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THE EFFECT OF GREEN MARKETING STRATEGIES ON FIRM PERFORMANCE (ENVIRONMENTAL, ECONOMIC, ADMINISTRATIVE,) (CASE STUDY TILE COMPANIES AND RELATED INDUSTRIES IN YAZD)

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ABSTRACT

The aim of this study is checking the effect of green marketing strategies on company's operation that by using variables internal environment management, environment compatibility (green designing), capital recovery, green information systems, management support of environment styles as dependent variables and green marketing strategies as mediator variable and operation (environment, economic operation and productivity) as independent variable, the model of research shape. This research methodology target is application ,its method is research solidarity and by using of questionnaire and survey data collected the population of this research is managers and staffs of tile and seramic companies and its dependent industry , the sampling method is random and it's number is 135. Analysis of data is by using of SPSS and LISREL8/72 software and the result of this research show that capital recovery, management support of environment and internal management of environment influence in green marketing strategies and green marketing strategies and environment compatibility and green information systems have positive effect on operation and the other hypothesis are rejected.

Keywords: Green marketing strategies, internal environment management, environmental compatibility, capital recovery, green information system, management support of environmental styles, operation

INTRODUCTION

Green marketing is an important strategic issue. Merger of develop environmental in the strategic marketing process become a required for the companies to access to the organizational legitimation and competitive advantage (Zhu and Sarkis, 2004).Protection of the environment causes the consumer rethinking about the products buying. Nowadays many of the consumers are prepared (ready) to pay much more for the products that observe the environmental standards to real protection of the environment (Kenneth et al., 2012). The result of Hart (1995) theoretical discussions empirically represents that environmental control permit the institution to better their operation and obtain their excellence of competitive (Kenneth et al., 2012)The world growing economy and spread of financial markets in neighbors countries and middle Asia cause that manufacturing units of Iran forced to compete with foreign producer. This requires produce synchronous with industry and world economy and Iran must join to the production cycle and global chain of distribution in this great economy process. So in addition to check the economy dimension such as cost of raw material energy and person emphasis on other issues global and regional hygiene and producer countries must observe provisions related to environment protection in all their industry activities and deduct the required standards and bind them. In this research tried to check the strategy on the operation of the tile and ceramic companies in Yazd province.

Statement of Problem

One of the compasses of commercial that assign much discussion to itself in environmental issue is green marketing (Rex and Baumann, 2007). The need of ecological product and green commercial activities forced the companies to assimilate the environmental issues with marketing strategies. The green product industry estimated more than 200bilion in 2006 (Gupta and Ogden, 2009). So organization and companies are faced with a problem called green marketing. The solutions that the companies resort are producing of ecologically safer product, biodegradable packing, more supervision on the pollution and operations that required more thrift in energy (Kotler and Armstrang, 1991). Despite of a head opportunities and problems, the companies and tile industries of the province must try to enter to the foreign markets in addition to codification of green marketing, strategies by use of technical ability and internal resources and environmental

protection. Otherwise not far in the future we will be witness of the large distance of competitors and reduce the market share of internal producers with pollution and destruction of environment. So by studies in this area the researcher try to appraise the effect of green marketing strategies on companies operation (economy environmental and production).

Theoretical frame work and research hypothesis

Green marketing

Green marketing is an approach in the social marketing and enter to the marketing world in recent years (chamorro and Banegil, 2006). Green marketing or environmental known as a tool to sustainable development and satisfies the need of different beneficiary (Karna et al., 2003). Researchers use multiple words to define this kind of marketing such as green marketing, ecological marketing, environmental marketing and responsibly marketing (Polonsky, 2011). The research is a model for internal relation between green strategic product development supply chain coordination green incomes and commercial unit operation supply coordination and operation measurement (Chang et al., 2009).

Green marketing strategies

If the companies rate their environmental goals like their other goals their strategies

design green too (Polonsky and Rosenberger, 2001). Development of green marketing strategies is necessary to create long run relationship between suppliers and consumers in order to help the operational efficiency and environmental of the company not because of customers demand the green products (Sharma et al., 2010).Green marketing strategies begin with market research about demands need attitude beliefs and customers knowledge compatibility with environment (green designing).

