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Research Article

A STUDY ON THE BARRIERS INFLUENCING INNOVATION MANAGEMENT IN THE FOOD INDUSTRY IN THE PROVINCE OF WEST AZARBAIJAN, IRAN

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ABSTRACT
It is a common fact, that innovations are the necessary prerequisite of economic development. With regard to the gradual globalization of the world economy, it is obvious that the strategic objectives of every country are directed to own economic wealth. Innovation is widely recognized as a key factor in the competitiveness of firms. Innovations reflect a critical way in which organizations respond to either technological or market challenges. This article aims to identify a number of factors that could potentially inhibit innovation performance. This paper reports on the results of a study that examined barriers to firm innovation among a sample of 208 managers of food industrial firms in Iran. The questionnaire that was created for the purpose of this analysis consists of 60 questions covering up four groups of barriers to innovation: managerial, economical, educational and cultural.
Result of a survey of food industries in the west Azerbaijan carried out to investigate how innovation is understood in these firms and to identify the potential barriers to innovation management. Data were analyzed using SPSS Win software and Cranach's Alpha method. The results correlation analysis indicated relation between independent variables, economical, cultural, managerial and educational factors was associated with innovation management as a dependent variable.
The regression analysis revealed that factors which influence innovation management are only managerial, economical and educational factors Furthermore, Results from multiple regressions showed that 43.1% of variance of the dependent variable was identified by 2 factors. The results of this study were used to derive practical suggestions for managers and policymakers to increase innovation management in the studied industry.

Keywords: *Agricultural Development, Innovation, Barriers, Innovation Management, Food Industries*

INTRODUCTION
Innovation is a very powerful concept with a large spectrum of meanings and fields of applications. Innovation is not a new phenomenon in our economy, it is just not optional anymore. According to Smith (2005), innovation is something new. It's creating something new through processes of learning or knowledge. The term ‘innovation’ can be understood or defined in many different with common or absolutely opposed elements. Nevertheless, there is always the requirement of newness in most definitions, and many definitions set up a condition of bringing the innovation into practice, i.e. a precondition of economic and social utility. Innovation can be determined as a change which leads to gaining profit for an individual, for an enterprise or for the whole society whiles this profit is not the accounting one, but the economic profit as it was mentioned above, the innovations could be essential precondition for lifespan and competitiveness of firms.
As Porter (1990) underlined, companies can achieve competitive advantage on a given market through acts of innovation. These companies approach innovation by realizing new products, new services, new technologies, new processes or just new ways of doing something. Garcia and Auken (2009) found that innovation is widely recognized as a key factor in the competitiveness of nations and companies.
Innovation has become a kind of new industrial religion of the 3rd millennium (Westland, 2008). Innovations defined as the successful exploitation of new ideas are seen as “powerful engine” for firm's development that also influences social and global challenges. The survival and growth of business enterprises increasingly depends on their ability to respond to globalization and rapidly changing in

market demands, technologies and consumer expectations. For Tidd and Bessant (2009) organizations with more success in the market are leading in undoubtedly, innovation is a key required for improving productivity, growth and business sustainability.

To achieve success over a long period of time, all organizations need to hold innovation and manage it on firms (Niala *et al.*, 2004). As Dutta (2008) noted innovations may be directed to change the organizational structure (the degree of complexity, formalization, and centralization), technology (introduction of new equipment, tools or methods, automation, or computerization) and human resources (changing the attitudes and behavior of organizational members through processes of communication, decision making, and problem solving).

Managing Innovation means to create all necessary conditions within an Organization to stimulate generating new knowledge, and to transform this knowledge into tangible new processes, technologies, and products.

Managing innovation means also identification and evaluation of the possible risks involved in financing new products and services, knowing from statistics that the rate of success is rather small. However, risk taking is encouraged by the fact that innovations yield far better returns than many traditional businesses (Westland, 2008).

Innovation management is all about - learning to find the most appropriate solution - to the problem of consistently managing foretasted process - doing so in the ways best suited to the particular circumstances in which the organization finds itself.

It is the search of effective routines and about managing the learning process to deal with the challenge and barriers of the innovation process.

