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The Entrepreneur Innovation, and Learning Orientation as Antecedents of Global Purchasing: Does the Environmental Turbulence Matter in Thai Import Oriented Industries?

Jetsalid Anesukanjanakul[#1], Chonticha Somjai[#2], Chandej Charoenwiriyakul[#3], Teepakorn boonaram[*4]

[#1,2,3] *Graduate School, Suan Sunandha Rajabhat University, Thailand*
[*4] *Social Research Institute, Chulalongkorn University, Thailand*
[1]jetsalid.an@ssru.ac.th
[2]chandej.ch@ssru.ac.th
Corresponding author: teepakorn.boon@gmail.com

Abstract-**The study is planned to examine the impact of entrepreneur innovation and learning orientation on the global purchasing of firms in the five biggest import industries of Thailand. To have a more detailed insight the study has incorporated the two factors from environmental turbulence namely market turbulence, and technological turbulence as moderator. The study has used the PLS-SEM to answer the research questions. PLS-SEM has become an advanced alternative to previous co-variance approaches because of its unique features and abilities. PLS-SEM technique is the widely adopted approach and it has gained huge recognition among the researchers. The findings of the study have provided me the support to the hypotheses result. From the findings it has been found by this study that the organizations, which operate in environment with technological turbulence, possess a strong association between entrepreneurial innovation and learning orientation as compared to less turbulent organizations. There is need for managers to be aware of the level of technological change, which affects the influence of innovation and learning on purchasing performance. There is need for managers to emphasize on learning while operating in highly turbulent technological environment to foster innovation by developing long-term associations with suppliers.**
KEYWORDS- *Entrepreneur Innovation, Learning, Technological Turbulence, Thailand, Cycle Time,*

1. Introduction

Analysts and executives who aim to achieve greater efficiency, better cost of ownership strategies and close relation with partners enhance innovative procurement. Purchasing executives were interviewed to know about the importance of innovation and reduced costs for procurement [1]. The chief procurement officer at Barclay, Kim Godwin, responded that it is important to maintain a balance on innovation, cost, corporate social responsibility, compliance, and supplier management, systems, etc. The needs of a business at a particular time determine the focus placed on each of these aspects.

Changes in product, service, or process are involved in the innovation within supply chain, which can improve efficiency or reduce the cost. Therefore, customer satisfaction increases [2]. Several challenges are posed by use of innovations in global supply chain because of the cultural, normative, and regulatory factors in maintaining international relations [3]. The factors influencing organizations to innovate have been determined by scholars. It has been found by marketing and managerial studies that learning orientation (LO), autonomy in decision making, decentralization and teamwork are the antecedents of innovation [4-6]. It has been argued by Slater and Narver [7] that adaptability required for discontinuous innovation is created by decentralized culture of organization in the learning organizations.

After scandals highlighted about the companies such as WorldCom and Enron, corporate cultures have been characterized by popular business press, which motivate for innovation and entrepreneurial activities to promote unethical behavior [8]. According to FORTUNIE magazine, in corporate America, the most innovative company was considered Enron from 1995 through 2000. Purchasing managers are brought to intricate ethical situations through increased pressures and responsibilities to innovate. The intricate ethical circumstances include receiving gifts, partiality toward suppliers, which can influence the purchasing decisions and inability to give accurate responses to the inquiries of customer [9]. It has been felt by some researchers that unethical behavior is generated by increased power centralized and globalization along with the internal pressures [10]. The Thailand is 27th largest importer in the world and in 2017 the net import from Thailand was $160 billion. The study is particularly focused on the five biggest purchasers of the Thailand (shown in the table 1).

