

Impact of Socioeconomic Characteristics on Awareness Level of People About the Concept of Knowledge Economy: A Case Study of Punjab, Pakistan

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Abstract

Objectives: The study is conducted to find relationship between socioeconomic characteristics and awareness of respondents about the concept of knowledge economy as these characteristics are considered vital to develop one's perception. **Methods:** Survey method is used to collect the data. Total 606 respondents (teachers, students, administrators) are selected randomly from three private and three public universities of Punjab, Pakistan. Information is gathered through interview schedule. Descriptive and inferential statistical techniques are used for analysis. Pearson Chi-Square, Likelihood Ratio, Linear-by-Linear Association and Gamma tests are applied for bivariate analysis and multivariate analysis is done with the help of binary logistic model of regression. **Findings:** It is found that out of 606 respondents 391(64.5%) respondents were aware of the term of knowledge economy but 215 (35.5%) were unaware of the term that is alarming. Most of the respondents were young belong to the age groups of 15-20 and 21-25. Second characteristic was the sex distribution of the respondents, out of 606 respondents 337 females participated in the research. Third attribute was the qualification level of the respondents as already mentioned that most of the respondents were young since the qualification of the majority of them were BS/B.Sc and M.A/M.Sc. Fourth characteristic was monthly income of the family, participant from all backgrounds equally participated in the research as 195 (32.2%) respondents were from families who earned 20000 with 40000, 172 (28.4%) respondent's family earned 41000 to 60000, family income of 133(21.9%) respondents were 61000-80000 and 106 (17.5%) respondents belong to families who's earning were 81000 and above. **Application:** These findings can help to understand the relationship between awareness level and socioeconomic characteristics of respondents for policy making.

Keywords: Awareness about the Concept of Knowledge Economy, Socio-economic Characteristics

1. Introduction

In previous decades numbers of researches were conducted to understand the importance of knowledge economy for the economic development of the society. The sum of all researches is that knowledge economy has become crucial element of economic growth. Unfortunately, Pakistan is far behind in this race of economic growth. Since, the research was designed to find out the awareness level of

people about the concept and to dig out the factors which affect the awareness level of people.

In¹ suggested that there is need to uncover the factors enabling or impeding the process of knowledge creation and innovation. These factors will help to analyze the challenging role played by knowledge in global economy. Such analysis will explain the ways through which societies can reduce the cognitive distance and increase the connectivity between knowledge and economy. Keeping

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in view the suggestion given by the role of socio-economic characteristics was analyzed to understand that how these factors are developing connectivity between knowledge and economy.

In² analyzed the European Union policy texts from 1993 to 2005 to define the concept of knowledge economy and knowledge society based on lifelong learning; he identified that gender, class and race effects the learning of males and females and very few references are available in which effects of gender, ethnic minorities and immigrants on learning are examined. Keeping off the importance of socioeconomic characteristics on learning and creation of new knowledge in context of educational institutions some attributes include age, gender, qualification of the respondent, monthly income of family, are studied in the research.

In the light of the above it is inferred that the knowledge based skilled learners are divided into low and high categories on the basis of their gender, race and social class. It is further claimed that very few researches were conducted to high light these factors. An effort is made through the current research to throw light on the role played by socio-economic factors to aware people about the use of knowledge for economic development.

2. Socio-economic Characteristics

Age influences the perception of people about the social realities. Age and experience can change the opinion of people about the same phenomenon with the passage of time. In³ said that age is a central factor to be considered in any research to get accurate results in the process of data gathering. Age is a process that brings changes in one's physical, psychological and social life with the passage of time. Similarly, Age has a significant impact on one's decision making.

Age is probably divided into infancy, adulthood, maturity and aging. The age group highly influenced the level of understanding of people⁴. The indicator of age is used in research to measure the perception of people of different ages to find its impact on their understanding and explaining the basic concepts of research. The main concepts of the research are defined with the help of the perception of people from different age groups as the teachers, administrators, and students are the participants so the concepts are explained with the help of people who are diverse in their age and experience.

