


**THE EFFECT OF QUALITY FUNCTION DEPLOYMENT (QFD) IN ENHANCING
CUSTOMER SATISFACTION**

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 21 November 2022</p> <p>Accepted 30 January 2023</p>	<p>Purpose: The purpose of this study is to examine the effect of the quality function deployment as a philosophy of quality assurance based on listening to the customer's voice and transforming his demands into technical requirements in order to achieve customer satisfaction. In addition, the tool opens the doors for continuous improvement of the organization's operations to reach a competitive position that gives it success and sustainability.</p>
<p>Keywords:</p> <p>Quality Function Deployment; Customer Satisfaction; Quality Assurance.</p>	<p>Theoretical framework: The study is concerned with the quality function deployment as a new way of the higher administration to replace the traditional focus on findings by adopting new approach throughout the reducing the efforts and time to redesigning and presenting the product that satisfy the actual need of the customer.</p> <p>Design/Methodology/Approach: To achieve the aims of the study, a questionnaire of 24 item has been used. The sample included 60 individuals from various parts of the organization. According to the purpose of the study, two main hypotheses were formulated. A set of statistical methods of the SPSS vr.24 has been used.</p>
	<p>Findings: It is concluded that there is a significant impact relationship between the quality function deployment and customer satisfaction.</p> <p>Research/Practical/Social Implications: The study is regarded as a an administrative, social and technical system in order to achieve customer's satisfaction.</p> <p>Originality/Value: The value of the study is that it is an attempt to draw attention to the necessity of adopting the quality function deployment as a philosophy of quality assurance and reinforcing it as a part of the organization culture for the sake of the improvement and supporting the competitive aspect.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i1.1156</p>

**O EFEITO DA IMPLEMENTAÇÃO DA FUNÇÃO QUALIDADE (QFD) NA MELHORIA DA
SATISFAÇÃO DO CLIENTE**

RESUMO

Objetivo: O objetivo deste estudo é examinar o efeito da implantação da função de qualidade como uma filosofia de garantia de qualidade baseada na escuta da voz do cliente e na transformação de suas exigências em requisitos técnicos, a fim de alcançar a satisfação do cliente. Além disso, a ferramenta abre as portas para a melhoria contínua das operações da organização para alcançar uma posição competitiva que lhe dê sucesso e sustentabilidade.

Estrutura teórica: O estudo se preocupa com a implantação da função de qualidade como uma nova forma da administração superior para substituir o foco tradicional nas descobertas, adotando uma nova abordagem ao longo da redução de esforços e tempo para redesenhar e apresentar o produto que satisfaça a necessidade real do cliente.

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Design/ Metodologia/ Aproximação: Para atingir os objetivos do estudo, foi utilizado um questionário de 24 itens. A amostra incluiu 60 indivíduos de várias partes da organização. De acordo com o objetivo do estudo, duas hipóteses principais foram formuladas. Um conjunto de métodos estatísticos do SPSS vr.24 foi utilizado.

Conclusões: Conclui-se que existe uma relação de impacto significativo entre a implantação da função de qualidade e a satisfação do cliente.

Pesquisa/ Implicações práticas/sociais: O estudo é considerado como um sistema administrativo, social e técnico a fim de alcançar a satisfação do cliente.

Originalidade/Valor: O valor do estudo é que é uma tentativa de chamar a atenção para a necessidade de adotar a implantação da função de qualidade como uma filosofia de garantia de qualidade e reforçá-la como parte da cultura da organização em prol da melhoria e apoio ao aspecto competitivo.

Palavras-chave: Desdobramento da Função de Qualidade, Satisfação do Cliente, Garantia de Qualidade.

EL EFECTO DEL DESPLIEGUE DE LA FUNCIÓN DE CALIDAD (QFD) EN LA MEJORA DE LA SATISFACCIÓN DEL CLIENTE

RESUMEN

Propósito: El propósito de este estudio es examinar el efecto del despliegue de la función de calidad como filosofía de aseguramiento de la calidad basada en escuchar la voz del cliente y transformar sus demandas en requisitos técnicos para lograr su satisfacción. Además, la herramienta abre las puertas a la mejora continua de las operaciones de la organización para alcanzar una posición competitiva que le otorgue éxito y sostenibilidad.

Marco teórico: El estudio se ocupa del despliegue de la función de calidad como una nueva forma de la administración superior para sustituir el enfoque tradicional en los resultados mediante la adopción de un nuevo enfoque a lo largo de la reducción de los esfuerzos y el tiempo para rediseñar y presentar el producto que satisfaga la necesidad real del cliente.

