The Main Justifications for Successful Introduction of Mass Customization Strategy

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ABSTRACT

The purpose of the study was to determine the recognition degree of the main justifications for successful introduction of mass customization strategy (whether the market is heterogeneous; whether customers' preferences are changeable with time; whether the demand is unstable (turbulent market)) in apparel shareholding industrial companies in Jordan. Afield study was conducted to collect data from managers concerned about the variables of the study. Questionnaires have been distributed to (44) manager and (40) were recovered. The population of the study were (8) apparel companies in Jordan. Data were collected from: marketing managers, product managers, product design managers, directors of research and development, in each of the eighth companies, and manager is considered the unit of analysis in this study. The most important results of the study were as follows: The extent to which apparel shareholding industrial companies in Jordan recognize of the main justifications for successful introduction of mass customization strategy is moderate to low. There is a difference in the degree of recognition to the main justifications for successful introduction of mass customization strategy attributed to the following variables: administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not.

Keywords: Mass Customization, justifications of mass customization Strategy implementation.

1. INTRODUCTION

Mass customization can be defined as a complex business strategy, which goal is to produce goods and provide services on a large scale, customized to the individual needs of every customer with the efficiency of mass production (Schenk; Eggebert, 2003).

Mass Customization concept is currently, trading widely in the literature of economics and management, in a way that raises many questions about. Is the meeting of opposites (design product according to a single client requirement - Customization) with (production to meet the largest number of customers-Mass) is a real intellectual trend or is it just a temporary trend that will fade with time? In which conditions mass customization strategy should be adopted? What are the main justifications for successful introduction of mass customization strategy? What are the prerequisites necessary for implementing or introducing mass customization strategy?

Examine the degree of recognition, to the main justifications for introducing mass customization strategy(whether the market is heterogeneous; whether customers' preferences are changeable with time; whether the demand is unstable (turbulent market), in apparel shareholding industrial companies in Jordan, besides, the assessment of the differences in that degree of recognition, attributed to a number of those companies characteristics, form the two dimensions of this study.

2.MASS CUSTOMIZATION CONCEPT

Mass customization is the method of "effectively postponing the task of differentiating a product for a specific customer until the latest possible point in the supply network." (Chase, et al, 2006).

Experiments were conducted to test the impacts of mass customization when postponed to the stage of retail, online shopping. They found that users perceive greater usefulness and enjoyment with a mass customization interface vs. a more typical shopping interface, particularly in a task of moderate complexity(Kamis,.etal,2008).

Mass Customization was defined as "producing goods and services to meet individual customer's needs with near mass production efficiency"(Tseng; Jiao, 2001, p. 685). One of the writers called it "a strategy that creates value by some form of company-customer interaction at the fabrication and assembly stage of the operations level to create customized products with production cost and monetary price similar to those of mass-produced products"(Kaplan; Haenlein 2006). Similarly, another writer highlight that mass customization involves balancing operational drivers by defining it as "the capability to manufacture a relatively high volume of product options for a relatively large market that demands customization, without tradeoffs in cost, delivery, and quality" (McCarthy, 2004, p. 348).

The recent history to Mass Customization began in 1970, when Alvin Toffler wrote in this area through his book: Future Shock. In 1987 Stan Davis wrote in MC through his published book: Future Perfect. But the ideas

that laid to the strategic dimension of the MC, suggesting a typical Paradigm Shift of the productive mainstream of thought, known as the Mass Production to the MC was in the work of Joseph Pine in 1993 (Adsit, 2009).

We must distinguish between two distinct segments of the MC, the imagination concept, is the ability to provide anything required by the customer, profitability, at any time and place, and in any way the customer wants. The applied and practical concept, is the ability to use flexible processes and organizational structures to produce a range of products and services tailored to the specifications required by the customers, in the lowest possible cost (PineII,1999).

A number of writers argue that provide products and services as requested by the customer will be achieved through a package of pre-defined configuration in the product, its objective is to determine the extent to which producer can modify the product, as requested by the client, and then instruct the client to compare between the options available within this range.

