ملخص البحث

الأسس العلمية والفنية لمدخلات ومخرجات إنتاج البنطلون الرجالي

يهدف البحث الي تحقيق الاستخدام الأمثل للمواد الأولية الأساسية وغير الأساسية من خلال اعتماد أسلوب التخطيط الاستراتيجي ، بالإضافة الي تخطيط مدخلات ومخرجات الإنتاج بالشكل الذي يضمن الاستفادة في هذه الظاهرة في استغلال ما هو متوفر من مستلزمات إنتاج (المدخلات) لتحقيق المخرجات المستهدفة .

وكانت عينة البحث مكونة من (١٠) مصانع لإنتاج البنطلون الرجالي ، وكانت أداه الدراسة عبارة عن استبيان للأسس العلمية والفنية لمدخلات ومخرجات إنتاج البنطلون الرجالي ، وتكون الاستبيان من أربعة محاور رئيسية "المواد الأولية ، القوي العاملة ، استغلال الطاقة ، المعوقات" .

وتوصلت الدراسة الي :

١- وجود فروق دالة إحصائياً بين متوسطي الدرجات في التطبيق القبلي والبعدي للمدخل الكمي لتخطيط المدخلات والمخرجات لمحور المواد الأولية لصالح التطبيق البعدي .

٢- وجود فروق دالة إحصائياً بين متوسطي الدرجات في التطبيق القبلي والبعدي للمدخل الكمي لتخطيط المدخلات والمخرجات لمحور القوي العاملة بأبعاده لصالح التطبيق البعدي .

٣- وجود فروق دالة إحصائياً بين متوسطي الدرجات في التطبيق القبلي والبعدي للمدخل الكمي لتخطيط المدخلات والمخرجات لمحور استغلال الطاقة بأبعاده لصالح التطبيق البعدي .

٤- وجود فروق دالة إحصائياً بين متوسطي الدرجات في التطبيق القبلي والبعدي للمدخل الكمي لتخطيط المدخلات والمخرجات لمحور المعوقات بأبعاده لصالح التطبيق القبلي .

وأوصت الدراسة بـ :

١- ضرورة استخدام أسلوب تحليل المدخلات والمخرجات لتحقيق الاستغلال الأمثل للطاقة المتاحة.

٢- التعاقد مع الجهات المختصة ذات الخبرات والكفاءات من الجامعات لإجراء التحليل الكمي لمدخلاتها.

٣- يمكن لإدارة المصنع أن تستفيد من نموذج الدراسة ومن النتائج والمؤشرات الرقمية التي تم التوصل إليها كعامل مساعد في ترشيد القرارات الخاصة بوضع وصياغة خطط الإنتاج .

Abstract

The scientific and technical bases for inputs and outputs of men's pants production

The research aims to achieving the optimal use of the basic raw materials and the non-basic materials by adopting the strategy planning method, in addition to planning of inputs and outputs of production by the way that ensure the benefit of this phenomenon in the exploitation of what is available from the production requirements (inputs) to achieve the targeted output.

The sample of research was consisted of 10 factories for men's pants production, and the tool of the study is a questionnaire of the scientific and technical foundations for inputs and outputs of men's pants production, and the questionnaire consisted of four major axes "raw materials, manpower, exploitation of energy, obstacles".

The study found:

1. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the raw materials in favor of post application.
2. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the manpower with its dimensions in favor of post application.
3. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the exploitation of energy with its dimensions in favor of post application.
4. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of obstacles with its dimensions in favor of pre application.

The study recommended:

1- The necessity of using the input-output analysis method to achieve the optimal exploitation of the available energy.
2- Contracting with the competent authorities with experiences and competencies from universities to conduct a quantitative analysis of the inputs.
3- The management of the factory can take advantage of the study form and from the results and digital indicators which had been obtained as an assistant factor in the rationalization of decisions, especially those related to the formulation of the production plans.