Innovation Management, Management of Innovation comprises three things: - linking of engineering, - science & - management disciplines - to plan, develop & implement technological capabilities to shape & accomplish the strategic & operational objectives of an organization. Due to the great contribution of the innovative activities to the firms' competitiveness and success, it is of great interest to identify the barriers and obstacles that limit the development of innovative activities in firms. A number of studies show that firm differences in barriers to innovation were related to cost, institutional constraints human resources, organizational culture, flow of information and government policy (Mohen and Roller, 2005; Baldwin and Lin, 2002).

Barriers to Innovation

As many studies show, innovation has positive effects on the firm; it is interesting to find out why not all firms engaged in innovation activities. The ability to introduce innovation often depends on the characteristics of the firms.

Less bureaucracy, owner expertise, and closeness between owners and customers can facilitate the implementation. Firms, whose owners have limited external contacts, exert too much control, are not aware of environmental changes, and lack the appropriated education-training may limit the firm's innovative climate.

Palmer-Noone (2000) discussed that Most of these leaders believed that their greatest challenges to innovation were to be found inside their institution. In her findings traditional institutional culture, or institutional inertia cited as a significant barrier to innovation.

The study of (Zhu *et al.*, 2011) on Institution-based barriers to innovation, show that the five key barriers to innovation in China: (1) competition fairness, (2) access to financing, (3) laws and regulations, (4) tax burden, and (5) support systems.

These findings enhance the institution-based view of entrepreneurship by shedding light on how institution-based barriers affect innovation in firms. Baranano (2005) revealed two type of barriers in innovation when conducted a study on five Portuguese firms. A number of studies show that firm differences in barriers to innovation were related to cost, institutional constraints, human resources, organizational culture, flow of information, and government policy.

The another types of barriers are the lack of qualified human resources and a huge absence of external communication between the knowledge generators (Universities and Investigation Institutes) innovation

barriers, as described: (1) the organizational structure, as well as the climate; (2) the culture and strategy resistance to change; (3) the tradition and cemented rules; (4) the market leadership and the absence of rethinking on it; (5) the additional work brought by change, and finally, (6) the week repay on risk assumption.

Cardoso *et al.,* (2004), promoted a study on organizational barriers to the introduction of new technologies. The results reported in that study showed that the leading opposition to new technologies is structural in nature.

So, innovation faces barriers are not only inside but outside the organization in others words, the cost structure and also the consumers. A number of studies show that firm differences in barriers to innovation were related to cost, institutional constraints, human resources, organizational culture, flow of information, and government policy (Mohen and Roller, 2005; Baldwin and Lin, 2002).

Madrid-Guijarro *et al.,* (2009) emphasized on a resource-based view of organizations. They introduced financial resources, human resources and external resources as barriers to innovation. Cost has been mentioned as one of the most important barriers to innovation.

Weak management commitment, which can be a signal that the organizational culture does not support innovation, has been cited as one of the more significant barriers to innovation among firms. Employees and innovators often question the value of a strategy that embraces innovation (Storey 2000). Some of this resistance has been found to be consistent with a very direct management style, in some cases further compounded by an owner-manager relationship (Mosey *et al.,* 2002).

Cost has been cited as one of the most significant barriers to innovation. The uncertainty associated with innovation can be a source of conflict with funders (Bergemann, 2005). Transaction cost theory and agency theory suggest that debt financing may lead to lower innovative activities (Jensen and Meckling, 1976).

High innovation costs have a negative and significant effect on the innovation propensity (Lim and Shyamala, 2007; Silva *et al.,* 2007).

Culture does play an important role in the success of an innovation management effort. According to Ghinato (1996), the success of the Toyota Production System comes from a combination of characteristics: social, cultural, economical, political, organizational and competitive. Madrid-Guijarro *et al.,* (2009) then classify barriers to innovations as follows: lack of financial resources, inappropriate human resources and weak corporate's financial position, high costs and high risk, turbulent business environment, lack of external cooperation opportunities, lack of information, lack of government support. Pointing out the fact that from the viewpoint of management, organizational culture and human resources in the firms are likely resistant to the innovations while this resistance appeared especially where the very low sharing of management functions and managing competences and authorities exist, and where a manager-owner applies tight directive management style.

From this point of view, it is possible to conclude that the size of a business entity is on a driving factor, these are especially corporate culture and organization, and the applied management style what creates the barriers to innovations.

The firms owners, who are their managers at the same time, have lack suitable education in and experience with creating a successful innovation strategy (Hausman, 2005; Freel, 2000). The firms' owners, Another barrier even if it is connected with a corporate culture but more or less standing alone, is human resources.

