

### ملحق رقم (3)

#### ABSTRACT

#### **The application of Six Sigma and its role in achieving competitive advantage**

#### **"Field Study in Jordanian Industrial Companies"**

By

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The aim of study is to explore the Six Sigma ( $6\sigma$ ) dimensions (management commitment and support, customer focus, employee involvement, DMAIC cycle, and continues improvement) and its role in achieving competitive advantage (cost leadership, operational excellence, and reputation) in the Jordanian industrial companies. In addition, the study sought to identify the benefits and obstacles achieved by applying the Six Sigma approach, as well as to investigating the significant statistically effect of two mediator variables (working experience, and training programs) on the relationship between the Six Sigma dimensions and competitive advantage. The sample selected based on the purposeful sample method. This sample consisted of employees in four companies, which apply the six-sigma approach. These companies are Hikma Pharmaceuticals PLC, Jordan Modern Ready Mix Concrete Co, National Press, and Perfect Printing Press. The number of distributed questionnaires was 160 questionnaires (40 questionnaires per company), while the number of returned questionnaires was (115). The questionnaire consisted of five sections: the demographical and functional data, benefits and obstacles of applying of six-sigma approach, items of six sigma dimensions, and items of competitive advantages. The statistical package for social sciences (SPSS v19) program has been

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used in the implementation of the required tests in the field study. To test hypotheses of the study, the correlation (R) and determination ( $R^2$ ) coefficient was used to determine the relationships between the independent and the dependent variables, and the regression analysis was applied to determine the effect of independent variables on dependent variables. According to the field study, many conclusions have been reached:

- 1- Rustles of study emphasized the importance of the five dimensions of Six Sigma, and the ranking of these dimensions according to its importance were continues improvement, management support and commitment, customer focus, employee involvement, and DMAIC cycle.
- 2- There is a statistically significant effect of the Six Sigma dimensions ( $6\sigma$ ) (management commitment and support, customer focus, employee involvement, and continues improvement) on cost leadership.
- 3- There is a statistically significant effect of the Six Sigma dimensions ( $6\sigma$ ) (management commitment and support, customer focus, employee involvement, and continues improvement) on operational excellence.
- 4- There is a statistically significant effect of the Six Sigma dimensions ( $6\sigma$ ) (management commitment and support, customer focus, employee involvement, and continues improvement) on company reputation.

According to the results of the study, the researcher presented a number of recommendations that can be used by management in these companies (sample of the study) to improve the application of the six sigma, as follow:

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- 1- The study recommended that it is important to maximize the benefits of applying Six-Sigma by utilizing the significant benefits of this approach, which relates to the cost reduction, and elimination of defects/errors to maximize customer satisfaction.
- 2- The management of companies invited to provide and allocate the necessary financial resources to use and develop the Six Sigma approach.
- 3- This study emphasizes the importance of periodic and continuous evaluation of the outputs of the Six Sigma to ensure that the desired performance objectives are achieved.
- 4- Improve the methods and practices of customer service through effective response to their needs and desires by companies that apply the six-sigma approach and consider this response as an indication of success or failure to apply this approach.
- 5- The management of companies should pay attention to providing an appropriate organizational culture to implement the Six-Sigma approach through the following:
  - Determines the causes of problems, and consider them as potential opportunities for improvement.
  - Directing the employees to perform the work correctly from the first time and every time and in a timely manner.
  - Continual improvement of processes in order to provide products with zero defects.
  - Encourage the employee's teamwork and motivate them morally and financially.