

GELİŞMEKTE OLAN EKONOMİLERDE ZOMBİ ŞİRKETLER: TÜRKİYE ÖRNEĞİ

ZOMBIE COMPANIES IN BUSINESS ENVIRONMENT IN EMERGING ECONOMIES: CASE OF TURKEY

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ÖZET

Günümüzde yaşanan hızlı teknolojik gelişmeler insan yaşamında da değişiklikleri beraberinde getirmiştir. Değişiklikler arasında en çok dikkat çeken kavram dijitalleşme olmuştur. Gündemde daima güncelliğini koruyan bu kavrama uyum sağlamak dünya genelinde yaşanan COVID-19 salgın hastalığı ile birlikte bir zorunluluk haline almıştır. Çünkü hayatın olağan akışında yaşanan tüm faaliyetlerin devam edebilmesi kavramın getirdiği teknolojik ürünlere uyum sağlayabilmek ile doğrudan doğruya bağlantılıdır. Salgın hastalık süreci içerisinde yaşanan değişimler tüm sektörleri ve çalışanları yakından ilgilendirmektedir. Çalışmada, Adana ilinde faaliyet gösteren muhasebe profesyonellerinin; dijitalleşmenin muhasebe mesleğine ve muhasebe meslek mensuplarına etkilerine yönelik algıları tespit edilmesi amaçlanmıştır. Çalışmanın bir diğer amacı ise bu konuya yönelik algıların demografik değişkenler açısından farklılık gösterip göstermediğini belirlemektir. Elde edilen veriler incelendiğinde; muhasebe profesyonellerinin dijitalleşmeyi önemsedikleri, bu alandaki gelişmeleri yakından takip ederek destekledikleri, dijital ürünlere uyum sağlayabildikleri hatta dijitalleşmenin muhasebe mesleğine olan saygıyı arttırabileceği, haksız rekabeti önleyebileceği görüşüne ulaşılmıştır. Çalışmanın ele alınan perspektiften daha önce incelenmiş bulunmaması önemini ve değerini arttırmaktadır. Çalışma sonuçlarının literatüre katkı sağlaması beklenmektedir.

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ABSTRACT

The rapid technological developments experienced today have brought about changes in human life. The most striking concept among the changes was digitalization. Adapting to this concept, which is always up-to-date on the agenda, has become a necessity with the COVID-19 epidemic worldwide. Because the continuation of all activities in the ordinary course of life is directly related to being able to adapt to the technological products brought by the concept. Changes in the epidemic disease process are closely related to all sectors and employees. In the study, accounting professionals operating in Adana province; It is aimed to determine the perceptions of the effects of digitalization on the accounting profession and accounting professionals. When the obtained data are examined; It has been concluded that accounting professionals care about digitalization, closely follow the developments in this field and support them, adapt to digital products, and even increase the respect for the accounting profession and prevent unfair competition. The fact that the study has not been examined from the perspective discussed before increases its importance and value. The results of the study are expected to shed light on the literature.

1. INTRODUCTION

With the globalizing world order, all countries aim to be more competitive to achieve sustainable growth and transform a new economic cycle (Urionabarrenetxea et al., 2018). These competitive efforts such as trying to enter new markets with insufficient planning, launching new products, making wrong investments sometimes lead to the formation of zombie companies (Li et al., 2019).

Zombie companies are inefficient, very indebted companies with very low productivity (Liang, 2017). Moreover, zombie companies pose threat to the economy as a whole (Zoller-Rydzek & Keller, 2020), not only because of bankruptcy, but also because of the risk they pass on to other companies, weakening competitiveness and value creation capacity (Li et al., 2019).

One of the biggest problems with zombie companies is that it is not known how many zombie companies there are in the world (Urionabarrenetxea et al., 2018). For this reason, there is no complete solution against zombie companies. According to Banerjee & Hofmann (2018) research, while the share of zombie companies in total companies was estimated as 4% in the 1980s, the ratio of zombie companies in total companies increased to 15% in 2017. According to the same research, it is stated that generally zombie companies who can survive are at risk with a very high probability of becoming zombies again (Banerjee & Hofmann, 2018).

