Examination of new patterns oil products stations on national Iranian oil products distribution company productivity

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A B S T R A C T

For the purpose of finding of relationship between new patterns of oil products stations i.e. gasoline and CNG stations on national Iranian oil products distribution company productivity five cases have been studied. These cases are electronic payment, intelligence and automatic nozzle, multifunctional and multi product pomp, non-space station and extra services at stations. Since the productivity is summation of efficiency and effectiveness, then five efficiency factors of time, fixed and variable cost, human resource, place and raw materials as well as five goals of effectiveness factors i.e. customers satisfaction, optimization of consumption, competing situations, marketing and economic growth, smooth of financial transactions, increase of private section involvement and improve of health, safety and environmental requirements have been studied. Raw Data has been gathered via following methods: Distributing questionnaire among owners of stations, interviewing responsible persons IN NIOPDC, Researcher's observations, Consulting documents and textbooks and performing statistical tests using SPSS software The studies result in following conclusions: There is no meaningful relationship between NIOPDC productivity and some new patterns of oil products stations like electronic payment, non-space stations and extra services. There is meaningful relationship between NIOPDC productivity and in some new pattern of oil products stations like intelligence and automatic nozzle and multifunctional pump.

INTRODUCTION

Productivity is one of the concepts whichis noticed by science experts in management, economics and politics in order to improve the life level and build a prosperous life. The growth and prosperity of individuals and members of a community's leads to growth and prosperity of the community which results in reaching the developed Idealsociety. All countries including developed and even developing know the productivity as the reason for economic growth and development and believe that it must be increased in order to prevent the downturn. Especially in our country that huge effort is made for economic growth each year, authorities should consider a particular importance for increasing productivity in both government-based and private companies and with respect to each of the different sectors, society analyzes activities with different methods and techniques. The last few decades we have seena rapid economic and social development in many countries. Countries without significant natural resources and materials, are today among the developed countries, while countries with rich resources, are still developing. The question is "what is the secret of this development?" The secret is nothing but developing productivity. Nowadays the productivity is considered beyond a criterion, in the role of a culture, perspective to the life and work and its improvement is the main resource of economic development. Productivity development has major and significant effects on economic, social and politic states of a country and among the most important faces of the increasing welfare are decrement in inflation and increment in employment in society. Iran's economy on the threshold of the third millennium is still energy export based economy. Much of the foreign currency needed to buy goods from abroad is provided from oil exports income. Deficit of payments balance of the foreign country have made Iran owed to the global economy due to lack of proper implementation of economic policies. Despite the rich resources, young and educated labor force, our economy continues to suffer from a chronic lack of production. Current administrative structure and economic system of the country does not meet future needs and fundamental changes in attitudes, policies, structures and systems of management should arise. Nowadays the economy of our country is faced to an introverted nature, inefficient structure and long and wide government bureaucracy device that lack coherent

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visions and policies to increase productivity and growth and development of the country. While by correct strategies and a small set of official system and Knowledgeable and thoughtful staff and promoting meritocracy in management and creating a healthy competitive market, a small and efficient government and intelligence agencies with guidance and ideas can be obtained. Productivity is an intellectual perspective and a thought for the continued improvement of everything that exists. Productivity is to ensure continuous availability of doing things today better than yesterday. Productivity is a continuous effort to use new techniques and methods. Beside the identification and evaluation of the new patterns used in fuel stations and Supplying petroleum products, it have been tried to study the effects of these patterns and methods on productivity indexes and present the results.

The analytical model of the research:
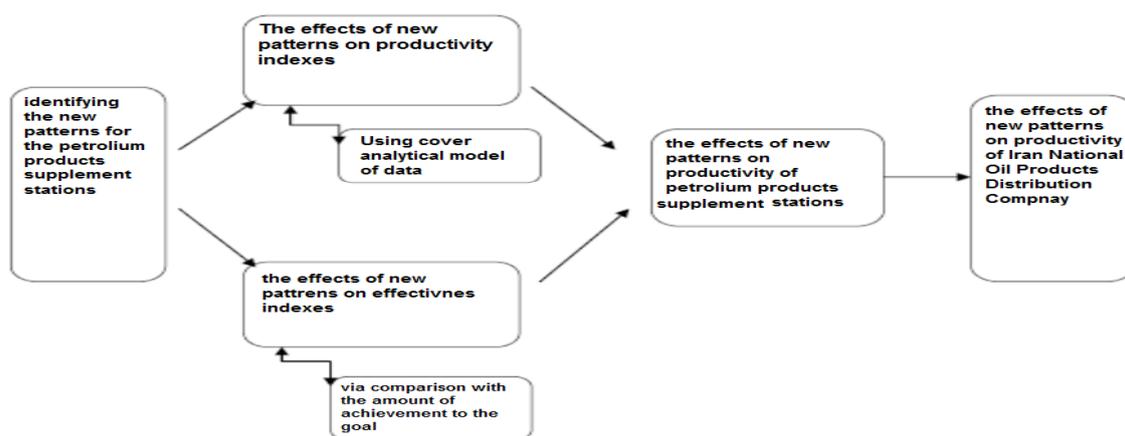   The model which the practical process of this research is based on, is presented in the figure below

