

---

## A Delphi-based study on the innovation practices in the Albanian financial sector

---

Amali Çipi\* and Enida Pulaj

University of Vlora 'Ismail Qemali',  
Sheshi Pavarësia, 9401 Vlorë, Albania

Email: amalia.cipi@univlora.edu.al

Email: enidapulaj@yahoo.com

\*Corresponding author

**Abstract:** Based on an application of the Delphi technique, this paper aims to analyse the current situation of innovation practices in Albania, based on an application of the Delphi technique to a panel of Albanian financial institutions executives. Despite the short life of most of the financial companies in the Albanian trade market, results show that executives have a relatively good level of knowledge regarding the benefits of the innovation approach to the firm, but there is a lack of some innovation types used by their companies. Furthermore, there is a low level of investment amount to be spent in innovation, indicating a non-possibility to create new products or processes and thus not having the possibility to be a leader and create better promise for the company growth. Government is advised to consider innovation as a mediating factor to achieve better business performance and thus helping and promoting sustainable macroeconomic growth.

**Keywords:** innovation; technology innovation; product innovation; Albania; Delphi technique; financial companies.

**Reference** to this paper should be made as follows: Çipi, A. and Pulaj, E. (2020) 'A Delphi-based study on the innovation practices in the Albanian financial sector', *Int. J. Information Technology and Management*, Vol. 19, No. 1, pp.19–32.

**Biographical notes:** Amali Çipi is a Lecturer at the University of Vlora 'Ismail Qemali', Albania. She holds a PhD from the University of Tirana, Albania. Her main research interests include corporate governance practices and applications of the Delphi technique. She has authored peer-reviewed papers and some of her works have been presented in national and international conferences.

Enida Pulaj (Brakaj) is a Lecturer at the University of Vlora 'Ismail Qemali', Albania. She holds a PhD from the University of Tirana, Albania. Her research interests include industry analysis, competitiveness and multiple criteria decision analysis. She has written several articles in national and international scientific journals and has delivered many speeches in international conferences.

---

## 1 Introduction

Innovation is widely regarded as a very important pillar of the firm for planning competitive strategy, anticipating market trends, customer needs, and competitor actions, and thus achieving and sustaining long-term growth, better business performance and sustainable competitive advantage (Hamel, 2000; Christensen, 2003; Haour, 2004; Parrilli and Elola, 2012). According to North and Smallbone (2000), Blumentritt and Danis (2006) and Brem and Voigt (2009), the definition of innovation practice is understood as the company's ability to seek new and better ways to identify, acquire, and implement ideas (i.e., management systems, internal culture, processes, products, services, distributing channels, and marketing methods-segments), within the organisation, with the aim to achieve added value for customers and thus influencing the company's sustainable performance growth. Furthermore, Hamel (2000) also argues that innovation is the most important component of a firm's strategy, while Vanhaverbeke and Peeters (2005) go further by arguing that nowadays innovation is no longer just a tool for implementing the strategy but actually is the strategy itself.

In this sense, the implementation of Innovation mechanisms is spreading worldwide as a new knowledge-management concept embraced by companies, governments and international institutions. Based on this initial background, and through the construction of a Delphi panel of chief executive officers (CEOs) in the financial sector, this paper aims to analyse the current situation of innovation practices in the Albanian country. We know of no prior research using the Delphi technique to analyse the innovation drivers, types and factors influencing the innovation practices implemented by the Albanian companies. The Delphi technique has been used in situations where the problem under discussion cannot be resolved by precise analytical techniques, just because there are no historical data or relevant information available (Ferreira and Monteiro Barata, 2011; Çipi et al., 2014). Given that this is the case of innovation practices in Albania, we believe that there is considerable scope to explore this methodological approach in this particular context and to provide development prospects for innovation according to Delphi panellists.

In this sense, the study contributes to current research by offering empirical results related to the application of the Delphi technique and forecasting innovation evolutionary trends.

The remainder of the paper is organised as follows. Section 2 summarises the literature review highlighting the role of innovation strategies in order to set the basis for the questionnaire survey. Section 3 presents a brief methodological background of the Delphi technique and justifies its application in the context of the present study. Section 4 provides an overview of consensus' measurement criteria and presents the findings of our study. Conclusions and recommendation will be addressed in Section 5.

