

Impact of applying Total quality management practices on management innovation education study sample from University OF Farhat Abbas Setif 1

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Abstract:

The purpose of this study is to determine the impact of the application of comprehensive quality management practices on management innovation in higher education institutions at the Faculty of Economics, University of Farhat Abbas Setif1, where the questionnaire was used as an essential tool to collect data by distributing it to 100 individual staff working in the Faculty of Economics

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from different segments, both administrators and academics. The results of the study revealed that the overall quality management practices of (Formulating a clear strategy, customer orientation and employee participation) has a significant impact on management innovation in its dimensions (internal institutional innovation, value creation, innovation management) while both (Effective leadership, knowledge management analysis, continuous process improvement) does not affect the dimensions of management innovation, and with respect to the study model it is proven in relation to the limits of our study.

Keywords: Total quality management; Continuous improvement; Management innovation; Create value.

Introduction:

Comprehensive quality management is a modern management model that has attracted the attention of many researchers and managers. It is considered an integrated quality system within the organization. Its philosophy is that quality not only encompasses the outputs of the organization, but also includes all related inputs and processes from product or service production to marketing. It seeks to improve all the functions of the organization to meet customers' needs and provide products that exceed their expectations to provide them

with superior value, thereby enhancing their survival and the continuation of the business market. Thus, today's CQM system needs to operationalize the management innovation that relates to staff recruitment and resource allocation. organizational structures as well as administrative processes and control systems and this is achieved only through comprehensive quality management practices that include leaders who promote innovation and innovation in the organization and its strategies, Also to encouraging workers to take part in decision-making, making them work harder, engaging in innovation and focusing on customers by meeting their needs beyond their expectations, activating continuous improvement and striving to get things done in the right way and from the first time.

- The problem of the study: the growing interest of business organizations in the quality, practices and programmes has harnessed all the material and human capabilities to raise the level of innovation Higher education institutions have been keen to adopt the concepts of total quality management and have set up special departments. This has made a qualitative leap in this area. Yet, the question is whether the practices of comprehensive quality management are applied at the required level, thereby raising the level of management innovation in the institution. How do global quality management practices affect the management innovation of Farhat Abbas Setif1 University in the Faculty of Economics?

Sub-questions: To answer the problem study we ask the following questions:

-What are the practices of total quality management in the enterprise;

- How to activate management innovation in the enterprise.

Study hypotheses: The study hypotheses are the following points

- **Hypothesis 1:** There is a significant impact of Effective leadership on management innovation of the Faculty of Economics University of Farhat Abbas Setif1

- **Hypothesis 2:** There is a significant impact of Strategy formulation on management innovation in the Faculty of Economics University of Farhat Abbas Setif1

- **Hypothesis 3:** There is a significant impact of Orientation to customers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1

- **Hypothesis 4:** There is a significant impact of Knowledge management analysis on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1

- **Hypothesis 5:** There is a significant impact of participation of workers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1

- **Hypothesis 6:** There is a significant impact of Continuous Improvement on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1

- Objectives of the study: The purpose of this study is to recognize the practices of total quality management and its impact on administrative innovation in University of Farhat Abbas Setif1 Faculty of Economics.

I. Literature Review

1- Total quality management: Omit quality management has evolved as a quality approach and is now characterized as an integrated and systematic strategy at the organizational level, it is not a specific programme, tool or technique but a transformation of both thinking, organization and culture⁽¹⁾Total Quality Management focuses on improving operations within organizations to provide superior value to customers and meet customer needs. Customer needs include the company's operations focused on understanding, engagement and customer respons⁽²⁾. Where I gather each of the (Juran; 1988, Schmidt and Finnigan; 1992, Spechler; 1991) That TQM achieves value through a unwavering range of benefits that is understanding business needs, improving intercommunication, better solving problems of commitment, greater motivation of employees, stronger relationships with suppliers, fewer errors and reduction of waste. Thus a definition of total quality management can being given as follows:

Total Quality Management foes for continuous improvement in all functions of the organization⁽³⁾, Is a combination of techniques and procedures used to reduce and drop differences in production process and service delivery system to achieve efficiency and reliability in quality⁽⁴⁾, It also identifies as looking for opportunities to increase customer satisfaction and strive for continuous improvement and do things right the first time⁽⁵⁾, Total quality management can sew as a comprehensive management approach that attempts to maintain



sustainable improvement in the enterprise's performance⁽⁶⁾, TQM also creates a stimulating and encouraging environment for innovation⁽⁷⁾, and focuses on improving and developing internal and external processes relevant to the company's internal bodies (manpower-managers) and third parties associated with the company (consumer audience of the product/service and customers⁽⁸⁾). It is a comprehensive and structured approach to an organization that seeks to omit improve the quality of products and services⁽⁹⁾ and it is the method and techniques used to keep continuous improvement and meet customers' demands (Talib Bon & Mustafa , 2013, p. 518). Hence a set of elements that form the key to total quality management are as follows⁽¹⁰⁾:

- Senior management's commitment to setting quality as a top priority;

- A broad definition of quality as meeting customers' expectations at the lowest cost, which includes all stages of design and production, product/service delivery;

- Foundation of leadership practices geared towards the values of omit quality management and vision;

- TQM helps cope with rapid technological developments and thus the organization is more focused on customers' needs and expectations and more effective, efficient and skilled in implementation to deliver low-cost, high-quality products and services⁽¹¹⁾;

- Find opportunities to increase customer satisfaction and strive for Continuous improvement and doing things right the first time⁽¹²⁾;

- It will help create an enabling environment to establish a strong cooperative link between sellers and buyers; To improve Effective communication between the two⁽¹³⁾.

- It is a management model that aims to meet clients' needs and expectations by omit improving the quality of goods and services and integrating all tasks and processes into the organization⁽¹⁴⁾.

➤ **Dimensions of TQM:** To say that the organization relies on TQM in most of its operations each of the Deming (1982, 1986), Juran (1974, 1989, 1989, 1989, 1992), Crosby (1979, 1996), Feigenbaum (1983, 1991), Ishikawa 1985 The following elements are available: senior management commitment, client focus, staff engagement, knowledge management, continuous improvement, Yet this study focus on the six among the dimensions of TQM: Effective Leadership,

Aclear Strategy formation, Customer orientation, Knowledge management analysis, participation of workers, Continuous Improvement:

➤ **Effective leadership:** The most important element of TQM has addressed by pioneers such as Deming, Juran and Crosby. It expresses a series of actions and initiatives that lead to positive results that reflect the organization's goals and ambitions⁽¹⁵⁾;

▪ **Aclear Strategy formation:** it is A long-term plan through which the organization seeks to align its objectives with its environment in order to achieve a sustainable competitive advantage⁽¹⁶⁾;

▪ **Customer orientation:** The main objective of the organization's survival and excellence is customer satisfaction for this it has to understand the customer's stated and orderly needs. To achieve this concern, the enterprise ensures the customer's participation by allowing him to include comments about the products and services offered so that the enterprise can improve its quality⁽¹⁷⁾;

▪ **Knowledge management analysis:** is a process whereby the intellectual capital of the organization is extracted with the aim of reaching efficient, effective and innovative decisions in order to gain the organization's competitive advantage and obtain customer loyalty⁽¹⁸⁾;

▪ **participation of workers:** By enabling and engaging staff in decision-making and continuous improvement, staff members work harder and participate more in the change process, The strategy can enhance incentives based on the quality process and must ensure that organization-wide training programmes are available to equip staff with appropriate skills to take part in TQM practices⁽¹⁹⁾;

▪ **Continuous improvement:** a scientific and strategic approach to managing an organization that focuses on the needs of its customers and clients and seeks excellence to achieve appropriate levels of quality⁽²⁰⁾. By searching for and correcting problems so that productivity quality is continuously improve and costs are reduce and the focus is on avoiding problems before they occur⁽²¹⁾.