Gender is central to define one's status in society. Both genders male and females are equally important in the structure of society and are holding important positions and roles to run the society. But they both are socialized on different grounds in all societies. In some societies females are holding dominating positions and in other societies males are dominating in their roles⁵. Pakistan is also one of them societies in which males are holding dominating positions in society. In⁶ claims that both genders respond differently towards the realities of life and both are equally important to understand these realities. Secondary data reveals that females in Pakistan depend economically on male members of their family. Studies show that the major sources of stratification in Pakistan is gender based which in many cases lead to gender discrimination in education and female's economic dependency⁷. The attribute of gender is included to find out the impact of it on creation of knowledge and access to knowledge in the educational institutions of Pakistan.

Education is a character through which one's level of awareness and understanding can be measured. Education is not only necessary to enhance one's status in society but also change one's perception about the realities of social life. Education plays a key role to understand the reality and to live a better life. Education is used to channelize the potential of human beings to develop their personalities and make them a useful citizen of the society. The character of education is used to examine the perception and awareness level of people with different levels of education about the concepts of knowledge economy and its link with creation of knowledge economy.

Income is central to define one's status in society. Access to education, well being and better social status are greatly influenced by one's income. In⁵ claims that income is one of the most important factors of defining one's social status in society. Family income is crucial element to affect the access to higher education; this means that university attendance is more common among families with higher incomes. Education gap between the people of a society is because of difference in monthly income of those people. On the other hand completing higher education brings many rewards, including higher earnings.

In other words, higher education is a good investment. Since, the strong connection is found between the income and access to education, so the indicator of income is included to measure the relationship between both the attributes income and access to education.

Socio-economic characteristics influence the perception of people and the impact of these characteristics cannot be ignored in any aspect of life. The awareness about the concept of knowledge economy is greatly influenced by the socio-economic background of the respondents. The impact of above mentioned characteristics was examined and it is inferred that these factors greatly affect the level of awareness of people about the term of knowledge economy.

3. Methodology

Social research is a systematic method of discovering new facts or verifying the old ones, their sequence, inter-relationship, casual explanation and natural laws that govern them⁸. Survey method is used to collect the data. Three private and three public universities are selected randomly from Punjab, Pakistan. The sample size is comprised of 606 respondents which included teachers, students and administrators. Interview schedule is used as tool. Both descriptive and inferential statistical techniques are used to analyze the data. Pearson Chi-Square, Likelihood Ratio, Linear-by-Linear Association, and Gamma tests are applied for bivariate analysis and multivariate analysis are done with the help of binary logistic model of regression. The results showed that there is significant association between socio-economic characteristics and awareness level of people about the concept of knowledge economy.

4. Results and Discussions

This portion is developed to highlight the results by discussing it in the light of previous researches. The proceeding portion throws light on the impact of age, gender, qualification and income on familiarity level of people with the term knowledge economy.

5. Socio-economic Characteristics and Familiarity with Term Knowledge Economy

Hypothesis 1: Younger the respondents higher is the familiarity with the term knowledge economy versus the older the respondents lower the familiarity with the term knowledge economy

Table 1 represents the association between age of the respondents and their familiarity with the term of knowledge economy. Chi-square value ($\chi^2 = 48.01$) a highly significant ($p = .000$) which depicts association between the age of the respondents and their familiarity with the term of knowledge economy.

Further statistical tests i.e. Likelihood Ratio (48.82) and Linear-by-Linear Association (43.80) also showing a highly significant association between the variables. Gamma statistic showed a significant and strong negative relation among the variables. Findings of the above table, tells that majority young age respondents i.e. 15-20 (80.9%) and 21-25 (66.9%) respondents had familiarity with the term of knowledge economy, whereas, majority (61.3%) higher age (36 and above) respondents had no familiarity with the term of knowledge economy. The age group highly influenced the level of understanding of people mentioned by⁴, so, the hypothesis "Younger the respondent higher is the familiarity with the term knowledge economy versus the older the respondents lower the behavioral shift".