The common denominator of many studies is to emphasize the change in production methods due to technological changes, competitive pressures and globalization, have created an environment which represent the main success factors for business organizations (efficiency, effectiveness, quality, productivity, and satisfy the wishes and needs of the client's). The large and stable market which is, the justification for the Mass Production Paradigm is no longer dominant today. The advertising discourse that characterized the standard markets that prevailed in the past is no longer convince Customers, but now the needs and desires of individual beat toward a shift in business model . And the productive companies that will succeed in this millennium are those that will form different from the standard production model.. However the concepts of quality are converging in one objective: to satisfy the needs and wishes of the final decision owner on acceptance / rejection of the product provided to him.

Mass customization strategies has been applied on a large scale, as an inevitable response to the change in the market (Belenguer,.etal,2002).

The application of strategies that provide the product according to the specifications required by customers is an advanced stage in the application of the modern marketing concept. standard product, which already operates under similar consumer tastes, and the relative stability in the application, is no longer will serve and meet all the desires in markets characterized by the change in consumption pattern due to differences in tastes and demands, and constantly growing variety of products. MC is the strategy that could be a substitute for Mass Production strategy (Babiarz,.etal,,2005).

Hence, the need has become urgent to adopt marketing strategies that proactively manages the processes of product formation through many productivity templates substantially cover the most customers wishes and tastes of, and increase their awareness of the value of the product (Riihimaa, and.Ruohonen,2004).

3. MASS CUSTOMIZATION IMPLEMENTATIONS

Many implementations of mass customization are operational today, such as software-based product configurations that make it possible to add and/or change functionalities of a core product or to build fully custom enclosures from scratch. This degree of mass customization, however, has only seen limited adoption. If an enterprise's marketing department offers individual products (atomic market fragmentation) it doesn't often mean that a product is produced individually, but rather that similar variants of the same mass-produced item are available.

Companies that have succeeded with mass-customization business models tend to supply purely electronic products. However, these are not true "mass customizers" in the original sense, since they do not offer an alternative to mass production of material goods.

Service industries are also waking up to the power of a mass customization orientation. Call centers are leveraging Agent-assisted automation to build pre-programmed, pre-recorded call flows to handle customers' inquiries. The agent executes the process, varying it only as they need to because of something the customer says or needs, as opposed to varying everything, every time (Tseng; Jiao, 2001).

4. CONDITIONS FOR ADOPTINF MASS CUSTOMIZATION

Success factors and requirements for MC are: (1) the existence of demand for variety and customization; (2) appropriate market conditions; (3) the value chain must be ready, (4) the technology must be available, (5) the products must be viable for customization and (6) knowledge must be shared. According to the authors, these factors have direct practical implications, highlighting the complexity of MC processes and providing evidence that MC is not the best strategy for all organizations. (Silveira,.etal, 2001, p. 4).

The frontiers of MC are clearly outlined if one considers two aspects: (1) the nature of customization and (2) the means of achieving it at prices that are similar to those of mass production. These means are related to modularity(Duray et al. 2000, p. 607). Product modularity, seen as the key principle guarantees MC in practice (Piller;Kumar, 2006). The modules that are available in various options guarantee differentiation in the performance, adjustment function of the product.

Modularity-based manufacturing practices are a set of actions that enable firms to achieve modularity in product design, production process design, and organizational design (Tu et al. 2004, p. 148).

5. PREREQUISITES FOR MASS CUSTOMIZATION

The shift from mass production to mass customization might seem for many companies questionable. The decision for such a change should be preceded by the analysis of potential advantages/disadvantages, but also by the analysis of the prerequisites necessary for successful implementation. The prerequisites can be divided into the following groups:

Outer Factors: these factors are independent from the manufacturer in the short run. In the long run manufacturer could influence these factors through e.g. marketing activities – these factors, if fulfilled might justify the shift from mass production to mass customization. Some of them include (Babiarz, etal, 2005):

- Market factors – market homo/heterogeneous, market size, turbulence factor, product lifecycle, competition,
- Human factors – the readiness of customers to buy customized products (acceptance of longer delivery period, sometimes higher price, etc.).
- Logistics – the availability of fast and cost-effective ways of delivering products from factories to customers,

Inner Factors: depend on the manufacturer, Some of them include:

- IT systems – in order to design, produce and deliver highly customized products with mass production efficiency all processes along the value chain must be supported by efficient IT architecture(Warschat,.etal, 2003).
- Infrastructure – this category encompasses both location of the factories (should be located relatively close to markets in order to reduce delivery time, some experts even propose the concept of mini-factories as the most promising one(Reichwald; Stotko, 2003),(Zaeh; Wagner, 2003) and production lines (the most important features sought-after are flexibility and efficiency in production unique products on a mass scale).

