IDENTIFYING THE REALITY OF APPLYING SIX SIGMA STRATEGY FROM THE PERSPECTIVE OF ADMINISTRATIVE LEADERS IN COLLEGES OF UNIVERSITY OF BAGHDAD

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The present paper aims at identifying the reality of applying six sigma strategy from the perspective of administrative leaders in colleges of University of Baghdad and discovering the concept of six sigma. Thus, the descriptive analytical approach has been used in this paper and the research population is limited to head assistants and heads of academic departments in colleges of University of Baghdad. The sample of the study amounts to (88) individuals which can be divided into (30) dean assistants and (58) head of Departments. To achieve the results of the paper, instrument of questionnaire has been conducted which consists of (20) items that represent six sigma scale and this instrument has been verified by a group of specialized experts to approve its validity.

- The Statistical Processing

After the field Application on the research instrument has been completed, all information and data have been discharged and analyzed statistically by adopting manual discharge of open responses and using SPSS by means of Repetitions programme, Arithmetic mean and standard deviations to analyze the Results.

- The main reached results

- The First Aim

There is a weakness in applying six sigma strategy in colleges of university of Baghdad in which the average grade of the sample is about (16.634) degree and with standard deviation averaged (5.734) degree which is lesser than the theoretical Mean of the Questionnaire amounting to (60) degree.

- The Second Aim

According to the variable of the job title: The Results of that paper pointed out "there are no statistical significant differences which make the viewpoints are closer among responses of dean assistants and head of departments.

- Statement of the Problem

The sustainability and survival of any organization is conditioned on its continual ability to meet and satisfy the multiple Needs of society together with the quality of each service and produced product yet, this aim is not easy job to be fulfilled because there are many challenge each organization should face in the light continual increase and growing of information technology, globalization and the competitive feature among many organizations with different fields.

For this reason, all organization, especially educational ones, should go on searching on what is required including innovation , development, creativity, for the sake of achieving the quality of the outputs and society satisfaction. Thus, the administrative leaders in the educational system including college should exert efforts and hard work to develop, upgrade and promote their aims

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and objectives because they represent a moving societal system which can be changeable according to the Needs of the society concerning other business administration, the employers may achieve and they feel satisfied with the Results. It is found that many organizations especially educational ones start re-considering all that is produced or made in an attempt to meet the needs of the society and they are able to adapt with the latest developments.

Accordingly, the researcher, as being an administrative and a teaching member on university of Baghdad, has been a ware of the extent of the complexities and constraints that laws and regulations with its negative impact impeded employees' performance. As a result, the researcher tries to identify the extent of six sigma strategy in the administrative works so it is advisable to adopt comprehensive approach in processing all the aspects of the default and putting forward integrated approach that can take part in improving the quality of the outputs which is considered one of the most styles of quality management. (ie, six sigma style).

- Importance of the Research Paper

The modern era has been characterized by emerging many aspects of conflicts that can be distinguished by high degree of competitiveness prevailing different life fields among individuals or among organizations in order to meet the quality standards of the local and world markets and services and provide adequate returns. Thus, the rapid development in all fields urged all organizations including educational and academic ones in searching for methods, approaches and suitable strategies to achieve aims and objectives and to enhance the products and services. Consequently, the relationship of education and development in providing individuals with knowledge, experience and skills to make required changes towards developmental progress socially, economically, culturally and politically that are determined by the situations in society and the ability of education to make great changes which are associated with emerging societal culture to enable individuals to learn skills, knowledge and new trends and help to integrate the roles between higher education and society without recourse to education by itself. For this reason, it is necessary to upgrade and promote high performance and

standard quality which represent the optimal solution **(Ibrahim, 2010: 3)**. Accordingly, achieving aims in its lowest levels is not the ultimate purpose that individuals and organizations attempt to arrive at; yet, they seek to come to high level of work mastry, and perfect performance which are the desired purpose that all individuals and organizations attempt to reach as well as the hope that they aspire to accomplish. **(Taema, 2006: 51)**

Therefore the quality of educational organizations is the only hope each country tries to seek to build its economy since the report of the cooperative organization and the economic development has shown that the economic military and technological power for each state are associated with the levels of educational organizations together with its different ficus and the educational organizations have great importance than non-educational organizations because the former has different input and outputs and the latter achieves success depending on the educational organizations by means of preparing good individuals to be good teachers, good doctors or good security men...ete. **(Al-Ajamy, 2010: 95)**