The frequently mentioned innovation barrier is the lack of qualified labour force, respectively an incapability of firms to hire and to maintain such a qualified educated labour force (see e.g. Janasz, 2010; Stattev *et al.,* 2010; D'Este *et al.,* 2009; Giedraitis & Rasteniene, 2009 etc.).

A number of studies (see Tab 1) proved that the most serious barriers to innovations are mainly:

Table: Describes the various potential barriers faced by firms

Innovation management barriers		**Reference**
Managerial barriers	Lack of management experience Lack of management skills	Okpara, (2011); Irjayanti and Azis, (2012); Hessels and Parker, (2013).
Economical barriers	-Lack of funding from its own resources -High costs of innovation -Unfavorable conditions for obtaining funding from other sources -directed at R & D activities	Garcia and Briz (2000); Frenkel (2003); Zwick (2002); Baldwin and Lin (2002); Galia and Legros (2004)
	High costs of innovation	Guijarro *et al.*, (2009); Kamalian *et al.*, (2011); Dasanayaka *et al.*, (2011); Hyz, (2011); Rhaiem, (2012); Irjayanti and Azis, (2012); Khan and Manopichetwattana (1989); Souitaris (2001); Frenkel (2003); Katila and Shane (2005).
	Lack of information technology	Guijarro *et al.*, (2009); Kamalian *et al.*, (2011); Dasanayaka *et al.*, (2011); Hyz, (2011); Rhaiem, (2012); Irjayanti and Azis, (2012); Khan and Manopichetwattana (1989); Souitaris (2001); Frenkel (2003); Katila and Shane (2005).
	Excessive Risk	Hewitt-Dundas (2006); Galia and Legros (2004); Frenkel (2003); Zwick (2002); Storey (2000); Garcia and Briz (2000); Kalantaridis and Pheby (1999).
Educational barriers	Lack of qualified staff	Mohen and Roller (2005); Galia and Legros (2004); Frenkel (2003); Zwick (2002); Baldwin and Lin (2002); Garcia and Briz (2000).
	Inadequately trained personnel for use of technology	Hewitt-Dundas (2006); Galia and Legros (2004); Mohen and Roller (2005).
	Lack of HR/Personnel training	Quader (2008); Saini and Budhwar (2008); Guijarro *et al.*, (2009); Okpara and Kabongo (2009); Dasanayaka *et al.*, (2011).
	Lack of information technology	Galia and Legros (2004); Frenkel (2003); Zwick (2002).
Cultural barriers	Cultural attitudes toward bribe	Ghinato (1996)

MATERIALS AND METHODS

This paper reports a mainly quantitative research which is conducted in west Azerbaijan province, Iran. Manufactures in food sector are located in rural areas must obtain two licenses from the Ministry of Agriculture; first license is a permission for establishment (of construction) and the other is for starting production. To date, 61 firms in the food industry have registered in MOA formally in west Azerbaijan

province from which 46 firms were active at the time when the research was conducted (2013- 2014). Other 15 firms were not in business any more. The total population of respondents in this study was 208 Managers (production managers, marketing managers, human resource managers and vice managers) in 46 food industries in west Azerbaijan province who agreed to participate in the interview. Data were collected through questionnaires.

The barriers Influencing Innovation Management in the Food Industry has been achieved largely through structured questionnaire survey. The questionnaire evaluated in this study is composed of 5 parts. In the first part of the questionnaire there are information and descriptive about the demographic characteristics of the sample. In the second part of the questionnaire there are 5 statements for the economical barriers. In the third part of the questionnaire there are 5 statements for the definition of managerial barriers. For the measurement of cultural, educational, and barriers used of 5 statements in other part of questionnaire. Liker scale from 1 to 5 has been used to measure the constructed variables (where 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree). Content and face validity were established by a panel of experts consisting of faculty members at Islamic Azad University, Science and Research Branch and some specialists in the Ministry of Agriculture. Some wording and structuring of the instrument were made based on the recommendation of the panel of experts. A pretest was conducted with 18 managers to determine the reliability of the questionnaire for the study. Computed Cranach's Alpha score was acceptable for different parts of the questionnaire (Alpha> 0.7), which indicated that the questionnaire was reliable. Data analyzed through Spss/Win software.