Diseño/ Metodología/ Enfoque: Para alcanzar los objetivos del estudio se ha utilizado un cuestionario de 24 ítems. La muestra incluía a 60 personas de distintas partes de la organización. De acuerdo con el objetivo del estudio, se formularon dos hipótesis principales. Se ha utilizado un conjunto de métodos estadísticos del SPSS vr.24.

Resultados: Se concluye que existe una relación de impacto significativo entre el despliegue de la función de calidad y la satisfacción del cliente.

Implicaciones de la investigación/prácticas/sociales: El estudio se considera un sistema administrativo, social y técnico para lograr la satisfacción del cliente.

Originalidad/Valor: El valor del estudio radica en que es un intento de llamar la atención sobre la necesidad de adoptar el despliegue de la función de calidad como filosofía de garantía de calidad y de reforzarlo como parte de la cultura de la organización en aras de la mejora y el apoyo del aspecto competitivo.

Palabras clave: Despliegue de la Función de Calidad, Satisfacción del Cliente, Garantía de Calidad.

INTRODUCTION

In the midst of the changes, the information revolution, and competition in the business environment, characterized by a high degree of complexity and creative chaos, the need has emerged to adopt modern methods, tools, programs and practices to meet these challenges, and to contribute to a qualitative leap in the nature of the organization's products, enabling it to increase customer satisfaction and retention, and increase the potential of them, including evaluating its competitive position and increasing its market share in a way that serves the individual, the organization and society. One of the most important approaches in this is to QFD as a system for translating the customer's voice into products that meet or exceeds his expectations. The study's problem focused on the extent of the impact of QFD in enhancing customer satisfaction in the research sample organization. The objectives of the study were

summarized in: Shedding light on the concept of QFD as a system that transforms the customer's voice into products that meet his needs and expectations, and Examining the effect of QFD in enhancing customer satisfaction, as well as Detecting the customer satisfaction level with the organization providing services, Finally Study and analyze the relationship between QFD tool and customer satisfaction in the aforementioned organization. The researchers used the questionnaire method mainly to collect data and applied information.

LITERATURE REVIEW

First: Quality Function Deployment (QFD)

Implementing the quality Function Deployment Tool Represent a challenge and an opportunity for senior management to replace the traditional focus on results with a focus on how to achieve results by reducing effort and time spent to redesign and deliver a product that meets the actual needs of customers (Al-Maamouri & Al-Mousawi,2009:28). Its philosophy is centered on the art of listening to and understanding the consumer in order to define his needs and expectations by enhancing the product's qualities in order to attain wide satisfaction.

QFD is a philosophy that begins with planning and communication tools that focus on the customer's basic requirements in coordinating product design, manufacture and marketing. (Evans,1993:176)

QFD can be described as a method for quality planning and improvement and an entry point for identifying customer needs and turning them into quality planning activities during the product and process design and development phases. (Plura,2001:1)

QFD can be defined also as a specific method in which the customer's requirements are translated into appropriate technical requirements at every stage of product design, development and production.it is often referred to as listening to the customer's voice, which is the cornerstone of the QFD process. (OPS,2002:16)

It is a systematic method that focuses and identifies capabilities within the organization to design, manufacturing and market the products desired by the customer through designing products that reflect the preference of the target customer. (Juda,2004:58)

QFD as a system related to convert current and expected customer requirements into specifications that suit the organization at every stage of production. This includes the product design and development, the production process as well as the distribution and use of the product by the customer. (Waller,2003:103)

While Kragewski & Ritzman (2005,71) see QFD as a means of translating basic customer requirements into technical requirements appropriate to each stage of product development and production.

Al-Maamouri & Al-Mousawi (2009:30) believe that QFD is a systematic approach to product development and continuous improvement of the process by converting customer requirements (customer's voice) into technical requirements and quality specifications for product design and spreading this through all stages of the production process, Through the cooperation of various related functions to provide value that ensures customer satisfaction and then retains it.

We can conclude from the above definitions that QFD is a quality assurance philosophy based on listening to the customer's voice and transforming his requirements into appropriate technical requirements with the aim of achieving and maintaining broad satisfaction.

