

An Exploratory Research on Startup Firms Operating in Turkey

Eren Özceylan

Industrial Engineering Department
Gaziantep University
Gaziantep, Turkey
erenozceylan@gmail.com

İbrahim Halil Korkmaz

Islahiye Vocational School
Gaziantep University
Gaziantep, Turkey
ihalil@yahoo.com

Ayca Özceylan

Oğuzeli Vocational School
Gaziantep University
Gaziantep, Turkey
aycaozceylan@gmail.com

Abstract

With their flexible structures that can easily adapt to change, start-up companies have become the cornerstone of the entrepreneurial ecosystem in today's economy. In the economic competition between countries, start-up companies in the country are of great importance. When the related literature's examined, it's seen that Turkey has not been investigated in a satisfactory form in terms of the condition on start-up firms. Given the worldwide prevalence and importance of these firms, such research is considered essential for Turkey. The aim of this study is to present exploratory knowledge on start-up firms which has been established and operating in Turkey. Hence, 5504 start-up companies in Turkey are examined in terms of variables such as the sector in which they operate, investment types, and the demographics of investors. As a result of the study, As a result of the research, it was found that startup investors are mostly graduated from foreign universities, the number of male investors is higher than female investors, the number of startups has increased in the 2000s, there is a concentration of startups in the e-commerce and manufacturing sector, most of the startups continue to operate and majority of investment types are seed. The study is thought to be beneficial for all stakeholders from researchers to practitioners.

Keywords

Entrepreneur, Exploratory research, Investment, Sector, Start-up.

1. Introduction

Startup concept is defined as a structure created to find a scalable and repeatable business model. In another definition, a startup is defined as a new formation with rapid growth capability, a new business model that can be preferred by the masses for investment purposes (Ries 2011). Merriam Webster Dictionary expresses the term startup as “a new business venture”, while the Oxford Dictionary expresses it as “a startup company”. In the Longman Dictionary, this

term is expressed as "a new company that has recently started". In the Tureng Dictionary, which is another dictionary that is widely used today, the term startup is defined as "a young innovative company" (Etesaminia and Gemlik 2021).

The majority of startups are seen as examples of entrepreneurship. However, one of the features that distinguish startups from entrepreneurs is the goals that startups contain. In general, startups are constantly trying to create a new job (Sahin 2018). They change features that seem unsuitable to optimize the current job in question. While the first priority of entrepreneurs is their financial goals, it is their innovation for startups. Since startups are more financially independent, they are more open to trying new ideas. One of the biggest disadvantages of startups is the risk and pressure taken by the owner of the startup. The success or failure of a startup will directly affect the career of the startup owner (Startupchile 2018).

Startups are structures that aim to gain market penetration in a short time and transform into a global brand such as Facebook and Whatsapp. One of the most important features that distinguish startups from other enterprises is the culture they create. The world giant Amazon still instills in its employees the startup culture that it shaped in the first years of its establishment. The startup culture, which has a dynamic and sincere working environment, where team members use initiative, is the organizational culture that many large enterprises have started to turn (Sen 2014).

It can be said that startups are very important and effective in the development of an economy and in achieving an effective and sustainable growth in a short time by producing products or services with high added value. Especially in developing economies, producing and exporting products and services with high added value, medium and advanced technology is a highly desirable situation for the economies of the country (Ertugrul and Altundal 2018).

In order to create a dynamic ecosystem, startups continue their activities intensively in incubation centers and techno parks. Silicon Valley is both the precursor and the most successful example of this formation worldwide. It is also difficult to explain startups with numerical data (number of employees or turnover) like regular enterprises. Startups are defined as unique ventures independent of these limitations (Shontell 2014). For this reason, it is possible to define startups as dynamic companies that are focused on rapid growth, customer and technology-oriented, and have a unique organizational culture. This rapid growth cannot be considered independent of technology in today's technology age (Graham 2012; Robehmed 2013). Some sources classify startups within themselves and use it as techstartup by adding the abbreviation of technology (Holstein and Eschenfelder 2017). Opportunity entrepreneurship, techno entrepreneurship, fintech (financial technology) initiatives, research and development (R&D) and innovation initiatives are very important in terms of producing high value-added products and achieving continuity (Ács et al. 2008). It can be said that startups have a higher ability to adapt to this process, depending on the nature and the innovative business model they use.

