

Effects of Information and Communication Technology Adoption on University Competitive Advantage via Education Quality

A field Study on Science & Technology and Hadhramout Universities

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Effects of Information and Communication Technology Adoption on University Competitive Advantage via Education Quality A Field Study on Science & Technology and Hadhramout Universities

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Abstract—The current study aimed to determine the effect of information and communication technology adoption on university competitive advantage via education quality in Yemenis Universities. For the purposes of this study, the researcher constructed a questionnaire and ensured its validity and reliability. The study used purposive sampling technique in the sample, the sample chosed from two universities: Hadhramout University and University of Science and Technology, Specifically, colleges of engineering and computers. The researcher recommend Develop a comprehensive ICT strategy aligned with the university's overall goals and Prioritize technologies that directly enhance teaching and learning quality, provide ongoing training programs on ICT use in education for Faculty and Staff, Encourage faculty to integrate technology into their teaching methods, Collaborate with other universities for knowledge sharing, Focus on institutions with strong ICT integration in education.

Keyword— information and communication technology adoption, competitive advantage, education quality, Yemenis Universities.

I. INTRODUCTION

The speedy developments in information and communication technologies (ICTs) in recent years have resulted in significant changes in the way the world operates and communicates. This in turn has an impact on educational and training needs, both in terms of the content and the delivery of educational and training service. The adventure and advancement of new technologies (ICT) has challenged the traditional method and process of teaching and learning and have also change the way education is managed to a more flexible, friendly and simplified form. ICT has turned from being a technology of communication and information alone, but to a curriculum creation and delivery system for educators and learners (Maphalala & Adigun, 2021).

Information and Communication Technology (ICT) has become so pervasive and vital in today's world that it is impossible to envision life in the 21st century without technology. Information and Communication Technology (ICT) has become so pervasive and vital in today's world that it is impossible to envision life in the 21st century without technology. Szymkowiak, Melovic, Dabic, Jeganathan and Kundi (2021) maintained that no institution can reach its educational goals in today's world without the use of technology. One of the prominent reasons adduced to the frequent use of ICTs in the classroom has been to better prepare the current generation of students for a workplace where ICTs, particularly computers, the internet and related technologies, are becoming more and more ubiquitous. Technological literacy is seen as representing a competitive edge in an increasingly globalizing job market (Cox, 2021).

II. PROBLEM STATEMENT

It has been widely acknowledged that education quality is occupying a prominent position in the field of academic achievement argumentation. ICT widens the plethora of opportunities for educational institutions to support, harness and utilize technology to complement the process of teaching and learning. Therefore, universities' students have advocated the utilization of ICT resources. Yet, universities are still experiencing the challenge of transformation of the students' learning process in providing them with the skill that functions effectively in such a competitive and a challenging environments. Nevertheless, if such a problem is not precisely addressed the amount of investment, specifically, in IT arena may go for a waste and teaching then is becoming lethargic. Consequently, universities might fail in achieving their objectives in qualifying students who are completely dependent on ICT.

The problem can be formulated in the following main question:

What is the effect of adopting Information and communications technology on the university's competitive advantage via the quality of education in Yemenis Universities?

The objective of this study to determine the effect of information and communication technology adoption on university competitive advantage via education quality in Yemenis Universities.

III. LITERATURE REVIEW

A. Aligning IT with Business and Competitive Advantage

There is a body of literature that discusses on the topic of aligning IT with business on competitive advantage. For instance, Nyandoro (2013) sought to determine the link between strategic alignment and the ability of firms to remain competitive with reference to businesses that engage in production of soft drinks. The study employed an exploratory research design in order to achieve the formulated objectives. The study found that that there exist relationships between IT-business strategic alignment and the ability of the firms to remain competitive in the industry of operation. One of the recommendations suggested by the study was the need for IT system executives to ensure that responsibilities are delicate and shared with the senior personnel across various other fields. This is because strategic alignment has been linked with improved performance of the firm.