Advantages and Benefits of QFD

The advantages of posting a quality job can be summarized as follows (Russell & Taylor, 2000: 208-209):

1. Better understanding of customer requirements.
2. Breaking down barriers between jobs with horizontal integration.
3. Involving manufacturing personnel in the design process and creating a database for future designs.
4. Encouraging communication between team members.
5. Reducing development time in order to introduce new products to the market in a shorter time.
6. Achieving the best customer satisfaction as a result of enhancing product reliability and improving its quality.
7. Control over the economical plant.

The implementing the QFD results in a number of benefits that can be summarized as follows: (Al-Taie, et al., 2004:116)

1. Reducing internal and external defective and failure costs.
2. Meeting consumer needs and surpassing them even further.
3. Comparing product with competing products.
4. Developing continuous improvement of production processes and procedures.
5. Achieving the competitive advantage.

6. Defining the decision maker with the characteristics that are most important to the consumer.

there are other benefits associated with the product, the process, or the organization as a whole: (Al-Faihan, 2007:93-94)

Tangible benefits

1. Reducing engineering design changes, especially those occurring at the last minute or after the product has been placed on the market, to reduce display problems.
2. Shortening the waiting time as a result of the smooth flow in all stages of production to reduce the time for designing and developing the product and then the time required to introduce a new product to the market, that is, to speed up the development cycle.
3. Enhancing design reliability and improving product quality.
4. Reducing design and production costs and ensuring better first time manufacture.
5. Increasing the market share and raising the return on investment.

Intangible benefits

1. Documenting and Improving the product and process design and development process.
2. Create a valuable comprehensive technical knowledge base for better quality planning.
3. Coordination and homogeneity between customer requirements in the design stage and product and process characteristics in later stages.
4. Provide a framework and facilitate the task of engineering teams while enhancing team work and inter-job communications.
5. Improving focus.
6. Identifying and improving the competitive position by benchmarking and accelerating the improvement of future products.
7. Increase customer satisfaction.

Success requirements of QFD

The success of implementing QFD hinges on providing the following inputs (GU, et al., 2003: 4-7):

1. Knowing the true voice of the customer for the success of applying QFD.
2. Time, effort and patience.
3. Teamwork and team building with specialized functions that include marketing, research and development, design, planning, quality and manufacturing.
4. Full support from the administration to create the tool to achieve the benefits of the application.
5. The importance of the required exchanges between contradictory goals to achieve a high degree of coordination among team members.
6. The importance of the systems used in the product development process.
7. Defining the problem and its aspects to shorten the time.

Second: Customer Satisfaction

The increasing complexity of the environment surrounding the organization, the increasing level of competition, the breadth of markets and the diversity of their characteristics compelled organizations to rethink the concepts they use, including customer satisfaction, because it contributes to increasing market share and return on investment.

Customer satisfaction is the result of an interactive system of three parts: the organization's operations, customer expectations, and human resources. (Ross, 1995:207)

The customer satisfaction is the degree to which the customer perceives the extent of the effectiveness of the organization in providing products that meet his needs and desires. (John & Hall, 1997:7) it is the judgment of satisfaction or lack of it which is resulting from a comparison of the customer's expectations regarding the quality of the service purchased and the performance and quality of the actual service. (Zeithaml, 2000:119)

Fheth & Haward describe it as the impression of reward or lack of it in exchange for the sacrifices that the customer makes when purchasing (Daniel, 2001: 22) customer satisfaction is the result achieved from the use of that product alone, and it is not necessarily the least expensive or it may be the least efficient. (Al-Bakri, 2002:15) customer satisfaction as the customer's feeling of pleasure or unhappiness that results when performance of the observed product is compared with the expectations of the customer. (Kotler, 2003:40)

Bryce & Al-Hamiri (2005:383) pointed out that satisfaction means the inner feeling formed by the customer through matching the performance of the product with the actual performance and benefits achieved by the product.

Customer satisfaction is the degree to which the customer perceives the extent of the effectiveness of the organization in providing products that meet his needs and desires, as well

as the customer's feeling of comfort when the service is in conformity with his expectations (Abu Fazaa, 2015:19).

In our opinion and according to what mentioned before we can say that customer satisfaction expresses the extent of the customer's perception or feeling of satisfied with his desires by obtaining products that meet his needs and expectations in exchange for the sacrifices he endures.