2-Management Innovation: Since the 1960s some scientists (Evan, 1966; Evan and Black, 1967; Daft 1978) focuses their attention on a kind of innovation that does not include a technology dimension



where they describe these innovations as management innovations. Management innovation is has analysed under different approaches and socio-economic innovations have emerged. Gill and Whittle, 1992; Abrahamson, 1996; Abrahamson and Fairchild, 1999 During the 2000s, management innovation became at the heart of London's business school research Programme by researchers Birkinshaw, Hamel and Mol in 2008⁽²²⁾.

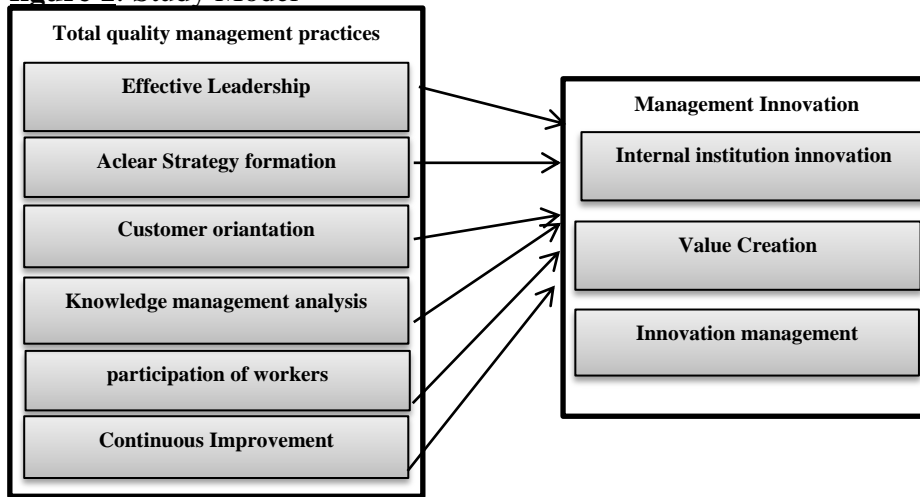
Evan, 1996, p. 51 is an innovative idea that relates to staff recruitment, resource allocation, definition of tasks, management method or individual evaluation. They are also those innovations taking place in an organization's social system. Hthana's social system refers to interpersonal relationships that interact to achieve a particular goal or task⁽²³⁾. Hamel, 2006 had brought the concept of managerial innovation to life and argued that the concept was instrumental in achieving sustainable competitive advantage and emphasized that significant progress in management often led to a significant change in the status of competition and shortly after it was publishing in a living paper in the journal Academy of Management Review by Birkinshaw et al. 2008 Concept of management innovation now known as the invention and implementation of new management practice, process, structure or technology on the latest technology and aimed at promoting regulatory objectives⁽²⁴⁾.

3-Methods: The descriptive curriculum was used for our theoretical framework and analytical approach to build the applied framework by analysing the data of the questionnaire distributed to 100 individual academics and administrators of the institution in question by the statistical analysis programs of SPSS.V 24 and Smart PLS 3.

Many organizations and companies face difficulties in implementing TQM due to lack of commitment and support from senior management and leadership style for managers - Top-down, CEO's surface knowledge and lack of a formal strategic plan for change unambiguous improvement objectives, unclear strategies and conflicting priorities, and lack of development and sustainability of a quality-oriented culture, There is also a lack of recognition of success and lack of training, education and technical knowledge about TQM⁽²⁵⁾. In this study to design a model that we can by identifying the TQM practices in the institution in question and how they affect

management innovation and the following form represents the proposed model:

figure 1: Study Model



Source: prepared by the researcher

Several researchers have demonstrated a positive impact among TQM practices and innovation among them Flynn, 1994 and Johnson and Baldwin 1996 as well as Samson and Terziovski 1999, and the results of the study by both Zhang showed. Q and All 2017 that there is a positive correlation between overall quality management practices and innovative performance in China, as confirmed by Clark E.U in 2016 that higher education institutions in the United States that innovation value activities (idea generation, conversion, dissemination) are affecting the more centralized, Mustafa found. A and Mohamed.E During their study on service companies in Melezia, applying comprehensive quality management practices promotes management innovation and Sawaludin. A and All emphasized that the application of comprehensive quality management practices has a positive impact on the overall performance of educational institutions in Indonesia, Dara Schniederjans and Marc Schniederjans in 2015 also proved that social quality management practices are positively associated with innovation we also find a positive correlation between social quality management and technical quality management. In addition to having a positive relationship between quality management and innovation managed by the effects of organizational size, mission

and management ethics, Deming was hired by a quality advisor to apply TQM practices in some US companies such as Ford, Xerox and Motorola that had lost market share to Japanese producers who relied on TQM practices as they were among the first US companies to apply these practices and succeeded in regaining their position in the market⁽²⁶⁾, What distinguishes our study from the rest of the studies is that we tried to detail the impact of each of the comprehensive quality management practices on each dimension of management innovation in order to determine the dimensions of quality management that actually affect management innovation in the higher education institution.

II. Results

1-Sample and Study Community: The study community consists of the staff of Farhat Abbas Setif University Faculty of Economic Sciences 1, the study sample was selecting, consisting of administrators and academic professors, where the questionnaire was distributing to 100 individuals identified by the Stephen Thampson equation.

2-Descriptive analysis of study variables: The following table represents the results of the arithmetic average and standard deviation of study variables.

Table 01: Descriptive Statistics of Variables

Variables	Mean	Std. Deviation
Effective Leadership	3, 1650	1, 07498
Aclear Strategy formation	2, 7525	0, 84125
Customer oriantation	2, 7767	0, 71548
Knowledge management analysis	2, 9167	0, 86505
participation of workers	3, 0525	0, 79240
Continuous Improvement	3, 0500	0, 70889
Internal institution innovation	2, 7892	0, 75313

Source: By researchers based on SPSS V 24

Through the table, the computational medium of comprehensive quality management practices (Effective leadership, strategy formulation, client orientation, knowledge management analysis, workers' participation, continuous improvement processes and management innovation omit amounted to 3.16, 2.75, 2.77, 2.91, 3.05 and 2.78 which belong to the area [2.60-3.40). This indicates that the

responses of staff were neutral, while the standard deviations of the study variables are acceptable and do not reflect a significant dispersion in the results of the study.

3-Analysis of the level of stability and sincerity of the scale used: The following table shows the results of the study using the Alpha-Cronbach coefficient of stability and Composite Reliability and AVE.

Tabol 02: Summary of scale honesty and stability

Variable	Cronbach's Alpha	Composite Reliability	AVE
Effective Leadership	0.850	0.956	.8120
Aclear Strategy formation	0.745	0.933	.8030
Customer oriantation	0.942	0.925	.8010
Knowledge management analysis	0.893	0.924	.7780
participation of workers	0.877	0.924	.7550
Continuing optimization of operations	0.814	0.899	.6920
Internal institution innovation	0.877	0.898	.6890
Value Creation	0.848	0.881	.6600
Management Innovation	0.904	0.840	0.618

Sourcr: By researchers based on Smart pls 3

Through the results of the table, reliability assessment factors for underlying variables are good values and acceptable as the value of both Cronbach's Alpha and Composite Reliability And AVE for study variables exceeded 0.60 and so all variables have high levels of reliability and internal stability.

4- Differentiated Honesty Test by HTMT: Standard Henseler and all 2015 added another lender to measure differential credibility (HTMT) and set the standard threshold of 0.90 and any value greater than 0.90 indicates no differentiated credibility.