The proposed list of factors is the preliminary one, and might vary significantly depending on the product/service offered.

6. DEFINING THE PROBLEM

The Problem of the study is cent*ered* on the belief that the degree of recognition to the main justifications for successful introduction of mass customization strategy in apparel shareholding industrial companies in Jordan is low.

In general, the problem of the study can be developed by introducing the following questions:

1. Is there a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the administration responsible for the MC strategy application in the company?
2. Is there a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the existence of organizational marketing unit in the company.
3. Is there a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the company's ownership?
4. Is there a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to whether the company is exporter or not?

7. IMPORTANCE OF THE STUDY, BENEFITS AND JUSTIFICATIONS FOR CONDUCTING

Through their survey to previous studies, the researchers didn't find any conducted study in Jordan regarding to the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies. Hence, the importance of this study addressed a great importance and modernity issue, because the main justifications are prerequisites for successful introduction of mass customization strategy, which becomes an area of application by the major global industrial companies, and which also, affect the continuity and survival of the organization in an environment characterized by severe competition. It is hoped that this study illuminates the road of knowledge to both scholars and practitioners in the areas of business and marketing. It also opens the door widely for students particularly for those who are not fluent in English language to obtain a theoretical background to the main justifications for successful introduction of mass customization strategy, and for further studies in industrial and service sectors alike.

8. OBJECTIVES OF THE STUDY

This study aims at:

1. Understand the concept, components, and prerequisites of MC strategy in the marketing literature.

2. Examine the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan.

3. Assess the differences in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to a number of those companies' characteristics variables**.**

9. THE HYPOTHESIS OF THE STUDY
The field study will be designed to test a main hypothesis and a number of subsidiary assumptions, as follows:

9.1 The Main Hypothesis:
Ho: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to each of the following variables: The administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not. Four subs- Hypothesis have been emanated from the main one:

9.2 The First Sub-Hypothesis:
Ho1: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the administration responsible for the application of MC strategy in the company.

9.3 The Second Sub-Hypothesis:
Ho2: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the existence of organizational marketing unit in the company.

9.4 The Third Sub-Hypothesis:
Ho3: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to the company's ownership**.**

9.5 The Fourth Sub-Hypothesis:
Ho4: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan, attributed to whether the company is exporter or not.

10. METHODOLOGY OF THE STUDY
10.1 Population and Sample
The population of the study is composed of the (8) apparel shareholding industrial companies in Jordan. Comprehensive survey is used to obtain data from the population. The researchers adopted a purposeful sample of (40) managers in these companies to obtain data for the study, they are: marketing managers, production managers, product design managers, research and development managers. Hence, managers referred to earlier, can be regarded as the unit of analysis for this study.

10.2 Data Collection Tools
A questionnaire will be used to collect data for the current study and its variables, it will include two parts: the first will contain some of the characteristics of companies will be covered in the study. The second: will measure the recognition degree of the main justifications for successful introduction of mass customization strategy (whether the market is heterogeneous; whether customers' preferences are changeable with time; whether the demand is unstable (turbulent market)) in apparel shareholding industrial companies in Jordan.

10.3 Sources For Obtaining Data
Two sources to collect data for this study will be adopted:
1- Secondary data sources:
Include, references, literature, and periodicals relevant to the study in order to clarify basic concepts related, its various dimensions, and to identify the most important and relevant studies on the subject
2- Primary data sources:
Questionnaire will be designed for collecting data from the managers responsible for MC strategy application in the companies covered in the study, to measure their recognition degree of the main justifications for successful introduction of mass customization strategy in apparel shareholding industrial companies in Jordan.

10.4 The Statistical Analysis Methods Used:
Since the study is descriptive, and analytical, the most appropriate statistical methods to the nature of the data available, for the purpose of analyzing variables and testing hypotheses, ranging from descriptive statistics and inferential statistics, will be employed, they will be:
1- Descriptive Statistics (mean, and standard deviations) to describe the recognition degree of the main

justifications for successful introduction of mass customization strategy (whether the market is heterogeneous; whether customers' preferences are changeable with time; whether the demand is unstable (turbulent market)) in apparel shareholding industrial companies in Jordan.

