of the organization as a whole to enhancements on competitive advantage. In addition, HRM promotes positive relationships among employees who create competitive advantage for firms (Obeidat et al., 2013; Peña-Vinces, 2016).

### **Discussion**

In order to gain and sustain competitive advantage in a fast changing industry, it is crucial for a company to understand what the customers perceive (Kumar et al., 2010; Al Azmi et al., 2012; Obeidat et al., 2012). Furthermore, the important of total quality management and human resources management in order to be sustainable in business, as well the future growth and development, of organization (Usrof & Elmrsey, 2016). The goal of this study was to determine the effect of HRM practices (recruitment and selection, performance appraisals, training and development, compensation and reward), TQM practices (leadership, continuous improvement, customer satisfaction, employee empowerment, and strategic).

The result of multiple regression analyses for the first main hypothesis and four sub-hypothesis where supported by reported results showed that almost all components of HRM (recruitment and selection, performance appraisal, training

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and development, and compensation and reward) are important to TQM practices. The level of effect of HRM practices on TQM practices were as follows: training and development has the strongest effect with TQM practices, followed by recruitment and selection, then performance appraisal, and finally compensation and reward. The result of multiple regression analyses for the second main hypothesis and five sub-hypothesis indicated that there is statistically effect of total quality management practices on competitive advantage. The level of effect of TQM practices on competitive advantage was as follows: strategic has the strongest effect with competitive advantage, followed by employee empowerment, then continuous improvement, then customer satisfaction, and finally leadership.

The result of multiple regression analyses for the third main hypothesis and four sub-hypothesis indicated that there is statistically effect of human resource management practices on competitive advantage. The level of effect of HRM practices on competitive advantage was as follows: recruitment and selection has the strongest effect with competitive advantage, followed by compensation and reward, then performance appraisal, and finally training and development. In conclusion, the proposed conceptual model represents the factors of human resource management practices, total quality management practices on competitive advantage.

From the practical perspective, this study has six main implications. First, there should be more intensified attention towards increasing the awareness towards HRM role in telecommunication organizations. Hence, HRM department can effectively perform better, and employees can understand the role of the department. Second, HRM department should pay more attention about improving the compensation and reward system in a way to improve the total quality management implementation and improve competitive advantage, the department should pay attention on candidate competencies such as ability to solve problem and ability to work within team (see e.g. Khalayleh et al., 2017). Third, TQM department should pay attention on employee empowerment to improve quality and performance program in telecommunication organizations, and enable all employee to discuss new issues in order reach best quality. Four, organizations should design and develop products to meet market needs through continuous study communication with customers and determine their current requirements, and future expectations. This will increase the customer base and thus increase market share. Five, organization should hold training programs explicitly designed to total quality management on a regular basis to all employees. This will ensure better implementation of quality assurance practices and thus improve the competitive advantage. Finally, organizations must spread the awareness of quality between employees and make them part of the organization's culture (see e.g. Shannak & Obeidat, 2012), and in turn on

innovation (see e.g. Obeidat et al., 2017). Also, researchers called for more research on the enabling factors of applying electronic services (e.g. Masa'deh, et al., 2008, 2013a, 2013b; Karajeh & Maqableh, 2014; Maqableh & Karajeh, 2014; Al-Dmour et al., 2015; Almajali & Maqableh, 2015; Kateb et al., 2015; Maqableh et al., 2015; Masa'deh, 2016; Tarhini et al., 2015; 2016, 2017a, 2017b; Almajali & Al-Dmour, 2016; Almajali et al., 2016; Alenezi et al., 2017; Aldmour et al., 2017; Khwaldeh et al., 2017; Mikkawi & Al-Lozi, 2017; Yassien & Mufleh, 2017; Tarhini et al., 2018; Al-Dmour et al., 2019), hence, future research is vital to examine these enablers as to assist stakeholders on their decisions on reaching high levels of such services, and in turn enhancing TQM practices in an optimal way.

To conclude, this study employed closed-ended questionnaire items to measure the effect of human resource management (HRM) practices, total quality management (TQM) practices, on competitive advantage; this type of questionnaire is easier and quicker for the respondents to complete. However, the responses are limited because the participants could not make any inquiry or explain their answers in more details. The scope of the study is restricted to employees in Jordan with a focus on workers in Amman. As such, the findings may be changed if the study were conducted in other rural areas.

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