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Investigating the impact of applying information technology (IT) in gaining competitive advantage in Green Planet Pardis Industrial Computer Company

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Abstract

This study has investigated the impact of applying IT in gaining competitive advantage. In this study, three main process of competitive advantage that includes differentiation advantage, quality advantage and cost advantage is studied. The population is Green Planet Pardis Industrial Computer Company that information and data of research are collected using a questionnaire. The results of research has categorized competitive advantage to two parts of financial benefit (cost) and non-financial benefit (differentiation and focus) and measured the impact of applying information technology in each dimension. According to the results obtained the presence and impact of information technology in Green Planet Pardis Industrial Computer Company in all dimensions of competitive advantage is positive. Also based on correlation values obtained in the research, IT variable has abled to create the greatest impact on the focus advantage, differentiation advantage and cost advantage.

Keywords: information technology, competitive advantage, differentiation advantage, quality advantage, cost advantage

1. Introduction:

Competitive advantage is company's values provided for customers so that the values is higher than the customer costs (Porter, 1990) Competitive advantage is one of the most important issues in strategic management theories that can be said that competitive advantage is a dynamic and continuous process that by considering the internal and external situation of organization is originated from resources of organization and due to the ability to right apply of resources, capabilities are created that advantage of these capabilities brings competitive advantages for organization. (Fiver and Chaharbaghi, 1995). Nowadays, information technology is used as a tool to communicate with customer and also to comprehensive inform to customer and in a word advertising. Innovation and creativity is the key to success in web-based economy. Today, companies that are able to create strategic advantages using Web-based information technology will be the winner.

Recent advances in computer and information industry and login information and emergence of local information networks, national, regional and international and especially multimedia internet of information technologies has created tools and new methods for the designers, planners and managers and administrators of training programs. Influence of new information technologies in organizations and companies has changed simple relations in general. Generally traditional management patterns are changed.

This study aimed to investigate the importance of information technology in one of the largest producers of computer equipment, Green Planet Pardis Industrial Computer Company and its impact on heading the other competitors. In this computer company, measures such as wider and more communication among customers, partners, users and skilled human resources and the elimination or reduction of restrictions and cumbersome administrative constrains, raising the quality of services and save time and human resources is thought that with the use of information technology will be caused gaining competitive advantage.

2. Literature, theoretical framework:

A new wave of international trade theories from the late 1980s to fill the gap of common view was entered economic literature that review each of these theories requires an independent space. Including the most important views of the field that only not satisfied to minor corrections and tried to provide a different basis for comprehensive explanation of global business trends is called the theory of competitive advantage. "Michael Porter" in 1990 with the book of "The Competitive Advantage of Nations" as the founder of this theory remained the most important effect.

Accordingly, for the success of a country in global trade cannot only satisfied to revealed comparative advantage but also the economies must create advantage through the recognition of status and their structure and capacity building and by providing world contexts and competitive working conditions allow economic actors in line with government guidance allocate new areas in global trade. In this view, the role of factors of production will decline in the traditional sense as well as the opportunities that give globalization space at the disposal of corporations and governments cause breaking down the constraints of the past. What is important in Porter's view is the reform-oriented in the level of economic factors and related institutions

Several factors led to Porter's view faced with welcoming and attention of economic and policy circles: First, the view was published at a time when economic and virtual competitions were increasing, the trade barriers saw the dramatic reduction and markets were opening and even former communist countries were also changing attitudes to global trade. Second, despite good progresses in macroeconomic aspects of compete and develop, but it was also emphasized that macroeconomic reforms is necessary but not sufficient. What should be taken into consideration is the micro foundations related to the strategy of firms and institutions, infrastructure and policies that shape the business environment and competitiveness and Porter's book in a leading role with many strengths fills the gap. The third reason is that this view with a strong theoretical approach and much referring to real experience is able to create a bridge between business people and state politicians in the issue of competitiveness power and thereby opens new horizons for industrialists and trade and for policy-makers.

Also the model of focusing IT (Kearns and Lederer) that according to this model, the variable of IT is composed of four components as follows:

• Information Technology Valance

• Information Technology Resources Commitment

• Information Technology Managerial Commitment

• Information Technology Competency

3. Conceptual model:

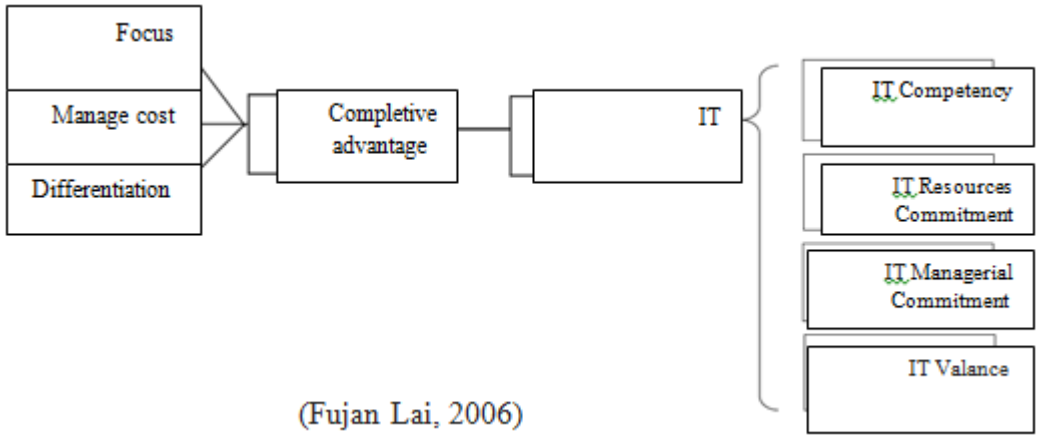


Figure 1: conceptual model

• Information Technology Managerial Commitment:

4. Background of research

Ali M., et al (2004) in a study entitled "Design model of competitive advantage for the Iran's automotive industry" provided a model based on organizational capabilities, environmental capabilities, connectivity and network capabilities and competitive intelligence, as well as the automotive industry as the population of the field research is selected and main hypotheses based on path analysis and sub hypotheses with factor analysis, analysis of Friedman and test of sign were tested that finally, according to research hypotheses and path analysis of priority of factors influencing to competitive advantage are as follows: competitive intelligence, organizational capability, environmental capability and connectivity.

