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*Full length research paper*

# The impact of the prevailing organizational culture on the adoption of green marketing in chemical-industry companies in three Arab states in west Asia

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**The objective of this study was to investigate the impact of the prevailing organizational culture on the adoption of green marketing in chemical-industry companies in three countries: Syria, Kuwait and Jordan. The research used a survey methodology. A questionnaire was designed and administered simultaneously in the three countries using three different samples consisting of 220 respondents, 12 respondents, and 132 respondents, respectively. The questionnaires collected from the three samples were coded and analyzed. The study concluded that the organizational culture in the samples from the three countries has positive attitudes towards the adoption of green marketing. The Kuwaiti sample has the highest level of positive attitudes in comparison with the other two samples. The task-oriented culture is the dominant prevailing organizational culture in the chemical-industry companies located in Syria and Jordan, but a fulfillment-oriented culture is the dominant prevailing organizational culture in chemical-industry companies located in Kuwait. Our analysis shows that the impact of the prevailing organizational culture differs in accordance with differences in employee education level, country, and years of experience.**

**Keywords:** Organizational culture; Chemical industrial companies; Green marketing; Culture

## INTRODUCTION

Behavioral scientists, particularly anthropologists, agree on the importance of culture and on its vital role in the formation of individual personality. Just as each society has its unique culture, each organization also has its own culture which develops over time. Even organizations that operate in the same field and in the same country are characterized by cultural differences in terms of values, beliefs, perceptions, assumptions, symbols, language and so forth (Hareem, 2003).

Although little attention was paid to organizational culture before the second half of the 20<sup>th</sup> century, the topic subsequently received more attention, especially in the nineties. In the nineties, writers discussed different aspects of organizational culture as one of the important

keys to success in modern organizations. Organizational culture is also said to influence management as it makes a gradual transition toward globalization and faces the challenges of attaining superiority and adapting to environmental variables (Al Sarayreh, 2003). Studies of organizational culture attempt to contribute to the field of organizational behavior by examining the cultural features of the organizations themselves. Based on that theoretical background, this study attempts to identify the prevailing organizational culture in the case of chemical-industry companies in three Arab countries and to evaluate its effect on green marketing strategy.

## LITERATURE REVIEW

### Organizational culture

The culture of an organization is defined as the values,

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beliefs, and assumptions about nature that are shared among the members of the organization. The study of culture should include three main aspects, namely tangible aspects, values, and members' basic assumptions regarding the type of relationship that exists between humans and their environment (Al farhaan, 2002).

Lund (2003) defined culture as a model of shared values and beliefs that helps individuals to understand an organization's functions and provides them with behavioral standards within the organization. Rashid et al. (2003) also defined culture as a set of values, beliefs and behavioral forms which constitute the organization's core identity, and which contributes to changing employees' behavior.

### **Organizational culture types**

Harrison (1972) and Handy (1978) summarized types of organizational culture as Power-oriented culture: this type is characterized by a focus on hierarchy and an orientation towards individuals because individuals in the organization change their tasks in accordance with the leader's directions; Role-oriented culture: the focus of a role-oriented culture is on hierarchy and task characteristics, and bureaucracy in the organization is symbolized by an "Evil Tower" which is narrow at the top and wide at the bottom. Roles and tasks are clear and coordinated at the top, and power emerges from an individual's position and role within the organization; Task-oriented culture: this type of culture emphasizes equality among individuals through its task-orientated focus. All of the organization's structures, operations, and resources are directed toward the achievement of the organization's predetermined goals and tasks. Power stems from experience more than from official position; Fulfillment-oriented culture: this type of culture is characterized by an individual orientation and a focus on equality. The emphasis is on each employee's level of achievement on the job (Joiner, 2001).

A study by Al Duwailah (2006) reported that the prevailing organizational culture has a significant impact on employees' performance in Kuwaiti industrial companies. The study sample includes members of the executive departments of 23 Kuwaiti industrial companies who were enrolled in the "Incubate Exchange Market." The research population was 1000 individuals, and a random sample, totaling 211 employees, was selected. The instrument used to measure culture in the study was derived from the Handy cultural types model. The study concluded that the prevailing organizational culture does have a significant impact on employees' performance in Kuwaiti industrial companies. Moreover, the study also found that each of the organizational culture types (power, role, task, and individual) has a significant impact on employees.