## 2 Literature review and theoretical background in innovation

As the economy in most countries is becoming more internationalised, uncertain for most firms the competition is becoming more innovation-based and technology-driven (Kenny and Reedy, 2006; Tidd et al., 2005). Consistent with this, and according to Hamel (2000),

Tucker (2002), North and Smallbone (2000), Christensen (2003), Rogers (2003), Haour (2004), Blumentritt and Danis (2006), Brem and Voigt (2009), Parrilli and Elola (2011) and Ellonen et al. (2011), in order to survive today's global market economy and achieve long-term performance, by overcoming intense competition and changing markets demands, firms are recognising the importance to adapt and keep innovating products/services, technology and organisational systems.

In fact, it is widely accepted that the development and spread of new technologies are central to the companies' growth and productivity and thus having an economic impact but the understanding level of the innovation processes is still deficient (OECD/Eurostat, 2005). Nevertheless, based on the contribution of several authors such as Drucker (2003), Haour (2004), Hult et al. (2004), Blumentritt and Danis (2006), Dorf and Byers (2008) and Brem and Voigt (2009), there are four main types of innovation:

- 1 *firm organisation* (e.g., such as the introducing significant changes on organisational structures, implementing advanced management techniques, implementing new or substantial changes in the companies' strategic orientations, reorganising the workplace or external relations and internal culture)
- 2 *product innovation* (e.g., introducing new or a technologically-based qualitatively improved product)
- 3 *new business ideas* (e.g., locally or globally new business ideas, renewing processes for becoming stagnant businesses or in need of transformation)
- 4 *process innovation* (e.g., technologically-based new processes or major improved processes/methods/equipment).

These innovation practices may be influenced by macro and micro environmental factors (Al-Ansari et al., 2013). In this sense, although, innovation can have different meanings and types in different disciplines (O'Dwyer et al., 2011), or can be perceived differently in different markets and economies, authors often highlight its importance to the company competitive advantage (Yam et al., 2011). From this premise, innovation appears to be important not only as a firm level strategy but in a broad perspective, the companies' innovation approach can be seen as a very important opportunity and/or a tool in developing and redefining winning country strategies. Consistent with this OECD (2005) and Yanadori and Cui (2013) assume that innovation has not only been shown to contribute to the way a company differentiates from competitors, but has also created added-value for customers and accelerated business growth performance, leading to the promotion of economic growth.

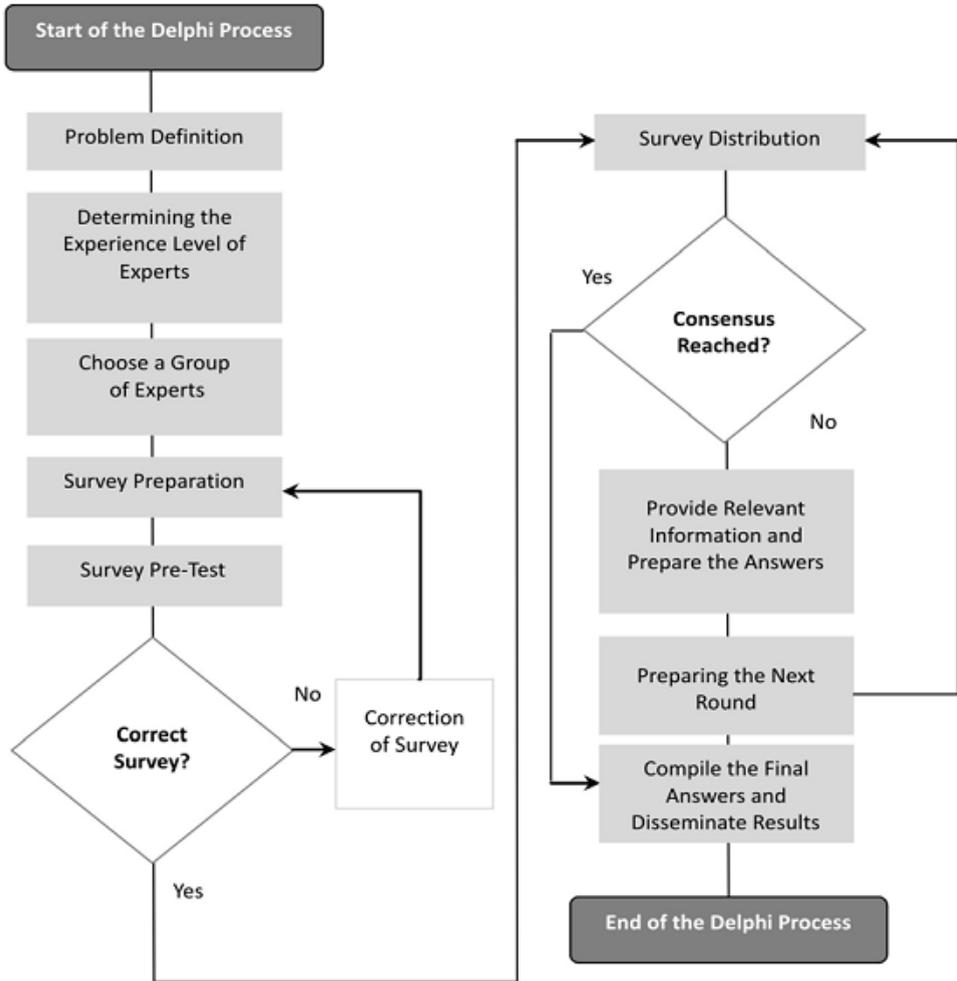
Following this, it seems plausible to assume that implementing innovation in all its possible types is important not only in developed markets, but potentially even more in developing countries such as Albania.