2- Cronbach's Alpha: to determine the degree of reliability of the data collection instrument (Questionnaire).

3- Two Way ANOVA: to test the difference in the recognition degree of the main justifications for successful introduction of mass customization strategy, which is attributable to the following variables together: administration responsible for the MC strategy application in the company, the company's ownership, whether the company is exporter or not.

4- One Way ANOVA: to test the difference in the recognition degree of the main justifications for successful introduction of mass customization strategy, which is attributable to each of the following variables: administration responsible for the MC strategies application in the company, the company's ownership.

4- Independent-Sample (T-Test): to test the recognition degree of the main justifications for successful introduction of mass customization strategy, which is attributable to the following variable: whether the company is exporter or not.

11. PREVIOUS RESEARCH

The aim of this part is to identify a number of relevant studies, which dealt from one side or more of the subject, and find out their objectives, findings, to compare them with the results to be reached by the current study. These relevant studies are:

1. The study aimed at investigating the possibility of applying MC strategy in apparel industry, through revealing the extent of consumer interest in MC strategy. The study declared a considerable interest among respondents. Through the use of several scenarios showing how to use the MC strategy, a model that help interested businessmen and researchers on how to use the above strategy in apparel industry has been built (Anderson, etal.,2002).

2. The study aimed at determining the factors that make organizations ready to move from the Mass production strategy to MC strategy. The study was conducted on a selected sample of (43) companies in South Africa. The study concluded that there is a significant impact to the following factors on the possibility of moving or not from Mass production strategy to MC strategy: industry, competitiveness, environmental considerations, and the organizational structure and direction. The study concluded that, determining the product specifications, or products that can be produced in order to achieve the wishes and preferences of customers is necessary, if the organization wants to move to the mentioned strategy, (Radder;.Louw,2000).

3.The study aimed at identifying the clothing retailers opinions toward the products specifications they prefer to sell, and their preferred method of selling. It also aimed at identifying the customers views regarding the clothes specifications, they prefer to be produced for them .With respect to trader's opinions, retailers declared their need to choose the right products that meet customers desires and orders, such as providing their customers multiple choices of the right and appropriate size. With respect to clothing items, female customers preferences were: jeans, swimwear, clothing, clothes for special occasions. While male customers preferences were: jeans, clothing. Females also, pointed out that the most important clothes for them are ones that fit their body shape, and they have the desire to learn what clothes fit their bodies through the use of body scanning(Lee, etal.,2002).

4.The aim of the study was to investigate the degree of suitability for MC strategies application in markets, where demand is instable, and preferences of customers have a high rapid rate of change. The study found that MC strategies, will have a promising future in the rapidly changing markets, and that the rapid change in the customers tastes, preferences, and demands, is considered a crucial and necessary factor for MC strategies which take into account meeting the growing and changing demands of individuals in a manner consistent to their tastes and preferences (Zhang; Chen, 2006).

5.The study aimed at identifying the prerequisites for the application of MC strategy in Indian paint market. The results of the study were: the prerequisites factors are: the customers desire to see customized product in front of them, the desire of customers to participate in the production process, instability in demand in the markets in which the company operates on, permanent and continuous change in customer's tastes , desires and needs, customers dictate what exactly they want, appropriate competitive environment that is conducive to identify competitive factors such as quality and product cost in the target market (Kakati, 2002).

6.This study aimed at identifying the dimensions of MC strategies application in Central Europe, it also aimed at identifying the products interested by customers, which could be the scope for MC strategies application. A representative college students sample of 140 respondent have been used. The questionnaire contained the dimensions, principles, pros and cons of MC strategies. The respondents had to choose from a wide range lists of products and services, they believe have of great importance and scope for MC strategies application. The study found a range of dimensions or previous requirements for the application of MC strategies, some of them were market factors include: the homogeneity of the market or the lack of homogeneity, market size, market

competition, the life cycle of the product, change tastes and demand, and turbulent market (Babiarz, etal.,2005).