Today's world's new business initiatives, which are startups with their global name, separated from the traditional small and medium-sized enterprise (SME) structure and created a new ecosystem (Morris 1998). According to data from the Global Entrepreneurship Index 2018, Turkey has an important position in the international entrepreneurship ecosystem with its 37th rank among 137 countries (Ács et al. 2018). Startups, which first received initial capital support with the Techno-entrepreneurship Capital Support program of the Ministry of Science, Industry and Technology in 2009, are funded by various national and international institutions and organizations as well as state support during different phases of the enterprise. Startup firms in Turkey have proven that they have an important position in the world ranking by taking the total \$ 80 million investment support in 2012 (Hulli 2018).

According to the report published by PWC (Price Waterhouse Coopers), it is predicted that the world economy will grow by 130% between 2016 and 2050. In addition, the G7 countries consist of China, India, Brazil, Mexico, Russia, Indonesia and Turkey is expected to generate 50% of the global economy by the year 2050. In the same report, Turkey is reported to would be Europe's fastest growing economy with an average growth of 3% and to be amongst the world's top 10 economies in 2050 (PWC 2017).

Today, the continuation of the development of the country's economies is possible by increasing their share in world trade by producing high value added products. This situation reveals the importance of innovative business models. In this respect, startup companies have become extremely remarkable. In this study, Turkey's startup ecosystem as a developing country is examined.

In the second part of the study, information about the dataset and research method used in the research is presented. In addition, the questions guiding the research are listed in this section. In the third section, the research findings are presented in the light of the answers produced to the research questions. In the fourth part, the result of the study is given by making a discussion on the research findings and by offering suggestions for future studies.

2. Methodology

Startup companies, which were began to be founded in Turkey since 1984, is analyzed in terms of different variables within the scope of the study. In this framework, the research covers the entire relevant population. The dataset of the research has been obtained from the Turkish Startup Ecosystem Intelligence (see <https://startups.watch/>). All 5,504 startup companies, whose information can be accessed in line with the research questions, are included in the scope of the study. The aim of the research is to achieve the exploratory and descriptive findings regarding Turkey's startup ecosystem. In this direction, frequency analysis and categorical classification methods are used in the research. Questions for which answers are sought within the scope of the research are listed below.

- What is the graduation distribution startup investor in Turkey in terms of their universities?
- What is the gender distribution of startup investors in Turkey?
- What is the numeric distribution of startup founded in Turkey by years?
- What is the distribution of startups founded in Turkey by sector?
- What is the life situation of startup founded in Turkey?
- What is the investment types of startups founded in Turkey?

3. Findings

When the universities where investors graduated are examined, it is seen that the total number of universities is 250. In this respect, it is possible to say that there is an institutional diversity in terms of education. Only 88 of the university where investors graduated are located in Turkey. The remaining 162 universities are foreign universities which are located outside Turkey. According to this result, it is clear that higher education in Turkey can be questioned in the context of encouraging startup investment. While the 50 of Turkish universities that graduated startup investors are state universities, 36 of them are private universities. Distribution can be seen on Figure 1 below.

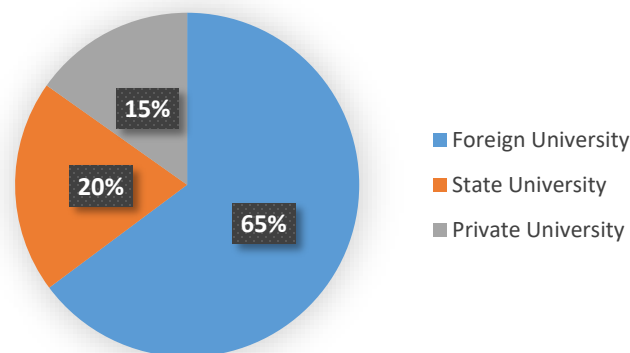


Figure 1. Distribution of universities where the investors graduated

Turkey is a country known to be quite inequitable in terms of gender in participating economic life. Therefore, the gender distribution of startup investors constitutes an important indicator. In Turkey, 3,683 of startup investors are men and 1,821 are women. The number of male investors is more than twice the number of female investors. Figure 2 presented below shows this in percentage terms.