B. Innovation Driven by IT and Competitive Advantage

Various studies exist on effects of use of innovation driven by IT and competitive advantage. For example, Mohammad (2018) conducted a study on innovation strategies and their influence on sustainable competitive advantage. The research chose to endorse a cross sectional descriptive survey and descriptive statistics for analysis. The findings revealed that innovation strategies that incorporated IT led to a sustainable competitive advantage and that if an ICT firms wants to increase the level of sustainable competitive advantage in the county, they invested more in market innovation. The study recommended that creation of awareness should be done on market innovation as it expands the firm's market share and sustains a competitive advantage.

C. Application of Business Intelligence and Competitive Advantage

There is literature on business intelligence and its influence on competitive advantage. For instance, Mukuche (2015) used a case of Kenyan insurance entities to determine the link between business intelligence and competitive positioning. The design endorsed for this study was descriptive. It was shown that application of business intelligence results into competitive advantage for the organizations but there were some challenges

experienced in its application. The recommendation put forward by the study was the need for insurance firms to leverage on business intelligence systems for gaining of competitive advantage.

D. Business Process Re-engineering and Competitive Advantage

Magutu (2010) The process re-engineering that make organization gain a competitive advantage, that organizations that want to undertake BPR initiatives should foremostly understand the urgency for changing the organization and then ensure they adopt the key implementational factors for a successful business process re-engineering. Wanjiku (2015) researched on business process re-engineering and operational performance at UAP insurance company. The study acknowledged that business process re-engineering aims at improving the contemporary measure of performance that is quality, cost, speed and service. The research embraced a descriptive research design and descriptive statistics for analysis. The revelation from the findings was that business process re-engineering helped UAP improve in the turnaround timelines for provision of services, achieve customer promise, operational processes become simple and better coordination between branch-based services and head office-based services.

IV. METHODOLOGY

The type of design adopted in this study was descriptive and it will ideal for determining the connection between ICT adoption and University competitive advantage via education quality. A five-point Likert scale survey questionnaire will develop for field study in order to obtain the data concerning this study where the questions are issued through the drop-and pick-later method. The questions in the structured questionnaire will focus towards finding out the relationship between the dependent variable, competitive advantage, mediating variable education quality and the independent variables ICT adoption that included IT-business intelligence, IT-driven innovation, and \ process re-engineering.

V. RESULT AND DISCUSSION

A. Descriptive Statistics of paragraphs of the independent variable: information and communications technology

1. Descriptive Statistics of dimension "IT innovation"

Table (4.1): Descriptive Statistics of dimension "IT innovation" according to the sample of staff in Yemeni Universities.

Staff sample (n=114)							
The Item	SD	D	NS	A	SA	Mean	Std. Dev.
The IT innovation strategy ensures consistency in the university's internal systems.	0.0	2.6	8.8	86.0	2.6	3.89	0.456
The university is keen to support and encourage those with creative and innovative ideas.	3.5	13.2	29.8	53.5	0.0	3.33	0.838
The university encourages employees to use innovative methods in order to improve work performance permanently.	0.0	7.0	24.6	67.5	0.9	3.62	0.630
The university encourages its employees to innovate in educational methods.	3.5	17.5	30.7	48.2	0.0	3.24	0.865
The university provides an environment that supports innovation and continuous development	5.3	16.7	35.1	43.0	0.0	3.16	0.888
Overall Average						3.45	0.655

Source: Outputs of SPSS version 25

SD= Strongly disagree D=Disagree NS = Not sure
A=Agree SA= Strongly agree

As shown in table (4.1), the IT Innovation obtained a high degree of approval from staff in Yemeni Universities with a mean (3.45) and a standard deviation (0.655), this dimension consisted of (5) items, the results of which were as follows:

The first paragraph that states: "The IT innovation strategy ensures consistency in the university's internal systems" obtained a degree of approval "High" with a mean (3.89) and a standard deviation (0.456), The researcher notes that the majority of sample's answers were trending to a response "Agree" (86.0%), followed by (8.8%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (2.6%) of the sample, these indicators indicate a positive response to the paragraph.