7. The study aimed at identifying the guidelines for implementing mass customization in manufacturing enterprises, termed Mass Customization Manufacturers (MCM). The study was done by conducting two case studies in the Norwegian furniture industry. The study also wanted to explore if the actions necessary to transform an existing manufacturing system into one capable of performing mass customization depended on the companies' outsets from mass production and handcraft respectively. Performance objectives like low cost and short delivery time was seen in relation to the degree of customization. The study highlighted that to achieve proper mass customization, it is not sufficient to offer customized products. The performance objectives of interest for customers also include delivery time and costs. Hence a balanced improvement of customization, cost-efficiency and responsiveness is the only appropriate approach to mass customization manufacturing (Skjelstad,etal., 2006).

8.The study aimed at defining the main elements necessary in order to offer mass customization in many industrial companies. The study defined three elements necessary in order to offer mass customization. They include; elicitation (a mechanism for interaction with the customer and obtaining specific information), process flexibility (production technology that fabricates the product according to the information) and logistics (subsequent processing stages and distribution that are able to maintain the identity of each item and to deliver the right one to the right customer). These elements need to be connected by powerful communications links. Mass Customization requires a high level of flexibility and responsiveness in all stages of the value chain. Therefore, very few companies have been able to realize the mass customization strategy. Therefore there is a need for practical guidelines to assist companies in developing solutions specifically suited to their own situation with respect to market demands and own capabilities (Zipkin, 2001).

12. RESULTS OF THE STUDY

In this part of the study, the main hypotheses, and sub- hypotheses emanated from, have been discussed and analyzed. The statistical analysis has been done in the context of apparel shareholding industrial companies in Jordan. The following table shows this data:

Table (1) Distributed and recovered questionnaires

Industrial sector	population (N of companies)	Respondent companies NO	distributed questionnaire NO	recovered questionnaire NO
apparel	8	8	44	40

12.1 Validity and Reliability

A. Validity means the ability of the data collection instrument to measure the variables that are designed to measure. Questionnaire has been evaluated by (7) of specialists in marketing studies to ascertain the validity of the instrument, the evaluators' views has been taken into consideration, and correction has been done.

B. Reliability of the tool: refers to the possibility of obtaining the same results if the measurement re- evaluated under the availability of similar circumstances, and by using the same tool of measurement. (Cronbach's Alpha) has been used to determine the degree of reliability of the tool. The test result approximately was (.73) which is higher than the acceptable limit (.60).

12.2 Characteristics of the Sample, and the Companies Included in the Study.

In this part of the study, the major characteristics of the companies surveyed reviewed in terms of: administration responsible for MC strategy application in the company, the nature of industrial activity for the company, the company's ownership, whether the company is exporter or not.

A . Administration Responsible for MC Strategy Application in the Company

The number of managers in apparel shareholding industrial companies in Jordan involved in the study is identified. The following table illustrates the results:

Table (2)Distribution of the sample according to the Administrationresponsible for MC strategy application in the company

manager	Frequencies	Percentage
marketing	10	25
production	12	30
product design	9	22.5
R&D	9	22.5
total	40	100.0

It's clear from the data in the above table that the rate of (30%) of the sample were production managers, while(25%) of them were marketing managers, and (22.5%) were product design managers, and R&D managers alike.

B. The Existence of Marketing Unit in the Companies

The extent to which a marketing unit exists in companies included in the study is identified. The following table illustrates the results:

Table (3) Distribution of the companies according to the existence of marketing unit

Existence of marketing unit in companies	Frequencies	Percentage
yes	12	30.0
No	28	70.0
total	40	100.0

It's clear from the data in the above table that (70.0) of the companies haven't a responsible marketing unit for their marketing activities. This result reflects a medium level of recognition and interest to the importance of marketing as a function of tasks, activities, and the need for specialized marketing unit in their industrial companies. It's more powerful to recognize the main justifications for successful introduction of mass customization strategy in companies that have an organizational marketing unit responsible for marketing activities.

C. Ownership of the Company

The distribution of the companies according to the ownership of the company were included and identified. The following table illustrates the results:

Table (4)Distribution of the companies according the ownership of the company

Ownership	Frequencies	Percentage
Jordanian	25	62.5
foreign	5	12.5
mixed (joint investment)	10	25.0
Total	40	100.0

It's clear from the data in the above table that (62.5) of the sample surveyed were fully national in terms of ownership, and (25.0) were mixed. While foreign companies operating in Jordan did not exceed (12.5). The information about the main justifications for successful introduction of mass customization strategy recognition is maybe more in the companies that owned by foreigners who come from economic environments apply MC strategy.