Uhimately, the development of any organization is based on using six sigma strategy that participated in taking decisions, working hard by teamwork spirit, developing employees' abilities, increasing skills, granting many authorities which help to perform actively and profiently as well as the organizational framework should be flexible in that it relies on the open communication in all directions via networks as well as it is advisable to prevail and propagandize the culture of positive organization and keeping a way from centralization which a bids by the regulations and laws down to the distinction in the quality of service and presented or given product.

- Aims of the Research Paper:-

The current research paper aims at identifying:

1- The reality of applying six sigma strategy from the perspective of administrative leaders in colleges of University of Baghdad.

2- Are there any of statistical significant differences in applying six sigma strategy in colleges of University

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of Baghdad in the viewpoints of heads of academic departments according the following variables: Job titte (dean assistant, head of department).

- Limits of the Research Paper:-

The following research paper is limited to:

1- Human Limits: Dean assistants and heads of academic departments from both sexes (males and females).

2- Spatial Limits: colleges subsidiary to university of Baghdad - Flumanities.

3- Temporal Limits: The academic year (2017-2018).

- Terms Definitions:-

The current research paper aims at identifying:

1- The reality of applying six sigma strategy from the perspective of administrative leaders in colleges of University of Baghdad.

2- Are there any of statistical significant differences in applying six sigma strategy in colleges of University of Baghdad in the view points of heads of academic departments according the following variables: Job titte (dean assistant, head of department).

- Terms Definitions:-

1- Strategy: Can be defined as policies and important decisions that have been taken by the administrative leaders and they have a great impact on the productive performance as well as these policies and decisions cannot be changed easily.

(Al- Majlad, 2012:97)

2- Six Sigma: is a strategy for speeding up the improvements and reading up to the unprecedented performance inside the organization by delimiting the main mistakes, defects and shortcomings and finding solutions to eliminate them

(Evans&Lindsay, 2002:299)

A strategy may enable the organization to be optimal and active to a large extent controlling its basic processes and framework by designing and controlling the daily activities so that it can decrease the wastage and resource consumption and at the same time it can meet customers, Needs and satisfaction.

(Al-Barwary&Bashiwah,2011:360)

3- The Theoretical Definition of Six Sigma Strategy: It is a comprehensive philosophy the concerned leadership can perform and it involves policies, decisions and sound plans in order to achieve the aims and objective in a high quality and within a given time limit which enables the employees to provide flexibility and freedom in completing all works and being free from the constraints of central leadership and working towards according to comprehensive and collective vision that is consistent with the reality of given organization.

4- The administrative leadership: means the activities that people can do and the administrative leaders have been delimited in this paper and including the following:

1- Dean Assistant for administrative affairs and dean assistant for scientific affairs and dean assistant for students' affairs.

2- Heads of academic departments.

5- Operant Definition: Means the response of the administrative leaders represented (dean assistant and head of the department" towards the reality of applying six sigma strategy and it can be measured their responses on items of questionnaire and the obtained mark that represented the level of application of six sigma strategy.

CHAPTER TWO
THE CONCEPT OF SIX SIGMA

The concept of six sigma is considered one of the most important administrative concepts in the world of comprehensive quality management.

This concept appeared in the early 80's and achieved a wide spread circulation where many big world companies had adopted and applied it. The idea of six sigma lies in the fact that any organization that is able to measure the number of defects and it is also able to eliminate these defects since six sigma strategy contains a methodology and administrative philosophy that attempts to focus on the effort to get products and services that reach optimal mastery and quality and it is able to save time and cost.

The term sigma is derived from the Greek letter (σ) which refers to the concept of standard deviation where the difference in the processes and outputs can be measured by the amount of standard deviation is a statistical means that classified the extent of variance that existed in a group of data, a group of elements, thus the standard deviation can be expressed by the following equation:

$$\sigma = \sqrt{\frac{\sum (X - \mu)^2}{n}}$$

Where:

(X) = represents a certain value such as (Mass, length, time and money..... ect).

(μ) = represents the average value.