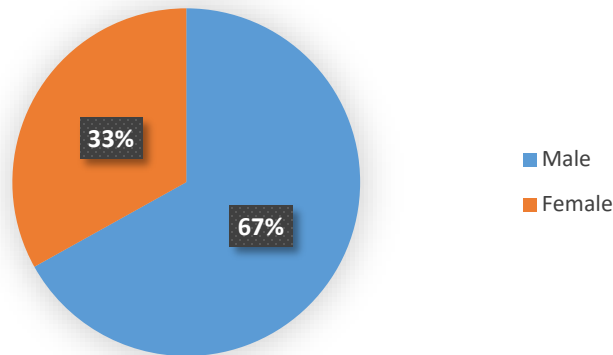


Figure 2. Distribution of startup investors in terms of gender

Considering the number of startup companies established in Turkey as of the year, up to 2000 shows that very few companies have been established. Along with economic expansion around the world since 2000, Turkey has also received its share from this situation. As a matter of fact, this situation is reflected in the number of startups established. Between 2010 and 2018 the number of startups founded in Turkey been rising every year. By 2018, it is seen that the number of companies established has started to decrease. Graph showing the number of startups founded in Turkey by years is presented in Figure 3 below.

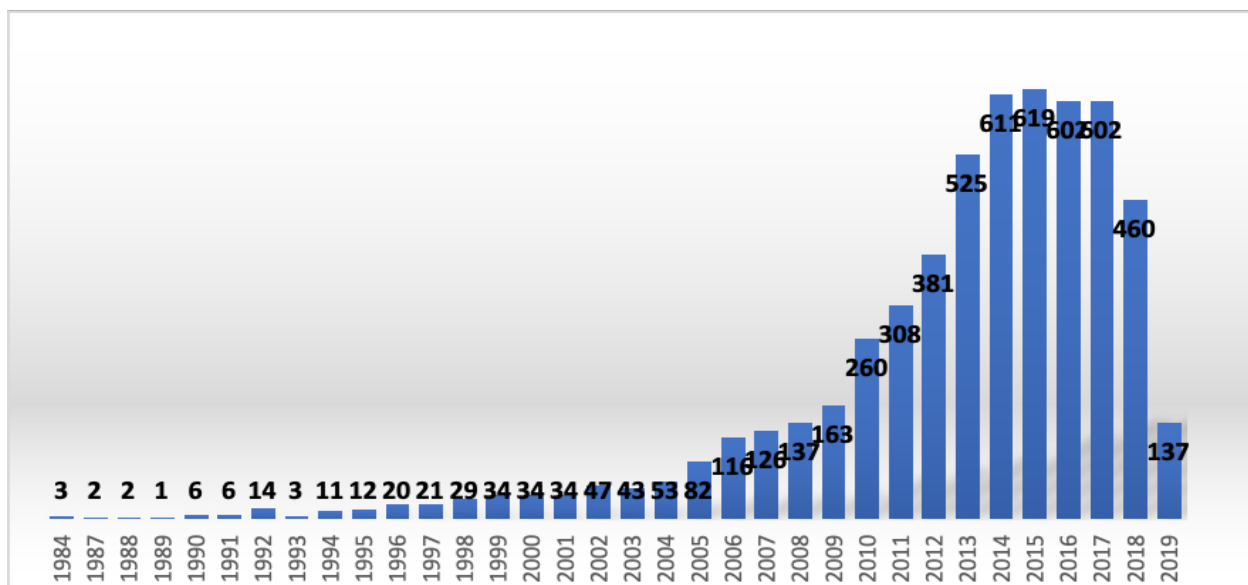


Figure 3. Number of startup firms founded in Turkey by years

The operation areas of 5,504 startups examined within the scope of the research show a very high variety. In this case, it is very difficult to categorize startups. For this reason, it has been preferred to classify startups categorically according to main sectors such as agriculture, animal husbandry, industry, commerce, tourism, transportation, mining and energy, water and forest products. Number of firms according to their operation sector is given in Figure 4 below. It is seen that the most popular sector is commerce (e-commerce) with including the 31.6% of startups.

