

Enhancement of Cooperation and Communication between Universities and the Business Environment, Requirement for a Good Functioning of the Knowledge Triangle: Education, Research, Innovation

Laura DINDIRE

“Constantin Brâncoveanu” University of Pitești
lauradindire@yahoo.com

Mihaela ASANDEI

“Constantin Brâncoveanu” University of Pitești
masandei@yahoo.fr

Cristina GĂNESCU

“Constantin Brâncoveanu” University of Pitești
cristina_ganescu@yahoo.com

Abstract. *With regard to the Lisbon objective of transforming the EU into the most competitive knowledge-based economy in the world, the present paper aims to identify the place held by the current academic environment - entrepreneurial environment communication, as well as the deficiencies of this partnership relation. Among the methods of collection and systematization of information they selected the direct, selective research, according to a questionnaire. Data collection was conducted in October-November 2010, the sample of the respondents consisting of 432 company managers in the Argeș County. The main results of the research highlights the need to improve the communication and collaboration between the two areas, the paper offers concrete solutions.*

Keywords: communication; academic and entrepreneurial environments; knowledge triangle; knowledge – based economy; scientific research

JEL Codes: D83, I23.

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Introduction

With reference to the context of our research, namely the European Union's policy of modernization and efficiency in higher education and the most recent Annual Report of the European Commission (2009), which examines the progress made to achieve the Lisbon objectives in education, scientific approach designed to write the present paper has defined the following decision problem: the quality of communication and of collaboration between academia and business have improved. Consequently, we have achieved some research applied at the level of the active companies in the Argeş county, such as the quantitative information generated by the answers regarding the identification of the present place held by the academic environment - entrepreneurial environment communication, with reference to the possible deficiencies in the partnership relation between universities and business, but also about the prospects of cooperation between the two environments. To highlight the current state of research and knowledge in the field, we consider important to mention next to the European Union's efforts in this process and the Romanian specialized institutions and several points of view of various foreign authors.

Thus, Smart (2009, p. 307) has carried out various researches in the field and argues that "it is necessary for universities to collaborate with the regional or local business environment in order to develop new and innovative business". The need for research and innovation in academia is also highlighted by Orsingher (2006, pp. 60, 126, 140), reflecting the modalities of quality implementation and production in different European educational systems, emphasizing the need to boost research.

The role of the relationship between universities and the business environment is emphasized by the results of a research project conducted by the National Alliance of Student Organizations from Romania (2005). The study aimed at improving the connection between universities and the external environment, focusing on the role of universities to provide students with training adequate to the labor market requirements. An important point of the study is that universities must become open systems able to reach a high level of integration with the economic, administrative, political and non-profit environment and to respond effectively to the challenges of the knowledge-based society.

In a functioning market economy, the relationship between university and the economic environment is essential for the survival of the university and of the employing economic agents. Drăgulănescu (2008) proposes a Handbook of best practices for the relationship between university and the economic environment. The author considers it imperative that, before designing and

providing services by the universities, the requirements and needs of the economic environment to be fully and correctly known, and then to collect the satisfaction/dissatisfaction reactions of the economic environment.

Elen and Verburgh (2008, pp. 53, 127), in a reference work that examines the implications of the research process in line with the Bologna system, consider that the universities and their members must contribute to the innovation of society, to the dissemination of civic values, to the promotion of culture, reflecting the need to be actively engaged in university research as the foundation of its work. In the same context, Brennan and McGowan (2006) consider that the university must demonstrate its value-creator role by stimulating innovation as a result of research and acquisition of the entrepreneurial university status. Kearney (2009, p. 11) reiterates the function of academic research as the first source of knowledge and innovation at national, regional or international level, and highlights the key-axis of knowledge: higher education - innovation - research. Virtually, each major innovation in the recent decades is due to research conducted by the university community. Although the 22 best universities of the 25 in the world are American, Brewer and Tierney (2010) consider that there is a paradox: although the university is a major force for innovation, it shows resistance, even hostility, towards innovation.