The second paragraph that states: "The university is keen to support and encourage those with creative and innovative ideas" obtained a degree of approval "Medium" with a mean (3.33) and a standard deviation (0.838), The researcher notes that the majority of sample's answers were trending to a response "Agree" (53.5%), followed by (29.8%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (13.2%), these indicators indicate a positive response to the paragraph.

The third paragraph that states: "The university encourages employees to use innovative methods in order to improve work performance permanently" obtained a degree of approval

"High" with a mean (3.62) and a standard deviation (0.630), The researcher notes that the majority of sample's answers were trending to a response "Agree" (67.5%), followed by (24.6%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (7.0%), also a response "Strongly agree" (0.9%) of the sample, these indicators indicate a positive response to the paragraph.

The fourth paragraph that states: "The university encourages its employees to innovate in educational methods" obtained a degree of approval "Medium" with a mean (3.24) and a standard deviation (0.865), The researcher notes that the majority of sample's answers were trending to a response "Agree" (48.2%), followed by (30.7%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (17.5%), these indicators indicate a positive response to the paragraph.

The fifth paragraph that states: "The university provides an environment that supports innovation and continuous development" obtained a degree of approval "Medium" with a mean (3.16) and a standard deviation (0.888), The researcher notes that the majority of sample's answers were trending to a response "Agree" (43.0%), followed by (35.1%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (16.7%), also a response "Strongly disagree" (5.3%) of the sample, these indicators indicate a positive response to the paragraph.

Table (4.2): Descriptive Statistics of dimension "IT-business intelligence" according to the sample of staff in Yemeni Universities

Staff sample (n=114)							
The Item	SD	D	NS	A	SA	Mean	Std. Dev.
Business intelligence systems at the university work to raise the level of educational quality.	5.3	16.7	38.6	39.5	0.0	3.12	0.874
Business intelligence systems facilitate the process of completing practical and academic activities.	0.0	4.4	21.9	71.9	1.8	3.71	0.576
Business intelligence systems at the university enhance the speed of monitoring of the educational process.	1.8	5.3	27.2	65.8	0.0	3.57	0.678
Business intelligence systems at the university improve the exchange of data and information between departments at the university.	1.8	7.0	21.9	68.4	0.9	3.60	0.713
Business intelligence systems at the university work to develop modern methods and Techniques in the educational process.	3.5	17.5	30.7	48.2	0.0	3.24	0.865
Overall Average						3.45	0.637

Source: Outputs of SPSS version 25

SD= Strongly disagree D=Disagree NS = Not sure
A=Agree SA= Strongly agree

As shown in table (4.2), the Business intelligence obtained a high degree of approval from staff in Yemeni Universities with a mean (3.45) and a standard deviation (0.637), this dimension consisted of (5) items, the results of which were as follows:

The first paragraph that states: " Business intelligence systems at the university work to raise the level of educational quality" obtained a degree of approval "Medium" with a mean (3.12) and a standard deviation (0.874), The researcher notes that the majority of sample's answers were trending to a response "Agree" (39.5%), followed by (38.6%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (16.7%), also a response "Strongly disagree" (5.3%) of the sample, these indicators indicate a positive response to the paragraph.

The second paragraph that states: "Business intelligence systems facilitate the process of completing practical and academic activities" obtained a degree of approval "High" with a mean (3.71) and a standard deviation (0.576), The researcher notes that the majority of sample's answers were trending to a response "Agree" (71.9%), followed by (21.9%) answered "Not

sure" about this paragraph, then a very small percentage had a response "Disagree" (4.4%), also a response "Strongly agree" (1.8%) of the sample, these indicators indicate a positive response to the paragraph.

The third paragraph that states: "Business intelligence systems at the university enhance the speed of monitoring of the educational process" obtained a degree of approval "High" with a mean (3.57) and a standard deviation (0.678), The researcher notes that the majority of sample's answers were trending to a response "Agree" (65.8%), followed by (27.2%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (5.3%), also a response "Strongly disagree" (1.8%) of the sample, these indicators indicate a positive response to the paragraph.