RESULTS AND DISCUSSION

Findings Related to Demographic Characteristics

As to the descriptive statistics, 208 questionnaires were collected from west Azerbaijan province. 170 of managers have a college degree, 27 of them have a high school degree and the others have a primary school degree.

The average age of firms' activities was 10.1 years. Sixty-eight firms were approximately profitable in the last year, while other thirty-two firms did not report any profit in the past 12 months.

About 23% of the firms had R and D unit, 53% employed a personnel to be in charge of R and D activities (informal R and D) while the rest did not have any R and D activities in their firms. Managers of 46 firms reported innovations in different areas in this food firms.

Table: Innovation rate in the studied firms

Types of innovation	No. of innovative firms	No. of innovations
Product/services	15	12
Process	11	6
Technology	10	5
Marketing	3	3
Organization	2	2
Strategy	3	2
Total	-	44

Source: Author's analysis

Among different types of innovation, the highest number of innovations was 36 cases for product, services, process and technology and the lowest number was 5 cases for Innovation in Strategy and Organization.

Table 2 shows the number of Innovative firms and number of innovations in each of the six areas of innovation.

Managers definition of innovation management show their attitude of Innovation concept and innovation effect in food firms performance.

Table: Manager definition of innovation management

Definition of innovation management	No.	(%)
Successful transformation of new idea to innovations	35	16.8
Transformation of new idea to useful output	40	19.2
Transform of new idea to profitable product and services	70	33.6
New idea transform to effective profitable innovation	63	30.2

Source: Author's analysis

Above table displays the four different definitions about innovation management. Among different responses about 34% of managers selected transform of new idea to profitable product and services definition. Results from the descriptive analyses showed that respondents have recognized the barriers with strong, negative influence, in following order are: managerial, educational, economical and cultural barriers

Table: The barriers influencing Innovation on descriptive statistics

Barriers	N	Mean	Std. Deviation
Managerial	208	3.98	0.80
Educational	208	3.82	0.77
Economical	208	3.78	0.71
Cultural	208	3.73	0.67

Source: Author's analysis

According to Table, it is shown the mean and standard deviation of all main barriers. The barriers that influenced the innovation include economical, managerial, educational and cultural. The majority of the samples find the managerial and educational as the most influential barriers to develop innovation management at the average score of 3.98 followed by educational barriers at the average score of 3.82. The samples also suggest that economical and cultural are also important which a little lower average score of 3.78 and 3.73 respectively.

Most of researchers use correlations to summarize the association between two scale variables. The correlation between two variables reflects the degree to which the variables are related (Chand and Katou, 2012; Zeng *et al.*, 2010). Generally, when discussing on correlations, it refers to Pearson's correlation coefficient. This value measure the strength of the linear relationship between variables. In this study correlation analysis was performed, in order to examine the relation between survey independent variables and innovation management.

Table: The correlation between independent variable and it's effected on Innovation management

Barriers		Innovation management
Managerial	Pearson Correlation Sig	0.339 0.00
cultural	Pearson Correlation Sig	0.319 0.00
Economical	Pearson Correlation Sig	-0.331 0.02
Educational	Pearson Correlation Sig	0.353 0.00

Above table, shown the correlation result, which displays correlations among every factors specified and innovation. The last column shows the relationship between factors and innovation management; which are economical, managerial, educational and cultural. There is positive correlation between barriers factor and innovation management with the difference strength. Another value to confirm the linear relationship is the value of sig. 0.000 or 0.001 which are statistically significant relationship.

The results show the strongest positive relationship between innovation management and educational barriers with coefficient 0.353, followed by 0.339 for managerial, 0.319 for cultural barriers factor, -0.331 for economical.

In an attempt to identify which factors significantly lead to successful/unsuccessful innovation management, a stepwise multiple regression analysis was performed, with dependent variable the innovation management index and independent variables the key items of the questionnaire. The results regarding the total sample appear in Table.