Designing compatible with environment requires that producers design products that minimize using of energy, reuse of parts, recycling and prevent using of toxin and dangerous materials in the production (Zhu et al., 2008).Development of compatible product and services process with environment is an integrated and coordinator search that needs the services of all the organization users (Vasileiou and Morris, 2006). Studies by (IHEI) in America show that 90% of the guests prefer to stay in green designing hotel (IHEI, 1996). Because of the people's concern about environment consumers try to balance product and environmental pollutions that cause a kind of compatible mode with environment in modern marketing (Fisk, 1973).

Internal environmental management

Internal environmental management and its spread as a required organizational and management engender through commitment and organization senior and middle management protection (Zhu et al., 2008). Previous researches show that the attention of a company to the interest's owners environmental demands have a relation with the active environmental strategies. So the companies do the active environmental strategies because of the pressure of the interest's owners (Camino, 2007). Just some of the companies know that being green give the strategic advantages (Polonsky and Resonberger, 2001).

Myer and Kent express the relation between using energy and environment destruction that although the average efficiency of the factors of production increase by much using of energy after industrial revolution especially in recent decades but using energy through its polluters effects, make environmental destruction because most of the green house gases spread in the world as carbon dioxide due to use of fossil fuels. Therefore energy has largest share in change of environment issue, so the policy of energy and the policy of environmental have close relation together (Shim, 2006).

Systems of green information

Systems of green information are systems that reshape to supervision of environmental activities and its effects and get used (Esty and Winston, 2006). Success in the use of green marketing strategies depends on the ability of organization information systems in search of environment protection and organization sustainable development also the result of organization production buy sale and logistics processes (Preuss, 2002).

Capital recovery

Capital recovery requires t sell excess inventory scarps and additional capital equipments (Zhu, 2008). One of the standard method to assessment of economic plans is the period of capital recovery in engineering economics .The quality of designers assessment is length of returning the investment in this method. The plans by short period of returning investment have more attraction to those with long period. This method is used especially to comparison of 2 or more plan (Zhu and Sarkis, 2004).

Management support of environmental styles

The organization managers support the environmental issues because of legal compliances and ethical issues that engender and legitimate and become a competitive opportunities for the organizations (Hart and Milstein, 2003). Finally the production

managers are responsible for the operation of environmental style of the organization they work in .In management system the companies must make a condition to reduce destructive environmental effect by added value. The management support of environmental issues to competitive opportunities (Green et al., 2008). The management support of green products production or environmental styles cause innovation in technologies that have positive effect on energy saving and prevention of environment pollutant (Chen, 2001).

Environmental operation

A collection of companies operations is environmental operation that is compatible with environment and this operation mainly measured by criteria of related institutions whether state or international (Sarumpaet, 2005). Global organizations always looking for access to competitive advantage through innovation and new method .Some of these organizations achieve the competitive advantage through improving environmental standards increasing the customer's knowledge and reducing negative effects of environmental in their products and services (Seuring, 2001). Environmental operation related to the ability of producers factory to reduce green house gases, garbage, industrial waste water and the ability to reduce using of

hazardous materials and toxic (Zhu et al. , 2008).

Economic operation

Economic operation related to the producers ability to reduce expenses of buying materials using energy, recycling, garbage dump and environmental crime (Zhu et al., 2008). Today's world economy just use energy resources like oil and gas and fossil fuels to provide its sources as this sources become rare, their cost become more expensive .The quality of environment reduce and this caused greenhouse gases, waste and increase the cost of life and environmental crime but there is hope of improving the status by using activities due to green economy (Jones, 2008). Hong and colleagues represent a modal in their research for internal relation between strategic orientation green, product development ,coordination of supply chain ,the incomes of green operation of commercial (Hong et al., 2009).