Table 1. Top five import industries of Thailand

Industry	Value ($ Billions)
Integrated circuits	17.57
Vehicle	15.20
Broadcasting	13.65
Computer	13.57
Office Machine	12.67

It has been argued the purchasing managers interacting with foreign suppliers can get higher temptation for unethical behavior. Moreover, it has been suggested by international studies that different cultures have different managerial ethical aspects [11-13]. Institutional differences are experienced by companies in returns and expectations, which operate in different countries. This influences the association with government, regulatory agencies, and communities. Under some jurisdiction, the bribery of a customer's agent can be regarded illegal. Supply chain members work in the countries, where it is considered ethical to get engage in facilitated payments also known as grease payments. The study is planned to answer the following questions

RQ1: What is role of entrepreneurial innovation (EI) in global purchasing of Thai import firms?

RQ2: How LO affect the global purchasing of Thai import firms?

RQ3: Do environmental turbulence have any effect on the relationship between EI and global purchasing, and between LO and global purchasing of Thai import firms?

2. Hypothesis Development

A vision to forecast market situation, needs of customers, and actions taken by competitors are required in EI [4-6]. Sharing of information uncovers the technological innovations and offer insights on the routine issues and processes. It was found by Mahmoud, Blankson [14] that opportunities for innovation can be recognized by a firm to meet future needs through strong LO. Three ways of LO have been identified which can improve the EI capability of an organization. The first way is to become committed to innovation, use technology, and possess state-of-art technology. The second way is to anticipate needs of customers through ability and knowledge. In this way, the organization can avail the opportunities developed by the demand in emerging market. An organization is expected to have better innovation capability when it possesses LO as compared with the rivals. Therefore, the following research hypothesis has been formulated about the EI and LO. The level of commitment to find out relation of the participants such as buyers, internal users, and external suppliers is referred as relationship quality (RQ). A desire for establishing long-term relation is related to commitment for purchasing relationship. This refers to willingness of one to maintain a relation [9]. In a sourcing unit, critical relational norms are developed by

organizational learning [14]. In this way, a positive influence of LO is expected on RQ.

Effective relationships can be maintained with suppliers after the experience of attaining competitive advantage through quality improvements and CT (CT) [15]. The relevant measures in supplier evaluation have been found by [16], which are linked with the quality of relationship. Increased attention has been gained by understanding the innovation power of a partner as part of the purchasing process. A conceptual framework has been developed to explore the potential of suppliers to contribute in firm's EI capability. Firms, which are known for innovation with other relations, are considered committed partners. The probability of future relations improves through technological innovations from the relation between buyer and supplier [3]. Considering this, it can be expected that level of commitment for sourcing relationship, is improved through EI.

Hypothesis 1 EI is in significant relationship with the RQ.
Hypothesis 2: LO is in a significant relationship with the RQ.

CTis a crucial indicator of performance for sourcing process. It is defined as the time required from the starting point to the completion of the sourcing process. In purchasing decisions, time is an important factor along with external pressure for improving product development. There is a need for flexibility, creativity, responsiveness, dissemination of information, understanding environment, and learning by the organizations to focus on reduced CT. These elements support the changes in the process of purchasing [9].

CTreduces with innovation and LO. There is a strong association between purchasing performance and innovation. CTcan decrease by introduction of innovative technological processes to improve decision making regarding transportation, communication, production, inventory, and forecasting of demand [2, 9]. Suppliers are considered as complementing assets to improve organizational performance under pressure for reducing CT[14, 17]. Value-added benefits are provided through establishing close relations with important suppliers such as quality control, engineering support, and integrated communication. It was found by Kordi, Morad [18] that commitment among the partners improves for reducing CTs and aligning processes. Similar association can be established between the level of commitment for sourcing relation (i.e. external suppliers, buyers and internal users) and purchasing performance of organization. The time cycle is positively influenced by EI and LO. In this way, the following research hypothesis has been formulated:

Hypothesis 3 EI is in significant relationship with the CT
Hypothesis 4: LO is in a significant relationship with the CT.

It has been posited by the contingency theory that uncertainty increases with the variations and complexity in the external environment. This can change the strategic

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orientations and structure of an organization [19]. The variation in customer composition and their preference can affect the need for continuous changes to the developed products and services [20]. The extent to which technology varies in the industry refers to the technological turbulence [20]. The relation between performance, teamwork, autonomy, LO, and entrepreneurial orientation is affected the extent of technological and market variations in purchasing environment.

