

International Journal of Biosciences | IJB | ISSN: 2220-6655 (Print) 2222-5234 (Online) http://www.innspub.net Vol. 14, No. 1, p. 554-562, 2019

RESEARCH PAPER

OPEN ACCESS

Awareness and purchasing behavior of preservice teachers on environmental friendly products (EFP)

Bernard P. Madarang*

Cagayan State University at Lasam, Lasam, Cagayan, Philippines

Key words: Green buying behavior, Environmentally friendly products, Preservice teachers

http://dx.doi.org/10.12692/ijb/14.1.554-562

Article published on January 31, 2019

Abstract

Future teachers serve as the main element in achieving environmentally literate populace which the country needs. Their adequate preparation in environmental education is a prerequisite for their future ability to design and implement effective environmental education. This study examined the awareness and purchasing behavior of preservice teachers on environmentally friendly products. It employed descriptive correlational research design with an adapted questionnaire to a sample size of 60 respondents. The study found out that the preservice teachers manifest a moderate extent of purchasing environmentally friendly products despite their awareness of the concepts, health benefits and environmental effects of environmentally friendly products. They agree that product quality, availability of the products, promotion, and advertisement of the product, and product price affect their purchasing behavior towards environmentally friendly products. Hence, as pre-service teachers, they can recognize their role as responsible consumers to buy products that are environmentally safe. This study also concluded that sex and age do not impose any significant difference while their parents' education is the single variable defining the difference in their green purchasing behavior. Lastly, this study showed that there is a significant relationship on the level of awareness of the respondents towards environmentally friendly products to their purchasing behavior. Thus concludes that the more aware the students are about the environmentally friendly products, the more that they purchase these products.

* Corresponding Author: Bernard P. Madarang 🖂 gilbertmagulod_rdecsulasam28@yahoo.com

Introduction

Environmental problems such as climate change, soil and water pollution, and other catastrophic issues were repeatedly raised up in current decade thus making governments, organization, and people more concern and try to participate in solving environmental problems. They have become more concerned with the natural environment and are realizing that their production, consumption and purchasing behavior will have a direct impact on the environment (Laroche, Bergeron & Barbaro-Forleo, 2001). This awareness is in apparent with the belief that the world's supply of natural resources is finite and the ecological balance of the environment may be at a critical disruption stage.

Engel, Blackwell and Miniard (2005) defined the consumer behavior as those activities directly involved in obtaining, consuming, and disposing of products and services, including the decision processes that precede and follow these activities. Green marketing has rose attention due to environmental deterioration and it becomes a global problem (Kumar, 2011). Little empirical evidence exists as to translating those proenvironmental attitudes and beliefs into environmentally conscious behavior (Crane, 2000) such as green buying and recycling.

In like manner, environmental education is a lifelong issue surrounding the whole society and producing vital long-term results (Kaya and Gündoğdu, 2007). Environmental awareness is defined as knowing the impact of human behavior on the environment. Environmental awareness has both a cognitive, knowledge-based component and an affective, perception-based component (Kollmuss & Agyeman, 2002). The significance, necessity and effects of environmental education and the inadequate training about environmental consciousness for students at schools has recently become a heavily discussed topic at many schools around the world (Cheng and Monroe, 2010). Future teachers are the most important factor in promoting environmental literacy. Therefore, they must be well prepared to manifest such. In addition, they must have a good grasp and understanding of environmental issues and problems

affecting the society every day. Teachers' role is crucial in promoting environmental literacy in schools and society. The adequate preparation of teacher education students in environmental education is a prerequisite for their future ability to design and implement effective environmental education (Magulod, 2018).

An environmental consciousness and education involve lifelong knowledge, attitudes and skills, teaching programs which focus on intense interaction with the environment should be designed and practiced (Bonnett and Williams, 2006). According to international studies concerning environmental education, the optimal education level for delivering environmental education is secondary education, and teachers play critical roles in attaining the goals of environmental education. Thus, teachers should be trained so that they can deliver environmental education and consciousness (Unal and Dimiski, 1998).

This study generally assessed preservice teachers awareness and purchasing behavior on environmentally friendly products, specifically, to aims to assess the (1) extent of Students' Purchase on Environmental Friendly Products; (2) awareness of the students toward Environmental friendly Products; (3) Purchasing Behaviour of students Towards Environment Friendly Products; (4) difference on the extent of purchasing, awareness and, purchasing behaviour on Environmental friendly Products; (5) the relationship Between the level of Awareness towards Environmental Friendly Products to the Purchasing Behaviour.