Productivity

This kind of strategy is so use full for marketing managers to understand the nature of the product that they present to the market according to their company features. This model can be provide paved path for the managers to understand different parts of the target market by paying more attention to producing of green products. The companies

can obtain a lot of economic and financial benefit and can cause a competitive position for the product .The part of friendship environment is growing and all the commercial companies must understand market can classify the market and it product (Kenneth, et al., 2012).
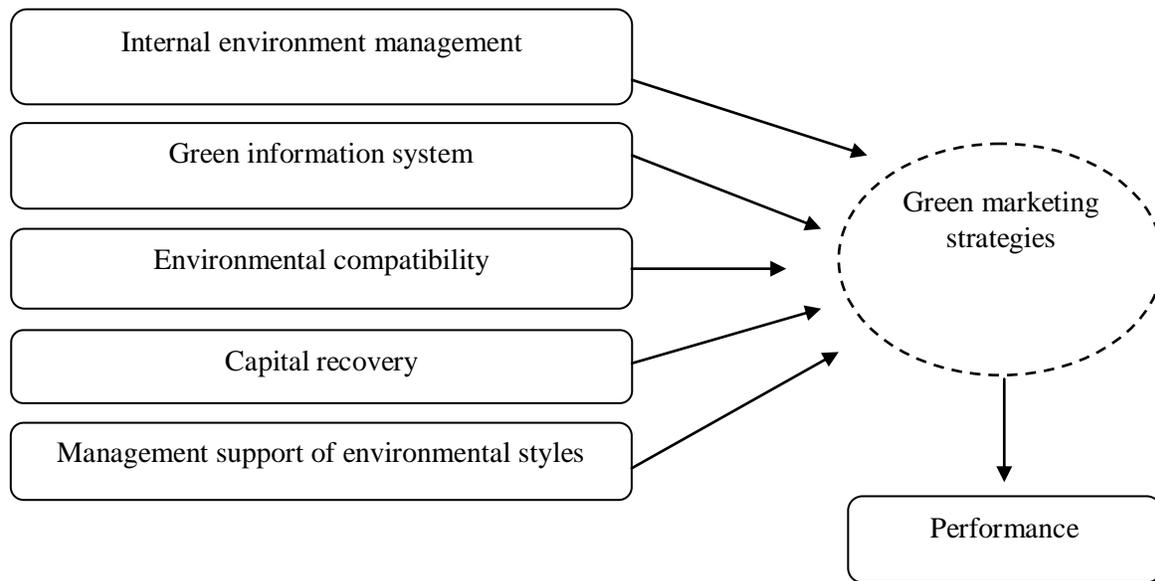
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│      Internal environment management      │
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┌──────────────────────────────────────────┐
│          Green information system          │
└──────────────────────────────────────────┘
                                                        ⌜ ⌝ Green marketing
┌──────────────────────────────────────────┐              strategies
│        Environmental compatibility         │
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│              Capital recovery              │
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│  Management support of environmental styles │        ┌──────────────┐
└──────────────────────────────────────────┘        │  Performance  │
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Figure1: Structural model

RESEARCH METHODOLOGY

The population consist of all the real or hypothetical members that the result of research generalize to them. The population of this research is managers and staff of tile and ceramic companies and dependent industries. According to research target the research methodology is applications and date are descriptive and solidarity also the software that used to date analysis is SPSS18, LISREL8.72. The sampling method is random as the population size is specified and limited, so sample size estimated by Cochran formula and calculated.

$$n = \frac{NZ^2 \propto/2pq}{Nd^2 + Z^2 \propto/2pq} = \frac{200 \times (1.96)^2 \times 0.25}{200 \times (0.05)^2 + (1.96)^2 \times 0.25} = 135$$

So the acceptable sample size for the research is 135 person. Table 1 represent Cronbach's alpha and the number of question related to total questionnaire and its variable as the mount of Cronbach's alpha for total questionnaire and variables is more than 7%. So the test has acceptable stability (35).

Table 1: Calculating the reliability of the questionnaire.