Hypothesis 5. Market turbulence (MT) is in significant relationship with the CT

Hypothesis 6: TT is in significant relationship with the CT.

Hypothesis 7. MT is in significant relationship with the RQ

Hypothesis 8: TT is in significant relationship with the RQ.

A strong relation is expected by autonomy with performance and strategic orientation in a turbulent environment. It has been suggested by Burgers and Covin [21] that the decentralized decision-making and adaptation supported through less formal controls has resulted through dynamic environments. The general level of professionalism and employee creativity to react to the customer needs and new technologies increases with the complexity in the environment. This results in a great need for professional autonomy to improve innovation [22]. In a similar way, the importance of teamwork in the purchasing process needs to increase with changing environments. The need for coordination among the team members and identify the role of boundary-spanning members increases with the changing conditions in the technology and market. It has been revealed by recent research that when there is turbulence in the technological environment, teamwork in purchasing improves. However, this is not the care for turbulence in the market environment [14]. The previous research studies have suggested that the relationship between business performance and market orientation can be moderated through turbulence in technology and market [14, 17].

It has been examined in this research whether the moderating role is played by the same environmental factors in the influence on performance created by EI and LO. According to Smith [1], innovation is valued by the top management in turbulent environments and market. There can be a different source for turbulence for market and technology, which result in a difference of needs for information processing and innovation orientations [14, 17].

Hypothesis 9. MT moderates the relationship between entrepreneur innovation and the CT.

Hypothesis 10. MT moderates the relationship between LO and the CT.

Hypothesis 11. MT moderates the relationship between entrepreneur innovation and RQ.

Hypothesis 12. MT moderates the relationship between LO and RQ.

Hypothesis 13. TT moderates the relationship between entrepreneur innovation and CT.

Hypothesis 14. TT moderates the relationship between LO and CT.

Hypothesis 15. TT moderates the relationship between entrepreneur innovation and RQ.

Hypothesis 16. TT moderates the relationship between LO and RQ.

3. Methodology

The basic element of the research is a deductive approach in which the generational theoretical framework is formulated and applied to a specific case. The previous research findings are used for a theoretical base. Moreover, the research has used quantitative survey technique. The objectives of the research have been determined through a research design. The validity and reliability of the research instrument have been determined. The survey is conducted, and information gathered from the respondents has been processed for analysis. Finally, the results have been interpreted and suggestions are made.

The research is cross-sectional in nature, which means it is based on a certain period because of convenience for the researcher. The method used of collection of data is the survey method. The responses have been collected through use of survey approach. A five-point scale has been used for measurement of responses regarding the questions. The final respondents included the operational managers and accountants from the retail sector in Kazakhstan. The sample technique was cluster sampling used in the survey research. The information is collected from people regarding a specific issue or topic in the survey research method. Questionnaires were distributed through emails and data was collated. This requires less cost and time and can cover a large geographical region. The data was analyzed using statistical approaches. Moreover, the questionnaire survey makes the collection of information under natural circumstances. People or respondents are free to make choices in questions irrespective of any fear or pressure. No interference is shown by the researchers and survey is conducted in a natural setting.

The results of the survey can be generalized. The items in the questionnaire were directly linked with the items of dimensions and relevant, this makes it valid. The total population is estimated before the estimation of sample size. The sample size is calculated through the table presented by Krejcie and Morgan [23]. The sample size was selected to be 310 based on the table. The response rate came out to be 63.2 percent.

3.1   Measurements

There are 4main constructs in the model, which include EI, autonomy, LO, teamwork, RQ, and time cycle. Moreover, two moderators have been used in the study including technological turbulence, ethical climate and MT. The literature on management, supply chain, and marketing has been used for measurement of the nine constructs.