Especially with the COVID-19 epidemic, which the whole world is fighting today, many companies had to stop their operations due to raw material cuts (Didier et al., 2021), factory closures, and the measures taken (Ellul et al., 2020), and at the same time, companies had difficulties in managing their finances due to many reasons such as uncertainty in demand (Majumdar et al., 2020). Some companies have been able to meet these challenges, while others have failed (Didier et al., 2021). Therefore, it has been estimated that the number of zombie companies has increased rapidly (Zoller-Rydzek & Keller, 2020). It is predicted that many companies will go bankrupt with the recovery from COVID-19 (Ellul et al., 2020).

Considering the factors that cause companies to turn into zombie companies, companies should regulate their policies in line with these requirements and within the framework of company needs (Banerjee & Hofmann, 2018). Although the number of companies turning into zombie companies is not always known, especially in emerging economies, this number is expected to be higher than in developed countries (Parry and Zhao, 2021). For example, in Turkey, which is one of the emerging economies in the world, due to the COVID-19 epidemic, companies are experiencing great difficulties in debt repayments and their financial structures are deteriorating (Colpan and Morck, 2021). For this reason, it has become extremely important to determine the factors that why companies turn into zombie companies, and there is a gap about this topic in the literature.

Therefore, as a research objective, it is essential to determine the factors that cause companies to turn into zombie companies and weight these factors to understand their degree of importance. To the best of our

knowledge, there is a gap in determining the factors that transform companies into zombie companies as well as finding permanent solution of these factors especially in emerging economies. Therefore, research questions of the study are specified as below;

- ✓ **RQ1:** What are the main factors that cause companies to turn into zombie companies in emerging economies?
- ✓ **RQ2:** What is the importance order of these factors to find permanent solutions to avoid being zombie company in emerging economies?

To find answer of these research questions, after a detailed literature review, the aim of the study is that first of all, the factors that cause companies to turn into zombie companies are determined. It is believed that the analysis and ranking of these factors from a zombie company perspective determining these factors and rank them according to importance level are the research gap in the literature as mentioned before. Therefore, to find permanent solutions against the mentioned problem, to highlight the factors that cause companies to turn into zombie companies are essential. Hence, SWARA method is used to rank these factors to provide an initial step for government and policy makers to avoid companies being zombie.

2. LITERATURE REVIEW ABOUT ZOMBIE COMPANIES

The concept of "zombie company" literally emerged at the end of the 1980s and has become a frequent theme in the field of finance since 2008 (Madyan et al., 2021). One of the main reasons for the stagnant economy that emerged in Japan in 1990 is suggested to be the existence of such companies that are called zombie companies and it is accepted as the origin of this concept (Parry and Zhao, 2021). Because in the 1990s, banks in Japan supported unsuccessful and weak companies by preventing them from going bankrupt (Li et al., 2021). By considering the literature on this period, the so called "Lost Decade" in Japan, this era is defined as a period in which zombie companies were supported by Japanese banks (Yu et al., 2021).

These companies seriously affect the economic growth of a country (Liang, 2017). Zombie companies have an impact on countries in terms of causing atrophy in economic development, preventing efficient companies from entering the market, creating job destruction and creating low levels of employment (McGowan et al., 2017a). In other words, zombie companies are companies that are able to earn enough money to continue operating and pay off their debt under normal circumstances (Madyan et al., 2021), but cannot pay their debts because of unforeseen circumstances such as COVID-19 pandemic or economic crisis. Such companies do not have much capital to invest to stimulate growth (Parry and Zhao, 2021), given that they only earn by covering overheads (e.g. wages, rent, debt interest payments) (Li et al., 2021).

Companies in sectors with high competition, companies that cannot follow innovations and become obsolete (Yu et al., 2021), companies that carry exchange rate risk and follow cheap price policies, companies that do not have a monopoly in the sector are among the companies with the highest potential to turn into zombies (Shen & Chen, 2017).

When the studies on zombie companies are examined, for example, Pardal et al. (2021), San-Jose et al., (2021) similarly discuss the strategies that can be followed to get rid of zombie companies in their studies. Moreover, the effects of COVID-19 on zombie companies are discussed in Lampis (2021), Becker (2021), and, Parry and Zhao (2021). Fischer (2021), Álvarez Román et al. (2021), Petkova (2021) investigated whether the debts of zombie companies can be reduced by loans and zombie lending.