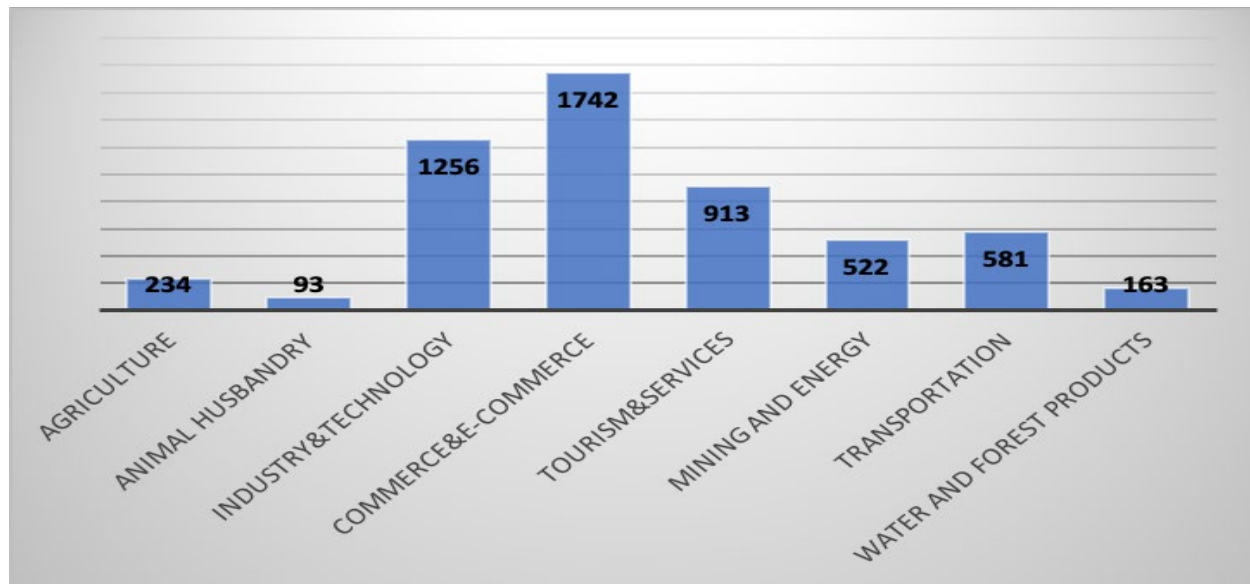


Figure 4. Sectoral distribution of startups in Turkey

When the startup companies are examined according to their life situations, it is seen that the majority of the established companies such as 4,432 are still active. 934 of the companies are closed. It is seen that 138 companies have also been acquired. The graphic showing the distribution of startup companies according to their life situations as a percentage is presented in Figure 5.

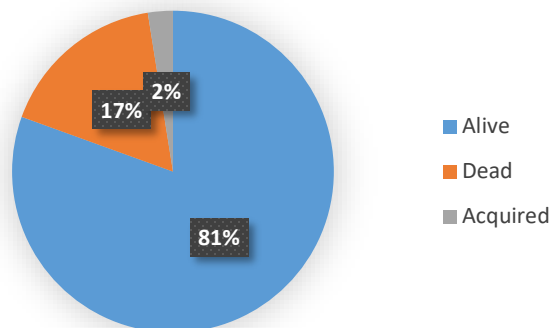


Figure 5. Distribution of startup firms according to life situations

The figure containing data on the classification of startups according to investment types is presented below. Accordingly, the highest investment type is seen as seed with 58%. The lowest investment type is private equity with 2.5%.