A survey questionnaire was developed, and respondents were asked to give responses related to the purchasing organizations. The respondents included internal users, external buyers, and buyers. The model was assessed using a confirmatory factor analysis. Some items were dropped in the process of purification, which had weak loading value for the related constructs. Moreover, items were deleted based on multivariate Lagrange multiplier (LM) test, which had cross-link with various constructs. In CFA model, three purified items have been incorporated for each construct. The measurement scales with their sources have been given in Appendix A.

Three items from formalization construct were used to assess autonomy, which represent the level of decision-making and standards in the purchasing process [24]. Three selected items have been included in the teamwork measurement, which have been selected from the scale for team orientation [25]. The value given to learning is included in LO and it was determined using three items suggested by Hurley and Hult [25]. Five items were used to assess EI, which included both the new ideas and fierceness for execution. Three items were included from the innovation orientation's measurement by Hurley and Hult [25] and two items from the measurement of entrepreneurial style. The measures for outcome came from two sources. Three items were selected for determining RQ. The relationship scale proposed by Anderson and Weitz [26] was used for the purchasing context from commitment. The items were linked with loyalty for process of purchasing, long-term orientation, and commitment. The focus of respondents was made on the RQ between the internal users, external suppliers, and themselves in the purchasing process. Three items were selected from the suggested items of Hurley and Hult [25] to measure CT. The perceptions of CT performance regarding the efficiency and speed were the key focus. Literature studies were used for determining three moderators. Ethical dimension of corporate citizenship proposed by Maignan and Ferrell [27] was used in this study. The role of confidentiality, code of ethics, professional associations, and reporting procedures were emphasized by the measurement instrument. Values such as trustworthiness and fairness were included as well. The measurement for technological turbulence and MT were used by the propositions of Jaworski and Kohli [28].

4.   Results

The choice of research approach is based on the nature of research topic. After the determination of descriptive statistics and screening of data, the next step involves the measuring of measurement model. The common issues experienced by researchers involve the sample size and normality issue of data. In this research study, the sample size is relatively small, and the data is non-normal. Because of these issues, PLS-SEM has been selected for testing research hypothesis in this study. It is considered a suitable approach and a good alternative for CB-SEM. Due to small sample size and non-normal data; CB-SEM cannot be used in this research. The sample size in this study was selected as 310, which is a suitable number as per the recommendation of Hair, Ringle [29] to be assessed through PLS-SEM. CB-SEM and PLS-SEM are similar approaches in some aspects. Both the approaches consist of two steps [29-31]. The initial step in PLS-SEM approach is to determine the measurement model and then assess the path coefficient relations in the structural model [31]. In the measurement model, the statistical elements in the structured model are determined. This refers to the suitability of the measurement model for further analysis. Internal reliability consistency, discriminant validity, convergent validity and construct validity have been used to determine the measurement model. Smart-PLS has been used for measuring discriminant validity.
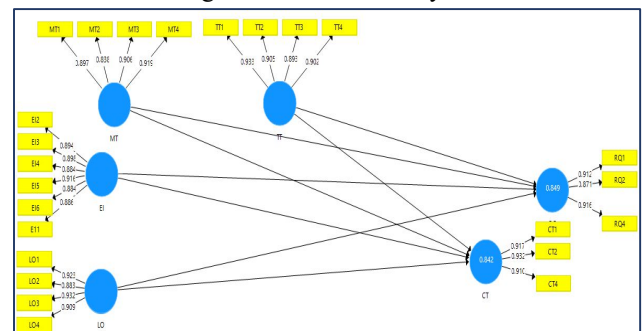

Figure 1. Measurement model

It is important to determine reliability before checking the validity of research instrument. The level with which the measures are error free and show consistent results is referred as reliability [32]. The measures giving inconsistent results weaken the association between the measures. Hosany, Prayag [32] recommended the use of multi-scale items for resolving the measurement errors. The researcher can delete the items having errors of measurement to improve the results of reliability. This research study found no errors of measurement and five items were measured. The reliability is checked through internal consistency through similar set of items [32, 33]. It is determined that how much the similar scale items measure the same construct [34]. Internal consistency is measured through use of composite reliability (CR)[33]. The interpretation of CR is similar to Cronbach's alpha (CA). It has been shown in the Table2.   that all the

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reliability values are greater than the standard value of 0.70 [29-31]. This reflects that every construct has high internal consistency. It has been recommended that the value of reliability should be in range of 0.70-0.90, which is considered sufficient. The value of CR greater than 0.95 is unacceptable and shows that most of the indicator variables are determining the similar phenomenon [33].