Fig. 1: The research model.

Hypothesis:
    The main hypothesis: There is a significant relationship between the new patterns of petroleum products supplement sites and productivity of National Oil Products Distribution Company.
    Sub-hypothesis: There is a significant relationship between the new patterns of petroleum products supplement sites and the efficiency of the National Oil Products Distribution Company.
1. There is a significant relationship between new patterns of petroleum products supplement sites and effectiveness of National Oil Products Distribution Company.
2. There is a significant relationship between the use of electronic payments in sites and the productivity of National Oil Products Distribution Company.
3. There is a significant relationship between the use of intelligent and automatic nozzlesin stations and the productivity of National Oil Products Distribution Company.
4. There is a significant relationship between the use of multiuse pumps in stations and productivity in of National Oil Products Distribution Company.
5. There is a significant relationship between the use of non-space stations and productivity of the National Oil Products Distribution Company.
6. There is a significant relationship between the lateral services of the stations and productivity of the National Oil Products Distribution Company.

The spatial scope of the study (population):
    The population of survey is all sites of petroleum products supplement of the country that the stations that they are benefiting from the new models are compared with the other stations. There is about 2700 the petroleum products supplement stations in whole country which estimated 100 stations are in Tehran. Also 575 new stations are under Construction.

Explanation of Words and Phrases:
    New patterns of Petroleum Products supplement stations Employing modern methods and models to build, equip and maintain and expand the petroleum products supplement stations and operating technology in them, for example using two or multiple systems, card reader systems , electronic payment systems, etc., which are considered as independent variables.

Productivity:

Productivity is the relationship between the output of a production system to used data (eg, capital, energy, labor, etc.) in order to produce output. Productivity is the relative efficiency of the productive labor, capital and land resource as they have been used [6]. Performing correctly + performing correct tasks [2]. Efficiency (doing the things right) + Effectiveness (doing right things), which are the dependent variable.. Productivity refers to the output power, is to be fertile and productive. The land which has the potential for agriculture and seed will be proliferated in it, is called a Productive land that is fertile land. Persons having work power but without jobs are called non-Productive, so productivity isreferred to the manufacturing and the productive power of someone or something. Productivity is the relationship between the output of a production system to the used data (eg, capital, energy, labor, etc.) in order to produce output. Productivity is a thought and a perspective based on this fact that anyone can do his work or duties every day better than the day before. The belief to improve the productivity means a firm faith in human progress.

The productivity is the relationship between the outputs of a system to its inputs. In terms of the system the productivity exists in an environment with variable and various features, the various factors used as inputs in production such as labor, capital, energy, management, technology and etc. are entered to the production process and the outputs such as goods and services are exited from the process. [9].

Effectiveness: the degree or extent to which the desired objectives of the company can be achieved.

Efficiency: is defined as the amount of resources consumed to produce a unit of product. The efficiency also refers to the ability to obtain output from fewer inputs. In other words, the effectiveness is working well. We review two relatively similar definitions for effectiveness:

1. The ratio of actual obtained efficiency to the standard determined efficiency (expected)
2. The ratio of final goods or services to the resources used [7].

Research background:

M. Architectural in a Research entitled "Survey of the state of stations in Tehran and optimal locating"concluded that the Fueling situation in Tehran for optimizing the consumption, improve the environmental conditions and etc. require re-examination. In this thesis it has been tried to take actions to offer ways to improve situation byidentifying difficulties statistically and analyzing information.