The next section presents the background of the Delphi technique, which is important to understand how the application of this methodology can assist in analysing the current situation of the Innovation practices and provides development prospects for innovation practices in Albania.

### 3 Methodological background

Since its origins, in the early 1950s, the Delphi method is broadly used in analysing current and future scenarios based on the use of experts' knowledge within their domain of expertise (cf. Dalkey and Helmer, 1963; Dalkey, 1972; Hsu and Sandford, 2007; Dalkey, 1972; Ferreira et al., 2013).

**Figure 1** Operational structure of the Delphi method



Source: Zapata in Ferreira et al. (2013)

In broad terms, the Delphi process begins with the development of a survey, which should be conducted anonymously (by interview or questionnaire) by experts on a specific issue under analysis (Dalkey, 1972; Ferreira et al., 2013), and continues by a repeated sequence of successive individual questions supplemented with information and advice (cf. Dalkey and Helmer, 1963; Ferreira and Monteiro Barata, 2011; Çipi et al., 2014). The Delphi's basic operational structure is shown in Figure 1 (further details can

be found in Dalkey and Helmer, 1963; Ferreira, 2003; Hsu and Sandford, 2007; Ferreira and Monteiro Barata, 2011).

Although the method should allow for consensus (as stated by Dalkey and Helmer, (1963, p.458), the objective of a Delphi study is to “obtain the most reliable consensus of opinion of a group of experts [...]”). It is important to underline, however, that the final results must have a very similar value to that in reality (Ferreira et al., 2012).

Furthermore, as stated by Bolger and Wright (2011), Di Zio and Pacinelli (2011), Landeta et al. (2011), Nowack et al. (2011), Linstone and Turoff (2011), and Parente and Anderson-Parente (2011), the incorporation of human judgment, acting in a professional context, via the Delphi technique, is a promising option in order to improve the effectiveness and to achieve scientific and social objectives of a study. Ferreira et al., (2013, p.722) highlight that the results of the Delphi method are presented through statistical formulation, and indicate that, “the results are defined by a function:  $G = G_j(I, E, R)$ , which reflects the response of a given group  $G_j$  to a certain event  $E$ , where  $I$  is the number of individuals,  $E$  is the event space (discrete or continuous), and  $R$  is the domain of answers, which is reflected in an estimation for each event and individual of the group. [...] this formulation may be based on different components of statistics, such as measures of central tendency (i.e. mean, median, mode or quartiles) or dispersion (i.e., standard deviation, variance or semi-interquartile amplitude)”. Those statistical data allow for quantitative analysis and interpretation of the panel judgment on the topic.

Following this, and from a methodological perspective, there are three basic principles of a Delphi-based approach: anonymity, controlled feedback and statistical treatment of responses (for further details, see also Linstone and Turoff, 2002; Hsu and Sandford, 2007; Goluchowicz and Blind, 2011; Rowe and Wright, 2011). In this study, a questionnaire survey was developed to define the current level of Innovation practices used by Albanian companies operating in the financial sector. The results are presented in the next section.

## 4 Findings and discussion

Based on the literature review (Grobbelaar and Buys, 2007; Von der Gracht, 2012), we have chosen the standard deviation as the measurement of variability in our sample. According to Grobbelaar and Buys (2007), in a normal distribution, 68% of the scores fall within one standard deviation above and one standard deviation below the mean. For the purpose of this research, a decision was made on the level of consensus reached in terms of the standard deviation as described in Table 1.