Cronbach's alpha	Number of questions	No questions	Symbol	Variable
0/886	5	39-43	IEM	environment management

0/830	5	31-35	GIS	green information system
0/930	3	36-38	ED	environmental compatibility
0/799	3	12-14	IR	capital recovery
0/875	3	21-23	MSP	management support of environmental styles
0/742	7	24-30	ECP	Economic performance
0/895	6	1-6	ENP	Environmental performance
0/821	5	7-11	OP	Performance
0/826	6	15-20	GMS	Green marketing strategies
0/921	43	-		Total

Analysis of research result

Study of measurement models with circumstantial evidence standard rate and error value. According to the number of view variables, measurement equation is given. Each equation include path coefficient between views variable and latent variable measurement error of view variable with its test of significance based on T characteristic and the amount of $R2$ that means the coefficient of determination or explanation variance ratio by latent variable.

1-capital recovery

Table 2: Analysis and the value of t fore cycling of capital

Error	The coefficient of determination	T-statistics	Standard rate	Items
0/13	0/67	7/52	0/82	Q12
0/12	0/42	6/39	0/65	Q13
0/12	0/18	4/40	0/43	Q14

2. Management support of environmental styles

Table 3: Analysis and the value of t for support of environmental management practices

Error	The coefficient of determination	T-statistics	Standard rate	Items
0/087	0/58	9/61	0/76	Q21
0/083	0/72	11/09	0/85	Q22
0/092	0/43	7/97	0/66	Q23

3. Green information system

Table 4.Analysisand the value of t for support of green information system

Error	The coefficient of determination	T-statistics	Standard rate	Items
0/088	0/19	4/90	0/44	Q31
0/077	0/55	9/34	0/74	Q32
0/79	0/59	9/68	0/76	Q33
0/081	0/50	8/68	0/70	Q34
0/088	0/31	6/47	0/56	Q35

4. Environmental compatibility

Table 5: Analysisand the value of t for environmental compatibility

Error	The coefficient of determination	T-statistics	Standard rate	Items
0/092	0/63	10/31	0/80	Q36
0/086	0/41	7/74	0/64	Q37
0/087	0/64	10/38	0/80	Q38

5. Environment management

Table 6: Analysis and the value of t for environment management

Error	The coefficient of determination	T-statistics	Standardrate	Items
0/083	0/59	10/22	0/77	Q39
0/076	0/79	12/99	0/89	Q40
0/085	0/63	10/77	0/79	Q41
0/082	0/78	12/77	0/88	Q42
0/096	0/69	11/65	0/83	Q43

6. Green marketing strategies

Table 7: Analysis and the value of t for Green marketing strategies

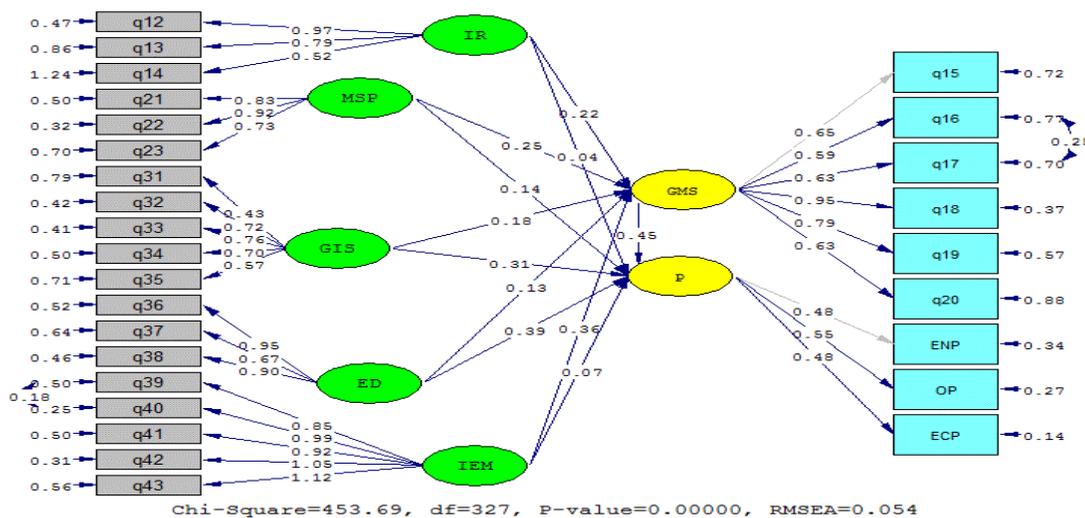| Error	The coefficient of determination	T-statistics	Standard rate	Items
-	0/37	-	0/60	Q15
0/11	0/30	5/38	0/55	Q16
0/11	0/36	5/74	0/60	Q17
0/13	0/71	7/27	0/84	Q18
0/12	0/51	6/58	0/72	Q19
0/12	0/30	5/38	0/55	Q20