A study by Al Heeti (2005) shows the effect of possible differences in cultural values on employees' performance. A questionnaire was designed and distributed to a target sample of 793 employees from whom 697 completed questionnaires were collected (a response rate of 87.9%). Of these, 685 questionnaires were analyzed. The study concluded that two types of independent variables (namely individual culture values and organizational culture values) have an effect on the dependent variable (namely individual performance). However, the study also found that the effect level is different for local workers in comparison with Chinese workers, and it found statistically significant differences between local workers and Chinese workers in their value priorities.

The aim of a study by Lee and Yu (2004) was to identify the possible relationship between organizational culture and organizational performance in Singaporean companies. The study reported that culture has an impact on a variety of regulatory processes and performance.

Rashid et al., (2004) aimed to measure the influence of organizational culture on attitudes toward organizational change in Malaysia based on a questionnaire that was distributed in 258 companies in Malaysia. The study concluded that there is a close relationship between organizational culture and attitudes toward organizational change.

Crawford and Lok (2004) aimed to investigate the effect of organizational culture and leadership style on job satisfaction and organizational commitment. They concluded that there are statistically significant differences among the companies within their sample (in Australia and Hong Kong) in management style and in the level of creative culture in the organizations. They also found that the prevailing organizational culture and leadership style have an effect on job satisfaction and job loyalty.

### **Green marketing concept**

Green marketing can be viewed as adherence to ethical and social responsibility requirements in marketing. This approach emerged as a response to increased environmental challenges in recent years. This marketing approach has emerged in response to a global increase in concern about protecting consumer rights, and a concurrent growth of organized movements to address environmental trends in such a way that people will be protected and assured a clean and safe environment in which to live. The antecedents of green marketing were developed through many stages since the 1960s. These movements paved the way for the emergence of green marketing in the late 1980s.

Green marketing involves a commitment from the organization to deal with environmentally friendly products (i.e., products that do not harm society and the environment) and to conduct marketing activities in a way

that reflects the organization's commitment to environmental responsibility through adherence to specific controls to ensure the preservation of the natural environment (Al Bakri, 2006).

Most definitions of green marketing deal with this dimension. For example, green marketing is defined by Stanton et al., (1998) as any marketing activity of an organization that aims to create a positive effect or remove a negative effect of a particular product on the environment. Pride and Ferrell (2003) define green marketing as any developing, pricing and promoting process for a product which does not cause any damage to the natural environment.

It is clear that adoption of a green marketing approach achieves many benefits for organizations and may place an organization at the top of the competitive pyramid. It provides them with market leadership, especially in the context of increasing environmental awareness in the market (Laruchr et al., 2001). Adopting a green marketing philosophy brings an organization close to its clients, particularly those clients who have other environmental concerns besides maintaining the environment and rationalizing the use of natural resources. In this context, the study by Al Bakri (2006) indicates a number of advantages resulting from green marketing practices, as follows:

- **Owners' satisfaction:** The green marketing approach is likely to open new horizons and good opportunities for organizations that practice green marketing. This, in turn, is likely to provide organizations with the ability to avoid traditional competition and to thereby achieve competitive leadership in the market, especially when they introduce environmentally friendly products and target those who had environmental trends in the market. This competitive situation will lead to more profits in addition to promoting a good reputation and meeting the owners' needs.
- **Achieving security in the introduction of products and in operations management:** An emphasis on producing safe and environmentally friendly goods will push organizations to raise their production efficiency to reduce the pollution level and other harmful effects caused by the production process. It may also help them to avoid legal sanctions, obligations to pay compensation to injured parties, and the revocation of the membership of environmental or consumer protection associations.
- **Organization social acceptance:** Organizations who adopt a green marketing philosophy will gain strong support in the community because of their goal to benefit all society through their commitment to the environment. This support will help the organization to consolidate its relationships with current customers and to gain new ones in the future.