The fourth paragraph that states: "Business intelligence systems at the university improve the exchange of data and information between departments at the university " obtained a degree of approval "High" with a mean (3.60) and a standard deviation (0.713), The researcher notes that the majority of sample's answers were trending to a response "Agree" (68.4%), followed by (21.9%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (7.0%), also a response "Strongly agree" (0.9%) of the sample, these indicators indicate a positive response to the paragraph.

The fifth paragraph that states: "Business intelligence systems at the university work to develop modern methods and Techniques in the educational process" obtained a degree of approval "Medium" with a mean (3.24) and a standard deviation (0.865), The researcher notes that the majority of sample's answers were trending to a response "Agree" (48.2%), followed by (30.7%) answered "Not sure" about this paragraph, then a small percentage had a response "Disagree" (17.5%), also a response "Strongly disagree" (3.5%) of the sample, these indicators indicate a positive response to the paragraph.

2. Descriptive Statistics of dimension "Process re-engineering"

Table (4.3): Descriptive Statistics of dimension "Process re-engineering" according to the sample of staff in Yemeni Universities.

Staff sample (n=114)							
The Item	SD	D	NS	A	SA	Mean	Std. Dev.
The university is re-engineering its educational processes in order to increase competitive advantage.	0.0	2.6	13.2	81.6	2.6	3.84	0.490
Process re-engineering contributes to	0.0	2.6	8.8	83.3	5.3	3.91	0.490

making a qualitative shift in the educational outcomes of students.								
The university improves educational efficiency through process reengineering.	0.0	4.4	21.1	71.9	2.6	3.73	0.584	
The process of re-engineering educational processes supported by information technology increases the quality of the educational process at the university.	0.0	9.6	23.7	66.7	0.0	3.57	0.665	
Re-engineering educational processes supported by information technology leads to better customer service at the university.	0.0	2.6	6.1	79.8	11.4	4.00	0.532	
Overall Average						3.81	0.458	

Source: Outputs of SPSS version 25

SD= Strongly disagree D=Disagree NS = Not sure
A=Agree SA= Strongly agree

As shown in table (4.3), the Process re-engineering obtained a high degree of approval from staff in Yemeni Universities with a mean (3.81) and a standard deviation (0.458), this dimension consisted of (5) items, the results of which were as follows:

The first paragraph that states: "The university is re-engineering its educational processes in order to increase competitive advantage" obtained a degree of approval "High" with a mean (3.84) and a standard deviation (0.490), The researcher notes that the majority of sample's answers were trending to a response "Agree" (81.6%), followed by (13.2%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (2.6%) of the sample, these indicators indicate a positive response to the paragraph.

The second paragraph that states: "Process re-engineering contributes to making a qualitative shift in the educational outcomes of students" obtained a degree of approval "High" with a mean (3.91) and a standard deviation (0.490), The researcher notes that the majority of sample's answers were trending to a response "Agree" (83.3%), followed by (8.8%)

answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (5.3%) of the sample, these indicators indicate a positive response to the paragraph.

The third paragraph that states: "The university improves educational efficiency through process reengineering" obtained a degree of approval "High" with a mean (3.73) and a standard deviation (0.584), The researcher notes that the majority of sample's answers were trending to a response "Agree" (71.9%), followed by (21.1%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (4.4%), also a response "Strongly agree" (2.6%) of the sample, these indicators indicate a positive response to the paragraph.

The fourth paragraph that states: "The process of re-engineering educational processes supported by information technology increases the quality of the educational process at the university" obtained a degree of approval "High" with a mean (3.57) and a standard deviation (0.665), The researcher notes that the majority of sample's answers were trending to a response "Agree" (66.7%), followed by (23.7%) answered "Not sure" about this paragraph, then a small percentage had a response "Disagree" (9.6%), these indicators indicate a positive response to the paragraph.

The fifth paragraph that states: "Re-engineering educational processes supported by information technology leads to better customer service at the university" obtained a degree of approval "High" with a mean (4.00) and a standard deviation (0.532), The researcher notes that the majority of sample's answers were trending to a response "Agree" (79.8%), followed by (6.1%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (11.4%) of the sample, these indicators indicate a positive response to the paragraph.