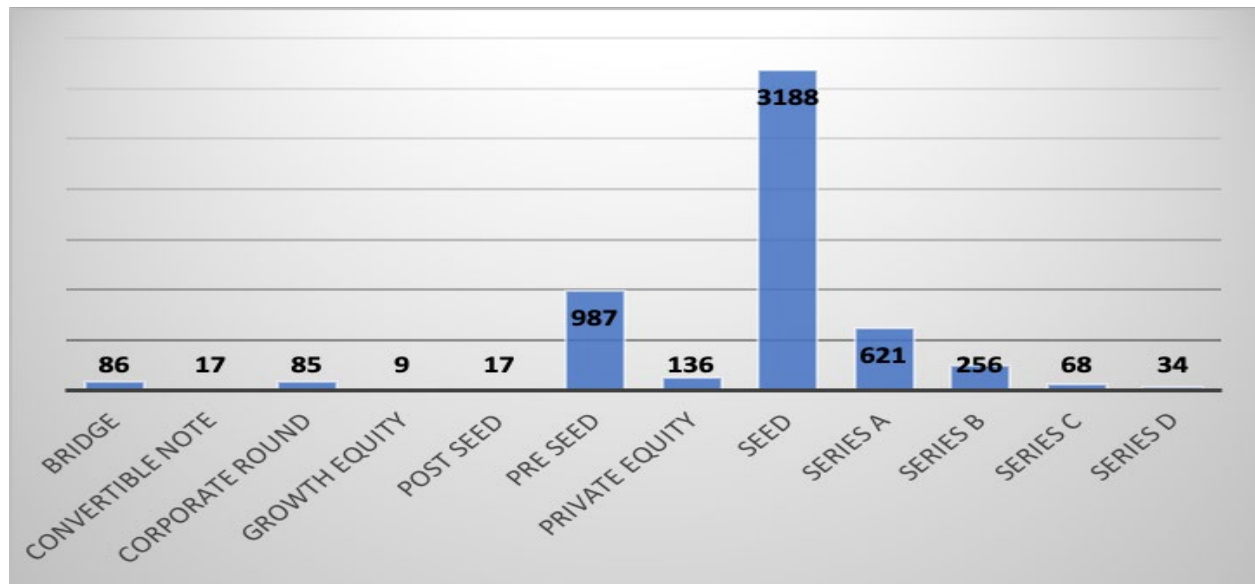


Figure 6. Startups according to investment types

4. Discussion and Conclusion

This study is intended to provide information on Turkey's startup ecosystem. In this context, the dataset consisting of 5,504 startups established from 1984 to 2019 is examined. The purpose of the study is to obtain information that will provide a descriptive point of view on Turkey's startup ecosystem. In this regard, the questions guiding the research are designed to clarify the nature and properties of startups and their investors who make up the ecosystem of Turkey.

When the universities which startup investors graduated from are examined within the scope of the research, it is seen that most of the investors received education abroad. It is possible to think about the adequacy of higher education in Turkey on promoting and encouraging startup investment according to this result. On the other hand, the majority of startup investors who had higher education in Turkey got their degrees from public universities. It's seen that the administrations of private universities need to think about their curriculum on catching the economic trends of era. Considering the compatibility of this new business model with the economic requirements of the age, it can be said that the Turkish higher education system should work harder to compete with its rivals.

When examining participation in economic life in Turkey, it is a known fact that no inequality between the genders. It is seen that men are more involved in economic life than women. When the distribution of startup investors by gender is examined within the scope of the research, a suitable result is found for this situation. According to the results, the number of male investors is more than twice the number of female investors. Nowadays, it is very important for women to take part in working life as much as men. It would be useful for economic systems that encourage startup investments to consider creating conditions in favor of women. Having more women investors in the startup world will create an advantage for the economy and provide different perspectives in the sectors.

Considering the number of startups established by years, it is striking that there has been a remarkable increase since the end of the '90s. Since 2005, there has been a steady increase in the number of startup companies established. As of 2010, it is seen that there has been a significant increase in the number of startups established. The stability in the number of startups established is promising considering the global and national economic crises experienced. As a matter of fact, these flexible and agile structures, which can adapt to variable conditions, make economies more resistant to crises. In the new economic order of the world, it is thought that countries with more startups will be more advantageous in competition.

Considering the distribution of startup companies by sectors, the distribution is not very homogeneous. It is observed that there is a concentration in manufacturing, technology, trade and e-commerce sectors. This is not surprising, mainly given the nature of economy and human needs. However, it would be advantageous to become widespread with this innovative business model in different sectors. Businesses that adapt their organizational structures to the nature of

the startup firm have more advantages in today's competitive conditions. The spread of the startup business model in different sectors will have an important effect on the economic success and sustainability of these sectors. It may be beneficial to take this into account when designing investment incentive programs.

The life course of established startup companies will be a very important indicator of the success of investment. Therefore, within the scope of the research, how many of the startups are dead and how many are alive is examined. It is quite remarkable and promising that the vast majority of startups that have been established are alive. However, it is noteworthy that the rate of startups acquired is very low. Considering the high rate of startups that continue to live, this situation can be considered as an indicator that companies exhibit performances satisfying investors. Of course it would be useful to take into account how many new investors existing startups can find.

Finally, the distribution of startups by investment types is examined within the scope of the study. As a result of the examination, it has been observed that there is a great accumulation in the seed investment type. It is noteworthy that the pre seed investment type follows the seed investment type. The number of startups in the growth equity investment type is remarkably low.