Hypothesis 2: Females are more familiar with the term of knowledge economy than of males

Table 2 represents the association between gender and familiarity with the term of knowledge economy. Chi-square value ($\chi^2 = 5.372$) a significant ($p = .020$) which illustrates that their association between gender and familiarity with the term of knowledge economy. The same association is verified by likelihood ratio and linear by linear association. Gamma statistic shows a significant and negative relation among the variables. Findings of the above table, tells us that majority of the female respondents has familiarity with the term of knowledge economy, whereas, 45.5% male respondents had low level of familiarity with the term of knowledge economy. So, the hypothesis "Females are more familiar with the term of knowledge economy than of males" is accepted. This shows that there is high enrollment of females in universities and in future females will be independent economically after getting higher education because previous researches reveal that females in Pakistan depend economically on male members of their family claimed by⁶.

Hypothesis 3: Lower the Qualification of respondents higher is the familiarity with the term of knowledge economy versus higher the qualification of the respon-

Table 1. Relation between age and familiarity with the term of knowledge economy

Age group of respondents	Familiarity with the term Knowledge economy		Total
	No	Yes	
15-20	34	144	178
	19.1%	80.9%	100.0%
21-25	57	115	172
	33.1%	66.9%	100.0%
26-30	52	65	117
	44.4%	55.6%	100.0%
31-35	26	38	64
	40.6%	59.4%	100.0%
36 and above	46	29	75
	61.3%	38.7%	100.0%
Total	215	391	606
	35.5%	64.5%	100.0%
Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.01	4	.000**
Likelihood Ratio	48.82	4	.000**
Linear-by-Linear Association	43.80	1	.000**
Gamma	-.397		.000**

** = Highly-significant

Table 2. Association between gender and familiarity with the term of knowledge economy

Gender	Familiarity with the term Knowledge economy		Total
	No	Yes	
Male	109	160	269
	40.5%	59.5%	100.0%
Femal	106	231	337
	31.5%	68.5%	100.0%
Total	215	391	606
	35.5%	64.5%	100.0%
Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.372	1	.020*
Likelihood ratio	5.372	1	.021*
Linear-by-Linear Association	5.363	1	.021*
Gamma	.195		.021*

* = Significant

dents lowers the familiarity the with term of knowledge economy

Table 3 explains about the relationship between qualification and familiarity with the term of knowledge economy. Chi-square value ($\chi^2 = 76.29$) a highly significant ($p = .000$) which depicts association between qualification and familiarity with the term of knowledge economy. Likelihood ratio and linear by linear association values also prove the significant role between said variables. Gamma statistic shows a significant and negative relation among the variables. It depicts that the majority of the respondents who had qualification B.A./B.S. and M.A./M.Sc. were familiar with have the degrees of M.Sc./M.Phil. and Ph.D. was low.

So, the hypothesis “Lower the Qualification of respondents higher is the familiarity with the term of knowledge economy versus higher the qualification of the respondents lowers the familiarity the term of knowledge economy” is accepted. Education is used to channelize the potential of human beings to develop their personalities and make them a useful citizen of the society, said by. Results represents that new generation is trained to channelize their abilities to deal with the global economic

challenges that is why most of them were BA/B. Sc and MA/M.Sc.

Hypothesis 4: Higher the income of the respondents higher is the familiarity with the term Knowledge economy versus lower the income of the respondents lower is the familiarity with the term knowledge economy

Table 4 describes the relationship between income of the respondents and familiarity with the term of knowledge economy. Chi-square value ($\chi^2 = 39.91$) a highly significant ($p = .000$) which represents that there is association between income and familiarity with the term of knowledge economy. Value of likelihood ratio and linear by linear association verifies the results of chi-square value. Gamma statistic illustrates a significant and positive relation among the variables. Majority of the respondents who's monthly income is Rs. 61000-80000 (69.9%) and above 80000 (87.7%) are more familiar with the term of knowledge economy but the familiarity rate among the respondents who's families are earning Rs. 20000 to 60000 (41.5%) and RS. 41000-60000 monthly were low. So, the hypothesis “Higher the income of the respondents higher is the familiarity with the term Knowledge econ-

Table 3. Association between qualification of the respondents and familiarity with the term of knowledge economy

Qualification	Familiarity with the term Knowledge economy		Total
	No	Yes	
B.A/B.S	50	209	259
	19.3%	80.7%	100.0%
M.A/M.Sc	38	85	123
	30.9%	69.1%	100.0%
M.Phill/M.S	78	67	145
	53.8%	46.2%	100.0%
Ph.D	49	30	79
	62.0%	38.0%	100.0%
Total	215	391	606
	35.5%	64.5%	100.0%
Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	76.29	3	.000**
Likelihood Ratio	76.92	3	.000**
Linear-by-Linear Association	74.14	1	.000**
Gamma	-.525		.000**

** = Highly-significant

omy versus lower the income of the respondents lower is the familiarity with the term knowledge economy” is accepted. Those who have income always find new ways to increase it. This is also ‘income’ that creates resistance against change said by⁹ and fear of losing ‘income’ changes behaviors of people too.