Table 2. Reliability

	Cronbach's Alpha	rho_A	CR	(AVE)
CT	0.909	0.911	0.943	0.846
EI	0.950	0.951	0.960	0.799
LO	0.933	0.937	0.952	0.832
MT	0.913	0.914	0.939	0.793
RQ	0.883	0.884	0.927	0.810
TT	0.929	0.929	0.950	0.825

Convergent validity is determined wit discriminant validity. This measures the difference in measurement tools of different constructs. Discriminant validity can be measured in two ways using PLS-SEM approach. The discriminant validity ensures the external consistency of model. When the value of square root of every construct is greater than the value of correlation with any other construct, it confirms discriminant validity [35]. The validity of specific items is not ensured through the assessment of loadings and cross-loadings. However, it serves as an important condition for ensuring the convergent validity. When an item reflects highly loaded measure in its own construct, it is considered good indicator. Moreover, when item shows high loading under a different construct, it directs towards some issue.

Table 3. Validity Matrix

	CT	EI	LO	MT	RQ	TT
CT	0.920					
EI	0.777	0.894				
LO	0.781	0.891	0.912			
MT	0.736	0.899	0.886	0.891		
RQ	0.721	0.769	0.748	0.714	0.900	
TT	0.798	0.786	0.740	0.788	0.811	0.908

The value of outer model should be greater than 0.50 is regarded acceptable and valid [29]. However, the value of outer model is considered insufficient when it is less than 0.5. The items with lowest loading should be deleted in order to improve the quality of data. The values of loading of the indicators and constructs are presented in Table 4. It is revealed that the indicator loadings are high with respect to their own construct. The range of value was 0.749-0.950. It ensures the construct validity in the measurement model.

Table 4. Outer Loadings

	CT	EI	LO	MT	RQ	TT
CT1	0.917					
CT2	0.932					
CT4	0.910					
EI2		0.894				
EI3		0.898				
EI4		0.884				
EI5		0.916				
EI6		0.884				
LO1			0.923			
LO2			0.883			
LO3			0.932			
LO4			0.909			
MT1				0.897		
MT2				0.838		
MT3				0.906		
MT4				0.919		
RQ1					0.912	
RQ2					0.871	
RQ4					0.916	
TT1						0.933
TT2						0.905
TT3						0.893
TT4						0.902
E11		0.886				

When the measurement of model is complete, the structural model can be assessed. It determines the regression assumptions and correlation among the variables. The structural model assessment can be done in five steps [33]. The first step is to check the collinearity issue. The second step is to find the significance and relevance of associations in the structural model. The third step is to determine the coefficient of regression (R2). The fourth step is to measure the effect size (F2) and final step is predictive relevance (Q2). Moreover, this study has determined the effects of mediation. The following section discusses the structural model assessment in detail. Initially, the issues of collinearity are determined. When there is high correlation between the two variables, this refers to collinearity [33]. All the variables have the standard values of collinearity greater than 0.20 and VIF lower than 5. These are the standard accepted values. The results reveal that there is no issue of multi-collinearity in the data. The tolerance and VIF for all the variables lie in the range of 0.243-0.439 2.278-4.122 respectively. After the identification of collinearity issues, the next step is to determine the relevance and significance of structural model associations. According to Hair, Hult [33], the hypothesized relations between the constructs are determined in the assessment of structural model path coefficients. The casual relations are emphasized between