In this study, it is attempted to present descriptive information on the startup ecosystem of Turkey by examining startup companies established in the country. In this respect, it is thought that the research findings can be the basis for future studies. This study which designed to provide a better understanding of Turkey's startup ecosystem is a descriptive research. In future studies, it is thought that comparisons with other countries' ecosystems will be useful. Studies like this will shed light on countries understanding what they can do to improve their startup ecosystems.

References

- Ács, Z. J., Desai, S., and Hessels, J., Entrepreneurship, economic development and institutions, *Small Business Economics*, vol. 31, no. 3, pp. 219–234, 2008.
- Ács, Z. J., Szerb, L., and Lloyd, A., The global entrepreneurship index 2018 by the Global Entrepreneurship and Development Institute, Available: <https://theledi.org/>, 2018.
- Ertugrul, M., and Altundal, V., Startup Finansmanında katılım bankalarının potansiyel rolü üzerine bir değerlendirme, *Afyon Kocatepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, vol. 20, no. 1, pp. 27–40, 2018.
- Etesaminia, S., and Gemlik, N., Sağlık yönetimi öğrencilerinin girişimcilik niyeti üzerine nitel bir araştırma, *Sağlık ve Sosyal Refah Araştırmaları Dergisi*, vol. 3, no. 1, pp. 39–45, 2021.
- Graham, P., Want to start a startup?, Available: <http://www.paulgraham.com/growth.html>, 2012.
- Holstein, A. D., and Eschenfelder, M. J., Economic analysis of public support for tech startups: A case study of Pittsburgh, *Journal of Business and Behavioral Sciences*, vol. 29, no. 1, pp. 100–115, 2017.
- Hulli, E., Turkish ecosystem: The rise of third wave entrepreneurs, Available: <https://500.co/turkish-ecosystem-3rd-wave-entrepreneurs/>, 2018.
- Morris, M. H., Entrepreneurial intensity: Sustainable advantages for individuals, organizations, and societies. Greenwood Publishing Group, 1998.
- PWC, The long view how will the global economic order change by 2050?, Available: <https://www.pwc.com.tr/tr/publications/arastirmalar/assets/world-in-2050/2050-de-dunya-raporu.pdf>, 2017.
- Ries, E., The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses, Crown Business, 2011.
- Robehmed, N., What is a Startup?, Available: <http://www.forbes.com/sites/natalierobehmed/2013/12/16/what-is-a-startup/#5c77b0c64c63>, 2013.
- Shontell, A., This is the definite definition of a Startup, Available: <http://www.businessinsider.com/author/alyson-shontell>, 2014.
- Startupchile, The major differences between startup and entrepreneurship, Available: <https://www.startupchile.org/the-major-differences-between-startup-and-entrepreneurship/>, 2018.
- Sahin, B., Pazar odaklılık bileşenlerinin firma performansına etkileri: Ankara'da faaliyet gösteren startuplar üzerine bir uygulama, *Business and Management Studies: An International Journal*, vol. 6, no. 2, pp. 675–693, 2018.
- Sen, M., Startup alaturka, Available: https://2kere2beseder.files.wordpress.com/2014/04/startup_alaturka_4_pdf.pdf, 2014.

Biographies

Özceylan, Eren is an Associate Professor in Industrial Engineering Department at Gaziantep University. He earned B.S. and MSc in Industrial Engineering Department at 2007 and 2010 respectively from Selçuk University. At 2013 he earned Ph.D. in Computer Engineering Department from Selçuk University. He started to work in Gaziantep University at 2015 as an Assistant Professor. He completed his post-doctoral researches in Northeastern University during 2019. Fuzzy mathematical programming, supply chain network design, energy prediction and geographic information system-based multi-criteria decisions are the main research areas of him.

Korkmaz, İbrahim Halil is a lecturer in the Logistics Department of Islahiye Vocational School of Gaziantep University, Turkey. He earned his B.S. in Business Administration Department at Gazi University, MSc and Ph.D. in Business Administration from Gaziantep University. He has published journal and conference papers, chapters and a book. His research interests include logistics, supply chain management, entrepreneurship, leadership and innovation.

Özceylan, Ayca is a lecturer in the Occupational Health and Safety Department of Oğuzeli Vocational School of Gaziantep University, Turkey. She earned her B.S. and MSc in Industrial Engineering Department at Selçuk University. She is a Ph.D. candidate in the Logistics and Supply Chain program at Maltepe University, Istanbul. Her research interests include logistics, statistical analysis, occupational health and safety.