**Table 1** Decision criterion for the level of consensus

<i>Standard deviation</i>	<i>Level of consensus achieved and decision rule</i>
$0 \leq X < 1$	High level of consensus. No need for additional round.
$1 \leq X < 1.5$	Reasonable level of consensus. No need for additional round.
$1.5 \leq X \leq 2$	Low degree of consensus. Possible need for additional round.
$2 \leq X$	No consensus. Definite need for additional round.

Following this, and considering the research objectives outlined for this study, the initial Delphi panel was composed of 28 CEOs of different types of financial companies (i.e. banking, insurance and micro credit services), who operate in the Albanian territory. The survey was conducted in the city of Tirana, where the head quarters of the companies are located. After the first round, the number of panel members was reduced to 26 and, after the second round, only 25 members responded to the survey. It should be noted, however, that that ‘there is no ideal number of experts for the application of the Delphi technique’ (Ferreira and Monteiro Barata, 2011: 246). Thus, responses from the 25 members in the final round provide the basis of our analysis.

#### 4.1 Sample characterisation

The data obtained according to the structure of the questionnaire are presented in the next subsections. As for the sample characterisation, most respondents are *male* (88.00%), mostly in the *age group* of 45–54 years (42.3%). As for qualifications, most of the panel members hold a *higher academic degree* (89.0%). Also, the predominant areas of qualification are *economics* and *management* (58.0%). The data obtained according to the structure of the questionnaire are presented in the next subsections.

#### 4.2 General characterisation of the present situation

The objective of this first section is to determine the *level of innovation practices implemented* by the financial sector companies in Albania. Table 2 presents the results describing the companies’ *current innovation types used in the last 4 years*. We can easily see that, although some panellists affirm the *introduction of new products, services, processes or organisation/management systems* (17.0%) or the *improvement and modified existing products, services, processes or organisational/managerial systems* (20.0%), most of the respondents confirm the *provision of stable products, services, processes or organisation/management systems* (63.0%) to be the innovation type introduced by the company in the last 4 years. This also indicates a low level of ambition to take risks in introducing new products, services or organisational processes as a strategy to grow-performance.

**Table 2** Companies’ innovation types in the last 4 years [n = 25].

<i>Innovation type</i>	<i>%</i>
Improve and modify existing products, services, processes or organisational/managerial systems	19.0
Introduce new products, services, processes or organisation/management systems	17.0
Provide stable products, services, processes or organisation/management systems	64.0
Total	100.0

For the next question, we tried to understand the panellists’ level of knowledge on the benefits of innovation practices to the company.

**Table 3** Benefits of implementing innovation practices [n = 25].

<i>Benefits</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Coefficient of variation</i>
New development	5.84	6.00	1.259	0.2016
Incremental improvement	5.62	6.00	1.037	0.185
Quality improvement	4.62	5.00	1.037	0.157
Increased efficiency	4.84	5.00	1.302	0.270
New business model	3.59	4.00	0.985	0.274
Customer added-value	6.59	6.00	0.985	0.149
Strategic growth	2.59	3.00	0.985	0.380
Financial growth	3.84	4.00	1.302	0.340
Market growth	6.84	6.00	1.191	0.174
Market competition	5.05	5.00	1.268	0.251
cost reduction	6.32	6.00	0.915	0.147
Market shift/demand	4.14	4.00	1.251	0.302

Based on a Likert scale ranging from 1 to 7 (1 = *strongly disagree*; 2 = *moderately disagree*; 3 = *slightly disagree*; 4 = *neither agree nor disagree*; 5 = *slightly agree*; 6 = *moderately agree*; 7 = *strongly agree*), and as shown in Table 3, the respondents elected *new development*, *incremental improvement*, *customer added value*, *market growth* and *cost reduction* as the most important benefits brought by the use of CG mechanisms. Following this, we believe that Albanian companies in the financial sector are aware of the benefits of innovation for improving financial and non-financial performance. Nevertheless, management must be aware even of the other benefits, such as *quality improvement*, *increased efficiency* and *market competition*.