the constructs along with their t-values and path coefficients. In PLS-SEM, the path coefficient is similar to the value of standardize beta coefficient used in regression analysis.
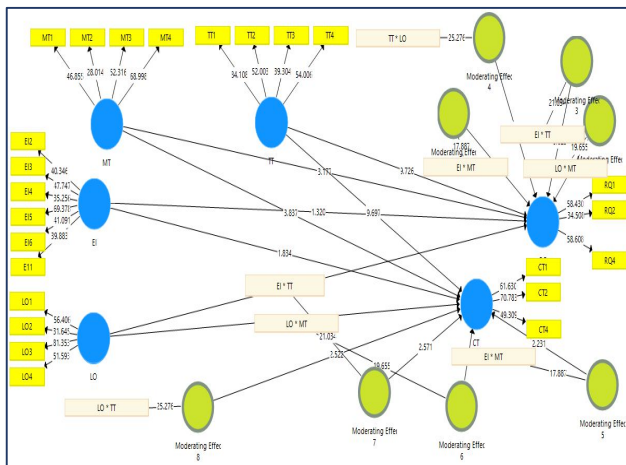

Figure 2. Structural Model

Using 5000 re-sampling iterations, the t-values were determined through method of bootstrapping. The bootstrapping method was suggested by Hair, Hult [33]. It was ensured using the bootstrap samples that every parameter in the model has empirical sampling distribution. Moreover, the standard deviation of the distribution is the proxy for empirical standard error parameter [29, 33]. The critical values in one-tail test were used to determine the level of significance.

Table 5. Structural equation results

	(O)	(M)	STDEV	T Statistics	P Values	
EI -> CT	0.166	0.152	0.091	3.834	**0.000**	Accepted
EI -> RQ	0.118	0.118	0.090	3.920	**0.000**	Accepted
LO -> CT	0.350	0.052	0.089	3.564	**0.000**	Accepted
LO -> RQ	0.011	0.001	0.086	4.131	**0.000**	Accepted
MT -> CT	0.378	0.383	0.098	3.837	**0.000**	Accepted
MT -> RQ	0.340	0.355	0.107	3.177	**0.001**	Accepted
Moderating Effect 1 -> RQ	0.044	0.050	0.152	3.290	**0.000**	Accepted
Moderating Effect 2 -> RQ	0.033	0.035	0.164	3.202	**0.000**	Accepted
Moderating Effect 3 -> RQ	0.003	0.013	0.144	3.023	**0.000**	Accepted
Moderating Effect 4 -> RQ	0.004	0.028	0.155	4.023	**0.000**	Accepted
Moderating Effect 5 -> CT	0.251	0.247	0.112	3.231	**0.026**	Accepted
Moderating Effect 6 -> CT	0.187	0.180	0.120	4.561	**0.000**	Accepted
Moderating Effect 7 -> CT	0.299	0.293	0.116	4.571	**0.010**	Accepted
Moderating Effect 8 -> CT	0.318	0.308	0.126	5.522	**0.012**	Accepted
TT -> CT	0.749	0.727	0.077	9.697	**0.000**	Accepted
TT -> RQ	0.800	0.774	0.082	9.726	**0.000**	Accepted

The predictive accuracy of the model is determined as coefficient. It is calculated through the square value of correlation among the actual and reflective values of dependent construct. The combined effect of the

unobserved dependent and unobserved independent variables is represented by the coefficient [33]. The value of coefficient of determination lies in the range 0-1. However, there is no standard value set in this range for R2. The value of R2 to be 0.75, 0.5, and 0.25 are regarded as substantial, average and low [31, 33]. The value of R2 is high when a construct is targeted by more paths. Most of the researchers look for parsimoniousness in the model. This means the model is good in defining the low number of independent constructs.