E. Sharifi in a research called"Location Finding of gasoline stations in large cities" has shown that this this project will investigate the planning of determining gasoline stations in major cities. The study case is the area No 12 of Tehran. Using mathematical models, queuing theory, timing methods, and the economic evaluation of the project,the location of facilities in terms of development and possibly the elimination of stations are studied.For this purpose, analysis of factors, determining the relationship between factors, detecting bottlenecks and the objectives was done. The information data includes the duration taken to reach the station, waiting in the queue and receiving service.The results of this research study are to assess the current status of station and ability of policies for assessment in comparison to provide fuel to vehicles in big cities. This model has the ability to be decided to locate other urban services.

Golalizadeh P., E. Ftaei, MR Ranjbaromid, A. Maleki in a research called "reducing environmental pollution and preventing the loss of gasoline at fueling stations using a system designed to prevent overflow of car tank," stated that in all the cars all over the world, the air outlet and openings of car tank is designed so that outlet path created in the fuel tank is located in the fuel pathway which has many problems and defects such as: when injecting fuel in fuel stations, the gasoline enters the air outlet and creates some problems for Exiting air. Also the gasoline pump is located on top of the gasoline outlet and the air exiting is not done completely. These two factors cause the air exiting not to be done approximately 30%. Furthermore lack of a warning system to be aware of the tank of being full of fuel and the lack of an appropriate angle relative to the input (pipe) at the time of filling up the petrol tank of some deficiencies, which causes overflow.

Dr. F. Etabi, Z. Abedi, V Esfahanian, Mr. K. S. Mahootchi in a research titled "Cost - benefit Analysis of construction and operation of single purpose CNC fueling station for private sector in Tehran" found thethat the substantial economic savings due to reduced fuel consumption in gas fueled vehicles and Reducing pollution from fuel combustion in these vehicles compared to the gasoline fueled and diesel vehicles are among the most important results of making vehicles gas fueled and construction of the CNG Fuel stations which inthe current situation is one of the ways to control excessive consumption of petrol and diesel fuels and reduce environmental pollution in urban areas.in order to achieve the goals of the 44 principle of Constitutionand under the Note 13 of the 2007 the Budget Lawand notification of special delegation to Note 13, the company of fuel consumption optimization is obliged to transfer, operate and construct the CNG Fuel stations with special facilities to the private sector (to grant all equipment free status).Thus, at the beginning construction of Fuel CNG stations will be done in major cities of Tabriz, Isfahan, Islam Shahr, Tehran, Karaj, Mashhad, Ahvaz, Shiraz, Qom, Kerman, Kermanshah and Yazd and in other cities in the near future will be realized. This study investigated the economic justification for the project.. Based on previous studies, the current level of investment required to build a CNG fueling station is 14209000000 Rials which 3430000000 Rials from that is

awarded from the government to private sector in the form of equipment (grant).Monthly income for a fuel station with 4 Dyspnsr (8 nozzles) with in average a fueling vehicle with a capacity of 15 cubic meters every 6 minutes will be 61,320,000. The annual cost of the station is 1366560000 Rials. Using software COMFAR EXPERT III economic evaluation of the project is done and its internal efficiency rate is obtained as 3/56.Given the amount of interest rate that is between 16 to 22 percent, has no economic justification. The net present value of the project is 628751624 and the investment return duration is 10/62 years. If the annual income per person increases by about 81 percent and reach 3,811,975,444 from 2,102,400,000, the efficiency rate of investment in private sector will be 20 percent.

Mohammad Abduli, M. Mirmohammadi, B. KARIMIAN in a research called "energy dissipation rate of the gasoline stations and control methods" demonstrated that the gasoline is a substance, which is abundant in volatile organic compounds. Due to the storage and transport of gasoline in stations, some of it is wasted.Waste of gasoline leads to waste of energy and air pollution. The main sources of waste gasoline in stations are: 1 - emissions of gasoline vapors resulted by the depletion of gasoline from truck tank into underground storage tank of the gasoline station 2 - emissions of gasoline vapors caused by depletion of gasoline from underground tank of the gasoline station to car tank 3 –Overflow of gasolinefrom cars fuel tank.The results show that the average loss per cubic meter of gasoline is about 35/5 l. Average daily consumption of gasoline in the country is 000/70 cubic meters per day. Then each day, about 375,200 liters of gasoline is wasted in stations in the country. In addition to energy waste, wasted gasoline can cause pollution to air, surface and groundwater. There are Cheap and simple methods to prevent waste of fuel in gas stations.If the cost of annually wasted gasoline is spent to control methods, not only it can avoid wasting national resources but also will reduces harmful effects to health and the environment. The methods of controlling the gasoline waste in gasoline stations were also studied.If the first phase and second phase of control is used anamount of112 560 and 337 680 liters of fuel wastage will be reduced.