- **Sustainability of activities:** Green organizations, which avoid legal problems and have strong support in the community, will obtain general acceptance for their goals and philosophy. This support for their operations and business activities will help them to continue to provide the market with environmentally friendly products.

### Study Importance

Interest in organizational culture emerged in recent years because of the belief that it plays an influential role on employees' performance. Investigating this topic in relation to green marketing could shed more light on its importance. Therefore the importance of this study stems from the following:

The study concentrates on the relationship between the prevailing organizational culture and green marketing applications in chemical industries; the study deals with chemical industries, which represent a vital sector of the economy; very few previous studies have focused on the role of organizational culture in implementing and improving environmental strategies.

### Study Problem

The researchers addressed the effect of the prevailing organizational culture on the application of green marketing in chemical-industry companies. Therefore, the research attempts to answer the following questions:

- What is the prevailing organizational culture pattern in chemical-industry companies?
- Does the prevailing organizational culture have any effect on the application of green marketing in these chemical-industry companies?
- Are there any differences in the impact of the prevailing organizational culture on the application of green marketing in chemical-industry companies depending on employees' educational level and experience?

### Hypotheses Examined in the Study

Based on the existing theoretical framework, we proposed the following hypotheses for testing:

- H<sub>01</sub>: The prevailing organizational culture has no statistically significant effect on the application of green marketing in the chemical-industry companies.
- H<sub>02</sub>: The level of power-oriented organizational culture has no statistically significant effect on the application of green marketing in the chemical-industry companies.

- H<sub>03</sub>: The level of task-oriented organizational culture has no statistically significant effect on the application of green marketing in the chemical-industry companies.
- H<sub>04</sub>: The level of role-oriented organizational culture has no statistically significant effect on the application of green marketing in the chemical-industry companies.
- H<sub>05</sub>: The level of fulfillment-oriented organizational culture has no statistically significant effect of the application of green marketing in the chemical-industry companies.
- H<sub>06</sub>: There are no statistically significant differences in the effect of prevailing organizational culture on the application of green marketing in the chemical-industries companies among employees with different levels of education. .
- H<sub>07</sub>: There are no statistically significant differences in the effect of prevailing organizational culture on the application of green marketing in the chemical-industry companies among employees with different levels of experience.

## METHODOLOGY

The research used a quantitative methodology in which the primary data were collected through a self-administrated questionnaire that was designed and distributed to prospective respondents in the target sample. The questionnaire consisted of 26 statements that were selected as follows: the first set consisted of 18 statements that all represent elements of organizational culture. The organizational culture typology introduced by Trompenaars (1993) and Joiner (2001), which was based on previous work by Harrison (1972) and Handy (1978), was selected for this study. The second set included 8 statements that represent the application of green marketing. The research relied primarily on instruments discussed by (Porter, 1998), such as the Likert scale, which consists of choices from one to five where a selection of one represents "strongly disagree" and five represents "strongly agree." The secondary data were collected from various resources such as books, journals, newspapers, and information posted on the internet. The main advantage of using secondary data is to save time and money because it is less expensive to use secondary data than to collect the information from primary sources.

### Data Analysis

The study population consisted of marketing managers in chemical-industry companies in three countries: Syria, Kuwait and Jordan. A stratified random sample with sampling error ( $e$ ) (0.05) level of 527 marketing

managers was selected to fill out the questionnaire. From that target sample, 364 completed questionnaires were collected. The details are shown in Table 1.

The following equation (which is described by Berenson and Levine, 1992) was used to define the sample size:

$$no = \frac{z^2 p(1-p)}{e^2}$$

$$n = \frac{n_o N}{n_o + (N - 1)}$$

Where  $n_o$  is the sample size without considering the finite population correction factor,  $z$  is the confidence level desired, which determines the value of  $z$ ; the critical value from the normal distribution,  $e$  is the sampling error permitted,  $p$  is the true proportion of success,  $N$  is the population size, and  $n$  is the sample size after considering the finite population correction factor.