The implications of good communication and collaboration between universities and the business environment are fairly outlined by Wright and Clarysse (2007) in the paper Academic Entrepreneurship in Europe. The need for cooperation and communication between universities and other beneficiaries, including the entrepreneurial environment for achieving the objectives set by the Bologna system, is reiterated by the European Association of Universities in the regularly report Trends V. Universities shaping the European Higher Education Area (2007). Given that these publications have a relevant standard in this area, we carried out the present scientific research. The main purpose of the study was to analyze the shortcomings derived from the partnership relationship between the academic and the entrepreneurial environment in order to develop improvement proposals to increase performance, so that universities become the engine for regional development, thus succeeding in achieving the Lisbon objective of transforming the European Union into the most competitive knowledge-based economy in the world.

1. The research methodology

The objectives of the research were: how knowledge is appreciated at the level of the communication between universities and the private sector, to know the agreement on fostering partnerships between universities and the private

sector, determining the ability to communicate with the business environment to make education and research in higher education institutions more relevant, to observe the existence of communication barriers between academia and business, to know the agreement on the capacity of universities, through the professional advice provided by scientific research, innovation and applying the results to the companies, to become the engine of regional development, to identify the main means of communication between universities and business environment, to know the extent to which the respondents assess the correlation between the skills and the qualifications offered by the academic and labor market needs, to identify the prospects of the academic and business forms of collaboration that will be developed in the future.

The main assumptions of work meant to be tested were: most respondents see the communication between universities and the business environment at a low level; there are numberless barriers of communication between the two areas; more than half of the respondents believe that universities can become the engine of the regional development by improving the communication and the cooperation with the business environment; most managers consider that attending conferences and round tables is the most important means of communication between businesses and universities; over half of the managers use as a form of collaboration with the academic environment the students' practical training; most managers consider that there is a consistency between the skills and the qualifications of the academic and labor market needs.

Among the methods of collection and systematization of information we chose a method of quantitative positivist-explicative orientation, namely the direct, selective research, based on a questionnaire. The data collection on the investigated collectivity was made between October - November 2010, the sample of respondents consisting of 432 company managers in the Argeş County. The investigated collectivity was represented by the 14,683 active companies in late 2008, according to the most recent data offered by the National Institute of Statistics Argeş. In this study, the research unit was established by the entry level managers, middle level managers or top level managers who answered the questionnaire. To conduct the questionnaire survey, we included 20 questions, out of which two open questions, 12 closed questions and six mixed questions. To determine the size of the sample, we used the following calculation formula (Balaure, 2002):

$$n = \frac{t^2 \times p(1-p)}{\Delta\omega^2} . \quad (1)$$

The determination of the minimum sample to ensure representativity to the research was carried out by introducing the coefficients in the calculation formula, with the following values:

$$\begin{aligned}t &= 2 \text{ (corresponding to a result guarantee probability of 0.95);} \\p &= 0.5 \text{ (corresponding to the maximum value of dispersion);} \\ \Delta\omega &= 0.05 \text{ (error limit).}\end{aligned}$$

A resulted as the size of the 400 companies sample, as follows:

$$n = \frac{2^2 \times 0.5(1-0.5)}{0.05^2} = 400 . \quad (2)$$

To prevent various sample losses, we oversized the sample in the collection and processing work. The sample from which the information was collected was composed of 432 companies operating in the Argeş county. The sample structure was set: a) according to type of ownership: public enterprises: 2.9%, private enterprises: 95.9%, public enterprises with mixed capital - private: 1.2%, b) according to the size of the company: micro enterprises: 33.6%, small enterprises: 34.3%, medium enterprises: 14.5%, large enterprises: 17.6%, c) according to the position held by the respondent within the company, depending on the hierarchical stage: first-line managers (team leader, head of department, etc.): 54.6%, middle managers (department head, executive director, etc.): 30.8%, top managers (CEO, President etc.): 14.6 %

2. The research results

- Analyzing the respondents' answers to the question "How do you assess the level of communication between universities and the business environment?", we noted that only a small percentage of the respondents had a favorable or very favorable feedback in this regard and more than three-quarters of them appreciate the respective level like a medium, low or very low level of communication between universities and the business environment (Figure 1).