Also Abolfazl Abolfazli et al (2004) reviewed and analyzed internal strategic factors to gain competitive advantage. Theoretical foundation of study based on two approaches have been made in the field of origin of competitive advantages include resource-based theory and the theory of industrial organization and between these two theories, the main research focus is on the theory of source-oriented and according to this school, two approaches are taken place to identify internal strategic factors that included functional approach and value chain approach, of the two approaches in the study, the functional approach is used, in this approach is also used ratio analysis. The method in this study is applied-descriptive and statistical population is also Iran Khodro Company. After the test of Pearson correlation and its factors, internal factors evaluation matrix is developed which suggests that existing strengths are preferences on weaknesses to determine the coefficients of internal factors matrix, preferences matrix technique have been used and according to all analysis of marketing and sales, finance and accounting areas have the greatest strengths and the spheres of production and operation and parts of the management have the greatest weaknesses.

Of other studies, it can be studied the research of Gorgin Afzal et al (2007), which investigated the role of information technology (IT) in the implementation of the learning organization in the Civil Aviation Authority, the general conclusion that can be extracted from this study is that now culture, environment and facilities necessary for growth and development of personnel using IT in line with organization transition toward a learning organization is not available and provided that this is due to lack of awareness and understanding of all personnel, including management and staff from interaction and information sharing or even lack of knowledge and understanding of the urgent need for experimental interactions, information and knowledge in present era.

Seyed Mojtaba Neghabi and colleagues (2009) investigated the factors affecting sustainable competitive advantage in small and medium exporting enterprises of construction (Health). This research offers a better understanding of competitive advantage for small and medium enterprises as well as mechanisms are raised that through them, managers of small and medium enterprises can improve the performance of their enterprises as well as the results of the present study indicates that there is a positive and significant relationship between marketing competences, technical competence and communicative competence and competitive advantage also the status of all these variables in small and medium exporter enterprises of construction materials and sanitary are not in position.

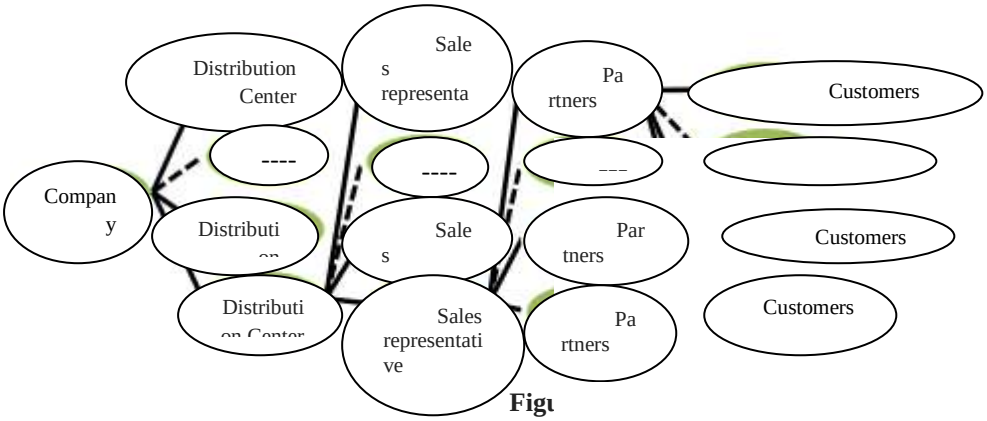
M. Hosseini Hartekeh et al (2010) investigated the impact of information technology on the competitive advantage on marketing and sales management of Saipa Automotive Group. This study examined the role and applying information technology on competitive advantage and three main processes included differentiation advantage, quality advantage and cost advantage. The findings represent the diverse nature of competitive advantage. Based on the dimensions of competitive advantage, financial benefits (cost) and non-financial advantage (quality advantage and differentiation advantage) are distinguished from each other. The impact of applying IT on gaining competitive advantage depending on the dimensions of competitive advantage has been different. The findings show the existence of information technology in marketing and sales management of Saipa Automotive Group on gaining non-financial benefit (including quality advantage and differentiation advantage) has been effective.

Hosseini and Panahi (2007) in their study examined the competitive advantage in the industry with approach of key success factors in the tile industry of Iran. The results suggest that attention to product quality, providing customer service, quick response to market changes, quickly and accurately assess of the market and produce various products are the high priorities in the competitiveness of these companies. As well as improving the investment on the factors and experience and competence of management, labor and technology expertise were identified as investment priorities. Chirany et al (2012) in a study investigated the factors affecting the food industry's competitive advantage. Their research findings show innovation capabilities, entrepreneurship and finally marketing capabilities of application of knowledge, skill and organizational resources to create added value in the goods and Services and meet the needs of customers are including the influential factors in creating sustainable competitive advantage.

"Vinayan" et al. (2012) have identified key success factors related to competitive advantage. They considered four hypotheses for their research upon which effective supply chain management is one of the scales of sustainable competitive advantage, organizational accountability is one of scales of sustainable competitive advantage, innovative and differentiated products is one of scales of sustainable competitive advantage, the results of the present study has confirmed all four hypotheses. "Ravichandran" (2007) conducted a study titled "IT competitiveness, innovation ability and organizational agility and the effects of environmental factors on the severity of their performance ". In this study, it was concluded that in companies innovation has a direct relation to organizational agility, and agility also has positive effects on organizational performance.