The reason for selecting the three host countries for the chemical-industry companies examined in this study was to represent three different types of economies, namely one free market economy, one free-market economy that depends primarily on petroleum, and one socialist economy. All statistical analyses were conducted using SPSS version 17 for Windows. The collected data were coded and analyzed first through descriptive statistics. Multiple and simple regression were used to test hypotheses 1 through 5, and two-way ANOVA was used to test hypotheses 6 and 7.

The questionnaire had been evaluated by a panel of instructors from universities in Syria, Kuwait and Jordan. The instructors' remarks and comments were taken into consideration before finalizing the questionnaires. Factor analysis was also used to further evaluate the validity of questionnaire. The factor analysis results showed that a questionnaire was valid. A Cronbach Alpha coefficient for the questionnaire was calculated to evaluate the reliability of the scale and it was found to be  $\alpha = 0.945$ . That score indicates that the questionnaire reliability is good because reliability scores above 0.60 are considered acceptable. In addition, the  $\alpha$  coefficient was 0.935 for the power-oriented culture, 0.891 for the task-oriented culture, 0.938 for the role-oriented culture, 0.953 for the fulfillment-oriented culture, and 0.938 for the green marketing applications scale. These values are all good because they are much higher than the  $\alpha = 0.60$  threshold for acceptability (Malhotra, 2004).

### Characteristics of the Sample

The distribution of the sample in terms of demographic variables is as follows: With respect to gender, the majority of the respondents in the three samples are males (all the respondents in the Kuwaiti sample are males). Additionally, most of the respondents in Syria

**Table 1:** Study Population and Sampling

Country	Population	Sample	Collected	Response rate
Syria	973	276	220	79.7%
Kuwait	116	89	12	14.3%
Jordan	279	162	132	21.3%

\*Note: the researchers tested the normality of the data collected for each sample and found that the samples are normally distributed, but that the number of completed questionnaires collected from the Kuwait sample is too small, and the response rate is low.

and Jordan are between 25-35 years of age, but in Kuwait the majority are above 45 years of age. Moreover, most respondents in Syria and Jordan have between 5-10 years of experience, whereas the amount of experience in the majority of the Kuwaiti sample exceeds 15 years. As for education levels, most of the respondents in all three samples have a bachelor's degree and a diploma.

## ANALYSIS AND DISCUSSION

Means and standard deviations were used to indicate the respondents' attitudes towards each of the items on the green marketing scale. The results, which are reported in Table 2, indicate that the respondents' attitudes are positive because the mean scores for all the statements are above the mid-point of the scale (i.e., above 3). Additionally, a quick review of the results clearly shows that the Kuwaiti sample has the highest positive attitudes toward types of organizational culture explained in this research.

Concerning the respondents' attitudes toward the application of green marketing, the results reported in table 2 indicate positive attitudes toward all statements because in all cases the mean scores are above the midpoint of the scales. The results clearly show that the Kuwaiti sample has the highest positive attitudes toward application of green marketing.

In the Syrian and Jordanian chemical-industry companies, the most pronounced type of organizational culture is the task-oriented culture, but in the chemical-industry companies that are located in Kuwait, the fulfillment-oriented culture is the dominant type of organizational culture.

### Hypothesis Testing

Multiple regression was used to test the first hypothesis, which deals with the effects of all the types of prevailing organizational cultures on the dependent variable. The analysis shows that the effect of the independent variable on the dependent variable (calculated  $F = 108.532$ ) is significant at the 0.01 level. This means that null hypothesis should be rejected and the alternative hypothesis should be accepted. In other words, this

shows that the prevailing organizational culture has a statistically significant impact on attitudes regarding the application of green marketing in chemical-industry companies. Another indication of the strength of the relationship is the Pearson Correlation score, which in this case was 74%. The impact of fulfillment-oriented culture was tested with stepwise regression, and the results show that it has the highest effect on the application of green marketing. The task-oriented culture was found to have the second highest effect, and the effect of the role-oriented culture was found to be still lower.