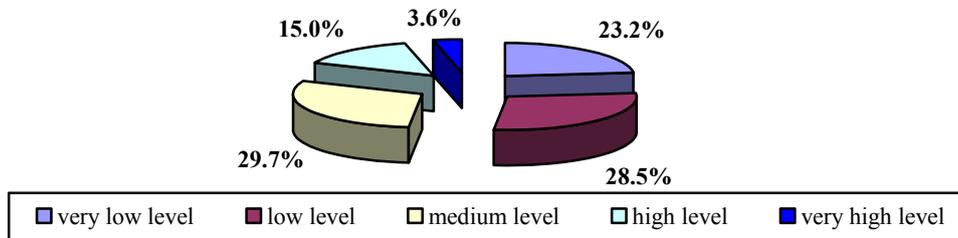


Figure 1. *Assessing the level of communication between universities and the business environment*

- When asked “Do you consider that encouraging partnerships between universities and the private sector is a necessity in a competitive economy?”, most company managers where the study was completed have a total agreement (43.9%) on this issue, a situation that we consider very positive. The respondents who agree with this point have a high percentage (30%), which leads to the conclusion that about three quarters of those surveyed realize the importance of boosting partnerships between academia and business, to increase the competitiveness in the Romanian economy and society (Figure 2).

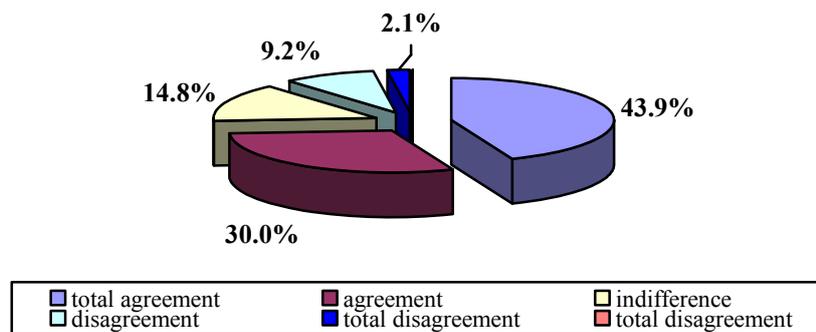


Figure 2. *The agreement on encouraging partnerships between universities and the private sector for a competitive economy*

- When asking the question “Do you consider that a better communication with the business environment may be more relevant in the education, research and innovation activities of higher education institutions?” we found out a favorable aspect, as most of the respondent

managers (44.8%) had a complete agreement with this respect, closely followed by the managers who agree to improve the efficiency of education, research and innovation in higher education institutions on the basis of the communication valences with the business environment, 27.3% of the respondents appreciating in this manner (Figure 3).

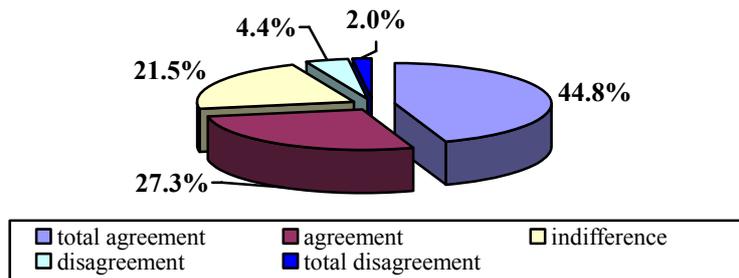


Figure 3. *The capacity of communication with the entrepreneurial environment to make a more relevant educational, research and innovation activity in higher education institutions*

- At the question “Are there many barriers of communication between academia and the business environment?” we have equality, i.e. a rate of 29.7%; most respondents held either to a medium or large extent the existence of such barriers in communication. The percentage of those who feel that there are barriers to a large extent is seriously high, namely 23.2% (Figure 4).

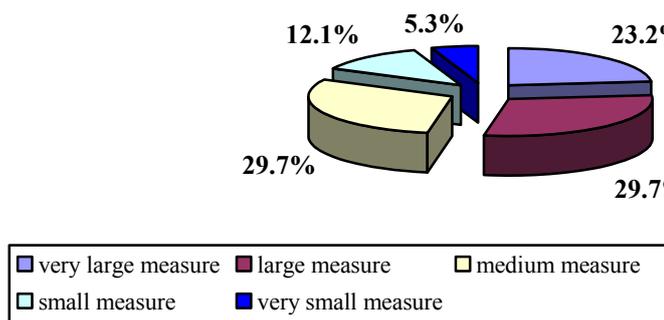


Figure 4. *The existence of communication barriers between the academic and the entrepreneurial environment*

- The results processed after the responses to the question “Do universities become the engine of regional development through their scientific research, innovation, expert advice and application of their results at corporate level help?” also denote a favorable situation, as follows: strongly agree - 15.9 % of respondents, 27.8% agree. So, in total, 43.7% of respondents felt the positive or very positive role of higher education institutions as a factor stimulating regional development. However, 35.7% of managers have indifferent opinions to this issue (Figure 5).