11- Adnan Alshamky Gaber: Mathematics for Economists, Books House for printing and publishing, Mosul University, 1988 AD.
12- Abd Alkarim Hady Shaban: the Importance of Quantitative Analysis in the Rationalization of Managerial Decisions, applied study in men's clothing factory in Najaf 1998 AD .
13- Abd Elfattah Morad: Encyclopedia of scientific research and preparation of scientific messages, research and literature: 2003 AD.
14- Ali Alalawneh and others: operations research, Future House, the first edition, Oman 2000 AD.
15- Mohammed Ayman Abd Ellatif Ashoush: Human Resources Management in the workplace - the scientific basis and applied practices, Faculty of Commerce, Cairo University, the first edition 2008 AD .
16- Mohamed Tawfiq Mady: quantitative methods in the field of Production and Operations Management, Modern Arab Office, Cairo, 1987 AD.
17- Musa ALLozi: administrative development, concepts, foundations, applications, Wael House, the first edition, Oman 2000 AD.
18- Moayad Abd EIhussein Elfadl and others: Production Programming, practical study in the General Establishment for men's clothing in Najaf, 1999 AD.
19- Kamel Ali Metwally Imran: Human Resources Management, Faculty of Commerce, Cairo University, 2008 AD.
20- Fared Abd Alfattah Zin Eldine: planning and production control, quality management introduction, Elzaqaziq University, 1997 AD.
21- Yousef Faaize Naim: production capacity concepts and its impact on costs planning and control it, magazine of industry, the second number, 1990 AD.
22- Ahula K.K., “Production Management”, India, CBS Publishers, 1993
23- Anderson, D.R. and Sweeney Dennis J.,: Williams, Thomas A. “Quantitative Methods For business” Fifth Edition, by West Publishing Co., U. S . A., 1992.
24- Chase, R.B., and N.J Aquilano, “Production and operation Management”, Home Wood,1992.
25- Evans, James R., production / Operations Management: Quality, Performance, and Valu, 5th ed., West Publishing Company Co., U. S . A., 1997
26- Jones, Gareth R., “Organizational theory” , by Addison – Wesley publishing Company, Inc., 1995.
27- Krajewski, Lee, and Ritzman, Larry P., “Operations Management Strategy and Addison Wesley Pub.Co,., 1993.
28- Koontz, H., and O’doonell, C., and Wehrich, H., “Management” , Eight Edition, by Mc Graw – hi;, Inc., 1984
29- Pbillips Don T. and Solbeg A.Ravindarn James. Operation Research; principles and practice, John Woley and sons, Inc., U. S. A., 1976.

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 22.029 and it is a statistically significant value at the level of 0.01 in favor of the pre application, where the mean scores in the pre application was "47.994", while the mean scores in the post application was "26.453", and so the fourth hypothesis is achieved.

Recommendations:

1- The necessity of using the input-output analysis method to achieve the optimal exploitation of the available energy.
2- Contracting with the competent authorities with experiences and competencies from universities to conduct a quantitative analysis of the inputs.
3- The management of the factory can take advantage of the study form and from the results and digital indicators which had been obtained as an assistant factor in the rationalization of decisions, especially those related to the formulation of the production plans.

References:

1- Elmonged in Arabic language and science: 1956 AD.
2- Gawad Mohsin Rady Almezraki: preparation and evaluation of the production plan in textile factory Diwaniya by using the quantitative input, 2000 AD.
3-Hassan Ali Mashraqy: the theory of managerial decisions, Quantitative introduction in management, Dar Elmaserah for publication and distribution, printing, first edition, Oman 1997 AD.
4-Hussein Abdullah Hassan Altamimi: introduction in Production and Operations Management, contemporary thought Dar, the first edition, Beirut 1993 AD.
5- Hussein Abdullah Hassan Altamimi: introduction in Production and Operations Management, contemporary thought Dar, the first edition, Beirut 1993 AD.
6- Samer Fayez Turkey: the use of some mathematical forms in total production planning in the South Masafy Company, 1997 AD.
7- Sadiq Hamad Omar: the use of written programming, and forecast forms in the planning of profit, practical and analytical study in Woolen Industries lab. In Erbil 1999 AD.
8- Sadiq Ali Taan: productivity links of manufacturing industries in Iraq 1992 AD.
9- Abd Alsattar Mohammed Ali: the production management between theory and practice, Basra University, 1986.
10- Abd Alsattar Mohammed Ali: Production and Operations Management, Quantitative Introduction, Dar Wael for printing and publishing, the first edition2000 AD.