As for hypotheses 2 through 5, simple regression was used to test each hypothesis to determine the effect of each type of prevailing organizational culture on the dependent variable. The results relating to hypothesis 2 indicated that the effect is significant at the 0.01 level (calculated  $t = 7.981$ ). This means that the power-oriented culture has a statistically significant effect on the application of green marketing in chemical-industry companies. The Pearson Correlation of 38.7% in this case suggests that the strength of the relationship is moderate.

The results in relation to hypothesis 3, were also found to be significant at the 0.01 level (calculated  $t = 8.656$ ). This means that the task-oriented culture has a statistically significant effect on green marketing application in chemical industry companies. We can see that this impact is moderate because Pearson Correlation was 41.4%.

As for hypothesis 4, the results were again found to be significant at the 0.01 level (calculated  $t = 8.494$ ). This means that the role-oriented culture has a statistically significant effect on the application of green marketing in the chemical-industry companies. The Pearson Correlation score of 40.8% shows that the strength of this relationship is moderate.

Finally, with respect to hypothesis 5, the results were significant at the 0.01 level (calculated  $t = 20.213$ ). This means that the fulfillment-oriented culture has a statistically significant effect on the application of green marketing in chemical-industry companies. The Pearson Correlation was 72.8%.

With respect to hypotheses 6 and 7, a two-way ANOVA test was used to determine whether the effect of the independent variable on the dependent variable differs depending on whether the moderating variables are

**Table 2:** Statistical Analysis Results

Statements	Syria	Kuwait	Jordan
<b>First: organization culture</b>			
<b>1- Power-oriented culture:</b>	3.7536	4.3333	3.7636
1- Work is controlled by company's top management.	3.5318	4.7500	3.7273
2- The management directs employees through clear work procedures	3.8318	4.1667	3.9394
3- The company's management is very strict regarding work errors	3.8273	3.8333	3.7803
4- Company's management takes decisions without referring to employees	3.7545	4.5833	3.3939
5- Workers receive direct and express orders.	3.8227	4.3333	3.9773
<b>2- The role-oriented culture:</b>	3.7309	4.2167	3.8455
6- Job description is available for each job in the company.	3.7273	4.4167	3.7576
7- Company's management is keen on objectivity when it hires employees	3.7409	4.0000	3.8939
8- There are clear specialties for each job in the company.	3.7182	4.3333	3.7121
9- Company provides job safety for employees	3.7682	4.3333	4.0000
10- Hierarchy responsibilities and powers are available in the company.	3.7000	4.0000	3.8636
<b>3- task-oriented culture:</b>	3.7855	4.2500	3.8894
11- Company management concentrates on employee experience upon appointment	3.8636	4.4167	4.0682
12- Employee evaluation depends on his job results.	3.7409	4.3333	3.8939
13- Work procedures are accommodated with required task needed.	3.7909	4.5833	4.0076
14- The company concentrates on work and achievement.	3.7455	3.5833	3.9697
15- There are a few rules and procedures in the company.	3.7864	4.3333	3.5076
<b>4- fulfillment-oriented culture:</b>	3.6318	4.5278	3.7753
16- The company controls work by mutual agreement with employees.	3.6182	4.1667	3.7197
17- The individual and its achievement capacity is the main dimension.	3.6682	4.6667	3.6970
18- Company management has clear objectives.	3.6091	4.7500	3.9091
<b>Second: Green marketing</b>	3.5528	4.5625	3.7434
1- The company produces products with harmless packages	3.6591	4.8333	3.9621
2- The company concentrates on manufacturing products with less negative reflection on human being.	3.5500	4.6667	3.8258
3- Company keen on identifying low price on the chemical products with repeated use.	3.5545	4.7500	3.6970
4- Low profit margin is determined on the most used chemical products which cause no harm to the environment	3.5136	4.5000	3.7273
5- Company controls its distributors to avoid misuse products that cause environmental damage	3.5273	4.5833	3.6818
6- Company deals with distinguished agents to distribute the chemical products	3.5364	4.5000	3.5303
7- Companies of chemical products perform free environmental awareness day	3.5318	4.5000	3.6970
8- Chemical products companies contribute in supporting environment maintenance	3.5500	4.1667	3.8258

present. In the case of hypothesis 6, the calculated F value was found to be 4.247, which is significant at 0.01 level. These findings show that the effect of the prevailing organizational culture on the application of green marketing application in chemical-industry companies is significantly different depending on the employees' level of education. The Scheffe test results show that the effect is greatest in the case of Bachelor degree holders. In other words, the effect of the prevailing organizational culture on the application of green marketing increases when the employees' education level is high.