Model 1: Binary Logistic Model (relation among socio-economic status and familiarity with the term knowledge economy)

Table 5 the impact of study variables on familiarity with the term knowledge economy has been studied by using the logistic model. The value of log-likelihood (-2LL) is 642.94 indicates that the effect of independent variables through the purposed model is significant and hence model estimation or fit of the model has been improved. There are two further statistics required to explain the features of the model. First are Cox and Snell R² whose value is 0.213; indicates that 21% of total variation is explained by the independent variables in the chosen model and 21% by the other variables and/or by chance. Second is² whose value is 0.293; indicates that 29% of total variation is explained by the independent variables in the chosen model. Both of these measures technically called pseudo

R² and its value could hardly be tested through inferential approaches of the statistics claimed by¹⁰. Resultantly; it could not be considered the good measure of goodness of fit for the purposed model stated by¹¹.

Further, the value of¹¹ (HL) test is 145.29 with the p-value of (P=.000) turned as highly significant. The value of HL test suggested that the chosen model has been fitted well to the data and it justifies the purposed hypothesis: model fit is good, said by¹².

There were two rates considered as two decision options (216/606 = 35.5% were not familiar with knowledge economy, 64.5% were familiar with knowledge economy).

• **Age of respondents**

It is found that increase in age also contributes in increase in level of familiarity with the term knowledge economy. Odds ratio for the variable age is 2.921; explained that each one-unit increase in the age will likely to increase 2.921 times chances for familiarity with term knowledge economy. The P-value indicates that there is highly-significant relation between age and familiarity with the term knowledge economy and understanding level is highly influenced by the age group as claimed by⁴.

Table 4. Association between income of the respondents and familiarity with the term of knowledge economy

Qualification	Familiarity with the term Knowledge economy		Total
	No	Yes	
20000 to 40000	81	114	195
	41.5%	58.5%	100.0%
41000 to 60000	81	91	172
	47.1%	52.9%	100.0%
61000 to 80000	40	93	133
	30.1%	69.9%	100.0%
Above 80000	13	93	106
	12.3%	87.7%	100.0%
Total	215	391	606
	35.5%	64.5%	100.0%
Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.91	3	.000**
Likelihood Ratio	44.10	3	.000**
Linear-by-Linear Association	28.39	1	.000**
Gamma	.318		.000**

** = Highly-significant

Table 5. Binary logistic model**a. Model Summary**

-2 Log likelihood	642.94
Cox and Snell R Square	.213
Nagelkerke R Square	.293

b. Hosmer and Lemeshow Test

Chi-square	145.29
Df	74
Significance	0.000

c. Classification Table

Observed		Predicted		
		No	Yes	Correct Percentage
Familiar with Knowledge Economy	No	111	104	51.6
	Yes	67	324	82.9
Overall Percentage				71.8

d. Summary of Logistic Model

Variables	B	Wald	Sig.	Exp(B)
Age	1.072	23.894	.000**	2.921
Gender	.433	5.006	.025*	1.543
Education	-2.092	54.834	.000**	.123
Income	.210	5.288	.021*	1.234
Constant	1.282	9.452	.002**	3.603

** = significant at < 1%;

* = significant at < 5% and

- Gender**

It is found that the gender has also significant and positive relationship. Odds ratio for the variable gender is 1.543; explained that each one-unit increase in the female gender will likely to increase 1.543 times chances for familiarity with term knowledge economy. The P-value indicates that there is significant relation between gender and familiarity with the term knowledge economy. The results show that the perception of people has been changed regarding education of females as⁷ claimed that stratification in Pakistan is gender based which in many cases lead to gender discrimination in education and female's economic dependency.