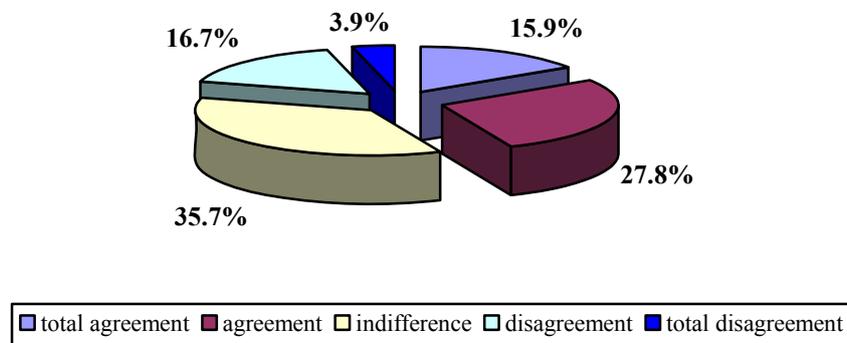


Figure 5. *The universities are the engine of regional development*

- The responses to the question “Which of the following methods of communication between universities and the business environment are used in the company where you work? Give 100 points, by dividing, in accordance with the degree of interest held by you” revealed the following aspects: the first place in the hierarchy of communication methods is taken by the participation at conferences, workshops, scientific symposia, with a share of 32% , on the second place it is the dialogue with the graduates - 25%, and ranked third with a percentage of 22% is attending events like open days; on the last place with 21%, it is the mutual consultation in debate forums (Figure 6).

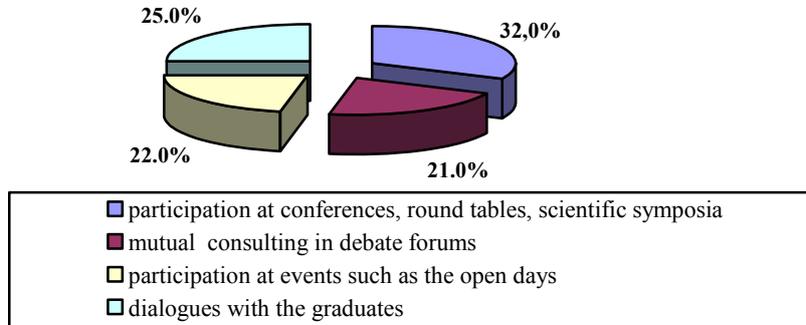


Figure 6. *Communication modalities between universities and the business environment*

- The following question “Are the competences and the qualifications provided by academia consistent with the labor market needs, with good communication in this regard?” reflected a very bad situation, meaning that only 4.3% of the respondents felt largely and only 6.9% in a large measure this correlation that should exist between the competences and qualifications of the university graduates and the practical needs of the labor market. Almost entirely, the respondents held either a very small proportion - 22.6%, or a small proportion - 28.7%, or average - 37.5% this (Figure 7), which reflects a major deficiency, which must be urgently addressed in order to obtain not only competitiveness but also to promote sustainable economic growth and social cohesion.

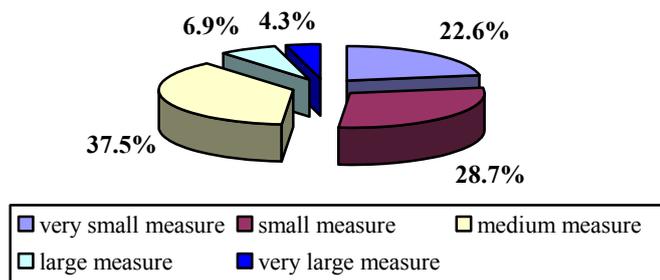


Figure 7. *The concordance between the competences and qualifications offered by the academia and the needs of the labor market*

- From the answers to the question “How do you think that the prospects for cooperation of the company that you manage will materialize with academia?” we found a very favorable situation in the sense that, almost entirely, and 98% of the respondents are willing either to expand collaboration (58%) or to initiate collaboration with academia (40%) (Figure 8). This is particularly beneficial both for the development and integration prospects with great application of some innovative practices with applicability in education, and for application of the scientific research results at company level so that they become the engine of regional development, as required by the European Commission in the modernization and reform of higher education.