Customer Satisfaction Importance

McDougall & Levesque point out the importance of customer satisfaction with the following points (Al-Sayer, 2009: 77):

1. Satisfaction is one of the criteria used for benchmarking with the performance of competing organizations.
2. The satisfied customer contributes to increasing the organization's revenues by (2.6) times compared to the dissatisfied customer, which reduces the organization's revenues by about (1.8) times.
3. Customer satisfaction is a basic goal for most service organizations. Increasing satisfaction leads to the organization retaining customers and increasing its profitability, as well as attracting new customers and reducing marketing spending.
4. Customer satisfaction adapts through his "love for the Brand as a relatively new construct in the science of consumer marketing and behavior".(Yohanes & Hendy, 2022: 5)
5. Customer Relationship Management is a set of business practices designed to put the company in direct contact with the customer to increase customer knowledge in order to achieve superior value for both customer and the company.(AlMudhafar&AlHawazi,2022:6).

The researchers adopts that customer satisfaction is an effective criterion for evaluating the organization's performance and its decision to continue or resort to competing organizations, and in this way, it is the one who determines the market share of the organization.

Steps to Achieve Customer Satisfaction

The following are the steps for achieving customer satisfaction (Al-Taie & Al-Abadi, 2007: 143):

1. Understanding the customer's needs: through constant contact of marketers with current and potential customers to know the purchasing behavior of customers.

2. Customer feedback: This stage is represented by marketing tactics for obtaining consumers' thoughts about a company in order to determine how well it satisfies their expectations.
3. Continuous measurement: Is the organization preparing a special program to measure customer satisfaction.

Customer Satisfaction Challenges

(Laurent, 2004:11) mentions these challenges below (Al-Khafaji, 2012: 85):

1. Study the quality internally and externally: through what the organization has in terms of resources on the one hand, and develop the external aspect of quality to and from the customer.
2. Quality of service: by taking effective measures and means to provide the service as required.
3. Quality achieves profit: as it is a source of competitive advantage, which leads to customer satisfaction and increased loyalty, thus increasing the profitability of the organization in the medium and long term.

MATERIAL AND METHODOLOGY

In light of the study problem, the following two hypotheses were formulated:

- Statistically significant correlation relationship between the independent variable (QFD) and the dependent variable (customer satisfaction).
- An impact relationship of statistical significance between the independent variable (QFD) and the dependent variable (customer satisfaction).

The sources represented in the references and related literature have been approved to determine the scientific background of the study. The exploratory approach was adopted by using a questionnaire prepared for this purpose to collect data and information.

The study was carried out in a textile plant in Al-Diwaniyah, which plays a key role in supplying the local population with its goods. The research includes all manufacturing employees at all levels as part of the sampled community. The employees (60) received copies of the questionnaire, and their questions were taken into account. The team was given an overview of the study, including its many features and objectives. The questionnaire elicited a wide range of responses (% 100).

The statistical techniques: Arithmetic Mean, Standard deviation, Variance coefficient, Relative significance, Confirmative factor analysis, Correlation analysis, Regressive analysis, T.test, F.test, Kronbach’s Alpha Coefficient.

RESULTS AND DISCUSION

The researchers distributed questionnaire forms to a sample of 60 respondents, and SPSS vr.24 was used to obtain the results. Frequencies and their ratios, means, standard deviations, the maximum and minimum values were found, as well as the relative significance of the “completely Agree” item was found for each paragraph of the questionnaire. In addition, the researcher used the analytical statistics represented by the correlation and the effect coefficients between the variables.

The validity and reliability of the questionnaire were determined using Cronbach's alpha coefficient, as shown in the table below:

Table 1- “Cronbach’s Alpha coefficients”

Axis	Items	Alpha Cronbach
QFD	12	0.74
Cu Sa	12	0.83
Total	24	0.83

Source: Preparing of the researchers based on the statistical program.

The above values indicate the reliability of the questionnaire used because its values are close to the correct one.

Frequency and Percentages of the Questionnaire Items are shown in the table below:

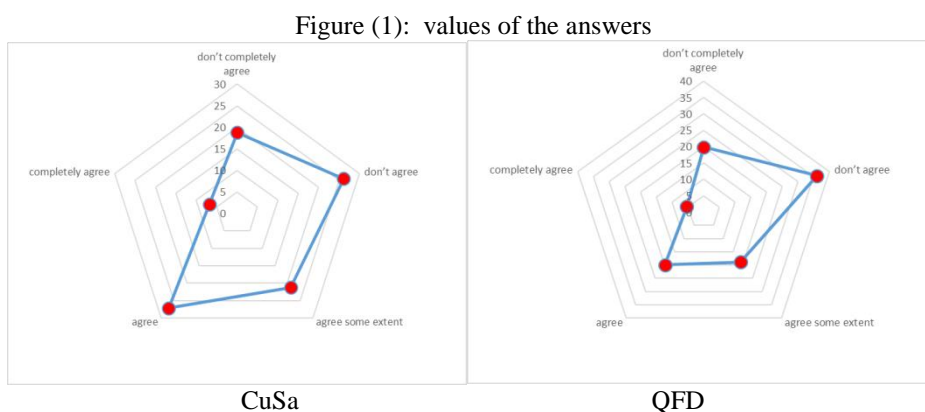
Table 2- Frequency and Percentages of the Questionnaire Items.