D. Exporter / Non- Exporter

The distribution of the companies according to weather the company is exporter or not was identified. The following table illustrates the results:

Table (5) Distribution of the companies according to weather they are exporter or not

Exporter	Frequencies	Percentage
Yes	15	37.5
No	25	62.5
total	40	100.0

It's clear from the data in the above table that (62.5) of the companies weren't exporters, while only (37.5) were exporters. Such data indicate on weak export orientation. The need for recognizing the main justifications for successful introduction of mass customization strategy is more insisting to companies exporting to international markets, since; they work in an environment of fierce competition characterized by international leaders companies in the application of the MC strategies.

12.3 The Recognition Degree of The Main Justifications for Successful Introduction of Mass Customization Strategy: in Apparel Shareholding Industrial Companies in Jordan.

Likert scale has been used in the questionnaire. Mean and standard deviation statistical significance for the sample answers was used to determine the recognition degree of the main justifications for successful introduction of mass customization strategy in apparel shareholding industrial companies in Jordan. The following were the results:

Table (6) The relative importance of the main justification factors of mass customization Strategy implementation in Jordanian apparel shareholding industrial companies

variable	Mean	Standard deviation
the market is heterogeneous, might be either niche or large one	3.21	.53408
customers' preferences are changeable with time	3.03	.52546
unstable demand (turbulent market)	2.89	.53280
General mean	3.04	.53087

The results of the statistical analysis in the above table, indicates that the general mean of the sample answers related to their recognition degree of the main justifications for successful introduction of mass customization strategy in apparel shareholding industrial companies in Jordan, has a rate of (3.04), and a standard deviation of(.52718). The relative importance of each of the factors referred to, in descending order were as follows: "the market is heterogeneous", has a mean rate of (3.21) and a standard deviation(.53408), followed by "customers' preferences are changeable with time", has a mean rate of (3.03) and standard deviation (.52546), followed by the lowest variable in ranking "the unstable demand (turbulent market)", which has a mean rate of (2.89) and standard deviation (0.53280).

12.4 Hypothesis Testing

Ho: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the following variables together: administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not.

Ha: There is a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the following variables together: administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not.

Higher-Way ANOVA has been used to test this hypothesis; the results are shown in the table below:

Table (7) The results of Higher-Way analysis of variance

Source	df	Spreadsheet F	Calculated F	Sig	the result of the null hypothesis
Administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporting or not.	17	4.45	5.90	.048	**Rejected**
Error	18				
Total	40				

It's clear from the data in the above table that the value of (F) calculated for the effect of interaction between the variables = (5.90), at the level of significance (.048), means that it is statistically significant at a level of less than (0.05), the F distribution table shows that the value of F spreadsheet at the same degrees of freedom, and significance level = (4.45).Since the decision-rule is to reject the null hypothesis (Ho) if the value of F calculated is greater than its spreadsheet. Comparing the two values shows that the calculated F is greater than F spreadsheet, which means rejecting the null hypothesis (Ho), which states that there is no difference in the degree of the main justifications recognition for successful introduction of mass customization strategy attributed to the following variables together: administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not.

The First Sub-Hypothesis

Ho1: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the administration responsible for the application of MC strategy in the company.

Ha1: There is a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the administration responsible for the application of MC strategy in the company.

To test this hypothesis One Way analysis of variance (ANOVA) has been used, and the results are shown in the following table:

Table (8) The results of ANOVA to the first sub-hypothesis

Spreadsheet F	Calculated F	df	Sig F	the result of the null hypothesis
3.23	4.63	(2,40)	.041	**Rejected**

It's clear from the data in the above table that the value of (F) calculated at the degree of freedom (2.40), and the level of significance (.041) is (4.63)) and the value of F spreadsheet at the same degrees of freedom, and the level of significance = (3,23), Since the decision-rule is to reject the null hypothesis (Ho) if the value of F calculated is greater than the value of F spreadsheet. The results of the analysis shows that the F calculated is greater than F spreadsheet, Which means rejecting the null hypothesis (Ho1), which states that there is no difference in the recognition degree of the main justifications for introducing mass customization strategy attributed to the administration responsible for the application of MC strategy in the company

The Second Sub-Hypothesis

Ho2: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the existence of organizational marketing unit in the company.