Materials and methods

Participants and Instrumentation

The participants of the study were the third year and fourth year teacher education students of one campus of a state University in Region 02, Philippines. Simple random sampling was employed in selecting the participants.

A survey questionnaire was the primary tool in gathering the data. Contents of the questionnaire elicited the profile of the respondents, purchasing behavior towards environmentally friendly products. Moreover, the adopted instrument has also undergone content validation to ensure that this is appropriate to the context and background of the target respondents. Cronbach's Alpha was used to measure the reliability of the questionnaire. Through the help of the statistician, the instrument was found to be reliable.

Data Gathering Procedure

Planning, data gathering, and analysis are the three phases this study was executed. The researcher was able to formulate the research problem by examining a number of resources and existing studies on environmental education. Experiences in handling environmental-related courses inspired and empowered her to conceptualize this study and using the adopted questionnaire as the main instrument pertinent data in the study were gathered. The researcher sought permission from concerned authorities. Before answering the questionnaire, the researcher explained the purpose of the research and its potential benefit to the society. The researcher also sought permission from the students and assured their privacy will be protected. The questionnaire was completed by the students in the presence of the researcher. Then, the retrieval of the questionnaires from the respondents was done immediately after answering.

Data Analysis

To analyze the quantitative data, the study used mean, weighted mean and standard deviation to determine the awareness and purchasing behavior on environmentally friendly products. The scale of interpretation for the variables being measured followed this range for the extent of Students' Purchase on Environmental Friendly Products: 4.20-5.00: To a very great extent; 3.40-4.19: To a great extent; 2.60-3.39: To a moderate extent; 1.80- 2.59: To some extent; 1.00-1.79: Not at all. For the awareness of the students toward Environmental friendly Products, the following range was adopted: 4.20-5.00: Very aware; 3.40-4.19: aware; 2.60-3.39: Moderately aware; 1.80- 2.59: Not aware; 1.00-1.79-Very Unaware. Moreover, to interpret the Purchasing Behaviour of students Towards Environment-Friendly

556 Madarang

Products, the following was adopted: 4.20-5.00: Strongly Agree; 3.40-4.19: Agree; 2.60-3.39: Neutral 1.80- 2.59: Disagree; 1.00-1.79: Strongly Disagree.

Method

The study employed descriptive -correlational research design. It described the profile of the respondents and correlated with their purchasing behavior. Gall, Gall & Borg (2007) concur that the goal of the descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. Therefore, observation and survey tools are often used to gather data.

Results and discussion

A glance at Table 1 indicated that the respondents have a high extent of purchasing environmentally friendly products on educational supplies with the mean of 3.88 (SD=.92) and Personal Hygiene and Skincare products with the mean of 3.50 (SD=1.03) but a moderate extent of purchasing foods & beverages with the mean of 3.00 (SD=1.02), ecoclothing with the mean of 2.60 (SD-1.01), electronic items obtained the mean of 2.70 (SD=.92) and household products with the mean of 2.78 (SD=1.29).

Among the eco-friendly educational supplies commonly purchased by the respondents were pencils, biodegradable crayons, papers, paper clips, eco-bag packs, notebooks and recycled filing materials for their educational supplies. Likewise, commonly purchased personal and hygiene products were 100% natural soap, non-toxic dental care and organic content beauty products.

The grand mean of 3.07 discloses that the respondents purchased environment-friendly products to a moderate extent. This shows that as teacher education students, they manifest a fair level of green consumer behavior. The finding confirms Dikmenli (2017) that preservice teachers have a medium level of consumer environmental consciousness. He recommended that In order to cultivate customer environmental consciousness with its all dimensions among pre-service teachers,

lectures related to the environment should be added to other departments apart from science, social and classroom teacher training departments. According to Belz & Peattie (2008), green marketing encourages consumers to use eco-friendly products and manufactures to develop more environmentally beneficial products. Further, Schiffman and Kanuk (2007) argued that consumer behavior is the behavior that consumers display in searching for purchasing, using, evaluating and disposing of product, service, and idea which they expect, will satisfy their requirements.