Items	Frequency & percent	Strongly agree	Agree	Undecided	Dis agree	Strongly dis agree	Items	Frequency & percent	Strongly agree	Agree	Undecided	Dis agree	Strongly dis agree
QFD1	Frequency	1	3	7	25	24	CuSa1	Frequency	0	4	8	25	23
	Percent	1.7	5.0	11.7	41.7	40.0		Percent	0	6.7	13.3	41.7	38.3
QFD2	Frequency	0	2	9	29	20	CuSa2	Frequency	4	32	10	9	5
	Percent	0	3.3	15.0	48.3	33.3		Percent	6.7	53.3	16.7	15.0	8.3
QFD3	Frequency	1	1	9	32	17	CuSa3	Frequency	5	25	14	7	9
	Percent	1.7	1.7	15.0	53.3	28.3		Percent	8.3	41.7	23.3	11.7	15.0
QFD4	Frequency	8	24	13	11	4	CuSa4	Frequency	3	18	23	13	5
	Percent	13.3	40.0	21.7	18.3	6.7		Percent	5.0	30.0	38.3	21.7	10.0
QFD5	Frequency	1	21	14	19	5	CuSa5	Frequency	12	19	18	9	2
	Percent	1.7	35.0	23.3	31.7	8.3		Percent	20.0	31.7	30.0	15.0	3.3
QFD6	Frequency	8	24	7	10	11	CuSa6	Frequency	4	19	13	16	8
	Percent	13.3	40.0	11.7	16.7	18.3		Percent	6.7	31.7	21.7	26.7	13.3
QFD7	Frequency	0	6	13	22	19	CuSa7	Frequency	2	1	7	28	22
	Percent	0	10.0	21.7	36.7	31.7		Percent	3.3	1.7	11.7	46.7	36.7
QFD8	Frequency	12	30	7	11	0	CuSa8	Frequency	5	27	11	10	7
	Percent	20.0	50.0	11.7	18.3	0		Percent	8.3	45.0	18.3	16.7	11.7
QFD9	Frequency	0	1	17	26	16	CuSa9	Frequency	6	20	16	12	6
	Percent	0	1.7	28.3	43.3	26.7		Percent	10.0	33.3	26.7	20.0	10.0

QFD10	Frequency	6	26	15	11	2	CuSa10	Frequency	0	2	10	26	22
	Percent	10.0	43.3	25.0	18.3	3.3		Percent	0	3.3	16.7	43.3	36.7
QFD11	Frequency	0	1	13	31	15	CuSa11	Frequency	1	6	12	22	19
	Percent	0	1.7	21.7	51.7	25.0		Percent	1.7	10.0	20.0	36.7	31.7
QFD12	Frequency	2	4	12	32	10	CuSa12	Frequency	7	22	11	11	9
	Percent	3.3	6.7	20.0	53.3	16.7		Percent	11.7	36.7	18.3	18.3	15.0
QFD	Frequency	39	143	136	259	143	CuSa	Frequency	49	195	153	188	135
	Percent	5	20	19	36	20		Percent	7	27	21	26	Frequency
													Percent

Source: Preparing of the researchers based on the statistical program.

With a total of 259 answers, the "Not Agree" item for the QFD clearly has the highest percentage (36%) while the "Agree" item CuSa has the lowest proportion (27%) with a total of 195 answers. The percentages of replies for the five-point Likert scale and both values are shown in the graph below:



Source: Preparing of the researchers based on the statistical program.