- Education of Respondents**

Results predict that the increase in education contributes in decrease in familiarity with knowledge economy. Odds ratio for the variable qualification is 0.123; explained

that each one-unit increase in the education will likely to decrease 0.123 times chances for familiarity with the term knowledge economy. The P-value indicates that there is highly-significant relation between education and the familiar with the term knowledge economy, said that potential of people can be channelized through education.

- Income of respondents**

The variable income indicates the collective income of the respondents from all legitimate sources. The estimated coefficient of income is positive and significant. It indicates that there is a positive relation between income and familiarity with knowledge economy.

The odds ratio of income is 3.603 and it explained that for each unit increase of income, there will be 3.603 times more chances for familiar with the term knowledge economy. According to⁵ income is a factor which defines the status of one in society and access to higher education is highly attached with one's income.

• Main Findings

Without having initial knowledge about basic concepts perception of people cannot be measured. Some questions were asked to know the level of awareness of respondents about basic concepts. Out of 606 respondent, 391(64.5%) respondents were aware of the term of knowledge economy but 215 (35.5%) were not aware of the term which is a matter of serious concern. Socio-economic characteristics of respondents effect their perception and decision making about their lives. Age, sex, qualification, and income greatly influence one's perception about social realities and the same is analyzed by the results of current research. Age was the first attribute asked to know the respondents level of understanding about the concept of knowledge economy. Most of the respondents were young belong to the age groups of 15-20 and 21-25 which shows that most of the respondents were energetic and can easily accept socio-economic changes accord in their surroundings. Similarly, they have the ability to modify their lives to adjust according to these changes. In⁴ proposed said that age group highly influenced the level of understanding of people. Multivariate value ($b = 2.921$) and Chi square value (48.01) also show that there is a highly significant association between age and familiarity with the term of knowledge economy. Second characteristic was the sex distribution of the respondents, out of 606 respondents 337 females participated in the research which was a positive sign of females' involvement in higher education and later on in economic activities. The results rejected the claim of⁷. Who said that stratification in Pakistan is gender based which in many cases lead to gender discrimination in education and female's economic dependency. Results of bivariate ($p = .020$) and multivariate ($b = 1.543$) analysis also shows that there is a significant relationship between females' familiarity with the term of knowledge economy. Third attribute was the qualification level of the respondents as already mentioned that most of the respondents were young since the qualification of the majority of them were B./S/B.Sc and M.A./M.Sc. Education is used to channelize the potential of human beings to develop their personalities and make them a useful citizen of the society stated by. Chi square value (76.29) presents that there is highly significant relationship between qualification of respondents and the same is verified by Multivariate

analysis ($b = .123$). Fourth characteristic was monthly income of the family, participant from all backgrounds equally participated in the research as 195 (32.2%) respondents were from families who earned 20000 with 40000, 172 (28.4%) respondent's family earned 41000 to 60000, family income of 133 (21.9%) respondents were 61000-80000 and 106 (17.5%) respondents belong to families who's earning were 81000 and above. This indicates that access to higher education is equally provided to people of all income backgrounds. Income is one of the most important factors of defining one's social status in society as mentioned by⁵.

6. Conclusion

People from different socio-economic backgrounds participated in current research and the background of respondent highly influenced their level of familiarity with the term of knowledge economy. Awareness level of people about the term knowledge economy is not satisfactory. It is observed by the multivariate analysis that relationship of age and education with familiarity with the term knowledge economy is highly significant in relation to other independent variables (gender and monthly income of family). Awareness level of youngsters is a good sign because they have the ability to face the challenges and change their life accordingly. 'Age group' is of great influence on the understanding of the people and highlights the role played by education to channelize the abilities of people according the requirements of society.

7. Recommendations

- Government should provide opportunities to those who cannot afford higher education. So, people from all social backgrounds can have equal access to higher education and later on they can participate in economic development of country. Furthermore, the participation of females should be encouraged and they should be motivated by providing them incentives.
- Both government and educational institutions have to arrange seminars, workshops and conferences on regular basis to provide people the awareness about the concept of knowledge economy and its importance to global economy.

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