Ha2: There is a difference in the degree of recognition to the main justifications for   introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the existence of organizational marketing unit in the company.

To test this hypothesis independent samples (T-Test) has been used, and the results are shown in the following table:

Table (9) The results of independent samples (T-Test) to the second sub-hypothesis

	N	Mean	Std. Deviation	t	sig	the result of the null hypothesis
yes	26	3.5212	.57513	1.432	.032	**Rejected**
No	14	3.7679	.49177	1.491	.021	

It's clear from the data in the above table that the value of (t) for the proportion of the sample study who answered yes to the question is (1,432)), at the level of significance (.032), and is statistically significant at a level less than (.05). While the value of (t) for the proportion of the sample who answered no to the question is (1,491), at the level of significance (.021), and is statistically significant at a level less than (.05). Since the decision-rule is to reject the null hypothesis (Ho) if the significance value level of t calculated is less than the acceptable level (0.05). The results of the analysis shows that the value of t calculated is less than (0.05), which means rejecting the null hypothesis (Ho2), which states that there is no difference in the recognition degree of the main justifications for introducing mass customization strategy attributed to the existence of organizational marketing unit in the company.

The Third Sub-Hypothesis

Ho3: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the company's ownership**.**

Ha3: There is a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to the company's ownership**.**

To test this hypothesis One Way analysis of variance (ANOVA) has been used, and the results are shown in the following table:

Table (10)   The results of ANOVA to the third sub-hypothesis

Spreadsheet F	Calculated F	df	Sig F	the result of the null hypothesis
3.23	4.12	(2,40)	.000	**Rejected**

It's clear from the data in the above table that the value of (F) calculated at the degree of freedom (2.40), and the level of significance (.000) is (4.12) and the value of F spreadsheet at the same degrees of freedom, and the level of significance = (3,23), Since the decision-rule is to reject the null hypothesis (Ho) if the value of F calculated is greater than the value of F spreadsheet. The results of the analysis shows that the F calculated is greater than F spreadsheet, Which means rejecting the null hypothesis (Ho3), which states that there is no difference in the recognition degree of the main justifications for introducing mass customization strategy attributed to the company's ownership**.**

The Fourth Sub-Hypothesis

Ho4: There is no difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to whether the company is exporter or not.

Ha4: There is a difference in the degree of recognition to the main justifications for introducing mass customization strategy, in apparel shareholding industrial companies in Jordan attributed to whether the company is exporter or not.

To test this hypothesis independent samples (T-Test) has been used, and the results are shown in the following table:

Table (11) the results of independent samples (T-Test) to the fifth sub-hypothesis

Exporter or not	N	Mean	Std. Deviation	t	sig	the result the null hypothesis
Exporter	13	3.7802	.55823	1.487	.016	**Rejected**
non exporter	27	3.5405	.54388	1.463	.043	

It's clear from the data in the above table that the value of (t) for the proportion of the sample study who answered that their companies is exporter is (1.487), at the level of significance (.016), and is statistically significant at a level less than (.05). While the value of (t) for the proportion of the sample study who answered that their companies non-exporter is (1.463), at the level of significance (.043), and is statistically significant at a level less than (.05). Since the decision-rule is to reject the null hypothesis (Ho) if the significance value level of t calculated is less than the acceptable level (0.05). The results of the analysis shows that the value of t calculated is less than (0.05), which means rejecting the null hypothesis (Ho4), which states that there is no difference in the recognition degree of the main justifications for introducing mass customization strategy attributed to whether the company is exporter or not.

13. DIFFERENCES BETWEEN THE CURRENT STUDY AND THE PREVIOUS ONES

Table (12)What distinguishes the current study from the relevant ones

Element	differences
Sample	managers concerned of the application of MC strategies and not customers .
Variables	whether the market is heterogeneous; whether customers' preferences are changeable with time; whether the demand is unstable (turbulent market) and not the other prerequisites.
Scope	Jordan as a developing country and not one or more of the industrialized countries.
Population	apparel shareholding industrial companies in Jordan and not any industrial sector in any industrialized sector in any industrialized countries.
Focus	An emerging market and not a mature one.
Results	Specific and useful for a developing country not industrialized one.
Future prospects	opens the door for more knowledge about the subject of the study for both of scholars and practitioners who are interested in MC strategy in developing countries. And take advantage of its methodology and results in further studies.