The researchers has found general statistics for the two axes of the study, as the following table includes the means, standard deviations, the maximum and minimum values, and the relative significance of all items:

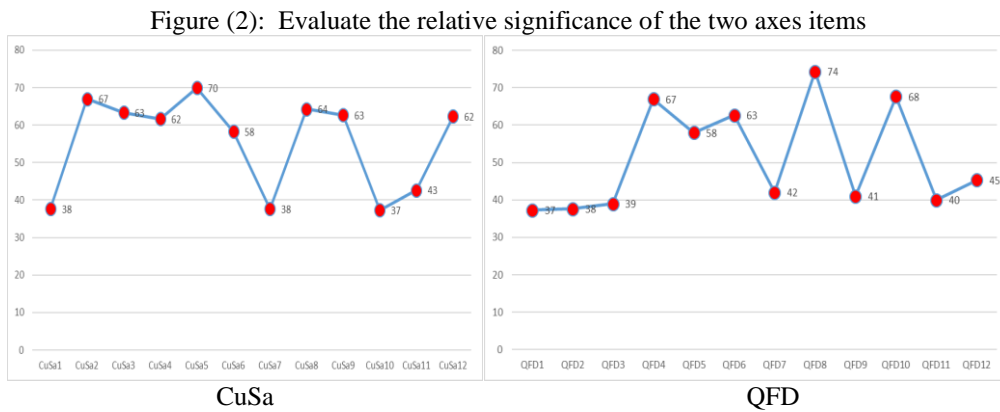
Table 3- General statistics of the research variables.

Item	Sam ple size	Mini mum value	Maxi mum value	Arith metic mean	Standa rd deviati on	Relative significa nce	Item	Sample size	Mini mum value	Maxi mum value	Arith metic mean	Stand ard deviati on	Relati ve signifi cance
QFD1	60	1	5	1.87	0.929	37	CuSa1	60	1	4	1.88	0.885	38
QFD2	60	1	4	1.88	0.783	38	CuSa2	60	1	5	3.35	1.087	67
QFD3	60	1	5	1.95	0.811	39	CuSa3	60	1	5	3.17	1.210	63
QFD4	60	1	5	3.35	1.132	67	CuSa4	60	1	5	3.08	0.962	62
QFD5	60	1	5	2.90	1.037	58	CuSa5	60	1	5	3.50	1.081	70
QFD6	60	1	5	3.13	1.359	63	CuSa6	60	1	5	2.92	1.183	58
QFD7	60	1	4	2.10	0.969	42	CuSa7	60	1	5	1.88	0.922	38
QFD8	60	2	5	3.72	0.993	74	CuSa8	60	1	5	3.22	1.180	64
QFD9	60	1	4	2.05	0.790	41	CuSa9	60	1	5	3.13	1.157	63
QFD10	60	1	5	3.38	1.010	68	CuSa10	60	1	4	1.87	0.812	37
QFD11	60	1	4	2.00	0.736	40	CuSa11	60	1	5	2.13	1.033	43

QFD12	60	1	5	2.27	0.936	45	CuSa12	60	1	5	3.12	1.277	62
QFD	60	1.67	3.50	2.55	0.373	51	CuSa	60	1.42	3.67	2.77	0.636	55

Source: Preparing of the researchers based on the statistical program.

It is clear that the answers of the sample fluctuate between “Agree” and “Disagree” answers on some of the items of the two axes, and this is what led to a rise in the standard deviations of those items and the following figure show the relative significance of each of the two axes items:



Source: Preparing of the researchers based on the statistical program.

Here, the researchers used the confirmatory factor analysis for the purpose of designing a model scheme for the items of the two axes in order to account or the extent of the items’ ability to interpret the axes belonging to it by finding regression weights. The researchers also set a group of criteria for the purpose of determining the accuracy of the model used, such as the ratio of the value of the chi square to the degree of freedom, CFI, TLI and RMSEA, where the values of these criteria are included in the following table:

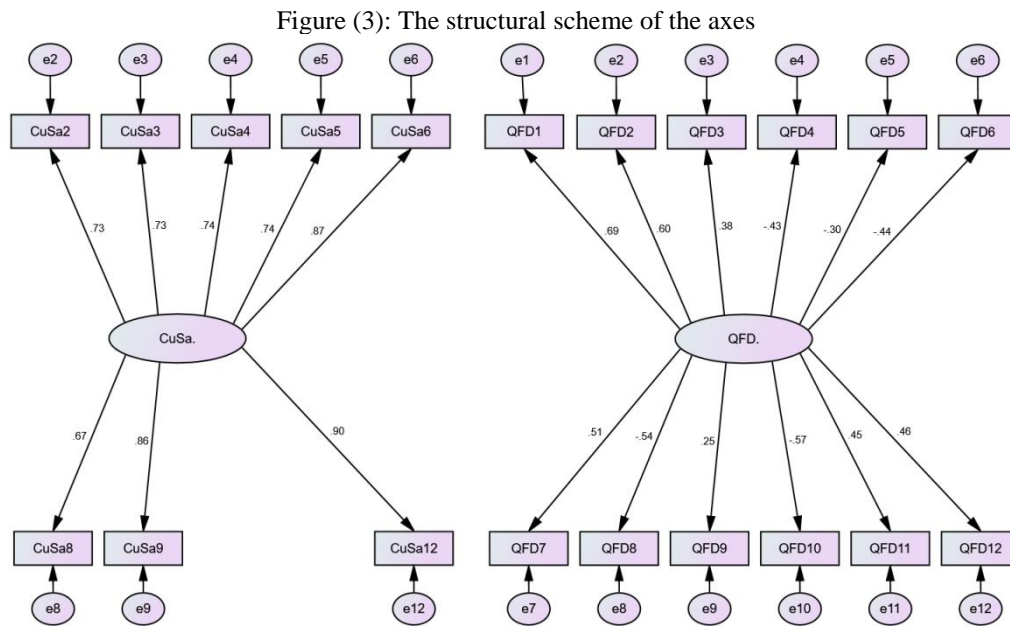
Table 4- criteria values and Decision Taken

Parameter	QFD			CuSa		
	Parameter Value	Comparison	Decision	Parameter Value	Comparison	Decision
X2/ df	111.313/54=2.06	Less than 5	Accepted	25.625/20=1.28	Less than 5	Accepted
CFI	0.87	More than 0.50	Accepted	0.98	More than 0.50	Accepted
TLI	0.83	More than 0.50	Accepted	0.98	More than 0.50	Accepted
RMSEA	0.00	Less than 0.08	Accepted	0.00	Less than 0.08	Accepted

Source: Preparing of the researchers based on the statistical program.

The values in the above table indicate that there is a possibility for the item to measure their axis.

AMOS program was used to draw the structural Scheme of the two axes and find their results, as shown in the following two figures:



Source: Preparing of the researchers based on the statistical program.

Through the above figure, we note that the standard regression weights were interpreted by the two axes items with different values, and that the first item (the organization provides high-quality products to customers), and the seventh (the organization does not exploit economic crises to increase prices of its products), the tenth (the organization takes into account that the sellers at the point of sale are distinguished by decency, good listening and dealing), and the eleventh (the salesmen communicate with customers to know their changing needs) of the CuSa item was not significant and its presence affects the accuracy of the results, so it was excluded from the analysis. The following table includes the standard regression weights for both axes:

Table 5- standard regression weights for each of the item

Item	QFD	QFD2	QFD3	QFD4	QFD5	QFD6	QFD7	QFD8	QFD9	QFD10	QFD11	QFD12
Estimat	0.692	0.598	0.383	-0.432	-	-0.445	0.509	-0.544	0.253	-0.568	0.452	0.458
Item	-	CuSa	CuSa	CuSa4	CuSa	CuSa6	-	CuSa8	CuSa	-	-	CuSa1
Estimat	-	0.73	0.726	0.74	0.742	0.872	-	0.668	0.863	-	-	0.901

Source: Preparing of the researchers based on the statistical program.

Here, the researchers has calculated the value and significance of the correlation between the two axes, as the null hypothesis is (there is no significant correlation between QFD and CuSa at significance Level of 5%) and the alternative hypothesis is (there is a significant correlation between QFD and CuSa) at significance level of 5%), where the correlation value was found, as in the table below:

Table 6- correlation coefficients between the two axes

Correlations			
		QFD	CuSa
QFD	Pearson Correlation	1	.662**
	Sig. (2-tailed)		.000
	N	60	60
CuSa	Pearson Correlation	.662**	1
	Sig. (2-tailed)	.000	
	N	60	60

**. Correlation is significant at the 0.01 level (2-tailed).
 Source: Preparing of the researchers based on the statistical program.

Through the above table, it is clear that the value of the correlation between QFD and CuSa reached 0.662, which is a significant value under the 5% of significance level because the sig value was equal to zero, which means rejecting the null hypothesis and accepting the alternative hypothesis. We conclude that there is a direct and significant correlation between QFD and CuSa under 5% of significance level.

In order to show the effect of QFD in CuSa, the following null hypothesis was formulated:

H0: There is no significant effect for QFD in CuSa.

The alternative hypothesis is:

H1: There is a significant effect of QFD in CuSa.