7. Performance

Table 8: Analysis and the value of t for performance

Error	The coefficient of determination	T-statistics	Standard rate	Symbol	Items
–	0/40	–	0/63	ENP	Environmental performance
0/081	0/53	6/72	0/73	OP	Operation
0/068	0/64	7/13	0/80	ECP	Economic performance

In methodology of structural equation model, must study the structures validity at the beginning to specified whether the chosen items for measuring the variables have enough accuracy. So that path coefficient for each item with its variable has the T amount more than 1/96. Therefore this item has enough accuracy for measuring that structure or latent variable. So if absolute value of T circumstantial evidence be more than 1/96, it level of confidence is 95% and if T circumstantial evidence be more than 2/58.path coefficient in level of confidence

99% is meaningful. According to the results of measuring models all the items have circumstantial evidence larger than 96/1, and the amount of coefficient of determination is appropriate .so any of the items deleted of the model. So we continue with all the items (question) and study the model. On the other hand according to standardized coefficient, the index that have more load factor in measuring related variable has more share and the index that have smaller rate has less share in measuring the related structures.
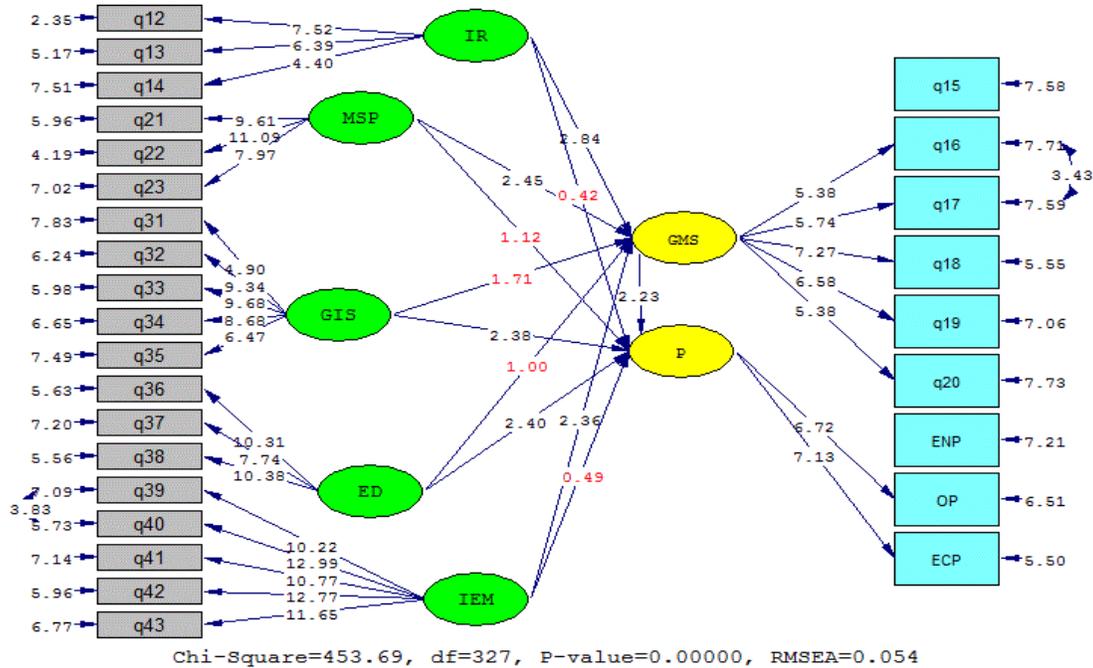