Source: the researchers.

It also opens the door widely for students particularly for those who are not fluent in English language to obtain a theoretical background to the main justifications for successful introduction of mass customization strategy, and for further studies in industrial and service sectors alike.

14. FINDINGS, MARKETING IMPLICATIONS, AND RECOMMENDATIONS

This section contains the main findings and marketing implications, and recommendations of the study that can be summarized as follows:

14.1 Findings

While there are similarities and consistencies between the current study, and most of the previous ones like (Zhang; Chen, 2006; Kakati, 2002; Babiarz, etal,2005, Skjelstad,etal., 2006, Zipkin, 2001) in studying a number of prerequisites for successful introduction of Mass Customization, the present study is differentiated in its goals, assumptions, and methods of statistical analysis used, since it is applied in a different environment, culture, and population which reflect the inability to apply MC strategy in an industrial sector of a developing country such as Jordan before recognizing the prerequisites for its application.

The most important results of the study can be summarized as follows:

1- There is no specialized unit for marketing activities in the majority of apparel shareholding industrial

companies in Jordan (Table 3). This result reflects a medium to low level of recognition and interest to the importance of marketing as a function of tasks, activities, and the need for specialized marketing units in these companies in Jordan . The necessity for a specialized marketing unit is more powerful to recognize the main justifications for introducing mass customization strategy.

2- The extent to which apparel shareholding industrial companies in Jordan recognize of the main justifications for successful introduction of mass customization strategy is moderate to low (Table 6) and this result reflects less interest toward that strategy, and more interest in mass production strategy.

3- There is a difference in the degree of recognition to the main justifications for successful introduction of mass customization strategy in apparel shareholding industrial companies in Jordan attributed to the following variables: administration responsible for MC strategy application in the company, the existence of organizational marketing unit in the company, the company's ownership, whether the company is exporter or not (Tables:7,8,9,10,11).

14.2 Marketing Implications
  The study included the following marketing implications:

1. The modern marketing concept is based on determining the customers' needs and desires and presenting the suitable product that best fits and satisfy those needs and desires, in a way to achieve consumers' satisfaction. Hence, the importance of MC strategies is highlighted in performing this role.

2. The attention of marketing studies has shifted from standard production strategy that does not pay enough attention to both market and consumers desires, to the customer -based modern marketing approach, and that customer is the fundamental of the marketing system. Customer satisfaction has become the strategic objective of producers. Hence, MC strategies constitute a unique case in modern marketing concept application.

3. Introducing of high quality products, with specifications that exceed consumers expectations that meet their needs and desires is the best guarantee to increase the perceived value of the product by consumers, and this can be achieved through the proper application of MC strategies.

4. The knowledge of the product specifications that are compatible with consumers desires, and delivering it in the suitable time, would maintain existing customers (Customers retention) and attract new customers. An Integrated marketing information system is highlighted her, because of its role in contacting, communicating and maintaining continuous relationship with them, access to accurate information about their taste and desires, in order to identify their wishes, needs, and product specifications they want.

5. The global developments in the marketing process (increasing the awareness of customers, the emergence of Selective consumer choice as a result of the continuous change in consumer's tastes and preferences, and the continuous growing of demand for goods and services) require adopting a corporate marketing strategies with innovative features such as MC strategies.

14.3 Recommendations
     Researchers presented a set of recommendations that can be summarized as follows:

1. Apparel shareholding industrial companies in Jordan should conduct training programs to re-qualify managers on marketing activities for the purpose of more understanding of the recent marketing concepts and strategies.

2. Inform specialist's managers in apparel shareholding industrial companies in Jordan about the prerequisites for successful introduction of mass customization strategy and the reasons for its implementation success in a specific companies, especially foreign ones, all over the world, , as well as the reasons for its failure in another companies.

3. Apparel shareholding industrial companies in Jordan should claim universities and specialized academic centers to conduct conferences, and lectures to specialized marketing managers in these companies about concept, principles, Forms, and determinants of mass customization strategy implementation.

4. Since MC concept, principles, Forms, and determinants are modern and an important hot issues to both scholars and practitioners in the areas of business and marketing, further studies to be conducted in this area are necessary.

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