Table 03: Discriminant validity of variabels

	Aclear Strategy formation	Effective Leadership	Internal institution innovation	Continuing optimization of operations	Customer oriantation	Innovation management	Knowledge management analysis	participation of workers	Value Creation
Aclear Strategy formation	0830.								
Effective Leadership	0605.	0786.							
Internal institution innovation	0598.	0646.	001 8.						
Continuous Improvement	0747.	0644.	0765.	0869.					
Customer oriantation	0811.	0679.	0721.	0735.	0896.				
Innovation management	0728.	0633.	0829.	0719.	0837.	0812.			
Knowledge management analysis	0751.	0797.	0675.	0759.	0607.	0591.	0895.		
participation of workers	0792.	0781.	0824.	0784.	0858.	0831.	0787.	0832.	
Value Creation	0558.	0679.	045 8.	0679.	0689.	0742.	0714.	0775.	0882.

Source: By researchers based on Smart pls 3

Note from the table results that all htmt values for variables are limiting between 0.896 and 0.558 values below threshold level 0.90 and this indicates the validity of the differentiation between the variables inherent in the study's measurement model.

5-Study hypothesis test: The following table represents the results of the study hypotheses test.

Table 04: regression coefficients

Path	Standard deviation	T-Value	P-Value	decision
Effective Leadership→Internal institution innovation	0.126	0.985	0.325	refuse
Effective Leadership→Value Creation	0.135	0.875	0.382	refuse
Effective Leadership Innovation management	0.144	0.336	0.737	refuse
Refuse hypothesis 1				
Aclear Strategy formation→ Internal institution innovation	0.125	3.272	0.001	accepte
Aclear Strategy formation→ Value Creation	0.144	3.883	0.000	accepte
Aclear Strategy formation Innovation Management	0.113	0.860	0.390	refuse
Accepte hypothesis 2				
Customer oriantation→ Internal institution innovation	0.123	1.851	0.065	refuse
Customer oriantation→ Value Creation	0.149	3.399	0.001	accepte
Customer oriantation→ Innovation management	0.152	2.095	0.037	accepte
Accepte hypothesis 3				
Knowledge management analysis Internal institution innovation	0.123	1.444	0.149	refuse
Knowledge management analysis Value Creation→	0.130	4.461	0.000	accepte
Knowledge management analysis Innovation management→	0.176	1.252	0.211	refuse
Refuse hypothesis 4				
participation of workers→ Internal institution innovation	0.137	4.630	0.000	accepte
participation of workers Value Creation	0.148	2.394	0.017	accepte
participation of workers→ Innovation management	0.156	3.123	0.002	accepte
Accepte hypothesis 5				
Continuous Improvement→ Internal institution innovation	0.084	4.175	0.000	accepte
Continuous Improvement→ Value Creation	0.105	0.776	0.438	refuse
Continuous Improvement Innovation management	0.164	1.057	0.291	refuse
Refuse hypothesis 6				

Source: By researchers based on Smart pls 3



➤ **First hypothesis test results:** There is a significant impact of Effective leadership on management innovation of the Faculty of Economics University of Farhat Abbas Setif 1, From the table we note that T is lower than T tabular is 2.01 between effective leadership and each dimension of management innovation (Internal institution innovation, Value Creation, Innovation management) and P Value is greater than study morale 0.05 and so we reject this hypothesis

➤ **Second hypothesis test result:** There is a significant impact of Strategy formulation on management innovation in the Faculty of Economics University of Farhat Abbas Setif 1 From the table we note that T value is greater than T tabular value 2.01 between after the formulation of a clear strategy and both the dimensions of management innovation (Internal institution innovation, Value Creation) and P Value is less than the morale of the study 0.05. To the extent that T Value is between the formulation of a clear strategy and after innovation management, it is 0.860, which is less than the T tabular and the the P value is greater than the morale of the study. The formulation of a clear strategy thus has an impact on two dimensions and does not affect the Third dimensions. So we accept this hypothesis.