5. Introducing the spatial domain of research

Green Planet Pardis Industrial Company (Pvt.) in Registration number: 348 428, in 2008 with the goal of producing and delivering electronic products and environmental for manufacturing and delivering parts and electronic equipment, computers and the environment in Iran recorded brand GREE and by benefit extensive sales network distribute products throughout Iran and the Middle East. The company after nearly two decades activity, due to significant increasing of demand for portable computer products, especially tablets acted to register iGREEN for portable computer equipment and Gnet for modem and network equipment and the most significant capabilities of Green Planet Company is sales network and tree created on the network, unit of sales service and abilities of financial credits of company that is in several parts of financial credits of company and stock holders, banking credits and financial institutions and finally credit of representatives in the sales tree.



Figu

1-5: Top Chart of Green Planet Pardis Industria

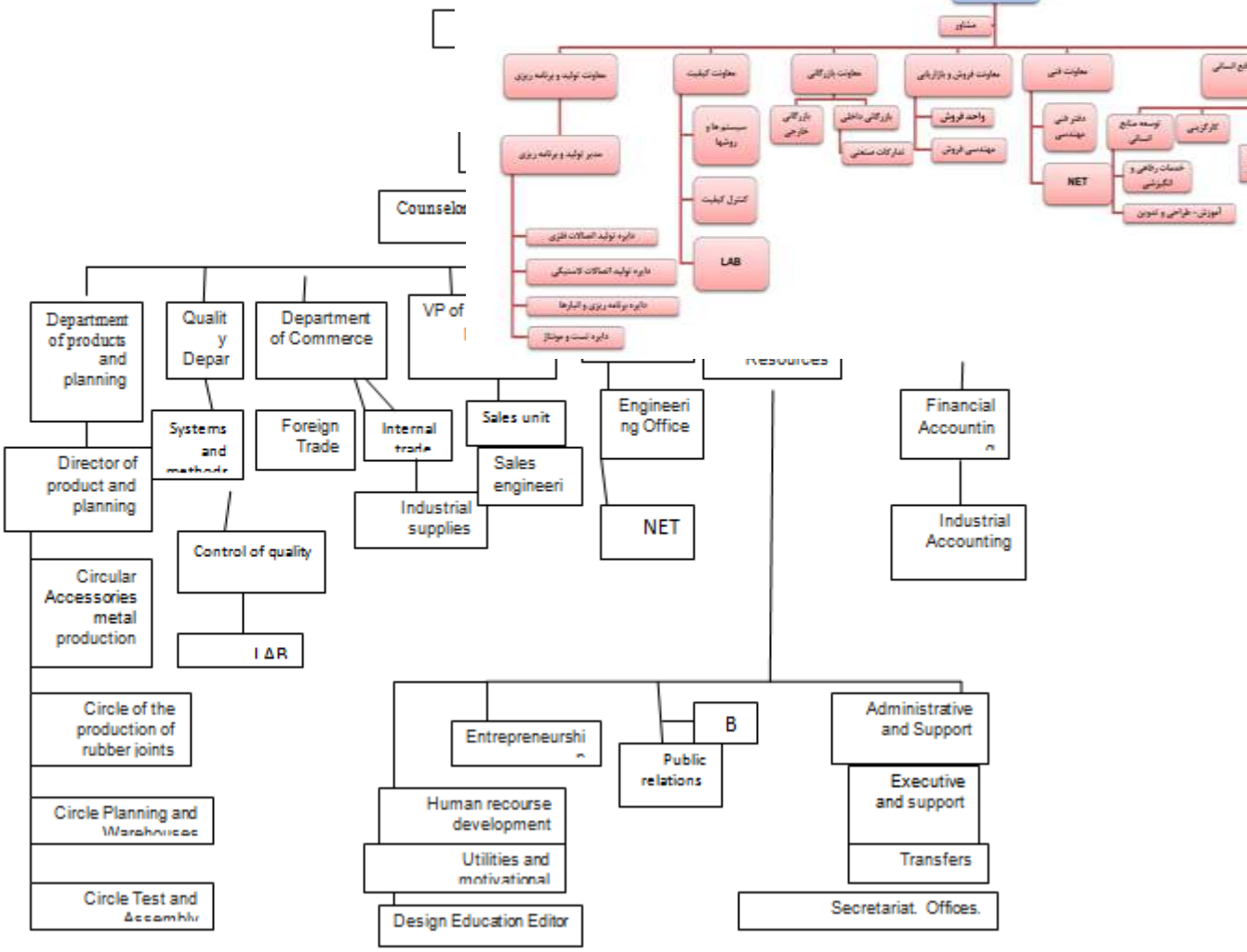


Figure 3: Top Chart of Green Planet Pardis Industrial Computer Company

6. Method:

The present research first using library and field studies was conducted and data and variables of related literature with topic were selected and then using one of the most valid tools for data collection that is questionnaire (in Likert scale) was acted to gather information. In this research according to the nature of the subject, research objectives, questions and possibilities of its implementation, descriptive (survey) method is used.

1-6: population:

The population used is all senior managers, middle managers, employees and employees of Green Planet Industrial Company that the total population is 230 people.

2-6: sample size and sampling method:

In this study, to use, simple random sampling method is used.

Cochran formula:

$$n=\frac{N*Z_{\frac{\alpha}{2}}^{2}*p*(1-p)}{\varepsilon^{2}(N-1)+Z_{\frac{\alpha}{2}}^{2}*p*(1-p)}=\frac{230*1.96^{2}*0.5*0.5}{(0.05^{2}*229)+(1.96^{2}*0.5*0.5)}=144.1\sim144$$

where:
N = population size (230)

ε= Estimation error (0.05) at 95%

P = probability of success (0.5)

The confidence level is considered 95% and also given that the time sample variance is maximum that value P is equal$\frac{1}{2}$, so the minimum sample size for the study is 144 people to study to be have required validity. Using Morgan table, the sample size is 144 people. The questionnaire was distributed to 150 copies and among employees and 146 numbers were returned to the researcher.