Descriptive analysis:

In this study, 300 questionnaires were distributed randomly at fuel stations across the country.In addition to the research questions, the respondents were asked questions about gender, age, station of service, quality level status, occupation and etc. After reviewing the returned questionnaires and collecting 118 valid questionnaires without problems and studying data, the obtained descriptive analysis briefly is described below:
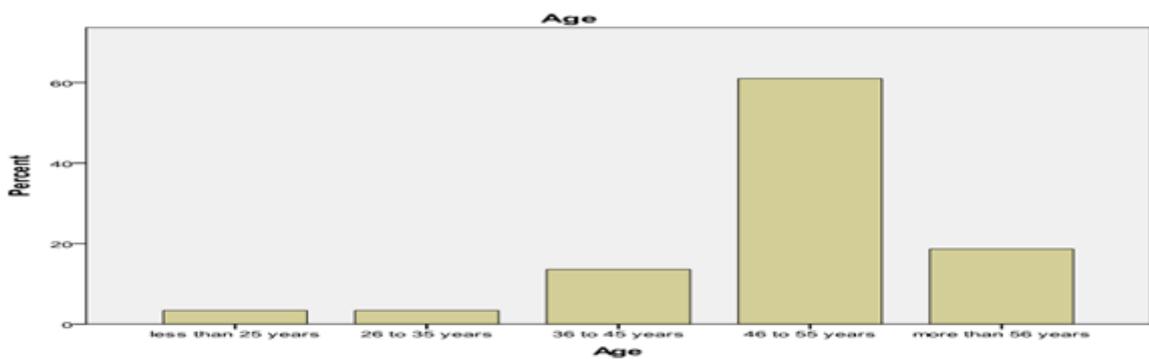
Tables 1: descriptive analysis:

Statistics					
Gender					
N		Valid		118	
		Missing		0	

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	118	100.0	100.0	100.0

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	118	100.0	100.0	100.0

Statistics		Gender	Age	Educate	jobcat	grade
N	Valid	118	118	118	118	118
	Missing	0	0	0	0	0
Mean		2.0000	3.8814	1.6186	2.9407	2.9492
Median		2.0000	4.0000	1.0000	3.0000	3.0000
Mode		2.00	4.00	1.00	3.00	4.00
Std. Deviation		.00000	.86893	.78359	.23723	1.30644
Variance		.000	.755	.614	.056	1.707
Std. Error of Skewness		.223	.223	.223	.223	.223
Std. Error of Kurtosis		.442	.442	.442	.442	.442
Range		.00	4.00	3.00	1.00	4.00
Sum		236.00	458.00	191.00	347.00	348.00
Skewness			-1.356	1.224	-3.779	.002
Kurtosis			2.760	1.101	12.494	-1.284

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 25 years	4	3.4	3.4	3.4
	26 to 35 years	4	3.4	3.4	6.8
	36 to 45 years	16	13.6	13.6	20.3
	46 to 55 years	72	61.0	61.0	81.4
	more than 56 years	22	18.6	18.6	100.0
	Total	118	100.0	100.0	

Educate		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diplom&underdiplom	63	53.4	53.4	53.4
	under graduate	41	34.7	34.7	88.1
	master degree	10	8.5	8.5	96.6
	phd&above	4	3.4	3.4	100.0
	Total	118	100.0	100.0	
jobcat		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	technical manager	7	5.9	5.9	5.9
	administrator	111	94.1	94.1	100.0
	Total	118	100.0	100.0	
grade		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under grade 3	18	15.3	15.3	15.3
	grade 3	35	29.7	29.7	44.9
	grade 2	14	11.9	11.9	56.8
	grade 1	37	31.4	31.4	88.1
	excellent	14	11.9	11.9	100.0
	Total	118	100.0	100.0	