**Table 4** Technology oriented innovation practices performed by the companies [n = 25]

<i>Technology-oriented practices</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Coefficient of variation</i>
The company's policy is to adopt up-to-date technologies	5.21	5.00	0.966	0.185
The company purchases and uses technologies to position itself ahead of competitors	5.19	6.00	1.050	0.202
The company is often the first to try new methods and technologies	2.92	3.00	1.090	0.373
The company frequently improves internal processes such as speed, reliability and information management	6.22	6.00	0.854	0.137
The company allocates investments' resources in latest technologies and future forecasted technological changes	4.32	4.00	1.203	0.226

For the next question, we tried to understand the panellists' opinion on the companies' technology-based engagement as a tool to influence the ability to innovate. Grounded on a Likert scale from 1 to 7 (1 = *strongly disagree*; 2 = *moderately disagree*; 3 = *slightly disagree*; 4 = *neither agree nor disagree*; 5 = *slightly agree*; 6 = *moderately agree*; 7 = *strongly agree*), Table 4 shows that there is a good approach of the Albanian financial companies toward the use of technology practices. We do believe that this result is influenced by the responses of the executives in the banking sector. The high degree of foreign ownership in the banking sector (13/14 have foreign ownership) is the reason for advanced technology-based orientation established from those companies. This supports the results obtained by Lööf and Heshmati, (2006) and Song and Parry (2009), who indicated a positive relationship between being leader in new technology as an innovation practice and being able to face environmental risks and threats.

The next question aimed to evaluate the panellists opinions related to the statement indicating all the companies' innovation practices relative to the competitors in the sector for the last 4 years. Based on a Likert scale ranging from 1 to 7 (1 = *strongly disagree*; 2 = *moderately disagree*; 3 = *slightly disagree*; 4 = *neither agree nor disagree*; 5 = *slightly agree*; 6 = *moderately agree*; 7 = *strongly agree*), most of the panel members confirmed that the their companies, *use up-to-date technology* and *develop new market segments*, indicating that Albanian companies in the financial sector are using firm-based innovation strategies rather than creating new products to the market and thus not having the possibility to be a leader in innovation (Table 10).

**Table 5** Innovation practices performed by the financial companies

<i>Practices</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Coefficient of variation</i>
The company frequently tries out new ideas	3.75	4.00	1.450	0.387
The company introduces a considerable number of new products, services, processes, or organisation/management systems	2.78	3.00	1.479	0.532
The company is the first to enter in the market with new products or services	4.03	4.00	1.403	0.348
The company seeks out new ways to do things	2.46	3.00	1.450	0.589
The company is creative in its methods of operation	2.57	3.00	1.403	0.546
The company uses up-to-date technologies	5.62	6.00	1.037	0.185
The company develops new market segments	5.59	6.00	1.585	0.283
The company uses new marketing methods	5.43	5.00	1.068	0.197
The company develops new ways of establishing relationships with customers	5.08	5.00	1.038	0.204
The company spends resources on research and development for new products, services or processes	2.58	3.00	1.139	0.441

### 4.3 Future development

This part of the survey sought to analyse the future perspectives of the Albanian financial companies' executives regarding the implementation of innovation practices. In this sense, the panel members were asked to indicate approximately the *investment level on research and development for the next 3 years*. As can easily be seen in Table 6, most of panellists affirm that the highest research and development investment for the next 3 years will be in the range *less than 500 000 Euros*.

**Table 6** Approximate amount for investments in research and development for the next 3 years [n = 25]

	%
Less than 500 000 Euros	52.0
From 500 001 to 1 000 000 Euros	32.0
From 1 000 000 to 2 000 000 Euros	12.0
From 2 000 001 to 4 000 000 Euros	4.0
More than 4 000 000 Euros	0.0
Total	100

In addition, respondents were next asked to indicate how many new products and serveries are their companies planning to launch in the next 3 years. As can be seen in Table 7, the majority of responses focused on *less than 2* (48%), followed by *3 to 5 new products/services* (32%). On the other hand, *6 to 8* (16%) and *9 to 11 new products/services* received the lowest percentage (only 4.0%).

These findings are consistent with Tidd et al. (2005), who investigated the positive relationship between a company's financial investment in research and development and its number of new products and/or services launched.

**Table 7** Number of new products/services to be launched in the next 3 years [n = 25]

	%
Less than 2	48.0
3 to 5	32.0
6 to 8	16.0
9 to 11	4.0
More than 12	0.0
Total	100

It should be noted, however, that these findings might be the result of the amount planned by the companies in research and development (as pointed previously in Table 6). Furthermore, and as stated by the World Economic Forum (2015), the global financial economic crises have impacted the innovation capacities of most companies operating in the Albanian market (with regard to innovation Albanian companies have lost in ranking 102 in the 2011-2012 competitiveness report to 115 in the 2015–2016 competitiveness report).

For the next question, we were seeking to understand panellists' opinions about what can be the most effective *drivers of future innovation practices* in Albania in the future.