3. Descriptive Statistics of paragraphs of the mediating variable: quality of education

Table (4.4): Descriptive Statistics of variable " quality of education" according to the sample of staff in Yemeni Universities.

The Item	Staff sample (n=114)						Std. Dev.
	SD	D	NS	A	SA	Mean	
The university's senior management adopts employee suggestions that raise the level of	0.0	2.6	14.0	81.6	1.8	3.82	0.484

educational quality.								
Faculty members at the university contribute to developing curricula and various activities.	0.0	4.4	17.5	73.7	4.4	3.78	0.591	
The university focuses on the requirements of theoretical and applied scientific research and is keen on the participation of its employees.	0.9	3.5	25.4	69.3	0.9	3.66	0.607	
The university is interested in granting the Excellence in Teaching Award to faculty members.	5.3	19.3	39.5	36.0	0.0	3.06	0.875	
The university is interested in granting awards at the college level if they achieve quality and academic accreditation.	3.5	12.3	32.5	51.8	0.0	3.32	0.825	
	Overall Average					3.53	0.562	

Source: Outputs of SPSS version 25

SD= Strongly disagree D=Disagree NS = Not sure
A=Agree. SA= Strongly agree

As shown in table (4.4), the quality of education obtained a high degree of approval from staff in Yemeni Universities with a mean (3.53) and a standard deviation (0.562), this axis consisted of (5) items, the results of which were as follows:

The first paragraph that states: "The university's senior management adopts employee suggestions that raise the level of educational quality" obtained a degree of approval "High" with a mean (3.82) and a standard deviation (0.484), The researcher notes that the majority of sample's answers were trending to a response "Agree" (81.6%), followed by (14.0%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (1.8%) of the sample, these indicators indicate a positive response to the paragraph.

The second paragraph that states: "Faculty members at the university contribute to developing curricula and various

activities" obtained a degree of approval "High" with a mean (3.78) and a standard deviation (0.591), The researcher notes that the majority of sample's answers were trending to a response "Agree" (73.7%), followed by (17.5%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (4.4%), also a response "Strongly agree" (4.4%) of the sample, these indicators indicate a positive response to the paragraph.

The third paragraph that states: "The university focuses on the requirements of theoretical and applied scientific research and is keen on the participation of its employees" obtained a degree of approval "High" with a mean (3.66) and a standard deviation (0.607), The researcher notes that the majority of sample's answers were trending to a response "Agree" (69.3%), followed by (25.4%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (3.5%), also a response "Strongly agree" (0.9%) of the sample, these indicators indicate a positive response to the paragraph.

The fourth paragraph that states: "The university is interested in granting the Excellence in Teaching Award to faculty members" obtained a degree of approval "Medium" with a mean (3.06) and a standard deviation (0.875), The researcher notes that the majority of sample's answers were trending to a response "Agree" (36.0%), followed by (39.5%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (19.3%), also a response "Strongly disagree" (5.3%) of the sample, these indicators indicate a positive response to the paragraph.

The fifth paragraph that states: "The university is interested in granting awards at the college level if they achieve quality and academic accreditation" obtained a degree of approval "Medium" with a mean (3.32) and a standard deviation (0.825), The researcher notes that the majority of sample's answers were trending to a response "Agree" (51.8%), followed by (32.5%) answered "Not sure" about this paragraph, then a small percentage had a response "Disagree" (12.3%), also a response "Strongly disagree" (3.5%) of the sample, these indicators indicate a positive response to the paragraph.