($\sum$) = represents big sigma and the arithmetic abbreviation of the total.

(n)= represents a number of elements.

(Goetesch& Davis, 2006: 28)

Accordingly, six sigma system depends on the increased Analysis of data and statistics to identify the areas of defects and shortcomings in procedures and products in order to solve them permanently as well as it attempts to decrease the percentage of errors into zero errors as much as possible. For this reason, six sigma

concept is a comprehensive strategy of principles and rules which are based on improving and developing the performance and providing all prerequisites that the employees need in order to achieve high quality results which are impeccable.

Or they are called (Zero-errors) in which the result meet the Needs of society and enable the organization to survive and compete a cording to global standards through which the quality of products can be measured.

- Importance of Six Sigma

All organizations and institutions attempt to improve and develop its performance and achieve its aims and objectives with high quality. Thus, the main aim of these organizations is the ability of administrative leaders to provide and develop all works and tasks to accomplish the promised aims by adopting new administrative methods and approaches that are consistent with the philosophy and the mission of the organization.

The process of reforming education in all countries has received a great attention, therefore, the global community considered the comprehensive quality and educational reform on the basis that they are two sides of the same coin in which the comprehensive quality is the real challenge which face the Nations in the decades to come.

(Ahmed, 2003: 9)

One of the most important developments that appeared within the comprehensive quality management was the term "six sigma" which forms a creative and strategic method that can be used with the instruments of comprehensive quality to raise the level of quality and to improve the processes of production and the reason behind finding six sigma is to improve the performance of processes to such a level that damaged work piece. **(amounts, 2005: 78)**

Therefore, the educational organizations are in dire need for a comprehensive strategy that is able to dispose all traditional methods and is able to figure at the changes and practices of the requirements of success. Accordingly, strategy of six sigma has the priority among many developed countries in its accreditation and providing suitable environment for work according to this strategy to ensure its success.

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- Stages of Applying Six Sigma Technique (DMAIC)

The (DMAIC) process is described as (an organized process that is based on data to solve practical problems and that include the following: **(Al-Qazaz, et al, 2009: 21)**

1- Performing limited activities in a limited context. (i.e., an organized process).

2- Collecting data in almost each stage to help take decisions. (i.e., based on data).

3- Making sure that the solutions that are used by teamwork will lead to eliminate all the causes of problems. (i.e., problem solving).

Al-Nuaimi et al (2009:244-245) pointed out that one the most important feauters of using DMAIC methodology is a means of problem- solving that include the following ponts:

1- Measuring problems by using DMAIC technique since the organization verified by using facts, by using facts and figures, validity of problem definition.

2- Customer- Oriented focus = The extrener customer is important even if the organization tries to reduce costs in the process of production.

3- Verification - based problem: By using six sigma technique - the organization can give facts and figures that prove the main causes of the problem.

4- Getting rid of previous habits: The resulted solutions out of this method should make real change that requires new and creative solutions.

5- Risk Management: Testing solutions and achieving them are integral part in the realm of six sigma and it is a logical issue.

6- Measuring: Following up any solution should be done by measuring the Actual impact of these solutions which are supported by FACTS.

7- Continuous change: Even the best solutions that we come to by using DMAIC Die out quickly unless they are supported and followed - up. Thus making changes is the basic element for this developed method to solve problem.

- The Principles of Six Sigma Technique

The principles of six sigma is based on the three basic levels represented by zero bound, middle bound, and

maximum through which this property can be achieved as shown in Figure (1). To achieve this, several policies should be adopted. These policies include the following: **(Al- Barwary and Bashiwa, 2011:361)**

1- Taking decisions on the basis of facts and accurate data (Facts-based administration) and six sigma used statistical tools such as Histograms pare to Diagram, Flowchart and shewhart cycle.

2- Focusing on processes and internal Activites - which refer to any activity the organization performs.

3- Active administration which is based on previous planning since this technique can transfer reaction administration into processing problems before occurrence.

4- Unlimited cooperation between the employees of the organization to achieve the promised aims and depending on the Teamwork and keeping away from illegal competition.

5- The continuous improvement by using a process of Focusing on the priorities and taking initiative of tow number and more efficiency (pare to principle the tow of the tools are (PDCA) and (DMAIC).