Gender

jobcat

Age
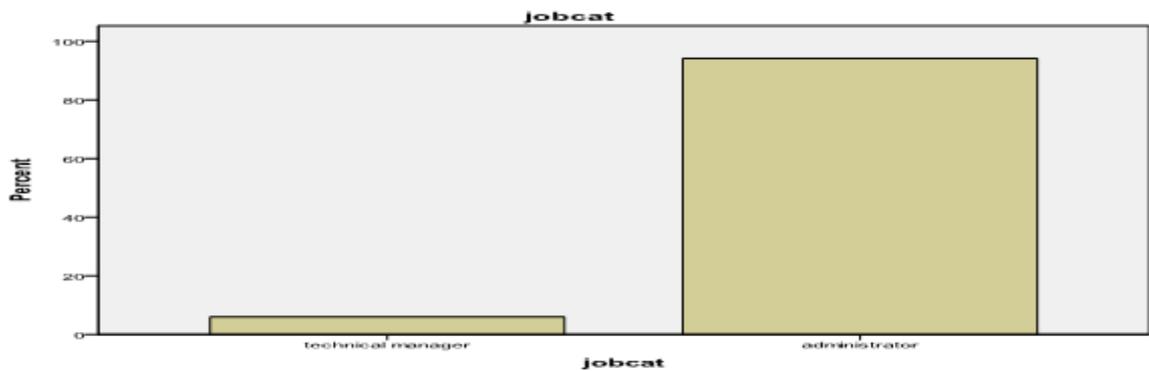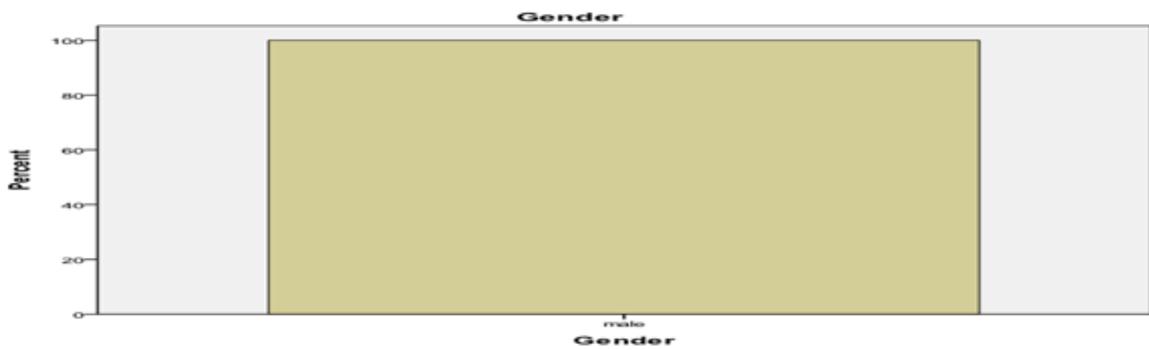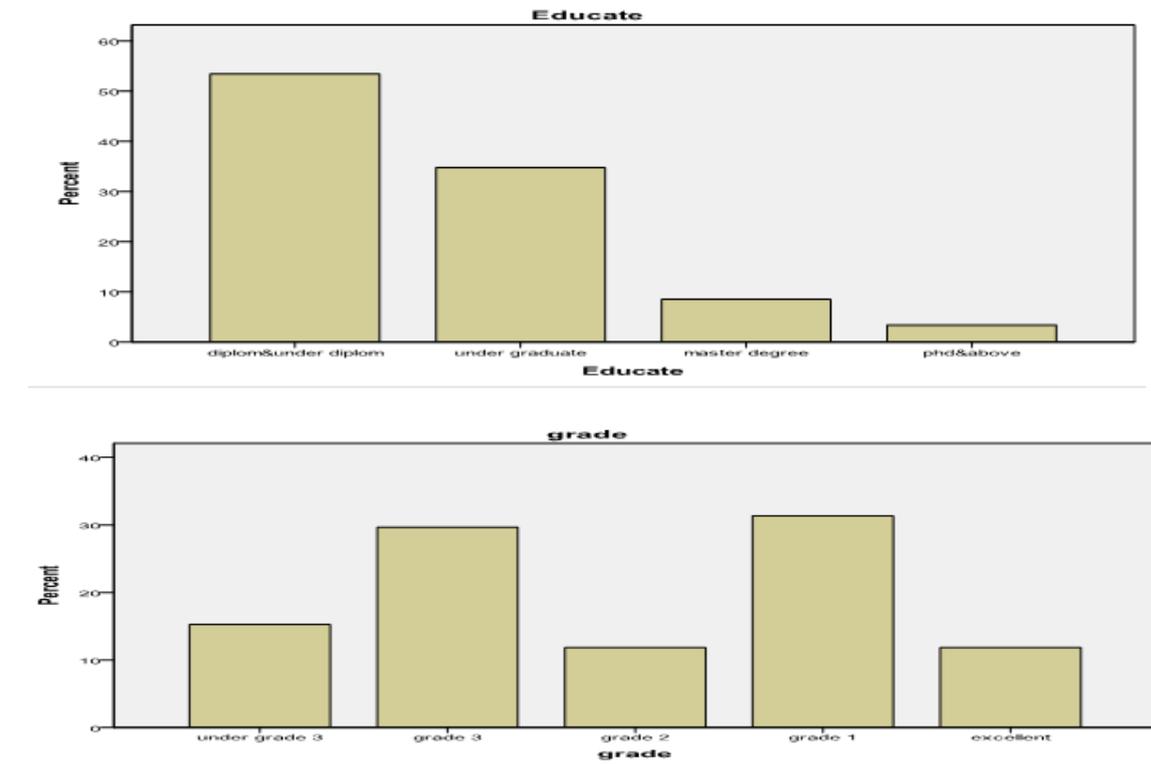
Graphs 1: descriptive analysis