Panellists were asked to rank, by order of importance (*1 = first most important, 7 = seventh most important*), the future innovation drivers of the company.

**Table 8** Future active innovation drivers [n = 25]

	<i>Points</i>
Management	174
Employees	145
Technology	123
Customers	95
Competition	75
Market	65
Finance	45
Legislation	25
Other	0
Total	747

According to Table 8, the majority of responses focused on the *management* (174 points) as the most powerful driver in improving innovation practices in the financial sector in Albania, followed by *employees* (145 points), and ranked in the third place *technology* (123 points). Next, we have *customers* (95 points), *competition* (75 points), *market* (65 points), *finance* (45 points) and, ranked in last place, *legislation* (25 points). These findings are in accordance with Read (2000), whose results provided important evidence on the supporting role of management, employees in innovation practices.

**Table 9** Future management's attitude towards innovation practices

<i>Practices</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Coefficient of variation</i>
The management team considers innovation to be part of the firm's strategic goals and future ambitions	5.84	6.00	1.259	0.216
The management team focuses on long-term objectives with interests in adopting innovations	5.16	5.00	1.236	0.240
The management team favours high-risk projects with attitudes in exploring new opportunities	3.25	3.00	0.957	0.294
The management team will be involved in new initiatives and innovative programs	5.84	6.00	1.302	0.223
The management team will allocate an important amount of resources to support research and developments into innovative products and services	5.59	6.00	0.577	0.103

For the next question, we tried to understand the panellists' future orientation towards innovation practices (as part of internal factors influencing innovation in the future). Based on a Likert scale ranging from 1 to 7 (*1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree; 4 = neither agree nor disagree; 5 = slightly agree;*

6 = *moderately agree*; 7 = *strongly agree*), and as shown in Table 9, ‘management orientation toward innovation practices as a strategic goal for the future, management involvement in new initiatives and innovative programs and the increment amount to be spent on innovative products and services received the highest scores’.

The next question is related to experts’ perceptions of the three most significant barriers to the companies’ innovation capability (1 = *main impact*, 3 = *third main impact*). The final ranking follows: first, *economic risk and inflation* (41 points); second, *legislation and regulation policies* (37 points); and, third, *insufficient financial fund and capital resources* (34 points), respectively shown in Table 10.

**Table 10** Barriers of implementing innovation practices [n = 25]

	<i>Points</i>
Economic risks and inflation	41
Legislation and regulation policies	37
Insufficient financial fund and capital resources	34
Market (information, competition, size, locally/globally access)	21
Operation costs	18
Lack of good ideas and managerial expertise	12
Customers attitude and behaviour towards innovation	6
Internal culture	1
Other	0
Total	173

Interestingly, *lack of good ideas and managerial expertise*, was not perceived to be a significant barrier, indicating that the management team is perceived to have the capacity for innovation. This is consistent with what was reported by the World Economic Forum (2015) (Albanian companies have a good capacity on innovation, ranked only at the 103-rd position), although it is not ranged in the innovation driven economies).

## 5 Conclusions and future research

Nowadays, innovation as a knowledge-based strategy is often highlighted to be crucial in creating competitive advantage and business performance growth. In this sense, it becomes important in positioning a company as a leader. Following this, companies should adopt/choose the innovation practices that better fit their micro and macro environment. We do believe that more is to be understood with regard to innovation practices even in the Albanian context (i.e., financial sector).

Starting from this premise, and based on an application of the Delphi technique, this paper strives to analyse and identify the main types of innovation used by Albanian companies in the financial sector and provide development prospects based upon the perceptions of the experts on the domain. As previously stated, we know of no prior work using the Delphi technique to analyse the evolutionary patterns and provide development prospects for innovation in the particular context of this study. Thus, the study contributes to current research by offering empirical results related to the application of the Delphi technique and forecasting innovation types evolutionary trends.

Based on the analysis of the empirical results of our essay, innovation practices used by Albanian financial companies have evolved. Furthermore, the analysis of our results shows that the panel's overall assessment on innovation benefits is considered good, but the implementation of some innovation types (i.e., new to the market products, processes or organisation methods) is not at the same level. Therefore, despite the attempts made by companies' management to implement innovation based strategies, there is still room for improvement. Additionally, they should find the way to increase the innovation budget in order to use the innovation approach as a mediating factor to achieve better business performance for their firms. At this point, even the government should do more not only in terms of written strategies but even real grants. On the other hand, the drivers considered most enhancing of innovation practices were management, employees and technology, indicating that there is the internal capacity for innovation but some outside environmental factors (i.e., economic risks and inflation, legislation and regulation policies) have a crucial role as barriers for implementing innovation practices.