Chi-Square=453.69, df=327, P-value=0.00000, RMSEA=0.054

Figure 2: The model estimates a non-standard

Chi-Square=453.69, df=327, P-value=0.00000, RMSEA=0.054

Figure 3: Modelin significant numbers (t-value)

Also the numbers on paths showed t-value amount for each path. If this amount wasn't meaningful it shown red in output of the software. In this analysis the amount of T for 6path is larger than 1/96 so it is meaningful and its not meaningful for 2path of green information system and environmental compatibility with green marketing strategies and 3path of capital recovery, management support of environmental style and internal environmental management.

Shape (Figure 4) show the general shape in the case of the standard estimate. just in the case of standard estimate there is the possibility to compare the views variable that express latent variable and also by attention to the standard rate we can say the variables of the quality of environmental management(0.36) ,the management support of environmental style (0.26), capital recovery (0.22) have in order the most effect on the green marketing strategies variable (0.45) ,environment compatibility (0.39), green information systems(0.31)have in order the most effect on operation variable.
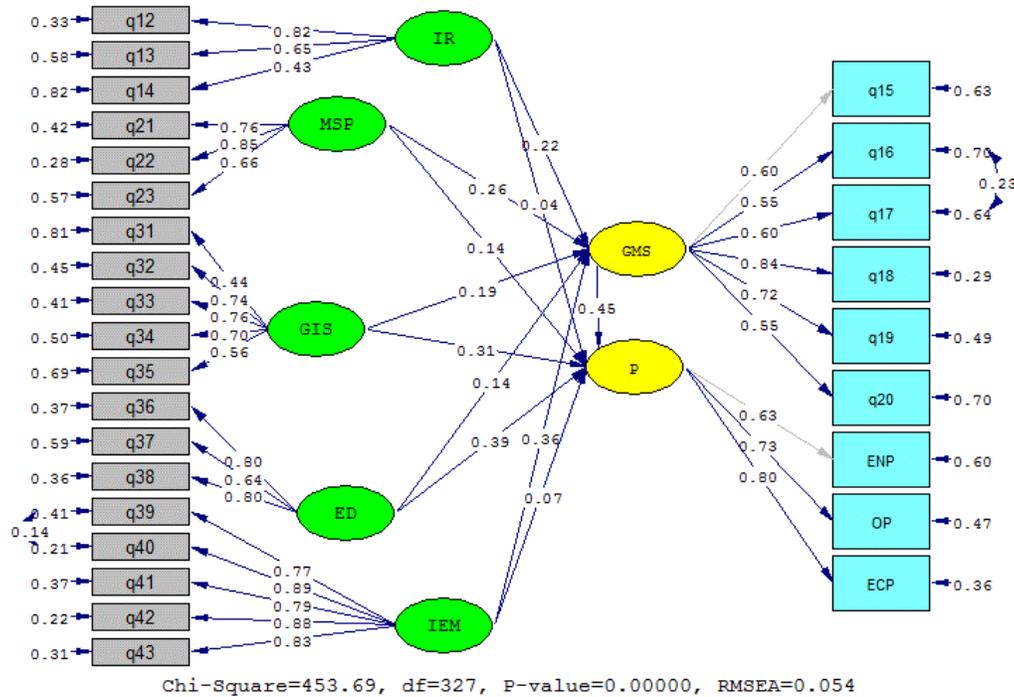
Chi-Square=453.69, df=327, P-value=0.00000, RMSEA=0.054
Figure 4: Model in standardized coefficients

Model confirmation

Table 9: Fitness Index

The amount reported	Indices
453/69	Chi-square
327	Degree of freedom
1/39	Chi-square with degrees of freedom
0/054	RMSEA
0/81	GFI
0/76	AGFI
0/94	NFI
0/97	NNFI
0/97	IFI
0/97	CFI

As you see the amount of x2 to the degree of freedom is equal to 1/39 and less than 3that is appropriate the amount of this index is low and show less difference between the research conceptual model and the views data. Also the amount of RMSEA is 0.054 and less than0.08 in addition to x2 , if the amount of RMSEA be lower , the model is fitting and indexes (N F I-CFI-IFI-NNFI) IS LARGER THAN 9/0 and the index of GFI is larger than 0.8 so the model show an appropriate fitting and is confirmed.