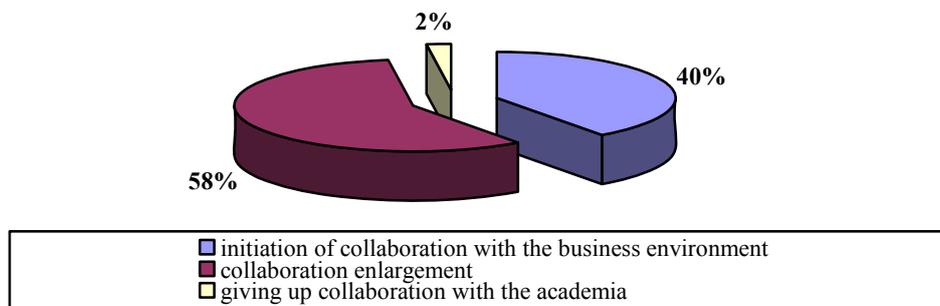


Figure 8. *Perspectives of collaboration with academia*

- The next question has aimed to find out the opinion on the possibility of lowering the impact of economic crisis on the provenance companies of the respondents, by specialty consulting offered by the university environment. After processing the results, the research revealed a rather balanced situation, in the sense that although most of respondents, respectively 31.5% felt that the impact of economic crisis on the company they work could be moderately decreased by professional advice offered by the university environment, a large proportion, i.e. 20.4% of managers surveyed considered reducing this impact, with a "lot", and 13.6% with “very much” (Figure 9). This aspect shows the quite high credibility of the academic environment as an active factor generating the value of research and innovation to promote economic progress, so there are prerequisites to strengthen cooperation between higher education institutions and enterprises.

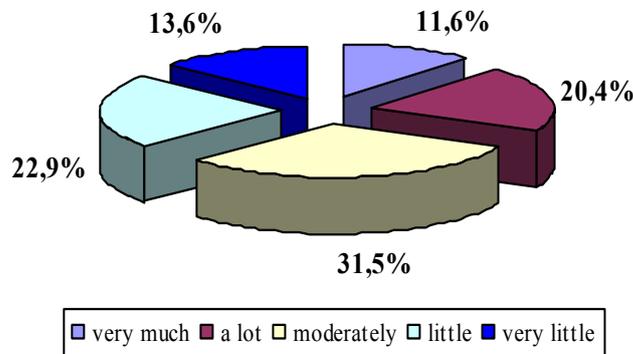


Figure 9. Degree of perception on the possibility to reduce the impact of economic crisis by consulting offered by university environment

- The answers to the question “Who must initiate the dialogue university – private environment?” reflected a rather balanced situation; most interviewed managers, respectively 53.1%, consider that the universities must initiate this dialogue, and 39.9% appreciate that this initiative must belong to the private environment, the remaining 7% believing that other institutions must assume this role. We note, therefore, that the academic environment should be more involved in promoting educational, research and innovation offer, so that to further boost partnerships between universities and industry/private sector. According to the Report the European Commission to the Council, regarding the Council Resolution from 23rd November 2007 on the modernization of universities for a competitive Europe in a global economy based on knowledge, it is mentioned the need to encourage partnerships between universities and industry / private sector (Figure 10).

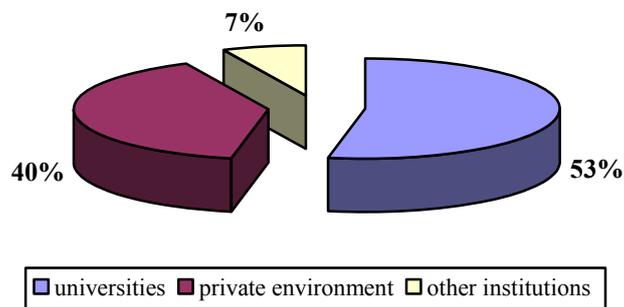


Figure 10. Initiative of the dialogue university – private environment

- With regard to the question "To what extent will the following forms of collaboration with the academia be developed in the future?", we note the following: on a value scale from 1 to 5, where 1 was very low and 5 a very high level, the interviewed managers appreciated that: many of his managers declared they would use these forms almost entirely as follows: the first preferences will be reflected in future trainings - 48.7%, followed by advice offered by academia - 28.3 %, practical training of students - 27.8% and research partnerships - 25.2% (Figure 11).