6- Complete participation: This technique stressed the participation of every individual in teamwork and the importance of uncenteralized communication and horizontal communication.

7- Prevention instead of inspection which exhausted human and financial powers.

Figure (1)

Shows the principles of six sigma
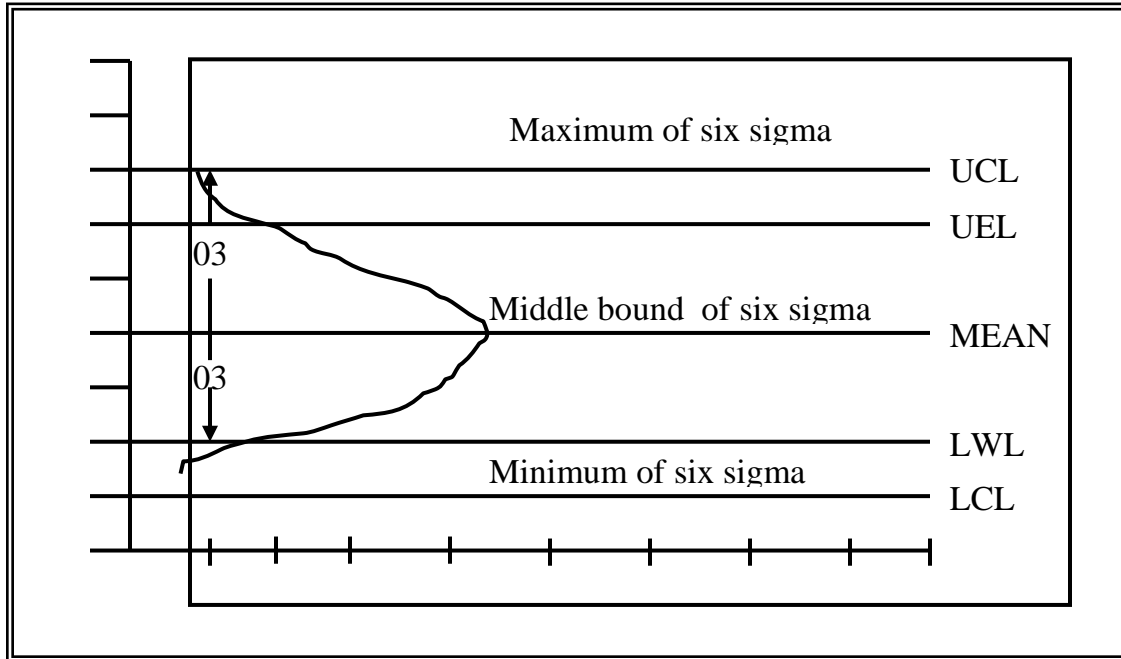
Applications of Six Sigma Strategy in Educational Organizations

The application of six sigma strategy proved its positive Results in achieving the competitive position of a number on industrial organizations, and the owners of these organizations confirmed that the application of six sigma strategy is the best and optimal strategy to do business. Thus, the industrial organizations and the institutions of higher education take the responsibility for learning six sigma strategy and apply it as a new approach and method.

(Astitia, Sarhan, 2008: 102)

This fact led many institutions of higher education to adopt six sigma strategy as an approach and methodology. And that there are many reasons that motivated these institutions to do so. These reasons include the following: Diversity of aims and objective of higher education institutions together with its pluralism (For profit and non- profit institutions). There an urgent need for application this strategy in higher education institutions, and appearance of new patterns of these

Institutions (Organizations, Collaboration Company, Multi Nationalities Institutions) Diversity of learning environment (colleges, universities, learning centers, public library). Diversity of level of certificates and granted study qualifications.

(Darbas, 2004: 108)

Accordingly, higher education institutions attempted to adopt six sigma strategy to develop and promote the educational system by adopting new standards of accreditation and that applying six sigma strategy would necessitate the following:

1- Improving the overall situation of institutions in a way that these institutions are qualified enough to apply basic change strategies to transfer towards applying six sigma strategy.

2- Planning to conduct comprehensive training programmers in the educational of administrative staff and teaching members.

3- Adopting new programmers to develop and rehabilitate employees relating to their ideas, stances and viewpoints towards the process of change.