Descriptive Statistics.

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender	118	2.00	2.00	236.00	2.0000	.00000	.000	.	.	.	.
Age	118	1.00	5.00	458.00	3.8814	.86893	.755	-1.356	.223	2.760	.442
Educate	118	1.00	4.00	191.00	1.6186	.78359	.614	1.224	.223	1.101	.442
jobcat	118	2.00	3.00	347.00	2.9407	.23723	.056	-3.779	.223	12.494	.442
grade	118	1.00	5.00	348.00	2.9492	1.30644	1.707	.002	.223	-1.284	.442
Valid N (listwise)	118										

Inferential analysis:

The results are summarized in the following expression:

Hypothesis 1 - There is a significant relationship between the use of electronic payments in gasoline stations and the productivity of National Oil Products Distribution Company.

Table 2: Mean and standard deviation of Electronic Payment.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
e-payment	118	2.4466	.84304	.07761

Table 3: Unilateral T-Test results.

One-Sample Test						
			Test Value = 3			
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
e-payment	-7.131	117	.000	-.55339	-.7071	-.3997

As it can be seen in table, the sample mean is 2.466, which is indicative of the lack of effect of electronic payments on the productivity, according to the table (sig <.05), indicates that this sample mean determines the condition of the society compared to the desired number (Status t = -7.131 also confirms this)

Hypothesis 2 - there is a significant relationship between the use of intelligent and automatic nozzle and Productivity of National Oil Products Distribution Company.

$H_0 \Longrightarrow \mu = 3$

$H_1 \Longrightarrow \mu \neq 3$

Table 4: Mean and standard deviation of intelligent and automatic nozzle

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
automatic nazzel	118	3.1619	.68249	.06283

Table 5: Unilateral T-Test results.

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
automatic nazzel	2.576	117	.011	.16186	.0374	.2863

As it can be seen in table, the sample mean is 3.1619, which is indicative of the lack of effect of intelligent and automatic nozzle on the productivity, according to the table (sig <.05), indicates that this sample mean determines the condition of the society compared to the desired number (Status t=2.576 also confirms this)

Hypothesis 3 - There is a significant relationship between using the multipurpose pump and the productivity of National Oil Products Distribution Company.

$H_0 \Longrightarrow \mu = 3$
$H_1 \Longrightarrow \mu \neq 3$

Table 6: Mean and standard deviation of multi-purpose pump

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
hypethesis3	118	3.0983	.71204	.06555

Table 7: Results of Unilateral T-Test test

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
hypethesis3	1.500	117	.136	.09831	-.0315	.2281

As it can be seen in table, the sample mean is 3.0983, which is indicative the of effect of multi-purpose pump on the productivity, according to the table (sig <.05), indicates that this sample mean determines the condition of the society compared to the desired number (Status t=1.5 also confirms this)

Hypothesis 4 - there is a significant relationship between the usage of non-space stations and productivity of the National Oil Products Distribution Company.

$H_0 \Longrightarrow \mu = 3$
$H_1 \Longrightarrow \mu \neq 3$

Table 8: Mean and standard deviation of non-space stations.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
non space	118	2.7271	1.01406	.09335

Table 9: Results of unilateral T-Test test.