3-6: tools for data collection:
This questionnaire is composed of two parts. The first part of the respondents' demographic characteristics including age, education, gender, organizational position, place of work. The second part contains 28 questions that are specialized.

Indicators and the distribution of questions are presented in the following table:

Table 1: Number of item associated with each variable

Variable	Number of question
IT valance	1-7,1-6,1-5,1-4,1-3,1-2,1-1

IT resource commitment	2-3,2-2,2-1
IT managerial commitment	3-3,3-2,3-1
IT competence	9,10,8,7,6,5,4
Focus advantage	5-2,3-2,2-2,1-4,1-3,9-2,7-2,1-1,3-1,1-5,5-3,5-1,9-1
Cost advantage	10,7-3,5-4,4,3-3,2-3,1-6,1-7
Differentiation advantage	8-2,8-1,7-1,1-2,2-1,6-1,6-2

To measure the variables in this study, questionnaire is set with five-point Likert scale (very high, high, medium, low, very low). In this regard, to transform qualitative data into quantitative data, to each option was given numbers (Rank) one to five.

4-6 Validity:

The method of determining reliability in the questionnaire is logical method. In this way, face and content validity is examined. The face method means that questionnaire should have face validity at least, and content method means that quality and quantity of questions will be examined by experts. For this purpose, the questionnaire was given to ten professors and experts to be confirmed its validity.

5-6 reliability

In this study, to determine the reliability of the questionnaire, 15 subjects were selected as sample and questionnaire was given to them and Cronbach's alpha was used. If the value of Cronbach's alpha is more than 0.7 it can be said that the questionnaire's questions have enough validity. Cronbach's alpha coefficient obtained from the above equation for the questionnaire is equal to 0.874. Because the amount is more than 0.7, indicating that the research questionnaire has the reliability, or in other words, has required reliability.

Table 2: Cronbach's alpha of the questionnaire

Variable	Cronbach's alpha
IT valance	0.764
IT resource commitment	0.832
IT managerial commitment	0.723
IT competence	0.815
Focus advantage	0.753
Cost advantage	0.785
Differentiation advantage	0.836
Total questionnaire	0.874

6.6 Data analysis:

In order to analyze the data, descriptive and inferential statistics were used as follows.

Descriptive statistics: descriptive methods needed to analyze the data, including indicators of central tendencies such as the median, mean according to the scale of measure and measures of dispersion from the center will be such as standard deviation.

Inferential statistics: in inferential part, KS test, linear regression was used.

In this study, for implementing statistical techniques, software SPSS16 will be used.

7-6 hypotheses:

The main hypothesis:
• Applying IT in gaining competitive advantage has a positive impact in Green Planet Pardis Industrial Computer Company.
The sun hypotheses:

• IT has a positive impact on differentiation advantage.

• IT has a positive impact on cost management advantage.

• IT has a positive impact on focus advantage.
8-6 Domain of research:
Thematic domain: The domain of this research is in the area of strategic management.
Time domain: the time domain of the study is the time of questionnaire distribution and this study from October 2014 is started and June 2015 ended also distributing questionnaires period is March 2014.

Spatial domain: Green Planet Pardis Industrial Computer Company

9-6 Define variables:

The dependent variable: Competitive Advantage: Includes factors or capabilities that enable the company to show better performance than the competitors. (Bourgeois et al, 1995,56)

Independent variables:

• **Information technology:** IT refers to technological aspect of information system and includes hardware, software, databases, networks and other electronic equipment. (Asghar Sarrafizadeh, 2009,37)

• **Information Technology**: collection, processing, storage and delivery of text and numeric voice information using a combination of microelectronics of computations basis and communications of Contacts (Curron , Eaton, Smithers)

• **Information Technology Valance:** This component shows the amount of importance of information systems and information technology in an organization from the view of different level of management.

• **Information Technology Resources Commitment:** this component refers to identify and provide different resources that to improve and promotion of information systems and information technology in organization is required.
• **Information Technology Managerial Commitment:** This component states the amount of conflict of managers and integration of business strategies with IT strategies.
• **Information Technology Competency:** This component refers to primary strengths and competencies in the

field of information systems and information technology compared to competitors.

7. Analysis of information:

1.7 Descriptive statistics:

In this type of analysis, the researcher summaries and classifies collected data using descriptive statistics. In descriptive level, frequency parameters (frequency, percentage, etc.) and histogram is used. The statistical tables and chart related to questions of questionnaire were evaluated.

2.7 sample separation in terms of age:

According to chart 4-1, it is observed, 31 people (2.12%) of the subjects are in aged 20-30 years, 86 patients (58.9%) in the category of 30-40 years, 19 patients (13%) in aged 40-50 years and 10 patients (6.8%) of the subjects are in age group of above 50 years.