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4- Re-defining the role of educational together with their aims, objectives, duties and obligations in a way that is consistent with six sigma strategy.

- Six Sigma Objective

One of the main important objectives of applying six sigma strategy in the productive and service institutions is to develop and promote the outputs or supplied services in general with decreasing the costs and saving efforts and time to improve the services submitted to the customers or the end users. Thus the main objectives the institutions attempted to achieve can be summarized as attempted to achieve can be summarized as follows:

1- Decreasing the costs of production with the continuous development to achieve high level outputs.

2- Investing the operational courses time and compensating the lost time.

3- Developing new tools of measurement for performance and quality.

4- Eliminating all types of defects and shortcomings and achieving the high value of constumers' satisfaction.

(Al- Barwary & Bashiwa, 2011: 359)

Six sigma methodology aims at keeping the workers away from the deviation out of the right trade of the deviation out of the right trade of the productive process and this can be achieved by limited process to solve the problem. This process is called (DMAIC) by urging and encouraging the workers and training them to use this technique in order to define and solve the problem that prevented institutions from achieving its objectives in that the general is by approaching the zero defects as much as possible in the six sigma methodology which can be rendered to a statistical digitil number which is (3.4) defect for million opportunity (DPMO) which came close to eliminate the defects out of the process by means of decreasing the deviation in all the processes and the overall performance will improve as well as it enables the institution.

(Russell & Taylor, 2009: 72)

Similarly, park (2003:5) holds that the main aim of six technique is to improve the performance of the

processes by means of the improved processes; there fore, the institutions tries to achieve three basic achievements they are as follows:

1- Decreasing costs.

2- Improving costumers' satisfaction.

3- In creasing Income and profits.

- Reviews of the Literature

Al- Shaman study (2005)-Applying six sigma technique in the educational Field. The current study is concerned with applying six sigma technique in the educational field in the kingdom of Saudi Arabia via identifying the concept of six sigma together with its components, features and importance as for the administrative leaders. The problem of the study can be summed up through this question. To what extent is it possible to apply and develop six sigma technique in the educational Field in the kingdom of Saudi Arabia ?

- The Study Showed the Following Results:

Six sigma technique is a direct extension to the comprehensive quality management since it is a comprehensive system that attempts to achieve a new stage without any defect in the production of the Institution to satisfy consumers by decreasing costs, increasing profits and getting rid of losses. as well as six sigma focused on the continuous development of quality.

The main recommendations that should be forward are as follows:

Working on presenting training programmers which introduced educational leaders from different levels and identifying the Needs and desires of the beneficiary parties.

(students, parents and guardians, labor market-society) continuously and exerting efforts in achieving these objectives.

-Al- Ghamady Study (2015)

The reality of elements of successful Application of six sigma technique to develop the administrative performance in the Saudi universities in the perspective of Administrative and academic leadership.

The current study aims at identifying the reality of applying six sigma strategy to develop the administrative

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performance in the Saudi universities in the perspective of academic leaderships. The descriptive Approach has been used to achieve the given aims and objectives. The sample of the study consists of (624) leaders of academic Administrative leadership in universities of king Khalid and Ummalqura for the academic year 2015. The questionnaire has been used in collecting data for the purpose of the present study.

The study has come up with a cluster of Results:

1- The degree of Availability of the elements of applying six sigma strategy to develop the administrative performance in Saudi universities in the perspective of academic Administration leaderships has amounted to Average degree.

2- The degree of the importance of the elements of applying six sigma strategy to develop the administrative performance in the Saudi universities in the viewpoints of the academic administrative leaderships has amounted to very high degree.

The Following recommendations have been put forward:

1- It is necessary to coordinate among the Saudi universities with the aim of exchanging experience and guidance programmers which led to achieve the elements of applying six sigma strategy to develop the administrative performance in the Saudi universities.

2- It is necessary for Saudi universities to adopt a scale of administrative performance by applying six sigma strategy to develop the administrative performance.

- Ismael Study (2011)

Six sigma strategy is a distinct approach to improve the quality of higher education/ College of Management and Economics.

The following study aims at drawing frameworks of a theory that gives a conceptualization about six sigma and its methodology as a distinct approach in Higher Education which included new concepts such as the comprehensive quality.