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
non space	-2.923	117	.004	-.27288	-.4578	-.0880

As it can be seen in table, the sample mean is 2.7271, which is indicative of the lack of effect of non-space stations on the productivity, according to the table (sig <.05), indicates that this sample mean determines the condition of the society compared to the desired number (Status t=-2.923 also confirms this)

Hypothesis 5 – There is a significant relationship between the use of ancillary services in stations and Productivity of National Oil Products Distribution Company.

$H_0 \Longrightarrow \mu = 3$
$H_1 \Longrightarrow \mu \neq 3$

Table 10: Mean and standard deviation of ancillary services.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
extra attend	118	2.7483	.89860	.08272

Table 11: Results of unilateral T-Test test

One-Sample Test					
	Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower	Upper
extra attend	-3.043	117	.003	-.25169	-.4155	-.0879

As it can be seen in table, the sample mean is 2.7483, which is indicative of the lack of effect of ancillary services on the productivity, according to the table (sig <.05) indicates that this sample mean determines the condition of the society compared to the desired number (Status t=-3.043 also confirms this)

Friedman ranking test:

Table 12: of Friedman Ranking

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
e-payment	118	2.4466	.84304	1.10	3.80
automatic nazzel	118	3.1619	.68249	1.50	4.30
multi nazzel	118	3.0983	.71204	1.30	5.00
non space	118	2.7271	1.01406	1.00	4.50
extra attend	118	2.7483	.89860	1.00	4.30
Ranks:					
					Mean Rank
e-payment					2.08
automatic nazzel					3.78
multi nazzel					3.35
non space					3.27
extra attend					2.53

Test Statistics^a	
N	118
Chi-square	90.544
df	4
Asymp. Sig.	.000
a. Friedman Test	

Table 13: Summary of Inferential analysis:

	Hypothesis 1	Hypothesis 2	Hypothesis 3	Hypothesis 4	Hypothesis 5
	1.7542	3.6441	3.8898	2.6695	2.1695
	1.5593	2.7881	2.6186	2.8729	2.6102
	2.5932	2.5000	2.7203	2.4068	1.7881
	2.3475	2.2966	3.3898	3.5932	1.9576
	2.6102	3.4746	2.6864	2.6186	2.9322
the mean value of 5 questions related to efficiency of each hypothesis	2.1729	2.9407	3.0610	2.8322	2.2915
	2.1186	3.8729	3.4492	2.8644	3.5085
	2.7881	3.7288	3.5424	2.7288	3.2966
	3.1695	2.9661	3.1102	2.4237	3.1780
	2.5339	2.5678	2.7373	3.0085	3.1610
	2.9915	3.7797	2.8390	2.0847	2.8814
The mean value of 5 questions related to effectiveness of each hypothesis	2.7203	3.3831	3.1356	2.6220	3.2051
The mean value of 10 questions related to the Productivity of each hypothesis	**2.4466**	**3.1619**	**3.0983**	**2.7271**	**2.7483**

Conclusions:

In this section first the results of the each 5 hypothesis test presented in the research will be stated and the significant relationship between the five new patterns of petroleum products supplement stations and the productivity ofNational Oil Products Distribution Company.After the results of hypothesis testing, the results of the ranking the models are classified and stated based on importance. Then the frequencies of responses obtained by questionnaires and based on the respondents' views which are randomly selected across the country have been expressed.Then the results of brief interviews with the Directors of National Distribution Company and the president of gas station owners Union across the country as well as the results of library studies and documentations are presented.

A) Hypotheses test:

By appropriate statistical tests such as T-test, the results of the five hypotheses test of the study are derived as follows:

1. There is no significant relationship between the use of electronic payment in stations and productivity of the National Oil Products Distribution Company.

2. There is a significant relationship between the use of intelligent and automated nozzle in stations and productivity of National Oil Products Distribution Company.

3. There is a significant relationship between multi-purpose pumps in stations and productivity of National Oil Products Distribution Company.

4. There is no significant relationship between use of non-space stations and productivity of National Oil Products Distribution Company.

5. There is no significant relationship between the use of ancillary services in stations and the National Oil Products Distribution Company.

B) Ranking of new models of petrol products supplement stations:

Based on the results of hypothesis tests and also Friedman statistical test, the importance of each studied pattern in this research were classified and ranked and the results below were obtained:

• Intelligent and Automatic nozzle used in stationshas the highest ranking among the new patterns of petroleum products supplement stations.