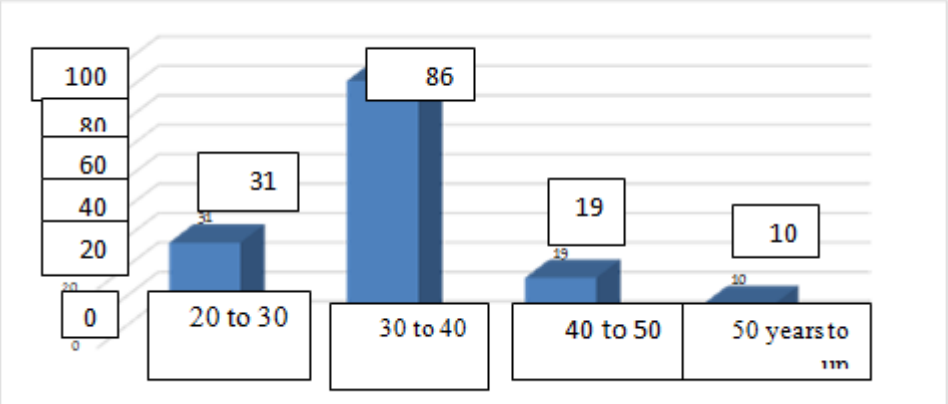


Figure 4: Investigate the frequency of age variable

3.7 sample separations in terms of education variable:

According to Figure 5, it is observed, 13 people (8.9%) of the subjects have education in associate degree, 94 people (64.4%) are BA, 37 people (25.3%) are MA and 2 people (1.4%) are educated at the doctoral level.

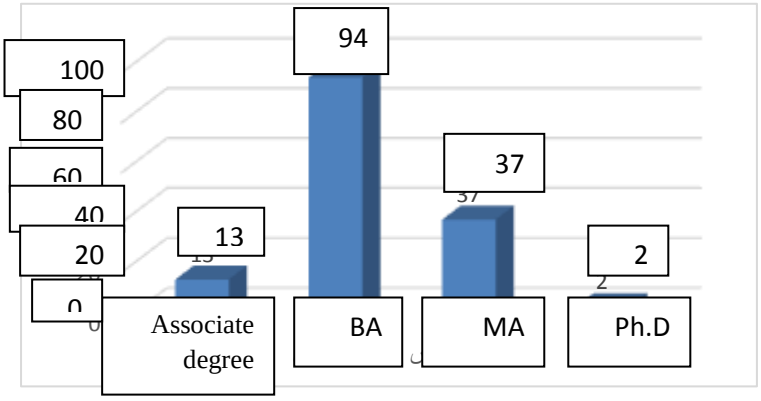


Figure 5: Investigate frequency of education variable

5-7 sample separation in terms of the gender variable:

According to Figure 6, it is observed, 108 patients (74%) of the subjects are men and 38 patients (26%) of the subjects are female. According to the table, the highest frequency is related to the male gender.

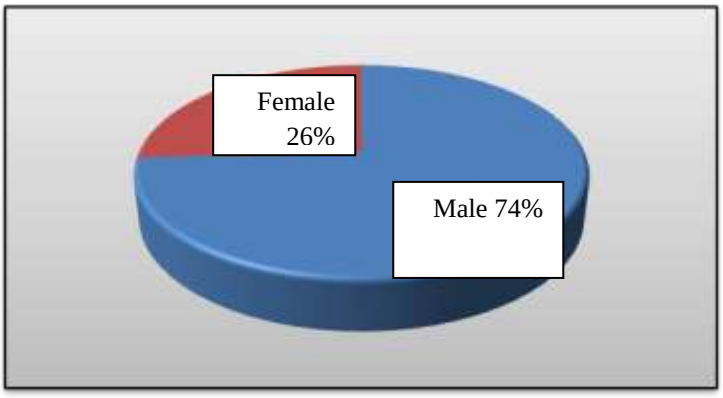


Figure 6: Investigate frequency of gender variable

6-7 sample separation in terms of variable of organizational positions:

According to Figure 7, 60 people (41.1%) of the subjects are expert, 23 people (15.8%) are responsible, 19 people (13%) are boss and 44 people (30.1%) of subjects are managers.

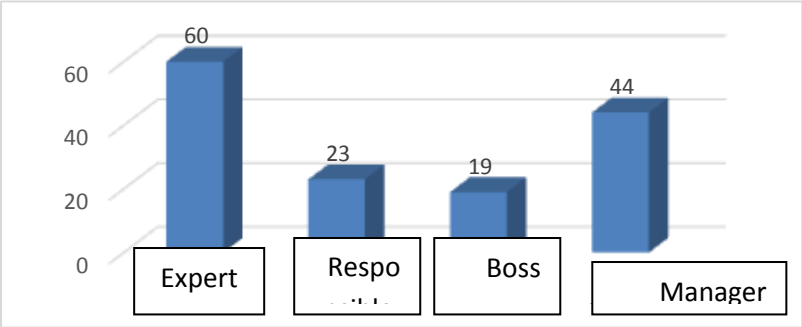


Figure 7: Investigate the frequency of variable of organizational position

7-7 sample separation in terms of place of work:

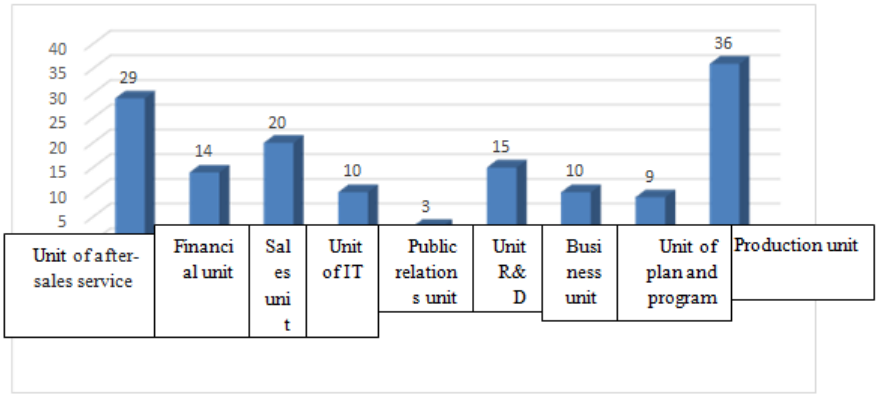


Figure 8: Investigate the frequency of variable of place of work

According to the graph 8, it is shown, 29 people (19.9%) of the subjects are working in the after-sales service department, 14 people (9.6%) financial department, 20 people (13.7%) sales unit, 10 people (6.8%) IT, 3 people (2%) public relation unit, 15 people (10.3%) of R & D unit, 10 people (6.8%) Business unit, 9 people (6.2%) of plan unit and 36 people (24.7%) of the subjects in the production unit are working.