Using The Descriptive - Analytical Approach

The descriptive - analytical approach has been used in this study and the study reviewed the possibility of applying six sigma strategy in the field of higher Education via defining the necessary steps as well as responsibilities towards carrying out this strategy. The study comes out to the following findings:

1- The concept of six sigma is one of the modern concepts that has been used in quality assurance management which is based on the principle of achieving distinguished levels of quality by decreasing defects to (4-3) per million chance.

2- The concept of six sigma has acquired a number of features for Higher Education Institutions including improving the performance and simplifying the standing operating procedures and improving the quality levels in universities.

3- Applying the concept of six sigma in the institutions of higher education requires much more support, effort, and participation of all concerned parties.

In the light of above mentioned, A cluster of recommendations has been drawn up:

1- Resorting to six sigma Approach in processing and solving problems has attained students, approval and transferred from the early stages up to the graduation. Thus, they moved a way dimensions, and traditional routines since the crisis of education is multiple and it is hard to override these problems unless we focus on the students, teaching and Administrative part.

2- Working on spreading the philosophy of six sigma strategy among departments of the universities and making sure that this concept has been taught in these universities to achieve high levels of quality.

CHAPTER THREE
RESEARCH METHODOLOGY AND PROCEDURES

The following chapter includes the procedures, methodology, research population as well as choosing the suitable sample and the procedures of establishing the research instrument to identify the reality of applying six sigma strategy in college of university of Baghdad in the perspective of assistants and heads of academic departments and the main adopted statistical tools in analyzing and processing Data. The following is the description of these procedures:

1- Research Population

The population of research paper consists of Dean Assistants (Administrative, scientific and students' Affairs) and heads of academic departments in colleges of university of Baghdad for the academic year (2017-2018) amounting to (110) distributed into (13) college of humanities. The number of assistants are (39) and heads of departments are (71) as shown in table (1).

Table (1)

Distribution of individuals of research population out of Dean Assistants and Heads of Academic departments in college of university of Baghdad according to Gender and Academic title

university	Dean Assistant				Total	Head of Department				Total	General Total
	gender	Academic title				gender	Academic title				
		Instructor	Assist. Prof	Professor			Instructor	Assist. Prof	Professor		
Baghdad	Male	3	22	3	28	Male	12	33	8	53	
	Female	1	7	3	11	Female	2	8	8	18	
Total		**4**	**29**	**6**	**39**		**14**	**41**	**16**	**71**	**11**

2- Research Sample

The stratified random sample has been used in this study where (80%) of the original population has been selected randomly.

The sample of the research paper has been chosen from Dean Assistants and Heads of academic departments in colleges of University of Baghdad with its Humanities according to the gender (male-female) and academic title (Instructor - Assist. Prof Professor). Their number has amounted to (88) individuals distributed into (30) Dean Assistants and (58) Heads of departments.

Table (2) shows the distribution of the sample according to the variables of the paper.

Table (2)

Distribution of individuals of the sample out of Dean Assistants and Heads of Academic departments in college of University of Baghdad according to Gender and Academic title

university	Dean Assistant				Total	Head of Department				Total	General Total
	gender	Academic title				gender	Academic title				
		Instructor	Assist. Prof	Professor			Instructor	Assist. Prof	Professor		
Baghdad	Male	2	18	2	22	Male	10	34	6	50	
	Female	2	3	3	8	Female	2	3	5	8	
Total		**4**	**21**	**5**	**30**		**12**	**37**	**11**	**58**	**88**

3- Research Instrument

To achieve the objectives of the following research paper, A questionnaire has been used as an instrument to achieve the objective of the paper and it is also used to collect necessary information.

- Steps of Establishing an Instrument of Questionnaire

Sources of Establishing items of questionnaire. This instrument has been established after performing many procedures that have worded its different items.

Having reviewed a number of previous educational questionnaires (Arabic-Foreign) of relevant to six sigma strategy.

A group of experts and specialists in the field of educational administration has discussed this questionnaire and they approve its face validity and they come to agreement that some of the items should be omitted and some of them have suggested that some modifications should be made and thus the number of the items have amounted to (20) items.