In looking ahead to future research, and considering that innovation – especially technology-based ones – requires important amounts of financial and non-financial resources, it would be important to conduct periodic studies. From this promise, this recommendation become even more important considering the fact that international institutions, such as OECD or World Economic Forum, consider innovation as one of the most important pillars of competitiveness advantages creation and in a macro perspective it may define the attractiveness of the Albanian trade market.

## References

- Al-Ansari, Y., Altalib, M. and Sardoh, M. (2013) 'Technology orientation, innovation, and business performance: a study of Dubai SMEs', *International Technology Management Review*, Vol. 3, No. 1, pp.1–11.
- Blumentritt, T. and Danis, W. (2006) 'Business strategy types and innovative practices', *Journal of Management Issues*, Vol. 18, No. 2, pp.274–291.
- Bolger, F. and Wright, G. (2011) 'Improving the Delphi process: lessons from social psychological research', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1500–1513.
- Brem, A. and Voigt, K. (2009) 'Integration of market pull and technology push in the corporate front end and innovation management-insights from the German software industry', *Technovation*, Vol. 29, No. 5, pp.351–367.
- Christensen, C. (2003) *The Innovator's Dilemma: The Revolutionary Book that will Change the Way you do Business*, HarperCollins Publishers, New York.
- Çipi, A., Shyqyri, L. and Ferreira, F. (2014) 'Current situation of corporate governance practices in Albanian joint stock companies: a Delphi-based approach', *Procedia – Social and Behavioral Sciences*, Vol. 110, pp.841–851.
- Dalkey, N. (1972) 'The Delphi method: an experimental study of group opinion', in Dalkey, N.C., Rourke, D.L., Lewis, R. and Snyder D. (Eds.): *Studies in the Quality of Life: Delphi and Decision-Making*, pp.13–54, Lexington Books, Lexington, MA.
- Dalkey, N. and Helmer, O. (1963) 'An experimental application of the Delphi method to the use of experts', *Management Science*, Vol. 9, No. 3, pp.458–467.
- Di Zio, S. and Pacinelli, A. (2011) 'Opinion convergence in location: a spatial version of the Delphi method', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1565–1578.
- Dorf, R and Byers, T. (2008) *Technology Venture from Idea to Enterprise*, McGraw-Hill, New York.

- Drucker, P. (2003) 'The discipline of innovation', in *Harvard Business Review on the Innovative Enterprise*, Harvard Business School Press, Cambridge.
- Ellonen, H., Jantunen, A. and Kuivalainen, O. (2011) 'The role of dynamic capabilities in developing innovation-related capabilities', *International Journal of Innovation Management*, Vol. 15, No. 3, pp.459–478.
- Ferreira, F. (2003) *Inovação Tecnológica no Sistema Financeiro Português: Evolução e Perspectivas*, 1st ed., Coimbra, Pé-de-Página Editores.
- Ferreira, F. and Monteiro Barata, J. (2011) 'A snapshot of the Portuguese e-banking activity: Insights and conceptual framework to allocate strategic hindrances', *International Journal Electronic Business*, Vol. 9, No. 3, pp.238–254.
- Ferreira, F., Spahr, R., Gavancha, I. and Çipi, A. (2013) 'Readjusting trade-offs among criteria in internal ratings of credit scoring: an empirical essay of risk analysis in mortgage loans', *Journal of Business Economics and Management*, Vol. 14, No. 4, pp.715–740.
- Ferreira, F.A.F., Spahr, R.W., Santos, S.P. and Rodrigues, P.M. (2012) 'A multiple criteria framework to evaluate bank branch potential attractiveness', *International Journal of Strategic Property Management*, Vol. 16, No. 3, pp.254–276.
- Goluchowicz, K. and Blind, K. (2011) 'Identification of future fields of standardisation: an explorative application of the Delphi methodology', *Technological Forecasting & Social Change*, Vol. 78, No. 9, pp.1526–1541.
- Grobbelaar, S. and Buys, A. (2007) 'Issues facing the South African research and development system in the next 20 years', *South African Journal of Industrial Engineering*, Vol. 18, No. 2, pp.221–230.
- Hamel, G. (2000) *Leading the Revolution*, Harvard Business School Press, Cambridge.
- Haour, G. (2004) *Resolving the Innovation Paradox, Enhancing Growth in Technology Companies*, Palgrave MacMillan, New York.
- Hsu, C. and Sandford, B. (2007) 'The Delphi technique: making sense of consensus', *Practical Assessment, Research & Evaluation*, Vol. 12, No. 10, p.403 [online] <http://pareonline.net/getvn.asp?v=12&n=4> (accessed 15 October 2012).
- Hult, G., Hurley, R. and Knight, G. (2004) 'Innovativeness: Its antecedents and impact on business performance', *Industrial Marketing Management*, Vol. 33, No. 5, pp.429–438.
- Kenny, B. and Reedy, E. (2006) 'The impact of organisational culture factors on innovation levels in SMEs: an empirical investigation', *Irish Journal of Management*, Vol. 27, No. 2, pp.119–142.
- Landeta, J., Barrutia, J. and Lertxundi, A. (2011) 'Hybrid Delphi: a methodology to facilitate contribution from experts in professional contexts', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1629–1641.
- Linstone, H. and Turoff, H. (2002) *The Delphi Method: Techniques and Applications* [online] <http://is.njit.edu/pubs/delphibook/delphibook.pdf> (accessed 15 October 2012).
- Linstone, H. and Turoff, M. (2011) 'Delphi: a brief look backward and forward', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1712–1719.
- Lödf, H. and Heshmati, A. (2006) 'On the relationship between innovation and performance: a sensitivity analysis', *Economics of Innovation and New Technology Journal*, Vol. 15, Nos. 4–5, pp.317–344.
- North, D. and Smallbone, D. (2000) 'The innovativeness and growth of rural SMEs during the 1990s', *Regional Studies*, Vol. 34, No. 2, pp.145–157.
- Nowack, M., Endrikat, J. and Guenther, E. (2011) 'Review of Delphi-based scenario studies: quality and design considerations', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1603–1615.
- O'Dwyer, M., Gilmore, A. and Carson, D. (2011) 'Strategic alliances as an element of innovative marketing in SMEs', *Journal of Strategic Marketing*, Vol. 19, No. 1, pp.91–104.