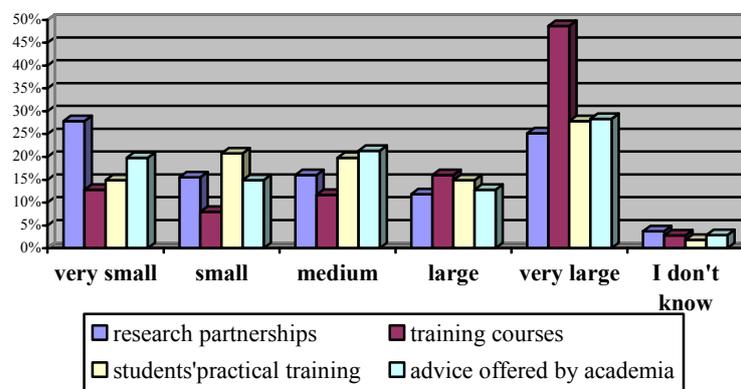


Figure 11. Level of collaboration forms that will be developed in future with academia

Conclusions and recommendations

After the processing and interpretation of results, we conclude the following:

- the level of communication between universities and the business environment is favorably assessed only by 18.6% of managers;
- managers, at a rate of 23.2%, identified communication barriers between academia and entrepreneurship;
- 43.7% of the respondents considered that higher education institutions have a positive or a very positive role as a factor stimulating regional development;
- they suggest as various means of communication between universities and business environment, the participation at conferences, round tables, mutual consultation, dialogues with the graduates;
- another issue highlighted by managers is the mismatch between the competences and the qualifications of the academia and the labor market needs;
- most managers considered that the prospect of investigating the company's collaboration with the academia is a widening of cooperation, the collaboration forms that will be developed in the future should be some trainings, consultancy and, not in the end, research partnerships.

According to the results of the survey and the identification of communication gaps and cooperation relationship between academia and the business environment, we suggest the following measures for improvement:

- cooperation between universities and the business environment should be enhanced as part of the universities' strategies for education, research and innovation;
- increasing the involvement of local businesses in the development of teaching practice and enhancing students' request for advice from academia;
- creating a favorable environment for the students to develop entrepreneurial skills so that their graduation and dissertation papers could be based on finding solutions to the real problems of local firms;
- gaining employers' confidence in the research practice offered by the academic environment, through information and media campaigns conducted particularly in specialized organizations and associations: Chambers of Commerce and Industry, Business Associations, Business Clubs etc.;
- since the relationship with the private sector is primarily the responsibility of academic environment, this must show a proactive and open attitude toward the private sector. Management structures of universities and academics have to meet companies looking for partnerships, providing facilities, and being opened to the needs of companies;
- joint efforts and initiatives in as many university centers in order to maintain long-term collaboration with the business environment because sporadic, not organized uniformly actions may produce only casual and short-term positive effects in this direction. Consequently, we find useful the creation of intermediate structures between academic and business environments;
- student organizations should act for the empowerment of the actors involved and participate with educational institution's management in achieving and implementing the strategy of relating with the external environment. Student organizations may participate in organizing events such as job fairs, company presentations or providing practice places;
- creating conditions for stimulating private scholarships from a companies a source of student and higher education graduates' performance.

On the other hand, we consider that a better promotion of the university research supply in the entrepreneurial environment is absolutely necessary in order to emphasize the research partnerships between the two environments, which is an aspect with both beneficial valences on growth competitiveness and sustainable growth with regard to the Lisbon objective of making the EU the most competitive knowledge-based economy in the world.

This research is only the first step in the direction to achieving future demarches to identify the relationship between the academic studies and the activity performed after graduation by initiating a dialogue with higher education or master graduates. In this sense, the future research directions aim at obtaining development, both extensive, by expanding the data collection and analysis area at national level, but also intensive, by using the results of the research to substantiate systemic communication model, between universities and the business environment.

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