Table 10: In short, the standard coefficients of correlation coefficients, t-statistics and the hypothesis

Result	The coefficient of determination	T-statistics	Standard rate	Paths
Confirmation		2/84	0/22	Green marketing strategies ← capital recovery
Confirmation		2/45	0/26	management support of environmental styles ←Green marketing strategies
Rejection	0/74	1/17	0/19	green information system ← Green marketing strategies
Rejection		1/00	0/14	environmental compatibility ←Green marketing strategies
Confirmation		2/36	0/36	environment management ← Green marketing strategies
Confirmation		2/23	0/45	Green marketing strategies ← Performance
Rejection		0/42	0/04	capital recovery ←Performance
Rejection		1/12	0/14	management support of environmental styles ←Performance
Confirmation	0/77	2/38	0/31	green information system ← Performance
Confirmation		2/40	0/39	environmental compatibility ←Performance
Rejection		0/49	0/07	environment management ← Performance

Table 10 shows that the coefficient of determination for green marketing strategies variable is 0.74 and shows capital recovery variable management support of environmental style green information systems environmental comparability and internal environmental management all together explain 74% of green marketing strategies changes . According to the amount of standard rate and circumstantial evidence T can express quality variables of internal environmental management (36%) , management support of environmental style (26%) capital recovery (22%) in order have the most effect on green marketing strategies variable (maximum standardize path coefficient) and green information systems variables and environmental compatibility have not meaningful effect.

Also the coefficient of determination for operation variable show that the variables of capital recovery management support of environmental style green information systems environmental compatibility internal environmental management and green marketing strategies altogether can express 77%of operation changes. According to the amount of standard rate and circumstantial evidence we can say green marketing strategies variables (45%) environmental comparability (39%). green information system(31%) in order hane the maximum effect on the operation variable and the variable of capital recovery, management support of environmental style, internal environmental management have not meaningful effect.

CONCLUSION

The population of this research are managers and staff of tile and seramic companies and its dependent industry that include of 36% men and 26/7% women, also 3% of the population have PHD degree, 23/7% and 60/7% BA and 10/4% associate. the result of this research in sample show that capital recovery ,management support of environmental style and internal environmental management influence on green marketing strategies and green marketing strategies , environmental compatibility and green information system have positive effect on operation and other hypothesis are rejected.

SUGGESTIONS

According to high concentration of tile industry in Yazd province it is offered to making industrial clusters (like Italy), supply and distribution chain of product reduce their cist and increase their competitive ability. It is offered to investors and managers of this industry common investment by making a modern research center and using experienced teachers and create appropriate industrial memory, prevent work and spending a lots of cists and increase their competitive ability to attend in foreign markets. Recommended to the managers of tile and seramic factories to get serous the role of public relation units (for relationship with customers) in commercial and sale units. According to undeniable role of human factors introduction, recommended to production units to revision the kind of selection, training and human resource management also using the experienced people in protection and tracing of the most important part of product. Recommended that policymakers and relevant responsible stablishe required standards and update, before implemetation the project, consider the ecological issues and about non-compliance deduct heavy fines (for example is not any specified standard about sludge and wastewater of tile factories in Iran).

Recommended that by building refinery around the industrial parks, prevent pollution of very limited water supplies in desert ,return it to the production cycle and prevent wasting of irreversible supplies. Recommended to the factories managers, do the energy audit specify how much energy is needed where is the most use or even use cheap energies like solar power. Recommended that investors of this industry distance of circuit owner system to increase profitability and competitive ability and by using experienced managers obtain maximum amount of profitability of their capital.

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