- Answer Options and Grades

Five- point graduated scale has been adopted where it can give ample freedom to the respondents to choose the suitable options and alternative are as follows:

(I agree to very large large extent-I agree to large extent-I agree to a Medium degree- I agree to little extent. I do not agree to very little extent).

The Face validity has been achieved by means of showing the questionnaire by its primary fashion on a group pf referees and specialists in the Administrative and educational fields and asking for their options about the fields of the questionnaire and its items in terms of clarity in wording and suitability to Measure the field in which it belongs to as well as the ability to add and delet wanted or unwanted items.

The ratio of referees' approval has come to (80%) which indicates that it has a complete validity since the items is valid if it has approved by six referees. Thus, some items have been modified and re-worded but haven't deleted.

- Reliability

For the purpose of checking the indices of the reliability, a sample of (20) individuals has been selected and the researcher has used reliability test on the sample of reliability and the period between the first application and the second application was (20) days. After completing the two applications, Answers have been analyzed and grades of questionnaire have been calculated by using Pearson correlation coefficient. The values of reliability coefficient have amounted to (0.83).

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- Instrument Application

After checking the validity of the instrument, the questionnaire has been distributed on the individuals in the period (20/2/2018) up to (20/5/2018).

- Statistical Methods

The statistical package for the social sciences has been adopted for the purpose of checking the objective of the research paper and doing all statistical processes that are required as follows:

1- Pearson correlation coefficient.

2- T-test for one sample.

3- T-test for two independent samples.

CHAPTER FOUR

This chapter is concerned with showing results according to data and statistical processes and explaining and discussing them in accordance with the aims of the research paper.

- The First Aim

The first aim is to identify the reality of applying six sigma strategy in colleges of university of Baghdad from the perspective of the administrative leaders by using the special instrument of six sigma together with its items and after applying it on the sample and calculating the repetitions of sample answers As to the questionnaire as a whole and the theoretical Mean of the instrument has been adopted.

- The Total Degree of the Questionnaire

The Average of the degrees of the sample individuals amounted to (88) respondents on six sigma questionnaire coming to (16-634) degrees and with standard deviation of about (5.734) degrees which smaller than the theoretical average of the questionnaire amounting to (60) degrees. T-test has been used to identify the significant differences between the two Averages of one sample and the calculated T-value has come to (3.564) which is larger than the tabulated T-value am outing to (1.98) at the level of significance of about (0.05) and with degree of freedom of about (87) as shown in table (3).

Accordingly, the difference between the two Average is of statistical significance in favor of the theoretical Average of the questionnaire and this Result refers to the weakness of applying six sigma strategy in colleges of University of Baghdad in the perspective of dean Assistants and heads of Academic departments.

Table (3)
Results of T-test of one Sample of Individuals Degrees According to Six Sigma Strategy

Six Sigma	Number of Sample Individuals	Asthmatic Mean	Standard Deviation	Working Mean	T-Value		Level of significance
					Calculated	Tabulated	
	88	16.634	5.734	60	3.564	1.98	significant

It is clear from the results of the first aim that the reality of applying six sigma strategy was weak in the view points of dean assistants and heads of academic departments in colleges of University of Baghdad. This means that the sample individuals have similar views towards the reality of leadership in colleges of University of Baghdad and that they have also the same idea about applying six sigma strategy which indicates that the level of applying six sigma strategy has not come to the level of ambition.

(Al-Anazy et al., 2014: 241)

- The Second Aim

For the purpose of achieving the second aim, the question is that Are there any differences of statistical significance in applying six sigma strategy in colleges of university of Baghdad in the view points of dean assistants and heads of Academic departments according to the following variables:

Job title (dean assistant, head of the department), T-test has been used for two independent samples as shown in table (4)

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Table (4)
The Arithmetic Mean, Standard Deviation, the Calculated T-value and the Significant Differences of Six Sigma According to the Job Title

Job title	Number of Sample	The Arithmetic Mean	Standard Deviation	T-Value		Level of significance
				Calculated	Tabulated	
Dean Assistant	30	5.343	9.355	1.76	1.98	significant
Head of the Department	58	134.342	16.212	-	-	0.05