➤ **Third hypothesis test result:** There is a significant impact of Orientation to customers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif 1 From the table we note that t value is greater than t table 2.01 between after customer orientation and both dimensions of management innovation (Value Creation, Innovation management) and p value below study morale 0.05. To the extent that T value between both customer orientation is clear and after the Internal institution innovation has overwhelmed 1.851 which is less than T tabular and P value is greater than the morale of the study. The formulation of a clear strategy thus has an impact on two dimensions and does not affect the first. So we accept this hypothesis.

➤ **Fourth hypothesis test result:** There is a significant impact of Knowledge management analysis on the innovation management of the Faculty of Economics University of Farhat Abbas Setif 1. Through the table we note that T value is less than T table= 2.01 between after the analysis of knowledge management and each dimension of management innovation (Internal institution innovation, Value

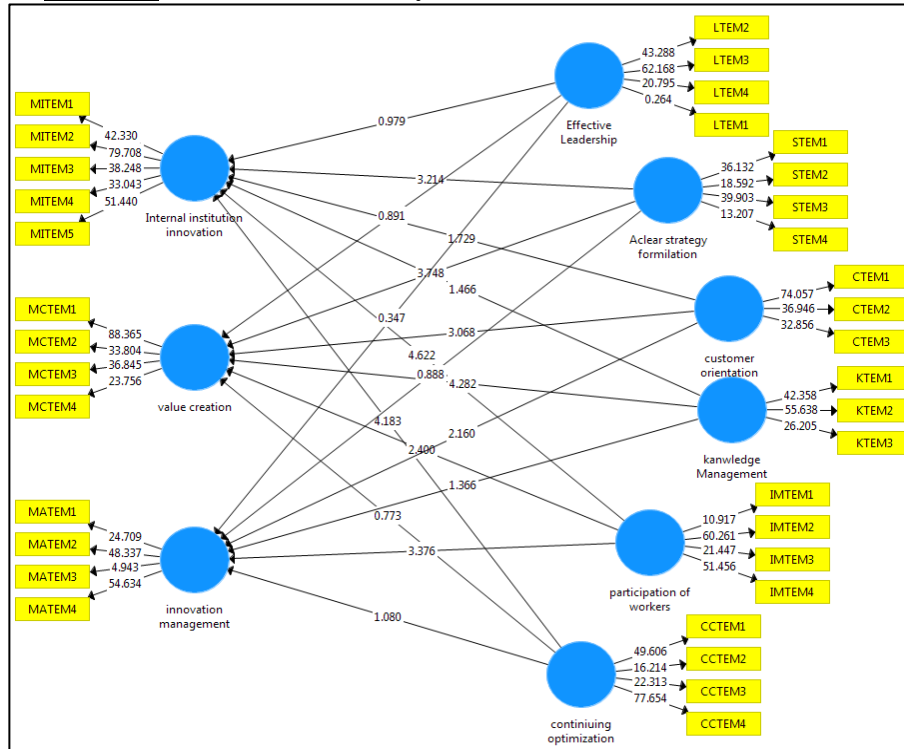
Creation, Innovation management) and P value is greater than the morale of the study 0.05. To the extent that T value between all knowledge management and after Value Creation binged 4.461 which is greater than T tabular and P value less than study morale. Thus, the impact of knowledge management analysis on two dimensions and its impact on the second dimension has not achieve. So We so reject this hypothesis.

➤ **Fifth hypothesis test result:** There is a significant impact of participation of workers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif 1 From the table we note that T value is greater than T table 2.01 between after the participation of workers and each dimension of management innovation (Internal institution innovation, Value Creation, Innovation management) and P value is less than the morale of the study 0.05 and so we accept this hypothesis.

➤ **Sixth hypothesis test result:** There is a significant impact of Continuous Improvement on the innovation management of the Faculty of Economics University of Farhat Abbas Setif 1. Through the table we note that T value is less than T table = 2.01 between after continuous improvement and each dimension of management innovation (Value Creation, Innovation management) and P value is greater than the morale of the study 0.05. To the extent that T value between both after continuous improvement and after Internal institution innovation is 4.175 and is greater than T tabular and P value below study morale. So, the impact of continuous improvement on two dimensions and its impact on the first dimension has not achieve So We so reject this hypothesis.