- OECD/Eurostat (2005) *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd ed., OECD Publishing, Paris, DOI: <http://dx.doi.org/10.1787/9789264013100-en> (accessed 20 May 2016).
- Parente, R. and Anderson-Parente, J. (2011) 'A case study of long-term Delphi accuracy', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1705–1711.
- Parrilli, M. and Elola, A. (2012) 'The strength of science and technology drivers for SMEs innovation', *Small Business Economics*, Vol. 39, No. 4, pp.897–907.
- Rogers, E. (2003) *Diffusion of Innovations*, Free Press, New York.
- Rowe, G. and Wright, G. (2011) 'The Delphi technique: past, present, and future prospects – introduction to the special issue', *Technological Forecasting and Social Change*, Vol. 78, No. 9, pp.1487–1490.
- Song, M. and Parry, M. (2009) 'The desired level of market orientation and business unit performance', *Journal of the Academy of Marketing Science*, Vol. 37, No. 2, pp.144–160.
- Tidd, J., Bessant, J. and Pavitt, K. (2005) *Managing Innovation: Integrating Technological, Market, and Organizational Change*, Wiley, Chichester.
- Tucker, R.B. (2002) *Driving Growth through Innovation: How Leading Firms are Transforming their Futures*, Berrett Koehler Publishers, San Francisco.
- Vanhaverbeke, W. and Peeters, N. (2005) 'Embracing innovation as strategy: corporate venturing, competence building and corporate strategy making', *Creativity and Innovation Management*, Vol. 14, No. 3, pp.246–257.
- Von der Gracht, H. (2012) 'Consensus measurement in Delphi studies: review and implications for future quality assurance', *Technological Forecasting and Social Change*, Vol. 79, No. 8, pp.1525–1536.
- World Economic Forum (2015) *The Global Competitiveness Report 2015–2016* [online] [http://www3.weforum.org/docs/gcr/2015-2016/Global\\_Competitiveness\\_Report\\_2015-2016.pdf](http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf) (accessed 15 May 2016).
- Yam, R., Lo, W., Tang, E. and Lau, A. (2011) 'Analysis of sources of innovation, technological innovation capabilities, and performance: an empirical study of Hong Kong manufacturing industries', *Research Policy*, Vol. 40, No. 3, pp.391–402.
- Yanadori, Y. and Cui, V. (2013) 'Creating incentives for innovation? The relationship between pay dispersion in R&D groups and firm innovation performance', *Strategic Management Journal*, Vol. 34, No. 12, pp.1502–1511.