Table (4) shows that there are no differences of statistical significance and the calculated T-value has amounted to (1.76) which is smaller than the tabulated T-value which amounted to (1.98) at the level of significance of about (0.05) and with degree of freedom of about (86) and that indicates that the deans have fixed style in managing colleges which made the viewpoints are convergent between the answers of assistants and heads of the departments. It is clear that the application of six sigma strategy in a successful way required putting forward clear and flexible plans that can be applied in critical situations and these plans should have drawn according to the educational objectives. **(Al-Taee, 2007: 104)**

CHAPTER FIVE
CONCLUSION, RECOMMENDATION AND SUGGESTIONS
FOR FURTHER READINGS

Conclusion

Results showed that the reality of the Application six sigma strategy was weak in colleges of university of Baghdad and this can lead to a group of findings:

1- Failure to follow intensive training programmers which curb the workers' abilities in identifying the new and modern administrative methods.

2- Technology has a great impact in investing time and decreasing mistakes.

3- The top administration has a great role in stabilizing the culture of dealing with modernization.

4- Failure to adopt fixed standards in judging and assessing the results of distinguished performance.

5- Workers have no clear mechanism to achieve the desired aims and objectives.

6- Confidence has a great role in creating motivation and taking responsibility by workers.

7- The Administrative method and style has a great impact in establishing decentralized system in a distinguished performance.

Recommendation

1- Making rules, laws and regulations more flexible with six sigma strategy.

2- Adopting accredited and fixed standards in judging and assessing outcomes and operating results.

3- Getting interested in using and developing strategic planning methods in different leaderships.

4- Adopting six sigma strategy as a new administrative way that help institutions to cope with external and internal environment.

5- Adopting modern systems of informatics technology and communication for providing DATA and information of six sigma requirements.

Suggestions for Further Readings

1- Conducting a similar study of the current study of colleges of university of Mustansiriyah.

2- Conducting a similar study of six sigma reality which has something to do with institutional relationship in university of Baghdad.

3- Conducting a study of technology of Administration of time in improving the educational process in the secondary schools.

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APPENDIX (1)

University of Baghdad

College of Education Ibn Rushd for Human Science

(Questionnaire in its Final Formula)

Dear Mr. Dean Assistant

Dear Mr. Head of the Department

Greetings,

The researcher would like to prepare a study entitled **(The Reality of Applying Six sigma strategy in the perspective of Administrative leaderships in colleges of University of Baghdad)** I would like to seek the help of your options in specifying the degree of Applying each item of questionnaire items, and to quest that you kindly answer the items with accuracy and objectivity by placing mark (✓) in the column that you view suitable from your view point.

Note: Kindly mention the following in formation without giving names.

* Gender   Male   ☐   Female   ☐

* Academic title   Prof. Assist   ☐   Prof.   ☐   Instructor   ☐

With abundant thanks and appreciation

No.	Items	I Agree				
		Very high Degree	**High Degree**	**Medium Degree**	**Low Degree**	**I don't Agree with vary low Degree**
1	The college was able to raise the level of the used technology in the administrative processes.					
2	The college adopts index performance & Success to assess its performance.					
3	The college attempts to reduce the necessary time to achieve work.					
4	The college is concerned with stage of measurement to avoid repeating defects.					
5	The college is continuously assessing its performance.					
6	The college seeks sources and positions of deviation to identify the origins of the problem.					
7	The college identifies the gaps and works on its processing.					
8	The college seeks to expend the basis of participation in making & taking decisions.					
9	The college administration develops the spirit of leadership and innovation among all workers.					
10	The college identifies the plum of new students admission according to the capacity of each department in the college.					
11	The college urges the scientific research through the active participation in the sciatic					
12	The college makes continuous innovations even if there are no problems.					
13	The college attracts people of experience outside the college.					
14	The college urges computers specialists to invent developmental projects.					
15	The college encourage the use of the internet to exchange information among departments & administrative sections.					

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No.	Items	I Agree				
		Very high Degree	**High Degree**	**Medium Degree**	**Low Degree**	**I don't Agree with vary low Degree**
16	The college is based on the informative technology to reduce case of corruption.					
17	It works on attracting the experts, consultants in the field of 6 sigma.					
18	The college adopts regulations to ensure sustainability of innovation performance.					
19	The college stresses on adopting mechanisms of carrying out six sigma strategy.					
20	The college analyzes differences between the status and targeted quo (situations).					