Table 1. The extent of Students' Purchase on Environmental Friendly Products.

Products	Mean	SD	Interpretation
1. Foods & Beverages	3.00	1.02	Moderate Extent
2. Personal Hygiene and Skin Care Products	3.50	1.03	High Extent
3. Educational Supplies	3.88	.92	High Extent
4. Eco-clothing	2.60	1.01	Moderate Extent
5. Electronic items	2.70	.92	Moderate Extent
6. Household products	2.78	1.29	Moderate Extent
Grand Mean	3.07		Moderate Extent

Legend: 4.20-5.00: To a very great extent; 3.40-4.19: To a great extent; 2.60-3.39: To a moderate extent; 1.80-2.59: To some extent; 1.00-1.79: Not at all.

Table	2.	Awareness	of	Environmental	friendly
Produc	ts.				

	Mean	SD	Interpretation
Concept of EFP	3.50	.98	Aware
Health benefits of EFP	3.61	1.02	Aware
Environmental Effects of EFP	3.83	.80	Aware
Grand Mean	3.65	Aware	
-			

Legend: 4.20-5.00: Very aware; 3.40-4.19: aware; 2.60-3.39: Moderately aware; 1.80- 2.59: Not aware; 1.00-1.79Very Unaware.

Table 2 shows the level of awareness of the respondents on environmentally friendly products. The respondents are aware of the concepts of Environmental friendly products with the mean of 3.50 (SD=.98), health benefits of EFP obtained the mean of 3.61 (SD=1.02) and environmental effects of with the mean of 3.83 (SD=.80). The grand mean of 3.65 indicates that the respondents are aware of environmentally friendly products.

The awareness of the students on environmentally friendly products can be attributed to their level of education and their exposure to their environmental education subject as special topics in their curriculum. In the study of Hai & Mai (2012), they found out that consumers with a high level of education are more concern about environmental issues and have more sufficient knowledge of ecoproducts and green purchasing. Further, Joshi & Rahmna (2016) found out that social influence, attitude towards the green purchase, perceived environmental knowledge, recycling participation, ecolabelling and exposure to environmental messages through the media are predictors of green purchase behavior. Furthermore, the study also indicates that those highly environmentally conscious consumers have a positive attitude towards green purchasing and are extremely willing to practice it in the future.

Further, Ajzen (1991) asserted that favorable or unfavorable attitudes towards a particular behavior are caused by one's behavioral beliefs; subjective norms result from normative beliefs and personal moral norms, while perceived behavioral control originates from control-related beliefs.

Table 3. Purchasing Behaviour of students TowardsEnvironment-Friendly Products.

	Mean	SD	Interpretation
Product Quality	3.53	.94	Agree
Product Price	3.41	.39	Agree
Availability of the Product	3.43	1.11	Agree
Promotion/ Advertisement of the Product	3.43	1.11	Agree
Grand Mean	3.44		Agree
Legend: 4.20-5.00: Strongly Agree; 3.40-4.19: Agree;			
2.60-3.39: Neutral 1.	80- 2.59:	Disag	ree; 1.00-1.79
Strongly Disagree.			

Int. J. Biosci.

It can be inferred from Table 3, that the respondents agree that product quality (X=3.53, SD=3.94), availability of the products (3.43, SD=1.11), promotion and advertisement of the product (X=3.42, SD=1.11) and product price (X=3.39, SD=39) affect their purchasing behavior of environmentally friendly products. The grand mean of 3.44 shows that the respondents have agreeable purchasing behavior towards environmentally friendly products. As teacher education students, they can recognize their role as responsible consumers to buy products that are environmentally safe. According to Fuller (2000), if consumers understood the real eco-cost of products, the majority of environmental problems would be solved by themselves.

Brata *et al.* (2017) confirm that quality of product, price, promotion, and location are influencing the purchasing decision on EFP. Chang (2011) noted that some the consumers view the price of eco-friendly products as more expensive than the conventional ones and others view it not due to the healthy part of the products. Oppositely, Morel & Kwkye (2012) confirm that consumers are not willing to buy products with lower quality even if their impact on the environment is low because the argument concerning the protection of the environment is not convincing enough to make consumers purchasing low-quality green products.

Table 4. Test of difference on the extent ofpurchasing, awareness and, purchasing behavior onEnvironmental friendly Products.