With respect to hypothesis 7, the calculated F-value = 2.42 is significant at 0.01 level. This shows that the effect of the prevailing organizational culture on the application of green marketing in the chemical industry companies is significantly different depending on the employees' level of experience. Scheffe test results show that the effects are strongest for employees who have more than 15 years of experience. In other words, the effect of the prevailing organizational culture on the application of green marketing will increase when the employees' level of experience is high.

The analysis also shows that the effect of the prevailing organizational culture on the application of green marketing in chemical-industry companies is significantly different in different countries. The Scheffe test results show that the effect is strongest in the case of the Kuwaiti sample.

## Conclusions

The findings that emerged from the analysis, as described above, provide a basis for the following conclusions:

- The samples in all three countries have positive attitudes regarding the impact of organizational culture on the application of green marketing, but the attitudes in the Kuwaiti sample were highest in comparison to the other two.
- Task-oriented culture is the dominant organizational culture in the Syrian and Jordanian chemical-industry companies, but the fulfillment-oriented culture is the dominant organizational culture in chemical-industry companies located in Kuwait.

The prevailing organizational culture has a statistically significant impact on the application of green marketing in chemical-industry companies. Whereas power-oriented culture, task-oriented culture, and role-oriented culture all had a moderate impact, the fulfillment-oriented culture had a high impact. The analysis also shows that the impact of the prevailing organizational culture differs depending on the employees' level of education, country and years of experience.

These findings show that chemical-industry companies in Syria and Jordan concentrate on tasks more than other types of culture while the companies in Kuwait concentrate on individuals more than the other types of culture. The findings also show that the fulfillment-oriented culture has the greatest impact on the application of green marketing. These results may benefit chemical companies in these three countries by highlighting the main procedures that can be used to apply green marketing strategies in a way that is consistent with the prevailing organizational culture. This research may stimulate the initiation of future research in other countries and other fields to highlight the main factors that affect the application of green marketing strategies.

## RECOMMENDATIONS

All concerned parties all over the world are interested in keeping the environment clean and free of pollution. For this reason, companies in various economic sectors that could have an impact on the environment, including industry, should comply with regulations to avoid any negative impact from their products on the environment and on the people who use their products. The chemical-industry companies in the three countries examined in this study should develop their own policies and standards relating to environmental issues by applying a green marketing approach. They have to train their employees on how to apply a green marketing policy, and they need to introduce green marketing in their production strategy to control the impact of business as it relates not only to financial returns but also to social and environmental values. This approach helps to capture the whole set of values, issues and processes of the business to minimize any harm resulting from their activities and to create economic, social and environmental values.

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## APENDICES

### Regression

#### Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	ind4, ind2, ind1, ind3 <sup>a</sup>	.	Enter

a. All requested variables entered.

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.740 <sup>a</sup>	.547	.542	.71275

a. Predictors: (Constant), ind4, ind2, ind1, ind3

#### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	220.542	4	55.135	108.532	.000 <sup>a</sup>
	Residual	182.376	359	.508		
	Total	402.918	363			

a. Predictors: (Constant), ind4, ind2, ind1, ind3; b. Dependent Variable: dep

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.127	.187		6.021	.000
	ind1	-.020	.074	-.015	-.270	.787
	ind2	.189	.069	.159	2.751	.006
	ind3	-.211	.065	-.188	-3.254	.001
	ind4	.727	.044	.774	16.523	.000

a. Dependent Variable: dep

**Regression**

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	ind4	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	ind3	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	ind2	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: dep