Table (13) the differences in the mean scores of the pre application and the post application for the part in respect of the productivity processes

	Mean	Std. Deviation	N	df	t	Sig
The pre application	16.621	2.556	10	9	8.009	0.01 in favor of the pre application
The post application	9.815	0.518				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 8.009 and it is a statistically significant value at the level of 0.01 in favor of the pre application, where the mean scores in the pre application was "16.621", while the mean scores in the post application was "9.815".

Table (14) the differences in the mean scores of the pre application and the post application for the part in respect of stop the production lines

	Mean	Std. Deviation	N	df	t	Sig
The pre application	14.362	1.069	10	9	9.102	0.01 in favor of the pre application
The post application	7.756	0.448				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 9.102 and it is a statistically significant value at the level of 0.01 in favor of the pre application, where the mean scores in the pre application was "14.362", while the mean scores in the post application was "7.756".

Table (15) the differences in the mean scores of the pre application and the post application for the part in respect of non- implementation of the approved lines

	Mean	Std. Deviation	N	df	t	Sig
The pre application	17.011	3.269	10	9	10.105	0.01 in favor of the pre application
The post application	8.882	1.024				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 10.105 and it is a statistically significant value at the level of 0.01 in favor of the pre application, where the mean scores in the pre application was "17.011", while the mean scores in the post application was "8.882".

Table (16) the differences in the mean scores of the pre application and the post application to the axis of the obstacles as a whole

	Mean	Std. Deviation	N	df	t	Sig
The pre application	47.994	7.066	10	9	22.029	0.01 in favor of the pre application
The post application	26.453	2.229				

Table (11) the differences in the mean scores of the pre application and the post application for the part in respect of the estimated energy

	Mean	Std. Deviation	N	df	t	Sig
The pre application	6.102	0.774	10	9	9,008	0.01 in favor of the post application
The post application	14.488	2,817				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 9,008 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "14.488", while the mean scores in the pre application was "6.102".

Table (12) the differences in the mean scores of the pre application and the post application to the axis of the exploitation of energy

	Mean	Std. Deviation	N	df	t	Sig
The pre application	13.892	3.662	10	9	19.959	0.01 in favor of the post application
The post application	33.268	6.098				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 19.959 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "33.268", while the mean scores in the pre application was "13.892", and so the third hypothesis is achieved.

And this result agrees with the study of "Samar Fayez: 1997 AD", and the study of "Sadiq Hamd: 1999 AD", which emphasized on the importance of exploitation of the available energy to reach to the production numbers in light of the design plan.

The fourth hypothesis:

"There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the obstacles with its dimensions in favor of the pre application".

To check the validity of this hypothesis, test "t" has been applied for the mean scores in the pre and post application to the axis of the obstacles with its dimensions, and the following tables show that:

the mean scores in the pre application was "19.583 ", and so the second hypothesis is achieved.

And this result agrees with the study of " Abd Alkarim Hady: 1998 AD ", which emphasized on that the worker's efficiency is one of the important and influential factors on the productivity process.

The third hypothesis:

"There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the exploitation of energy with its dimensions in favor of the post application".

To check the validity of this hypothesis, test "t" has been applied for the mean scores in the pre and post application to the axis of the exploitation of energy with its dimensions, and the following tables show that:

Table (9) the differences in the mean scores of the pre application and the post application for the part in respect of the design energy

	Mean	Std. Deviation	N	df	t	Sig
The pre application	3.228	0.886	10	9	6.037	0.01 in favor of the post application
The post application	7.599	4.089				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 6.037and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "7.599", while the mean scores in the pre application was "3.228".