Profile	The extent of purchasing EFP	Awareness of EFP	EFP Purchasing Behavior
Age	.717 ns	.299 ns	.859 ns
Sex	.462 ns	.080 ns	.102 ns
Parents' Occupation	.065 ns	.031 ns	.001 *

Table 4 shows that test of difference on the extent of purchasing, awareness and, purchasing behavior on Environmental friendly Products. The table shows that no significant difference on the extent of purchasing and awareness of EFF when grouped according to the select profile variables except for the parents' occupation which shows a significant difference on their Environmental Friendly Products purchasing behavior. This present study shows that pre-service teachers' age, sex, and weekly allowance are not significant variables that determine their extent of purchasing, awareness and purchasing behavior on Environmental friendly Products. However, their parents' education shows a significant difference in their purchasing behavior.

non-significant findings, The when grouped according to sex, concurs the finding of the study of Shahnaei (2012) and Chen and Chai (2010) indicated that there was no gender difference in green purchasing behavior among university students. Oppositely, Ali & Ahmad (2012) confirm that green purchasing behavior has different outcomes in different demographic contexts due to the complexity in green purchasing behavior of consumers. In other words, green purchasing behavior is influenced by demographic factors such as gender, ethnic group, and other demographic factors. Lee (2009) suggested that female consumers have a higher potential to become green consumers. Further, Ruiz, Arcas and Cuestas (2001) argued that gender plays an important role to be consumerists and environmentally conscious consumers.

In like manner, age was found not significant and parents' education was found significant. This, however, contradicts the previous study of Rawat (2015) that age and income are positive factors on the purchasing behavior of consumers. Kollmuss and Agyeman (2002) also indicated the demographic factors to be one of the most influencing factors in pro-environmental behavior.

From different prior studies, it can be concluded that demographic variables have a significant impact on the consumers' pro-environmental/green purchasing behavior. Harris et.al also (2000) notified that environmentally conscious consumers are female, professional and younger. Likewise, Hustad and Pessemier (1973) found that education level has to be high to become consumerist/environmental conscious consumers. Consequently, in a study of Caruana & Vassallo (2003), have found the parental influence on purchasing behavior acts as a main role for children. Cotte & Wood, (2004), found parental influences not only exist in the purchase decisionmaking process, but it is also shaping the behavior of young children.

Subsequently, Solomon (2004) confirmed that a consumer's occupation and purchasing power influence purchasing decisions and buying behavior. The income level affects what consumers can afford and the perspective towards money. People, who share similar occupations, tend to have similar taste in music, clothing and leisure activities. They usually socialize with each other and share the same kind of values and ideas. Income level affects on what consumer can afford and perspective towards money.

Table 5. Relationship Between the level ofAwareness towards Environmental Friendly Productsto the Purchasing Behaviour.

Variable		EFP Purchasing	Decision	
		Behavior		
Level of	rvalue	.249	Significant	
Awareness	p value	0.03*	Relationship	
*= significant at 0.05 level (2-tailed).				

Table 5 reveals that there is a significant relationship between the levels of awareness of the respondents towards environmentally friendly products to their purchasing behavior. The positive relationship shows that the higher the level of awareness on Environmental Friendly Products of the respondents the higher the manifest purchasing behavior.

This further justifies a consistent empirical finding that there is a positive relationship between environmental effect and behavior (Chan, 2001). The positive environmental effect will lead to positive environmental behavior. Positive environmental affect such as placing high value toward protecting the environment and environmental issues evokes positive environmental behavior such as buying green products.

Likewise, Past studies have found the significant relationship between environmental concern and intention/behavior (Wahid *et al.*, 2011). In general, marketing literature has suggested that environmental Magulod (2018) also confirmed that among preservice teachers, there is a significant relationship between climate change awareness and environmental attitude. Suggesting that the higher awareness the students on climate change, the higher the environmental attitude they exhibit. Hence, by providing knowledge to students about climate change, the higher they demonstrate the positive attitude towards environmental care is expected.

Conclusion

This study examined the factors associated with the students. Green purchasing behavior towards environmentally friendly products. This study concluded that teacher education students manifest a moderate extent of purchasing environmentally friendly products despite their awareness of the concepts, health benefits and environmental effects of environmentally friendly products.