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.728 <sup>a</sup>	.530	.529	.72310
2	.732 <sup>b</sup>	.536	.533	.71985
3	.740 <sup>c</sup>	.547	.543	.71183

a. Predictors: (Constant), ind4; b. Predictors: (Constant), ind4, ind3; c. Predictors: (Constant), ind4, ind3, ind2

**Regression**

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	ind1 <sup>a</sup>	.	Enter

a. All requested variables entered; b. Dependent Variable: dep

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.387 <sup>a</sup>	.150	.147	.97289

a. Predictors: (Constant), ind1

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.282	1	60.282	63.689	.000 <sup>a</sup>
	Residual	342.635	362	.947		
	Total	402.918	363			

a. Predictors: (Constant), ind1; b. Dependent Variable: dep

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.758	.243		7.227	.000
	ind1	.503	.063	.387	7.981	.000

a. Dependent Variable: dep

## Regression

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	ind2 <sup>a</sup>	.	Enter

a. All requested variables entered; b. Dependent Variable: dep

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.414 <sup>a</sup>	.171	.169	.96029

a. Predictors: (Constant), ind2

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.100	1	69.100	74.933	.000 <sup>a</sup>
	Residual	333.818	362	.922		
	Total	402.918	363			

a. Predictors: (Constant), ind2; b. Dependent Variable: dep

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.797	.221		8.147	.000
	ind2	.491	.057	.414	8.656	.000

a. Dependent Variable: dep

**Regression**

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	ind3 <sup>a</sup>	.	Enter

a. All requested variables entered; b. Dependent Variable: dep

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.408 <sup>a</sup>	.166	.164	.96336

a. Predictors: (Constant), ind3

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.958	1	66.958	72.148	.000 <sup>a</sup>
	Residual	335.959	362	.928		
	Total	402.918	363			

a. Predictors: (Constant), ind3; b. Dependent Variable: dep

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.893	.214		8.866	.000
	ind3	.459	.054	.408	8.494	.000

a. Dependent Variable: dep

**Regression**

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	ind4 <sup>a</sup>	.	Enter

a. All requested variables entered; b. Dependent Variable: dep

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.728 <sup>a</sup>	.530	.529	.72310

a. Predictors: (Constant), ind4

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	213.637	1	213.637	408.581	.000 <sup>a</sup>
	Residual	189.281	362	.523		
	Total	402.918	363			

a. Predictors: (Constant), ind4; b. Dependent Variable: dep

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.117	.131		8.518	.000
	ind4	.683	.034	.728	20.213	.000

a. Dependent Variable: dep

**Univariate Analysis of Variance**

Tests of Between-Subjects Effects  
Dependent Variable: dep

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	321.450 <sup>a</sup>	92	3.494	11.623	.000
Intercept	1466.120	1	1466.120	4877.039	.000
ind	197.640	52	3.801	12.643	.000
edlevel	2.348	3	.783	2.603	.052
ind * edlevel	47.241	37	1.277	4.247	.000
Error	81.467	271	.301		
Total	5266.188	364			
Corrected Total	402.918	363			

a. R Squared = .798 (Adjusted R Squared = .729)

**Post Hoc Tests: edlevel**

**Multiple Comparisons**

dep  
Scheffe

(I) edlevel	(J) edlevel	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-.2287	.10562	.199	-.5259	.0684
	3.00	-.0032	.10679	1.000	-.3036	.2972
	4.00	-.1376	.12158	.734	-.4796	.2044
2.00	1.00	.2287	.10562	.199	-.0684	.5259
	3.00	.2256*	.06588	.009	.0402	.4109
	4.00	.0912	.08785	.783	-.1560	.3383
3.00	1.00	.0032	.10679	1.000	-.2972	.3036
	2.00	-.2256*	.06588	.009	-.4109	-.0402
	4.00	-.1344	.08926	.520	-.3855	.1167
4.00	1.00	.1376	.12158	.734	-.2044	.4796
	2.00	-.0912	.08785	.783	-.3383	.1560
	3.00	.1344	.08926	.520	-.1167	.3855

Based on observed means, the error term is Mean Square(Error) = .301; \*. The mean difference is significant at the 0.05 level

**Homogeneous Subsets**

dep  
Scheffe<sup>a,b,c</sup>

edlevel	N	Subset
		1
1.00	33	3.5417
3.00	131	3.5448
4.00	53	3.6792
2.00	147	3.7704
Sig.		.143

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .301.

a. Uses Harmonic Mean Sample Size = 62.886.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = 0.05.