Table (10) the differences in the mean scores of the pre application and the post application for the part in respect of the available effective energy

	Mean	Std. Deviation	N	df	t	Sig
The pre application	4.562	1.021	10	9	8.069	0.01 in favor of the post application
The post application	11.181	3.066				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 8.069 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "11.181", while the mean scores in the pre application was "4.562".

statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "14.004", while the mean scores in the pre application was "6.668".

Table (6) the differences in the mean scores of the pre application and the post application for the part in respect of the basic and technical tasks proficiency

	Mean	Std. Deviation	N	df	t	Sig
The pre application	5.021	1.558	10	9	10.102	0.01 in favor of the post application
The post application	14.423	2.308				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 10.102 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "14.423", while the mean scores in the pre application was "5.021".

Table (7) the differences in the mean scores of the pre application and the post application for the part in respect of skill and creativity

	Mean	Std. Deviation	N	df	t	Sig
The pre application	3.868	0.951	10	9	6.095	0.01 in favor of the post application
The post application	7.991	1.234				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 6.095 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "7.991", while the mean scores in the pre application was "3.868".

Table (8) the differences in the mean scores of the pre application and the post application to the axis of the manpower as a whole

	Mean	Std. Deviation	N	df	t	Sig
The pre application	19.583	2.666	10	9	27.515	0.01 in favor of the post application
The post application	45.265	7.032				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 27.515 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "45.265", while

where the mean scores in the post application was "13.628", while the mean scores in the pre application was "5.688 ", and so the first hypothesis is achieved.

And this result agrees with the study of both "Sadiq Ali: 1992 AD", and the study of "Samar Fayez: 1997 AD", and the study of "Gawad Mohsin: 2000 AD", which emphasizes on the importance of preparing a plan for production by using a scientific method for optimal exploitation of available resources.

The second hypothesis:

"There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the manpower with its dimensions in favor of the post application".

To check the validity of this hypothesis, test "t" has been applied for the mean scores in the pre and post application to the axis of the manpower with its dimensions, and the following tables show that:

Table (4) the differences in the mean scores of the pre application and the post application to the part in respect of understanding the essential tasks which it responsible about it

	Mean	Std. Deviation	N	df	t	Sig
The pre application	4.026	0.647	10	9	5.169	0.01 in favor of the post application
The post application	8.847	1.119				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 5.169 and it is a statistically significant value at the level of 0.01 in favor of the post application, where the mean scores in the post application was "8.847", while the mean scores in the pre application was "4.026".

Table (5) the differences in the mean scores of the pre application and the post application for the part in respect of the technical tasks understanding

	Mean	Std. Deviation	N	df	t	Sig
The pre application	6.668	1.488	10	9	9.188	0.01 in favor of the post application
The post application	14.004	3.306				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 9.188 and it is a

Reliability:

Reliability means the test accuracy in the measurement and observation, not a contradiction with itself, and its consistence in providing us with information about the testate's behavior, and it is the ratio between the degree variation on the scale which refers to the actual performance of the testate. The reliability had been calculated by:

1. Alpha Cronbach coefficient
2. Split-half method

Table (2) values of the reliability coefficient for questionnaire axes

Axes	Alpha	Split-half
The first axis: raw materials	0.781	0.732 - 0.829
The second axis: manpower	0.914	0.863 – 0.950
The third axis: the exploitation of energy	0.885	0.837 – 0.921
The fourth axis: obstacles	0.755	0.702 – 0.791
Reliability of questionnaire as a whole	0.837	0.789 – 0.872

The above table shows that all the values of reliability coefficients: alpha coefficient, split-half, significant at the level of 0.01 and that indicates the reliability of the questionnaire.

Results

The first hypothesis:

"There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the raw materials in favor of the post application".

To check the validity of this hypothesis, test "t" has been applied for the mean scores in the pre and post application to the axis of the raw materials, and the following table shows that:

Table (3) the differences in the mean scores of the pre application and the post application to the axis of the raw materials

	Mean	Std. Deviation	N	df	t	Sig
The pre application	5.688	0.896	10	9	9.111	0.01 in favor of the post application
The post application	13.628	2.025				

Table shows that there are statistically significant differences between the pre application and the post application, where the value of (t) was 9.111 and it is a statistically significant value at the level of 0.01 in favor of the post application,

Sewing Department:

This department works on clarifying the duties of workers to carry out work orders by depending on the production plan, which the programming department is prepared it for the purpose of determining Productivity efficiency.