8-7 normality test:

At this stage of the study, to investigate the hypotheses and other analysis, normality or abnormality of distribution of data must first be determined. In this study Kolomogrov-Smirnov test to verify the normality of data distribution is used. The test result is shown in Table 4-13. The zero assumption (H0): variable distribution is normal and the alternative hypothesis (H1): variable distribution is not normal.

Table 3: Investigate normality of distribution of variables

Variable	Most extreme differences			Static K.S	Significant level (sig)
	Absolute value	positive	Negative		
IT valance	0.138	0.122	-0.138	1.276	0.077
IT resource commitment	0.136	0.136	-0.130	1.288	0.072
IT managerial commitment	0.182	0.135	-0.182	1.726	0.005
IT competence	0.156	0.116	-0.156	1.480	0.025
Focus advantage	0.105	0.073	-0.105	0.992	0.279
Cost advantage	0.151	0.097	-0.151	1.139	0.083
Differentiation advantage	0.09	0.09	-0.083	0.855	0.458
IT	0.105	0.105	-0.101	0.993	0.278

According to Table 4-13, since the significant level of normality test of capacity variables and value of Information Technology, Commitment of IT resources, focus advantage, cost advantage, differentiation advantage and Information Technology is more than 0.05 therefore not reject the null hypothesis and with 95% confidence, it can be said that distribution of variables is normal. The significant level of normality test of variables of IT management commitment and competence of IT is less than 0.05 therefore reject the null hypothesis and with 95% confidence, it can be said that distribution of variables isn't normal.

8. Result and discussion:

8.1 investigating research hypotheses:

In this section, with the help of simple linear regression, the research hypotheses are investigated.

2.8 The main hypothesis:

Applying information technology (IT) in gaining competitive advantage has a positive impact in Green Planet Industrial Computer Company.

The null hypothesis (H0): Applying information technology (IT) in gainning competitive advantage not has a positive impact in Green Planet Industrial Computer Company.

Alternative hypothesis (H1): Applying information technology (IT) in gaining competitive advantage has a positive impact in Green Planet Industrial Computer Company.

To investigate the hypothesis, simple linear regression is used. Applying information technology (IT) is the independent variable and competitive advantage is dependent variable.

Table 4: Summary of descriptive results of regression model of the main hypothesis

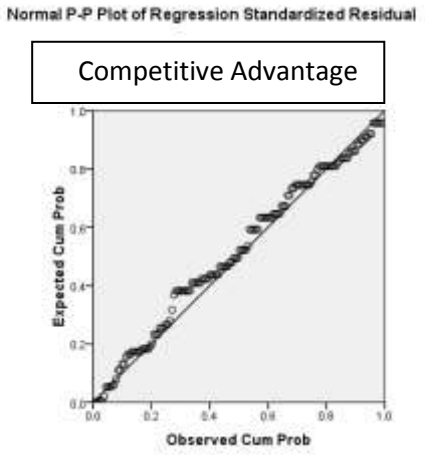
Correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson static
0.705	0.497	0.434	2.185

Thus, as can be seen in Table 4, the Durbin-Watson statistic value (2.185) is in the distance 1/5 – 2/5 , therefore, the assumption of no correlation between errors is not rejected and the regression can be used. The value of coefficient of determination is 0.497 that this confirms that 49.7% of the changes of dependent variable are explained by the independent variable.

Table 5: The main hypothesis ANOVA

Model	Squares sum	Degree of freedom	Mean of average	F static	Significant level
Regression	9.355	1	9.355	44.127	0.000
error	30.539	144	0.212		
total	39.894	145			

Thus, as can be seen in Table 5, according to the value of test statistic F and its significant at a confidence level of 95%, the regression equation is valid and the results are analyzed.



Investigating normality of regression residues

According to the above chart, it can be said regression residues is normal.

Table (6): The regression analysis and regression coefficients of main hypothesis

Variable	B	Standard error	BETA (Standardized coefficient of BETA)	t static	Significant level
Fixed number	3.092	0.155	-	19.982	0.000
IT	0.650	0.039	0.705	16.673	0.000

According to Table 6, it can be observed the significance level of information technology (IT) (0.000) is less than 0.05 ($\alpha = 0.05$,$sig < 0.05$). Therefore, the independent variable (information technology (IT)) is entered the regression model. Due to the positive regression coefficient (B) can be said it has positive and direct impact on gaining competitive advantage. Therefore, the hypothesis is confirmed and with 95% confidence level can be said applying information technology (IT) in gaining competitive advantage has a positive impact in Green Planet Industrial Computer Company.

3-8 The first sub-hypothesis:

Information technology has a positive impact on differentiation advantage.
The null hypothesis(H_0): information technology not has a positive impact on differentiation advantage. Alternative hypothesis(H_1): information technology has a positive impact on differentiation advantage. To investigate the hypothesis, simple linear regression is used. Applying information technology (IT) is the independent variable and differentiation advantage is dependent variable.