• Using multi-purpose pumps in stations is located at the Next Level.

• Using non-space stations is classified in the next Level.

• Next place is for the use of ancillary services.

• The use of electronic payments in stations is in the last place of rankings.

Accordance with the following table:

Table 1: Ranking of new patterns of petroleum products supplement stations.

Ranks	
	Mean Rank
e-payment	2.08
automatic nazzel	3.78
multi nazzel	3.35
non space	3.27
extra attend	2.53

C) Frequency results from the descriptive analysis of the respondents:

• Gender: Gender of All respondents was male.

• Age: The age of the respondents was in accordance with the following table and most of them e.g. 72 persons (61%) were between 46 to 55 years old.

Table 2: Table of descriptive analysis of the respondents.

	Age				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 25 years	4	3.4	3.4	3.4
	26 to 35 years	4	3.4	3.4	6.8
	36 to 45 years	16	13.6	13.6	20.3
	46 to 55 years	72	61.0	61.0	81.4
	more than 56 years	22	18.6	18.6	100.0
	Total	118	100.0	100.0	

• Education: Education of respondents was according to the following table:

	Educate				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diplom&underdiplom	63	53.4	53.4	53.4
	under graduate	41	34.7	34.7	88.1
	master degree	10	8.5	8.5	96.6
	phd&above	4	3.4	3.4	100.0
	Total	118	100.0	100.0	

• Position: The position of the respondents is according to the table below and most respondents (n = 111) was the Director:

	jobcat				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	technical manager	7	5.9	5.9	5.9
	administrator	111	94.1	94.1	100.0
	Total	118	100.0	100.0	

• Station class: class of the questioned stations is described as following table and classified in five distinct groups, privileged, grade 1, grade 2, and grade 3 and below 3 which the most stations belong to the groups 3 and 1:

		Frequency	Percent	Valid Percent	Cumulative Percent
	grade				
Valid	under grade 3	18	15.3	15.3	15.3
	grade 3	35	29.7	29.7	44.9
	grade 2	14	11.9	11.9	56.8
	grade 1	37	31.4	31.4	88.1
	excellent	14	11.9	11.9	100.0
	Total	118	100.0	100.0	

D) The results of the interview:

Based on the interviews with the managers of the National Oil Products Distribution Company and also the Chairman of the Owners' Association of the sellers and suppliers of petroleum products across the country and their implementation and summaries, the results below are obtained:

• Resistance caused by the gas station owners in front of the new patterns are due to the lack of involvement in major decisions and Imperative structures of implementing new models in stations.

• The higher privatization of stations and more attention and support to the private sector leads to improve productivity.

• Resistance of station owners against electronic payments can be interpreted and explained in three areas:

1. Psychological resistance: due to the tendency of people to carry cash

2. Cultural resistance: the labor force of stations receiving cash are more satisfied and income due to the remaining from cash are deleted in electronics payment.

3. Resistance due to consumer habits; which with elapsed time for the implementation of electronic payment habits will be replaced.

• Lack of widespread use of intelligent and automatic nozzle for various reasons, including lack of programmability of some nozzles and fuel card programs that are needs more modernization and improvement of pumps.

Using nozzles and multi-purpose pumps needs redesigning the reservoir and observing the safety precautions which withincreasing diversity of productivity even redesigning more stations will be needed.

• The provision of ancillary services such as welfare and technical services in many stations is underway unofficially. This lack of recognition arises from the wage system in income of stations and the station owner's tendency to earn unofficial incomes causes the Lack of interest in the station owners and petroleum suppliers to benefit from ancillary services formally. In this regard the welfare and service Complexes beside the fuel supplier stations which have been noticed in recent years can prepare the necessary platform for these patterns.

• Income independent from sales and reforming the wage payment system can contribute to the acceptance of new models by station owners.

Suggestions:

• It is suggested for the future researchers to study the efficiency and productivity using Malm Quist index method of indicators change comparing the time before performing the patterns (t1) with the time after performing of the patterns (t2) in countries that have implemented each of the recommended patterns.

• It is suggested for the further researchers to study efficiency and effectiveness indicators separately and compare the results with this study.

•The researchers are suggested to change the society and the samples of this research and distribute the questionnaires among the customers e.g. the consumers of the fuel and separately among the administrators and responsible of the National Oil Products Distribution Company instead of Owners and managers of petrol products stations and compare the results of their study with the results of our research.

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