Technology Department:

This department works on preparing all the technical requirements for running the models (Jaber: 1988 AD: 201).

Programming Department: Production Programming:

It is the responsible department on managing and organizing the production's inputs to get the required outputs of clothing.

Sincerity and Reliability

Sincerity

Sincerity of the questionnaire:

It means the ability of the questionnaire to measure what is put to measure.

Sincerity of the internal consistence:

Calculation of the correlation coefficients between the total degree for each axis of the questionnaire axes and the total degree of the questionnaire

The sincerity by using the internal consistence between the total degree for each axis and the total degree of the questionnaire:

The sincerity had been calculated by using the internal consistence and that by calculating the correlation coefficient (Pearson's correlation coefficient) between the total degree for each axis and the total degree of the questionnaire, and the following table shows that:

Table (1) values of the correlation coefficients between the total degree for each axis and the total degree of the questionnaire

Axes	correlation	significant
The first axis: raw materials	0.792	0.01
The second axis: manpower	0.853	0.01
The third axis: the exploitation of energy	0.947	0.01
The fourth axis: obstacles	0.803	0.01

Table shows that the correlation coefficients are all significant at the level of (0.01) because it is close to 1, and that indicates the sincerity and the homogeneity of the questionnaire axes.

it in achieving the organization's objectives by assembling of resources and its interaction, which gives the organization the ability to produce goods and sell it, as well as the ability to continue its life (Yusuf: 1990,70).

Classification of the operational capacity in the factories producing clothing, to:

Firstly: clear and well-known productivity lines and these lines consist of:

- Main machines and equipments contain most the operational capacity.
- Supportive and assistant machines and equipments, which require less energy.

Secondly: dividing the machines that form the energy to the units and sequential phases.

Thirdly: distributing the operational capacity among the following productivity processes:

- Basic sewing operations do not require experience or skill.
- Straight or zigzag sewing operations need a certain amount of experience.
- Sewing operations to connect the product parts require very high precision and skill.

Fourthly: associate with the operational capacity, the following:

•Machines and equipments of work.
•Electric power that drives the big machines.

The productivity is one of the production management concepts and important processes, and which build a lot of plans, activities and programs at the factory. The productivity represents an accurate measure for the production management and operations efficiency, where it compares the quantity of goods or the produced services (Krajawsky: 1993- 7).

Factory departments those are associated with the production management :

Design Department:

This department makes the design for the required model by making the basic and assistance templates, preparing the technical description of models, carrying out and evaluating of the basic model, and determine the quantities of the raw and assistance materials within the model.

Preparations Department:

This department prepares the basic drawing, which guarantees the optimal use of the raw and assistance materials through the distribution of templates, and to clarify the implementation method of the preparatory stages to the order of working to be ready for use in the sewing department.

Production planning levels:

Firstly: the long-term production planning

It is the planning that is related to determining the production levels for long periods of time more than a year (Chase and Aquilan: 1992, 394).

Secondly: The medium-term production planning:

This type of planning is also called the total production planning (Chase and Aquilan: 1992, 396).

Thirdly: the short-term production planning:

This type of planning includes the details of scheduling the operations, inventory control, and quality control (Zin Eldin: 1997 AD: 160).

The short-term production planning stage includes the following activities:

(A) Planning of the requirements from materials.
(B) Planning of the requirements from energy.
(C) The final assembly schedule.
(D) Planning and observing the inputs and outputs.
(E) Observing production activity (Krajawsky: 1993- 15).

Inputs and the requirements of its planning for the clothing production:

Inputs in the production system which used in producing the desired outputs consists of the raw materials, capital, equipment, individuals and information, and energy in manufacturing field (Evans: 1997, 13).

In general, a set of inputs in production system includes all material and non-material resources in the factory, and these resources include human resources and various types of resources, equipments and machines (Alali: 2000.26).