Table 6. R-Square

	R Square
CT	0.842
RQ	0.849

Similarly, the effect size is determined, and it is important to calculate the predictive relevance of the model. The purpose of this research is to determine the capacity of model to predict. The predictive relevance of the model is reflected through Q2 [33]. According to Hair, Hult [33], when the value of Q2 comes out to be zero, this means the model has predictive relevance and a negative value reflects no predictive relevance. This process is required for single item construct and reflective endogenous construct. Blindfolding process was used to calculate Q2 [33].

Table 7. Q

	SSO	SSE	Q² (=1-SSE/SSO)
CT	651.000	209.152	0.679
EI	1,302.000	1,302.000	
LO	868.000	868.000	
MT	868.000	868.000	
RQ	651.000	223.118	0.657
TT	868.000	868.000	

5. Discussion

This study aims at analyzing the influence of ethical climate of an organization as a moderator on EI in global purchasing. The resource-based view has been used from the theoretical aspect for EI considered a valuable resource in the process of purchasing. This affects the relation between CT performance and commitment. Teamwork and autonomy were included as the antecedents of organizational culture of EI and LO [14, 17]. The way in which the level of technological and MT of an organization influence these association has been examined. An additional insight has been provided by this research related to the influence of moderator on the performance outcomes from EI and LO in sourcing globally. It has been found that ethical concerns are addressed by commitment, which changes the influence of EI orientation in two different ways for a purchasing organization.

A great influence is created by the cultural value on orientation to EI by cultural value of teamwork considering the purchasing organization an important ethical behavior. The results are consistent with the framework, which recognize the role of ethical climate of an organization to promote norms that ultimately motivate employees to cooperate and reduce opportunistic behaviors. Alternatively, when an organization is committed to ethics, a great influence is created by EI on the RQ between the members of the purchasing process [9]. It can be explained as the perspective of stakeholder for corporate social responsibility including cultural orientation for various stakeholders. The primary stakeholders include customers, shareholders, employees, community, suppliers, regulatory bodies and community, which are directly involved in the major activities of manufacturing goods or services. Supplier support, employee commitment, and corporate reputation can be resulted by an ethical climate of organization established by stakeholder approach.

5.1　Practical implications

The study gives some implications for managers as well. There is need for managers to consider autonomy in the process of purchasing. Moreover, managers who expected increase in innovation by autonomy need to focus on cultural differences in the organization. Further, managers should consider the need of freedom from organizational limitations [14, 17]. Differences are created by the environmental conditions surrounded the organization in the influence of autonomy on the outcomes of purchasing [9]. It is revealed by the results that a great influence on the relation quality is created by autonomy in the organizations, which are working in a turbulent technological environment.

When there is high turbulence in market, a strong influence is created by autonomy on CT. The findings are beneficial for managers who are worried about the development of an ethical climate for fostering innovation in the process of purchasing by involving the international members. The influence of autonomy in the process of purchasing is not statistically significant, which is surprising. It leads to analyze the views about corporate cultures fostering innovation and entrepreneurial activities, which result in unethical behavior. It has been found that there is great association between team and EI when there is ethical climate. Innovative solutions in purchasing are resulted from increased collaborations. The RQ is positively influenced by EI in ethical climate, which increases commitment and trust among the members in transaction purchasing. There is need for managers to consider context of participants' culture in supply chain while developing an ethical environment in the purchasing firm [9].

Different ideas are possessed by the participants about the acceptable behavior. It has been suggested by Logsdon

and Wood [36] that there is need for a set of fundamental values in global corporate citizenship. These fundamental values are incorporated in the code of conduct, which reveal internal ethical standards. Second factor is the implementation of awareness for policies and codes fitting the organization, which may be as per the expectation of stakeholders. There is need for managers to be aware of the level of technological change, which affects the influence of innovation and learning on purchasing performance [9]. It has been found by this study that the organizations, which operate in environment with technological turbulence, possess a strong association between EI and LO as compared to less turbulent organizations.

Moreover, the study found that low technological turbulent environment in an organization result in a strong relation between CT and EI. It has been concluded that a high influence is created on CT by innovation performance when there is low technological turbulence.

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