They agree that product quality, availability of the products, promotion, and advertisement of the product, and product price affect their purchasing behavior towards environmentally friendly products. Hence, as teacher education students, they can recognize their role as responsible consumers to buy products that are environmentally safe.

This study also concluded that sex and age do not impose any significant difference while their parents' education is the single variable defining difference in their green purchasing behavior. Lastly, this study showed that there is a significant relationship on the level of awareness of the respondents towards environmentally friendly products to their purchasing behavior. Thus concludes that the more aware the students are about the environmentally friendly products, the more that they purchase these products.

Recommendations and implications for future studies

With the findings of this study, the following are offered as recommendations: (1) intensive promotion of environmentally friendly products in the university will increase students' extent of purchasing these products; (2) environmental friendly products should be more affordable in order for the students to afford these products and will determine their benefits to then environment; (3) sellers should also consider enhancing Environmental friendly products in terms of their brand, packaging and labeling in order for consumers to become aware of its benefits which will affect their purchasing behavior; (4) conduct of symposia/seminars or training focusing on the cultivation of preservice teachers' environmental consciousness on the benefits of environmentally friendly products may be initiated; (5) There is a need to integrate the concepts of environmentally friendly products in the environmental education subject of teacher education curriculum to enhance students' environmental awareness; (6) the student government may initiate activities focusing on green buying behavior; (7) the university may initiate extension programs that will increase awareness of the parents and the community on the positive effects of environmental friendly products to their health and to the environment; (8) finally, similar studies may be conducted with inclusion of other courses in the university to compare the purchasing behavior of the students.

References

Ajzen I. 1991. The theory of planned behavior. Organ. Behav. Hum. Dec. 50, 179-211. [Cross Ref].

Ali A, Ahmad I. 2012. Environment friendly products: factors that influence the green purchase intentions of Pakistani consumers. PJETS **2(1)**, 84-117.

Belz FM, Peattie K. 2012, Sustainability Marketing: A Global Perspective (2nd Ed.), Chichester: Wiley.

Bonnett M, Williams J. 1998. Environmental education and primary children's attitudes towards nature and the environment. Cambridge Journal Of Education **28(2)**, 159-174.

Brata B, Husani S, Ali H. 2017. The Influence of Quality Products, Price, Promotion, and Location to Product Purchase Decision on Nitchi At PT. Jaya Swarasa Agung in Central Jakarta. Saudi Journal of Business and Management Studies ISSN 2415-6663 (Print) Scholars Middle East Publishers ISSN 2415-6671. (Online) Dubai, United Arab Emirates Website: http://scholarsmepub.com/

Caruana A, Vassallo R. 2003. Children's perception of their influence over purchases: the role of parental communication patterns. Journal of Consumer Marketing **20(1)**, 55-66.

Chang C. 2011. "Feeling ambivalent about going green – Implication For Green Advertising Processing". Journal of Advertising. Winter 2011. Vol. 40, Iss 4 pp. 19-31.

Chang NJ, Fong CM. 2010. "Green product quality, green corporate image, green customer satisfaction, and green customer loyalty". African Journal of Business Management. October 2010.Vol. **4(13)**, pp. 2836-2844.

Chen TB, Chai LT. 2010. Attitude towards the environment and green products: consumers' perspective. Management Science and Engineering 4(2), 27-39.

Chen-Hsuan Cheng J, Monroe M. 2010. Connection To Nature: Children's Affective Attitude Toward Nature. Environment and Behavior **44(1)**, 31-49.

Cotte J, Wood SL. 2004. Families and innovative consumer behaviour: a triadic analysis of sibling and parental influence. Journal of Consumer Research **31(1)**, 78-86.

Crane A. 2000. Facing the backlash: Green marketing and strategic reorientation in the 1990s. Journal of Strategic Marketing **8(3)**, pp. 277-296.

Dikmenli Y. 2017. Preservice teachers' perception levels concerning consumer environmental consciousness. Journal of Education in Science, Environment and Health (JESEH) **3(2)**, 157-164. DOI: 10.21891/jeseh.326741. **Engel JF, Blackwell RD, Miniard PW.** 1995. Consumer behavior. International edition. Florida: The Dryden press.

Fuller DA. 2000: Sustainable Marketing: Managerial-Ecological Issues, Sage, Thousand Oaks, California.