Manpower:

Manpower is an important element in all industrial production processes, but the importance of this element varies from a factory to another factory.

Human resources planning process aims to make the forecasting processes, study ,and determining of requirements from the labor force and meet the various needs of the market (Allozi: 2000, 91).

Thirdly: the operational capacity of machines and equipments:

This means the amount of the economic resources for a certain organization, and which representing in properties and other existing equipments , the number of personnel and which the administration is responsible for it , and use

The researcher had used for the questionnaire of the scientific and technical foundations for inputs and outputs of men's pants production, the graded scale of three degrees "agree - to some extent - disagree", and the researcher had given for each response of these responses degrees "3, 2, 1" for positive phrases, and "1 , 2, 3 " for negative phrases.

Theoretical framework :

The production programming method:

This method aims to formulate a continuous productive program within a certain period of time in order to achieve targeted production numbers, it is classified within production planning methods and means precisely the comprehensive plan, and this method is approaching in terms of the understanding and meaning, from the requirements planning of the materials (Mady: 1987 AD: 73).

So, the process of production planning is the process of determining the amounts and types of production outputs, and determining the operational requirements to achieve these quantities and qualities during period of time, taking into account the limited resources of the raw materials and skilled manpower and how to achieve optimal exploitation of it, by using a scientific quantitative methods for handling those inputs to achieve the mentioned outputs (Altamimi: 1993 AD: 43).

The method of production scheduling is based on two main axes:

Firstly: the vertical axis: the axis of the production quantities which expresses the required outputs levels of the production plan.
Secondly: the horizontal axis: the required period of time for the implementation of the production program.

The importance of preparing table of (the inputs - the outputs)

1- Discovering the shortage in some products and factors of production, which represents the inputs, through the calculation of production requirements and therefore knowing the available energy.
2- Counting the exchange processes between different sectors or different units that required to be interlocked together, which can help in achieving the balance.
3- Helping in forecasting and therefore can access to the different production levels that achieving the final demand. (Gaber: 1988 AD: 135).

-scientific:

-It is a cognitive position confirms that what we get it by science is the absolute truth, and it is an extension to the positive knowledge (Abd Elfattah Morad: 2003 AD: 42).

-Inputs:

-Inputs mean the parts that we need to expose it to certain processes to convert it into new things or give it special specifications and characteristics, and inputs are divided into:

1- Human inputs.

2- Material inputs (Kamel Ali Metwally: 2008 AD: 266).

-Outputs:

-A series of results and achievements that resulted from the previous processes of the training system, it is the outcome of the interaction between inputs, processes and their integration together, and those outputs are represented in the cognitive, skills , behavioral , moral and material changes. (Mohammed Ayman Abd Ellatif, 2008 AD: 398).

-Production:

-Determination and correspondence of all necessary activities to see the future of the commodity production (Alali: 1986 AD: 353).

-Translating numbers of the projected demand into needed quantities to achieve it with certain specifications during certain periods of time(Elsindy: 1997 AD: 3).

-It is a series processes converting resources from one form to another desirable (Ahula: 1993: 48).

Limits of research

*Sample of research

It consisted of (10) factories for men's pants production.

Tools of research

Questionnaire of the scientific and technical foundations for inputs and outputs of men's pants production:-

The questionnaire consisted of four major axes are:

A- The first axis: raw materials.

B- The second axis: manpower.

C- The third axis: the exploitation of energy.

D- The fourth axis: obstacles.

Objectives of research:

This research aims to:

1- Achieving the optimal use of the basic raw materials and the non-basic materials by adopting the strategy planning method.
2- Planning of inputs and outputs of production by the way that ensure the benefit of this phenomenon in the exploitation of what is available from the production requirements (inputs) to achieve the targeted output.
3- Achieving the optimal exploitation of the operational capacity that is available, with taking into account the following ingredients:
A - Knowing the amount of interlock.
B - Knowing the amount of electrical power in each line.
C- Knowing the amount of overlapping energy between the semi-ready made products.