By considering the literature, it can be seen that there are limited studies about zombie companies and also these studies cover general information (De Martiis et al., 2021; Carreira et al., 2021) or current status in countries from the zombie company's perspective (Becker, 2021; Parry & Zhao, 2021) or policies about zombie companies (Zhao et al., 2021). As mentioned before, there is a research gap about specifying the factors that cause companies to turn into zombie companies. Before moving these factors, to increase the understandability of importance of zombie companies, the information about impact of zombie companies on economy are given in the following section.

2.1. The Impacts of Zombie Companies on Economy

Zombie companies directly affect the productivity of the sectors (Koutroumpis et al., 2020). Jiang et al. (2017), suggested that with the increase of zombie companies, not only resource use increases, but also the production efficiency of the entire industry is reduced by causing financial problems for other businesses. This means that zombie companies affect a decrease in business investment and productivity increases of countries and sectors (Seyf, 2021). In other words, it shows that if the fixed capital ratio of zombie companies in a country increase compared to the whole sector, the productivity increase decreases significantly (Yu et al., 2021).

In addition, zombie companies is defined as a barrier to productive growth because the survival of weak companies contributes to lowering average overall productivity (Andrews et al., 2017) and they stifle a potentially critical source of productivity gains for economy, preventing more productive companies from gaining market share (McGowan et al., 2017b).

There are also effects of zombie companies in terms of workforce. The firing of employees in zombie businesses has always been a cause for concern (Krugman, 2020). However, in some cases, it is thought that layoffs will also benefit the economy in the long run (Banerjee & Hofmann, 2018). Zombie companies have low productivity and hiring too many workers only costs them more (Banerjee & Hofmann, 2018).

From another point of view, although the majority of zombie companies negatively affect the economy, the governments may often prefer to provide additional resources to sustain the company because it uses a large number of employees (Zoller-Rydzek & Keller, 2020) and losing jobs of many workers creates a significant social impact (Chang et al., 2021). For this reason, they can receive support from the state.

The following section details the reasons why companies turn into zombie companies in emerging economies.

3. DETERMINING THE FACTORS THAT CAUSE COMPANIES TO TURN INTO ZOMBIE COMPANIES IN EMERGING ECONOMIES

As mentioned before, zombie companies are particularly dependent on banks for financing, which is essentially not more than a life support for them, and this is referred to as "the living dead" or "zombie stocks" for banks (Akhbari et al., 2020). These companies in most cases do not start off their business as zombies, they turn into zombie companies over time and there are many reasons why they end up as such (Banerjee & Hofmann, 2018). The literature on the subject identifies the following as main factors as shown in Table 1.

Table 1. Factors That Cause Companies to Turn into Zombie Companies

Factors	Author(s)
High Debt (F₁)	Banerjee & Hofmann, 2018; Blažková & Dvoutělý, 2020
Demand Fluctuations (F₂)	Andrews & Petroulakis, 2019
Age of Company (F₃)	McGowan et al., 2017b
Deflation (F₄)	Nakamura & Fukuda, 2012; Banerjee & Hofmann, 2018
Low Expected Profitability (F₅)	Blažková & Dvoutělý, 2020
Governmental Regulations (F₆)	San-Jose et al., 2021

An explanation for each of the factors listed in the table is useful and presented below:

High Debt (F₁): When a company lacks profitability over a long time and thus becomes unable to pay off its debts, this company turns into a zombie company (Blažková & Dvoutělý, 2020). Especially when a company borrows heavily, it becomes vulnerable to an increase in interest rates (Banerjee & Hofmann, 2018). In addition, when companies borrow in foreign currency, they become vulnerable to currency devaluation (Banerjee & Hofmann, 2018).

Demand Fluctuations (F₂): Along with the changes in the trade and business balances, there are also risks involving a drop in demand in the goods and services that the company is marketing. With the unsold stock and wasted capital investment situation arising in companies, the debt burden of companies increases (Andrews & Petroulakis, 2019).

Age of Company (F₃): Another factor that explains the transformation into a zombie company is the age of a company. Young companies need more time for their investment projects to yield returns and are more susceptible to become zombies (McGowan et al., 2017b).

Deflation (F₄): If a company has excess debt under conditions of deflation, the amount of debt repayment increases in real terms (Nakamura & Fukuda, 2012). While companies reduce the prices of their goods due to deflation, the value of their debt continues to increase, so they are unable to meet their debt repayments (Banerjee & Hofmann, 2018).