Gall MD, Gall JP, Borg WR. 2007. Educational research: An introduction (8th ed.). Boston: Pearson.

Hai H, Mai P. 2012. Environmental Awareness and Attitude towards Green Purchasing of Vietnamese Consumers. 2012 JSPS Asian CORE Program, Nagoya University and VNU University of Economics and Business.

Harris B, Burress D, Eicher S. 2000. Demand for local and organic product: a brief review of literature. Kansas: University of Kansas Institute for Public Policy and Business Research.

Hustad TP, Pessemier EA. 1973. Will the real consumer activists please stand up: An examination of consumers' opinions about marketing practices? Journal of Marketing Research **10**, pp. 319-324.

Kim Y, Choi SM. 2005. Antecedents of green purchase behavior: An examination of collectivism, environmental concern and PCE. In: Menon G and Rao AR (Eds.), Advances in consumer research: 592-599. Association for Consumer Research, Duluth USA.

Kollmuss A, Agyeman J. 2002. Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior?. Environmental Education Research **8(3)**, pp. 239-260.

Kumar PD. 2010. Green Marketing: A Start to Environmental Safety." Advances in Management, Vol. **4**, no. 12 pp. 59-61.

Laroche M, Bergeron J, Barbaro-Forleo G. 2001. Targeting consumers who are willing to pay more for environmentally friendly products. Journal of Consumer Marketing **18(6)**, 503-520. http://dx.doi.org/10.1108/EUM000000006155 **Lee K.** 2009. Gender differences in Hong Kong adolescent consumers' green purchasing behavior. Journal of Consumer Marketing **26(2)**, 87-96.

Magulod G, Jr C. 2018. Climate change awareness and environmental attitude of College students in one campus of a State University in the Philippines. J. Bio. Env. Sci. **12(2)**, 211-220, February 2018.

Magulod G, Jr C. 2018. Conservation beliefs and practices of indigenous people in Northwestern Cagayan, Philippines: Implications for environmental promotion and education. Journal of Biodiversity and Environmental Sciences (JBES) **12(6)**, 186-194.

Magulod G, Jr C. 2018. Environmental literacy and epistemological beliefs of Filipino pre-service teachers: A search for congruency. J. Bio. Env. Sci. **12(5)**, 197-205.

Magulod G, Jr C. 2018. Methods and patterns of integrating environmental values in teaching science among pre-service elementary teachers (5th ed., Vol. 12, Ser. 2018). Retrieved August 01, 208, from http://www.innspub.net/wp-content/uploads/2018/ 06/JBES-Vol-12-No-5-p-293-301.pdf

Morel, Kwakye A. 2012. Green marketing: Consumers' Attitudes towards Eco-friendly Products and Purchase Intention in the Fast Moving Consumer Goods (FMCG) sector. Retrieved from http://www.diva-portal.org/smash/get/diva2:553342

Panni MFAK. 2006. The Effect of Consumerism towards customer attitudinal behavior in food industry in Malaysia. M.Phil. Multimedia University.

Rawat S. 2015. Impact of Age and Income over Green Consumer Behavior. Indian Journal of Science and Technology, Vol **8(S4)**, 13-22, Febuary 2015.

Ruiz S, Arcas N, Cuestas P. 2001. Consumer attitudes towards ecological agrarian fruits and vegetables in Spain. A segmentation approach. Acta Horiculturae **559**, pp. 681-686.

Int. J. Biosci.

Schiffman LG, Kanuk LL. 2007. Consumer Behavior (9th edition). Upper Saddle River, N.J.: Pearson Prentice Hall, London.

Shahnaei S. 2012. The impact of individual differences on green purchasing of Malaysian consumers. International Journal of Business and Social Science **3(16)**, 132–140.

Solomon M. 2004. Consumer behavior. Sixth edition. Prentice Hall.

Wahid NA, Rahbar E, Shyan TS. 2011. Factors influencing the green purchase behavior of Penang environmental volunteers. International Business Management **5(1)**, 38-49.

Yatish Joshi, Zillur Rahman.2016. "Predictors ofyoungconsumer'sgreenpurchasebehaviour", Management of Environmental Quality:AnInternational Journal, Vol.27, Issue:4, pp.452-472https://doi.org/10.1108/MEQ-05-2015-0091