For the purpose of testing the null hypothesis above, the data was analyzed and results related to the impact analysis were found, as shown in the table below:

Table 7-Results of trace analysis

Independent variable	dependent variable	Coefficient	F-Test	F-Test Significance	Effect Parameter	T - Test	T-Test Significance
QFD	CuSa	%44	45.296	.000	.66	6.730	.000

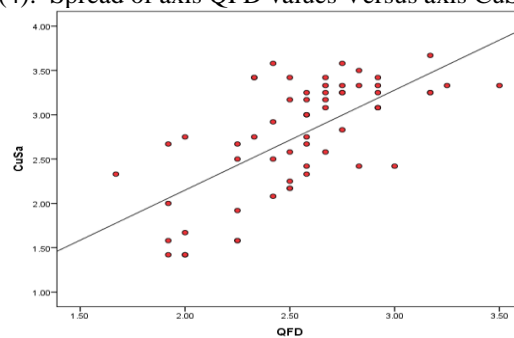
Source: Preparing of the researchers based on the statistical program.

Through the results in the above table, it is clear that the coefficient of determination of the model used amounted to 44%, which indicates that the model was able to explain 44% of the total and the remaining differences were explained by other variables that were not included

in this study. We also note that the value of the F-test amounted to 45.296, which is significant value being the value of Sig. as equal to zero. As for the value of the regression parameter or the effect, it reached 0.66 and its t-test is 6.730, which is a significant value below the 5% level, which indicates the presence of a significant direct effect. Therefore, we conclude that the increase in the value of QFD by one unit leads to an increase in the value of CuSa by 0.66 .

The following figure shows the spread of the values of QFD Versus the values of CuSa, which gives further evidence of the existence of a direct effect relationship between the two axes:

Figure (4): Spread of axis QFD values Versus axis CuSa values



Source: Preparing of the researchers based on the statistical program.

CONCLUSION

After considering the issues discussed in the literature and evaluating the data and making conclusions, the following set of findings was reached:

There is stability and validity of the used questionnaire because its values are close to the correct one. The maximum percentage was when QFD was not agreed upon, as the percentage amounted to 36%, with a total of 259 answers. The maximum percentage was upon agreement for CuSa, as the percentage reached 27%, with a total of 195 answers. The answers of the sample fluctuate between “Agree” and “Disagree” on some items of the two axes, and this led to a rise in the standard deviations of those items. The results indicate that there is a possibility for the items to measure their axis according to the results of the confirmatory factor analysis. The standard regression weights were interpreted with different values for the two axes items attached to them. The first, seventh, tenth and eleventh items of CuSa were not significant and their presence affects the accuracy of the results, so they were excluded from the analysis. There is a direct and significant correlation between QFD and CuSa under the 5% level of significance. There is a direct and significant effect relationship between QFD and CuSa under the 5% level of significance. An increase in the value of QFD by one unit leads to

an increase in the value of CuSa by 0.66. Weakness of the organization's orientation towards focusing on the customer and accurate identification of its requirements and expectations. The organization's retreat from keeping pace with modern designs. The high prices of the organization's products compared to their counterparts in the markets. And Weak orientation towards the concept of spreading quality and enhancing it as part of the organization's culture in line with the customer's orientations and aspirations for improvement and strengthening the competitive position. Also low level of government support with regard to product protection made the organization lose the ability to compete.

The Researchers Suggest necessity of spreading and consolidating the concept of the quality function Deployment as a social and technical administrative system, strengthening its components and adopting it as a method of thinking and strategic action. And the necessity of orientation towards the customer, adopting his directions and expectations, and involving him in the product design process. And the need to build effective channels of communication with the private sector to ensure the participation and exchange of views and to build bridges between them. Also the necessity of promoting proactive work by identifying the desires and needs of customers and responding quickly to them before other organizations. And Extending bridges of trust and cooperation with other state institutions by making use of the factory's products to meet their needs. Besides the need for the organization to rely on a set of incentive programs that would motivate its cadres to follow up and monitor developments in its internal and external environment alike. Like that Continuing to create a desire for change among the employees, developing the spirit of initiative and allowing them to have a field of creativity in a way that contributes to its development and increasing its capacity for development and renewal.

The Spatial boundaries of the study were limited to the Textile Factory in Al-Diwaniyah.

The researchers suggest conducting a case study in the factory using the value stream mapping to identify the activities that do not add value and to make improvements to the production processes in it.

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