Table 7: Summary of descriptive results of the regression model of the first sub-hypothesis

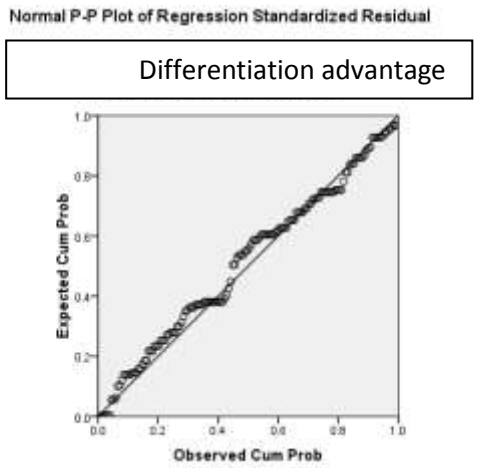
Correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson static
0.471	0.222	0.213	2.107

Thus, as can be seen in Table 7, the Durbin-Watson statistic value (2.107) is in the distance 1/5 – 2/5 , therefore, the assumption of no correlation between errors is not rejected and the regression can be used. The value of coefficient of determination is 0.222 that this confirms that 22.2% of the changes of dependent variable are explained by the independent variable.

Table 8: The first sub hypothesis ANOVA

Model	Squares sum	Degree of freedom	Mean of average	F static	Significant level
Regression	6.918	1	6.918	35.116	0.000
error	28.408	144	0.197		
total	35.326	145			

Thus, as can be seen in Table 8, according to the value of test statistic F and its significant at a confidence level of 95%, the regression equation is valid and the results are analyzed.



Investigating normality of regression residues

According to the above chart, it can be said regression residues is normal.

Table (9): The regression analysis and regression coefficients of first sub hypothesis

Variable	B	Standard error	BETA (Standardized coefficient of BETA)	t static	Significant level
Fixed number	3.467	0.152	-	22.823	0.000
IT	0.377	0.038	0.471	9.921	0.000

According to Table 9, it can be observed the significance level of information technology (IT) (0.000) is less than 0.05 ($\alpha = 0.05 \ , sig < 0.05$). Therefore, the independent variable (information technology (IT)) is entered the regression model. Due to the positive regression coefficient (B) can be said it has positive and direct impact on differentiation advantage. Therefore, the hypothesis is confirmed and with 95% confidence level can be said information technology (IT) has a positive impact on differentiation advantage.

Table (10): correlation test of dimensions of information technology and differentiation advantage

Variable		Correlation coefficient	Significant level	Result
IT valance	differentiation advantage	0.877	0.000	Significant relationship
IT resource commitment	differentiation advantage	0.238	0.004	Significant relationship
IT managerial commitment	differentiation advantage	0.241	0.003	Significant relationship
IT competence	differentiation advantage	0.625	0.000	Significant relationship

According to Table 10, it can be observed the significance level of correlation test for variable of IT valance with differentiated advantage is 0.000, variable of IT resource commitment with differentiated advantage (0.004), variable of IT managerial commitment with differentiation advantage (0.003) and IT competency with differentiation advantage (0.000) that this amount is less than 0.05, so with 95% confidence, it can be said that there is a significant relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competence) with differentiation advantage. The positive sign of the correlation coefficient shows the existence of positive and direct relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competency) with differentiation advantage.

4-8 the second sub hypothesis:

Information technology has a positive impact on cost management advantage.

The null hypothesis(H_0): information technology not has a positive impact on cost management advantage.

Alternative hypothesis(H_1): information technology has a positive impact on cost management advantage.

To investigate the hypothesis, simple linear regression is used. Applying information technology (IT) is the independent variable and cost management advantage is dependent variable.

Table 11: Summary of descriptive results of the regression model of the second sub-hypothesis

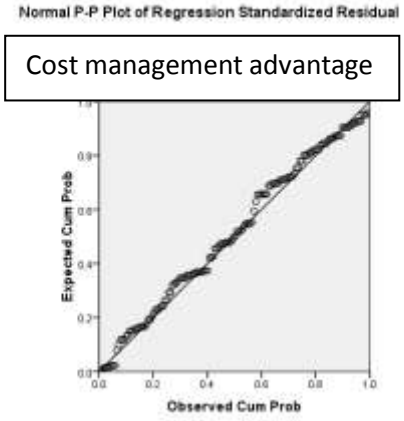
Correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson static
0.633	0.401	0.396	1.746

Thus, as can be seen in Table 11, the Durbin-Watson statistic value (1.746) is in the distance 1/5 – 2/5 , therefore, the assumption of no correlation between errors is not rejected and the regression can be used. The value of coefficient of determination is 0.401 that this confirms that 40.1% of the changes of dependent variable are explained by the independent variable.

Table 12: The second sub hypothesis ANOVA

Model	Squares sum	Degree of freedom	Mean of average	F static	Significant level
Regression	4.345	1	4.345	17.449	0.000
error	35.889	144	0.249		
total	40.234	145			

Thus, as can be seen in Table 12, according to the value of test statistic F and its significant at a confidence level of 95%, the regression equation is valid and the results are analyzed.



Investigating normality of regression residues

According to the above chart, it can be said regression residues is normal.

Table (13): The regression analysis and regression coefficients of second sub hypothesis

Variable	B	Standard error	BETA (Standardized coefficient of BETA)	t static	Significant level
Fixed number	2.339	0.204	-	11.459	0.000
IT	0.553	0.047	0.633	11.340	0.000

According to Table 13, it can be observed the significance level of information technology (IT) (0.000) is less than 0.05 ($\alpha = 0.05 \ , sig < 0.05$). Therefore, the independent variable (information technology (IT)) is entered the regression model. Due to the positive regression coefficient (B) can be said it has positive and direct impact on cost management advantage. Therefore, the hypothesis is confirmed and with 95% confidence level can be said information technology (IT) has a positive impact on cost management advantage.