4. Descriptive Statistics of paragraphs of the dependent variable: competitive advantage

Table (4.5): Descriptive Statistics of variable "competitive advantage" according to the sample of staff in Yemeni Universities

Staff sample (n=114)							
The Item	SD	D	NS	A	SA	Mean	Std. Dev.
Improving a university's competitive	0.0	10.5	26.3	63.2	0.0	3.53	0.681

advantage leads to increased profitability.								
Improving competitive advantage leads to increased university growth.	0.0	2.6	13.2	80.7	3.5	3.85	0.502	
The university has the ability to confront competition and achieve competitive advantage by developing new methods and methods through the use of information and communications technology.	0.0	2.6	19.3	75.4	2.6	3.78	0.528	
Information and communications technology help the university to make its services distinctive in terms of specifications and characteristics in the external environment.	0.0	4.4	21.1	72.8	1.8	3.72	0.572	
The university has the necessary resources to adopt an IT differentiation strategy.	0.0	10.5	28.9	60.5	0.0	3.50	0.682	
	Overall Average						3.68	0.465

Source: Outputs of SPSS version 25

SD= Strongly disagree D=Disagree NS = Not sure
A=Agree. SA= Strongly agree

As shown in table (4.5), the competitive advantage obtained a high degree of approval from staff in Yemeni Universities with a mean (3.68) and a standard deviation (0.465), this axis consisted of (5) items, the results of which were as follows:

The first paragraph that states: "Improving a university's competitive advantage leads to increased profitability" obtained a degree of approval "High" with a mean (3.53) and a standard deviation (0.681), The researcher notes that the majority of sample's answers were trending to a response "Agree" (63.2%), followed by (26.3%) answered "Not sure" about this paragraph, then a small percentage had a response "Disagree" (10.5%), these indicators indicate a positive response to the paragraph.

The second paragraph that states: "Improving competitive advantage leads to increased university growth" obtained a

degree of approval "High" with a mean (3.85) and a standard deviation (0.502), The researcher notes that the majority of sample's answers were trending to a response "Agree" (80.7%), followed by (13.2%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (3.5%) of the sample, these indicators indicate a positive response to the paragraph.

The third paragraph that states: "The university has the ability to confront competition and achieve competitive advantage by developing new methods and methods through the use of information and communications technology" obtained a degree of approval "High" with a mean (3.78) and a standard deviation (0.528), The researcher notes that the majority of sample's answers were trending to a response "Agree" (75.4%), followed by (19.3%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (2.6%), also a response "Strongly agree" (2.6%) of the sample, these indicators indicate a positive response to the paragraph.

The fourth paragraph that states: "Information and communications technology help the university to make its services distinctive in terms of specifications and characteristics in the external environment" obtained a degree of approval "High" with a mean (3.72) and a standard deviation (0.572), The researcher notes that the majority of sample's answers were trending to a response "Agree" (72.8%), followed by (21.1%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (4.4%), also a response "Strongly agree" (1.8%) of the sample, these indicators indicate a positive response to the paragraph.

The fifth paragraph that states: "The university has the necessary resources to adopt an IT differentiation strategy" obtained a degree of approval "High" with a mean (3.50) and a standard deviation (0.682), The researcher notes that the majority of sample's answers were trending to a response "Agree" (60.5%), followed by (28.9%) answered "Not sure" about this paragraph, then a very small percentage had a response "Disagree" (10.5%), these indicators indicate a positive response to the paragraph.

VI. CONCLUSION

This study aimed to investigate the effect of information and communication technology adoption on university competitive advantage via education quality in Yemenis Universities. The findings of this study provided some illustrations of the sample information and communications technology which include three dimensions: IT Innovation, IT-business intelligence and process re-engineering. The results of this study showed that there is a high interest in study variables (information and communications technology, quality of education and

competitive advantage) in Yemeni universities. The findings of this study also revealed that there is a significant positive effect between information and communication technology adoption and competitive advantage in Yemenis Universities, It can be concluded that an increase in information and communications technology increased competitive advantage in Yemeni universities with all its dimensions mentioned, there is a significant positive effect between information and communication technology adoption and quality of education in Yemenis Universities, there is a significant positive effect between quality of education and competitive advantage in Yemenis Universities, also, there is a positive effect between information and communication technology adoption and competitive advantage in Yemenis Universities through the mediation of educational quality in Yemenis Universities, finally, there are statistically significant differences between the averages of the sample members' answers about the effect of information and communication technology adoption on university competitive advantage via education quality in Yemenis Universities is attributed to personal variables, specifically (University name, College name, Scientific specialization).

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