The product of the study model can illustrate by the Bootstrapin test, illustrated in the following figure, the correlation between total quality management practices and the dimensions of management innovation.

Figure 2: Results of the study model



Source: By researchers based on Smart pls 3 Bootstrapping

6-Analyze Results

The results of the study showed a significant impact of three comprehensive quality management practices (Formulating a clear strategy, customer orientation, employee participation) on management innovation (Internal institutional innovation, value creation, innovation management) This explains that the Faculty of Economics of Setif University applies these practices By providing staff with an opportunity to discover their talents and the freedom to carry out their tasks without restrictions, which creates value added for the organization. This by giving the professor the freedom to teach a measure in the latest ways such as the Information Systems Management Scale taught by learning the modern programming methods of the SQL language at the level of the state-of-the-art media halls, It also explains that comprehensive quality management practices affect the management of innovation. An institution that

adopts an encouraging strategy of creativity and innovation with a clear mission, vision and goal for all those involved in the College. The job force required in the labour market, i.e. the quality of the distinguished students required in the labour market whose guidance the professors have to guide them and which works to provide a suitable atmosphere for the work of the employees, whether administrative or professors.

Results have also shown that there is no significant impact of comprehensive quality management practices: (Effective leadership, knowledge management analysis, continuous improvement processes) on management innovation (Internal institutional innovation, value creation, innovation management). This explains that the Faculty of Economics has not yet lived up to the culture of an effective leader who manages the enterprise towards creativity and innovation, but still operates under the angle of laws and regulations to which the director adheres without the spirit of a leader who controls a path and directs the enterprise towards achieving its goals and who acts in difficult times. Also to the absence of a department in the Faculty of Knowledge Management that would take care of the human component, attract competencies and expertise and prepare the necessary infrastructure to bring the latest technical means, The level of continuous improvement in the College is still slow to the extent that most procedures are not done, making completion of the administrative procedures very difficult and tiring for the professors as well as the lack of budget geared towards improving the quality of education. So, comprehensive quality management practices are not applied in the College, which affects innovation.

Conclusion:

Quality is now an indispensable essential element not only at the product and service level but also encompasses all stages of the production process from process inputs to outputs that have been shortening in the term of comprehensive quality management education institutions to promote the education sector and improve the quality of its outputs, In this study, we took a sample of professors and administrators from the Faculty of Economics of Farhat Abbas University to examine the impact of applying comprehensive quality management practices on management innovation through which we



reached many findings and recommendations.

Results of the study: The study yellowed on the sentence of the results

- Hypothesis1: There is not a significant impact of Effective leadership on management innovation of the Faculty of Economics University of Farhat Abbas Setif1;

- Hypothesis 2: There is a significant impact of Strategy formulation on management innovation in the Faculty of Economics University of Farhat Abbas Setif1;

- Hypothesis 3: There is a significant impact of Orientation to customers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1;

- Hypothesis 4: There is not a significant impact of Knowledge management analysis on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1;

-Hypothesis 5: There is a significant impact of participation of workers on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1;

- Hypothesis 6: There is not a significant impact of Continuous Improvement on the innovation management of the Faculty of Economics University of Farhat Abbas Setif1.

Recommendations: Through the results of the study, we propose many proposals for the Faculty of Economics of Setif University.

- Encouraging international recruitment outside the country, i.e. recruitment of staff from diverse international backgrounds, which increases academic quality, research cooperation and diversity of perspectives;

- The dissemination of research in efficient international fields. This enhances the quality of the University's performance research and innovation, which shows distinctive scientific and research production;

Receiving international students and this enhances and reflects the University's ability to attract student talent from all over the world;

- Introduction of various methods and the latest technology methods for the university.

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