**Univariate Analysis of Variance**

Tests of Between-Subjects Effects

Dependent Variable:dep

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	294.578 <sup>a</sup>	81	3.637	9.466	.000
Intercept	1247.715	1	1247.715	3247.699	.000
ind	180.268	51	3.535	9.200	.000
experience	.603	2	.301	.784	.457
ind * experience	25.099	27	.930	2.420	.000
Error	108.340	282	.384		
Total	5266.188	364			
Corrected Total	402.918	363			

a. R Squared = .731 (Adjusted R Squared = .654)

### Post Hoc Tests: experience

Multiple Comparisons

dep

Scheffe

(I) experience	(J) experience	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-2.6426*	.25711	.000	-3.3657	-1.9194
	3.00	-2.6241*	.25869	.000	-3.3516	-1.8965
	4.00	-3.2156*	.27136	.000	-3.9788	-2.4524
2.00	1.00	2.6426*	.25711	.000	1.9194	3.3657
	3.00	.0185	.07046	.995	-.1797	.2167
	4.00	-.5731*	.10808	.000	-.8770	-.2691
3.00	1.00	2.6241*	.25869	.000	1.8965	3.3516
	2.00	-.0185	.07046	.995	-.2167	.1797
	4.00	-.5916*	.11177	.000	-.9059	-.2772
4.00	1.00	3.2156*	.27136	.000	2.4524	3.9788
	2.00	.5731*	.10808	.000	.2691	.8770
	3.00	.5916*	.11177	.000	.2772	.9059

Based on observed means.

The error term is Mean Square(Error) = .384.

\*. The mean difference is significant at the 0.05 level.

### Homogeneous subsets

dep

Scheffe<sup>a,b,c</sup>

experience	N	Subset		
		1	2	3
1.00	6	1.0000		
3.00	133		3.6241	
2.00	185		3.6426	
4.00	40			4.2156
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .384.

a. Uses Harmonic Mean Sample Size = 19.551.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = 0.05.

**Univariate Analysis of Variance**

Tests of Between-Subjects Effects

Dependent Variable:dep

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	293.456 <sup>a</sup>	80	3.668	9.484	.000
Intercept	975.587	1	975.587	2522.256	.000
ind	232.668	52	4.474	11.568	.000
country	2.376	2	1.188	3.072	.048
ind * country	21.550	26	.829	2.143	.001
Error	109.462	283	.387		
Total	5266.188	364			
Corrected Total	402.918	363			

a. R Squared = .728 (Adjusted R Squared = .652)

**Post Hoc Tests: country**

Multiple Comparisons

dep

Scheffe

(I) country	(J) country	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Syria	Kuwait	-1.0097 <sup>*</sup>	.18437	.000	-1.4633	-.5560
	Jordan	-.1905 <sup>*</sup>	.06847	.022	-.3590	-.0220
Kuwait	Syria	1.0097 <sup>*</sup>	.18437	.000	.5560	1.4633
	Jordan	.8191 <sup>*</sup>	.18752	.000	.3577	1.2806
Jordan	Syria	.1905 <sup>*</sup>	.06847	.022	.0220	.3590
	Kuwait	-.8191 <sup>*</sup>	.18752	.000	-1.2806	-.3577

Based on observed means.

The error term is Mean Square(Error) = .387.

\*. The mean difference is significant at the 0.05 level.

**Homogeneous Subsets**

dep

Scheffe<sup>a,b,c</sup>

country	N	Subset	
		1	2
Syria	220	3.5528	
Jordan	132	3.7434	
Kuwait	12		4.5625
Sig.		.479	1.000