Table: The Multiple Regression Findings Related to the Effects of the Independent Variable (Stepwise, Whole Sample)

Variables	B	B Std. Error	Beta	t	R	R2	R2ADJ	Sig.
Fixed value	1.053	0.144	-	4.316				
Educational barriers	0.262	0.21	0.35	3.424	0.34	0.321	0.2	0.000
Economical barriers	-0.33	0.06	-0.12	2.119	0.43	0.413	0.2	0.004
Managerial barriers	0.141	0.18	0.30	3.234	0.42	0.431	0.1	0.01

a. Dependent Variable: Innovation management

Regarding the above coefficients, the multivariate regression linear equation in the third step will be as follows:

Y= 1.053+0.262 (Educational barriers) - 0.33 (economic barriers) + 0.141 (Managerial barriers)

and the standardized equation will be:

Y= 0.351(Educational barriers) - 0.121 (economic barriers) + 0.031 (Managerial barriers

The results of regression analysis showed that the factors that significantly lead to successful innovation management, in order of importance (as indicated by R square change), are: 1) Educational barriers (b=2.62, sig=0.000), where the positive coefficient shows that when Education index increases by 1 unit, then innovation management index increases by 2.62 units. 2) If the firms has a suitable economical condition for managing innovation (b= -0.33, sig= 0.004). The negative coefficient shows that if the firm does not have a suitable economical condition for managing innovation then the innovation index decreases. 2) Educational factors (b=0.141, sig=0.01), where the positive coefficient shows that when Managerial index increases by 1 unit, then innovation index increases by 0.141 units.

The final Rsquare of the model is 43%. The most important variable is “Educational” (it explains 32.1% of the variation).

Discussion and Conclusions

Innovation affects firms' ability to compete successfully in an increasingly global market. The purpose of this study is to perform a critical analysis of implementing innovation management in the Iranian food industries. When the findings are evaluated by considering the existing literature important results have been obtained. Our research identified the most important barriers in such an implementation are: managerial barrier, the economical barrier, the educational barrier and the cultural barrier. Results of this study reveal that innovation barriers are introduced in a considerable extent, but still there is lot to be done in the Food Industry.

The research results revealed that the economic factors such as excessive economic risk, lack of financial resources, lack of availability of finance, and high cost of innovation have determined the propensity of food industries about innovation. However, Lack of educational factors like do not concentrate on R & D investment as one of the main innovation activities and lack of qualified and skilled personnel were viewed as other important constraints to innovation management.

This paper offered a view of influential barriers affecting food enterprises as a way to help practitioners solve and analyze barriers and attributes concerning their businesses. This study discovered that the management of enterprises helps industrial firms survive in the global market.

Enlightened by a case study of Iranian dairy industries in west Azerbaijan province, the role of each barrier is assessed and their importance is summarized in the priority list. Managerial and educational barriers are placed as the most important factors for innovation management in the food industry which is driven by managers and employers.

Multiple Regression analysis led to third independent variables explaining innovation management. The results of multiple regression analysis on the research independent variables effects on the innovation management specified that the educational characteristics, and managerial characteristics had a positive impact on the innovation management but the economic characteristics had an inverse negative impact on the innovation management.

Based on the findings of the study, the following recommendations to enhance the innovation management rate among food firms are provide. We observed a big gap in training courses for the R&D unit in food industries firm. According to the findings, about 80% of managers did not attend any training courses, mainly because there are no training courses in their field of activity. Another reason is the lack of confidence of organizers and trainers. The R&D unit should provide some training courses on innovation and innovation management for managers in different sections, so that they can be aware of the share of other managers and personnel in raising innovative ideas. This suggestion also was pointed out in Armun-tan (2008) study.

According to Morton (1971) and Zaltman *et al.,* (1973) Organizations facilitate innovation through project teams or R & D departments. But there is evidence that Iranian SMEs do not concentrate on R & D investment as one of the main innovation activities.

Food Industries firms are lack of resources to develop and commercialize new product in market and as a result are more often inclined to collaborate with other enterprises in their own business. The better organization structure can be developed through management by issuing policies that encourage innovation, for example innovation based on the acquisition or purchase new technology and the collaboration with suppliers.

REFERENCES

Adams R, Bessant J and Phelps R (2006). Innovation management measurement: A review. *International Journal of Management Reviews* **8**(1) 21-47, DOI:10.1111/j.1468-2370.2006.00119.x.

Armun-tan H (2008). Effective factors on bghuman resources productivity in Industry sector in Iran. M.Sc. Thesis in Economy, Islamic Azad University, Science and Research Branch.

Benedicic J, Zavbi R and Duhovnik (2012). Development of a new method of searching a new product development opportunity. *Tehnički Vjesnik - Technical Gazette* **19**(4) 759-767.