Table (14): correlation test of dimensions of information technology and cost management advantage

Variable		Correlation coefficient	Significant level	Result
IT valance	cost management advantage	0.197	0.017	Significant relationship
IT resource commitment	cost management advantage	0.438	0.000	Significant relationship
IT managerial commitment	cost management advantage	0.629	0.000	Significant relationship

IT competence	cost management advantage	0.771	0.000	Significant relationship

According to Table 14, it can be observed the significance level of correlation test for variable of IT valance with cost management advantage is 0.017, variable of IT resource commitment with cost management advantage (0.000), variable of IT managerial commitment with cost management advantage (0.000) and IT competency with cost management advantage (0.000) that this amount is less than 0.05, so with 95% confidence, it can be said that there is a significant relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competence) with cost management advantage. The positive sign of the correlation coefficient shows the existence of positive and direct relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competency) with cost management advantage.

5-8 The third sub-hypothesis:

Information technology has a positive impact on focus advantage.

The null hypothesis(H_0): information technology not has a positive impact on focus advantage. Alternative hypothesis(H_1): information technology has a positive impact on focus advantage. To investigate the hypothesis, simple linear regression is used. Applying information technology (IT) is the independent variable and focus advantage is dependent variable.

Table 15: Summary of descriptive results of the regression model of the third sub-hypothesis

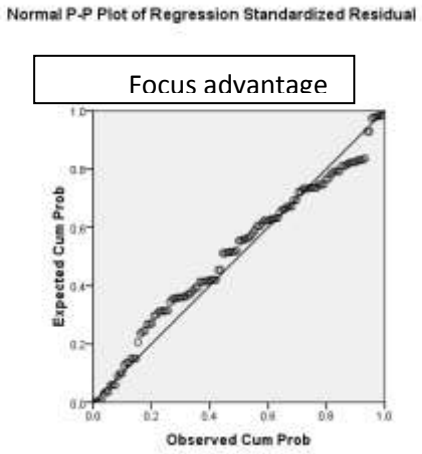
Correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson static
0.436	0.191	0.189	2.138

Thus, as can be seen in Table 15, the Durbin-Watson statistic value (2.138) is in the distance 1/5 – 2/5 , therefore, the assumption of no correlation between errors is not rejected and the regression can be used. The value of coefficient of determination is 0.191 that this confirms that 19.1% of the changes of dependent variable are explained by the independent variable.

Table 16: The third sub hypothesis ANOVA

Model	Squares sum	Degree of freedom	Mean of average	F static	Significant level
Regression	5.230	1	5.230	19.855	0.000
error	37.944	144	0.263		
total	42.174	145			

Thus, as can be seen in Table 16, according to the value of test statistic F and its significant at a confidence level of 95%, the regression equation is valid and the results are analyzed.



Investigating normality of regression residues

According to the above chart, it can be said regression residues is normal.

Table (17): The regression analysis and regression coefficients of third sub hypothesis

Variable	B	Standard error	BETA (Standardized coefficient of BETA)	t static	Significant level
Fixed number	3.837	0.170	-	26.611	0.000
IT	0.425	0.038	0.436	11.184	0.000

According to Table 17, it can be observed the significance level of information technology (IT) (0.000) is less than 0.05 ($\alpha = 0.05$,$sig < 0.05$). Therefore, the independent variable (information technology (IT)) is entered the regression model. Due to the positive regression coefficient (B) can be said it has positive and direct impact on focus advantage. Therefore, the hypothesis is confirmed and with 95% confidence level can be said information technology (IT) has a positive impact on focus advantage.

Table (18): correlation test of dimensions of information technology and focus advantage

Variable		Correlation coefficient	Significant level	Result
IT valance	focus advantage	0.561	0.000	Significant relationship
IT resource commitment	focus advantage	0.778	0.000	Significant relationship

IT managerial commitment	focus advantage	0.232	0.005	Significant relationship
IT competence	focus advantage	0.204	0.021	Significant relationship

According to Table 18, it can be observed the significance level of correlation test for variable of IT valance with focus advantage is 0.000, variable of IT resource commitment with focus advantage (0.000), variable of IT managerial commitment with focus advantage (0.005) and IT competency with focus advantage (0.021) that this amount is less than 0.05, so with 95% confidence, it can be said that there is a significant relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competence) with focus advantage. The positive sign of the correlation coefficient shows the existence of positive and direct relationship between variable dimensions of information technology (IT valance, IT resource commitment, IT managerial commitment and IT competency) with focus advantage.

6-8 Conclusion

The main hypothesis test result:

Applying information technology (IT) in gaining competitive advantage has a positive impact in Green Planet Industrial Computer Company.

The significance level of information technology (IT) is (0.000) and due to the positive regression coefficient (B) can be said information technology has a positive and direct impact on gaining competitive advantage. Therefore, the hypothesis is confirmed and applying information technology (IT) in gaining competitive advantage has a positive impact in Green Planet Industrial Computer Company.

In the following, we investigate the summary of results of sub hypotheses and the relationship between research variables.

Table 19: Summary of results

Hypothesis		Significant level	Result of hypothesis	Correlation coefficient	Significant level	Result
First sub hypothesis	Information technology has a positive impact on differentiation advantage.	0.000	Information technology has a positive and direct impact on differentiation advantage.	0.877	0.000	Significant relationship
				0.238	0.004	Significant relationship
				0.241	0.003	Significant relationship
				0.625	0.000	Significant relationship
Second sub hypothesis	Information technology	0.000	Information technology	0.197	0.017	Significant relationship

	has a positive impact on cost management advantage.		has a positive and direct impact on cost management advantage.	0.438	0.000	Significant relationship
				0.629	0.000	Significant relationship
				0.771	0.000	Significant relationship
Third sub hypothesis	Information technology has a positive impact on focus advantage.	0.000	Information technology has a positive and direct impact on focus advantage.	0.561	0.000	Significant relationship
				0.778	0.000	Significant relationship
				0.232	0.005	Significant relationship
				0.204	0.021	Significant relationship

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