Importance of research:

1- Planning to the manpower that with efficiency and take advantage of its skills and working to develop it.
2- Achieving the best exploitation of the operational capacity of the machines, in particular, the available capacity between the Productivity lines.

Manner of research:

Hypotheses of research:

1. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the raw materials in favor of post application.
2. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the manpower with its dimensions in favor of post application.
3. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of the exploitation of energy with its dimensions in favor of post application.
4. There are statistically significant differences between the mean scores in the pre and post application of the quantitative input to planning the inputs and outputs to the axis of obstacles with its dimensions in favor of pre application.

Terms of research:

-Foundations:

-it means the origin of the building, the thing and its start. And it is the scientific method that builds upon it any knowledge from foundations and rules, private and public (Elmonged in Arabic language and science: 1956 AD: 100).

And those methods are considered the supportive of the application of the other quantitative methods, we can distinguish between two types of it: the qualitative methods and quantitative methods (Alalawnah et al: 2000 AD: 92).

The quantitative analysis methods require two main components, they are: the time series analysis by depending on historical data, and analysis of the causal relationship between the independent variables and the dependent variables (Andiraon: 1992: 172-175).

Decision-making contributes correctly in achieving the arranging goals, and that by depending on the information that explain the methods of decision, and which is supposed it be characterized by a comprehensiveness and suitability, quality and appropriate quantity (Alalawnah: 2000 AD: 53).

The process of decision-making, is the process that requires a decision or set of decisions, and each allowed decision is correlated with it gain or loss or benefit, and that is determined by sharing with the external conditions surrounding the process (Mashreqy: 1997 AD: 65).

So, decision-making is a response process to the problem by search and selection of the solution.

There are a variety of studies which handled the production programming, such as the study of "Sadiq Ali: 1992 AD", a study of "Samar Fayez: 1997 AD" which emphasized on the need for the use of the written rules and written programming, as well as the study of "Abd Alkarim Hady Shaban: 1998 AD", and study of "Gawad Mohsin: 2000 AD ", which emphasized on the importance of building a detailed program for production to increase the production.

The importance of decision-making appear in respect of any institution by its connection with aspects of the different managerial process of planning, organizing, coordinating, policies and communication, because the decisions-making process, from the scientific aspect including all aspects of the managerial organizing, and any thinking in the managerial process should focus on the principles and methods of the decisions-making (Jones: 1995: 458).

Problem of research:

1- Lack of clear plans to develop the skilled human resources or polarizing it from outside of the factory.
2- Weakness in the exploitation of operational capacity, that is available for the factory.

The scientific and technical bases for inputs and outputs of men's pants production

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Introduction:

No longer the descriptive and behavioral analysis able to interpret and handling a lot of the phenomena and managerial problems, which the contemporary business organizations suffering from it, although there are different introductions to study the process of decision-making in business management , however, there is the quantitative introduction of the decision-making, which is characterized from it, and is considered one of the main introductions to handling the organizations' problems, and this introduction is characterized by being depends on the quantitative methods or the digital data in supporting of the decision-making process to solve the problem (Elfadl et al : 1999 AD: 23).

Therefore, the quantitative methods are a logical and systematic introduction in handling the decision-making process. Also the quantitative methods are known as the application of scientific ways to study the alternatives of the problem for providing a quantitative basis to reach to the optimal solution according to the desired goal (Koontz et al: 1984: 192).

The quantitative methods are those methods that are interested in the scientific decisions, that relating with designing and operating of systems, particularly in cases that require the allotment of the rare resources (Phillips & Solberg: 1976, 4).

The quantitative methods used in production planning vary according to the nature and type of the production plan, and from these methods "the prediction methods, the decision theory methods, and the production programming method, that based on the basis of learning curve".

So, the use of any method of the previous methods depends on the type and nature of the problem, which requires handling , where it requires the use of more than one method to handle a specific problem, so the use of some of it is essential and others are supporting it (Elfadl and Elhodathy: 1999: 7-8).

These methods are selected with what consistent with the nature of the problem dividing of production planning to its two parts: the first with respect to the inputs, and the second with respect to the outputs.