Bergemann D (2005). The Financing of Innovation: Learning and Stopping. *The Rand Journal of Economics* **36** 719–752.

Bratianuc (2011). Barriers in innovation and knowledge management in the Romanian emergent economy. *Management & Marketing Challenges for the Knowledge Society* **6**(4) 515-528.

Dasanayaka S, Kankanamge R and Sardana G (2011). Identification of Barriers for Development of the Sri Lankan Small and Medium Scale Furniture and Wooden Products Manufacturing Enterprises. *Euro Asia Journal of Management* **21**(40) 69–101.

Ee-Shiang L and Shyamala N (2007). Obstacles to Innovation: Evidence from Malaysian Manufacturing. Available: http://mpra.ub.unimuenchen. de/ 18077/MPRA Paper No. 18077, posted23.

Fagerberg J, Mowery DC and Nelson RR (2006). *The Oxford Handbook of Innovation* (Oxford University Press, Oxford) DOI:10.1093/ oxfordhb/9780199286805.001.0001.
Ghinato M and Paulo K (1996). Sistema Toyota de Produção: mais do que simplesmente just-in-time (Toyota Production System: more than just-in-time). Caxias do Sul: EDUCS.
Guijarro A, Garcia M & Auken H (2009). Barriers to Innovation among Spanish Manufacturing SMEs. *Journal of Small Business Management* **47**(4) 465–488. http://dx.doi.org/10.1111/j.1540-627X.2009.00279.x.
Hessels J and Parker S (2013). Constraints, internationalization and growth: A cross-country analysis of European SMEs. *Journal of World Business* **48**(1) 137–148. http://dx.doi.org/10.1016/j.jwb.2012.06.014. http://dx.doi.org/10.5172/impp.12.3.298.
Irjayanti M and Azis A (2012). Barrier Factors and Potential Solutions for Indonesian SMEs. *Procedia Economics and Finance* **4** 3–12, Available: http://dx.doi.org/10.1108/13552551011042816.
Jensen M and Meckling W (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics* **3** 305–360.
Kamalian A, Rashki M and Arbabi M (2011). Barriers to Innovation among Iranian SMEs. *Asian Journal of Business Management* **3**(2) 79–90, Available: http://dx.doi.org/10.1016/j.procs.2013.05.073.
Miller D (1987). The Structural and Environmental Correlates of Business Strategy. *Strategic Management Journal* **8** 55–76.
Mohen P and Roller L (2005). Complementarities in Innovation Policy. *European Economic Review* **49** 1431–1450.
Mosey S, Clare J and Woodcock D (2002). Innovation Decision Making in British Manufacturing SMEs. *Integrated Manufacturing Systems* **13**(3) 176–183.
Novak M (2012). Computer aided decision support in product design engineering. *Tehnički Vjesnik - Technical Gazette* **19**(4) 743-752.
Okpara J (2011). Factors constraining the growth and survival of SMEs in Nigeria Implications for poverty alleviation. *Management Research Review* **34**(2) 156–171.
Quader M (2008). Human Resource Management Issues as Growth Barriers in Professional Service Firm SMEs. *Journal of Services Research* **7**(2) 115–161.
Rhaiem M (2012). Determinants of Export Effort in Innovative Manufacturing SMES: an Empirical Study. *International Journal of Business Strategy* **12**(3) 81–93.
Saini D and Budhwar P (2008). Managing the human resource in Indian SMEs: The role of indigenous realities. *Journal of World Business* **43**(4) 417–434, Avaiable: http://dx.doi.org/10.1016/j.jwb.2008.03.04.
Storey J (2000). The Management of Innovation Problem. *International Journal of Innovation Management* **4**(3) 347–369.
Tidd J, Bessant J and Pavitt K (2001). *Managing Innovation: Integrating Technological, Market and Organizational Change*, 2nd edition (New York, John Wiley & Sons, Ltd).
Trott P (2008). *Innovation Management and New Product Development*, 4th edition (Pearson Education Limited, Essex).
Westland JC (2008). *Global Innovation Management: A Strategic Approach* (New York, Palgrave Macmillan).
Xie X, Zeng S and Tam T (2010). Overcoming barriers to innovation in SMEs in China: A perspective based cooperation network. *Innovation: Management, Policy & Practice* **12**(3) 298–310.