Low Expected Profitability (F₅): Profitability may be lowered due to corporate restructuring or new investments that would eventually increase profitability (Blažková & Dvouletý, 2020). For example, a company that borrows heavily to restructure or finance new investments would suffer if interest rates are increased and becomes unable to make the debt repayments and goes bankrupt.

Governmental Regulations (F₆): The inadequacy of government regulations and policies implemented without considering the future of the companies would cause companies to turn into zombie companies.

The aim of this study is to consider the six factors explained above that are identified in the literature from a "zombie company perspective". By considering the literature review, although these factors have been mentioned in the literature, it has not been specifically stated how important the factors are or which factor list should be addressed. In this study, it is preferred to use the SWARA method determined by expert opinions for weighting the factors. This method is determined in accordance with the problem of the study, as it is based on the ability to predict the expert opinions about the importance ratios of the criteria at the stage of determining the criterion weights.

In the following section, SWARA method is explained in details.

4. METHODOLOGY: SWARA

SWARA (Step-wise Weight Assessment Ratio Analysis) is used to determine criterion weights in MCDM problems and it is developed by Keršulienė et al. (2010). It is known as the expert-focused method in the literature. Because the main characteristic of the method is the ability to estimate the expert opinions on the importance ratios of the criteria during the determination of criterion weights (Saraji et al., 2021). In addition, the method is important in terms of collecting information from experts and bringing them together (Ghasemi et al., 2021).

Step 1: First of all, the decision makers are selected consisting of the criteria related to the problem. It is assumed that there are n criteria ($C_j, j = 1, 2, \dots, n$) in the problem and there are k decision makers ($DM_k, k = 1, 2, \dots, DM$) in the decision maker group.

Step 2: Each DM participating in the selection process evaluates the criteria based on their own knowledge and experience. After this evaluation, DMs are asked to create a common integrated ranking of the criteria from best to worst. In this integrated ranking, C_1 and C_n denote the best and worst criteria.

Step 3: Each DM determines the comparative weight of the criteria, starting with the second-ranked criterion. In this determination, DMs gives a score of 1.00 to the most important criterion. All scores are assigned in multiples of 5 between 0 and 1. By taking the average of the comparative weights made on the basis of DM , the averages of the comparative weights (s_j) are calculated for each criterion.

Step 4: The coefficient (k_j) is calculated for each criterion by following Equation 1.

$$k_j = \begin{cases} 1 & j = 1 \\ s_j + 1 & j > 1 \end{cases} \quad (1)$$

Step 5: The importance vector (w_j) is determined by using Equation 2.

$$w_j = \begin{cases} 1 & j = 1 \\ \frac{x_{j-1}}{k_j} & j > 1 \end{cases} \quad (2)$$

Step 6: The criteria weights (w_j) calculated in the previous step are divided by the sum of the criteria weights, and the final weights (q_j) of each criterion are found.

$$q_j = \frac{w_j}{\sum_{k=1}^n w_k}$$

5. CASE STUDY: TURKEY

From a holistic point of view, the economic packages created in the face of COVID-19 in emerging economies increased the borrowing of countries (Gourinchas et al., 2021). When the micro level is reached, the reasons such as the economic crisis environments that the companies are in and the closure of the factories bring the debts of the companies to high levels (Ellul et al., 2020).

The same is the case in Turkey, one of the emerging economies (Colpan and Morck, 2021). According to the researches, although the exact number of zombie companies in Turkey is not known, it is estimated that there is a very high number of zombie companies (AI Monitor, 2020). In Turkey, it is stated that the number of zombie companies is high in Turkey (Kistak, 2020) and that the companies that use credit cannot use the credit efficiently and cannot meet the debt (Şahin, 2021).

For this purpose, the implementation of the study is completed for Turkey, one of the emerging economies. As mentioned before, it is expected that this study will light on policy makers and managers in the next process by obtaining the order of importance of the reasons why companies turn into zombie companies in emerging economies.

5.1. Implementation and Results

In the implementation of the study, the opinions of 15 experts are taken and their participation in the implementation is requested. The characteristics of the experts are given in Table 2.

Table 2. Characteristics of Experts

Experts	Expertise	Experts	Expertise
Expert 1	Investment Counsellor	Expert 9	Academician
Expert 2	Investment Counsellor	Expert 10	Academician
Expert 3	Academician	Expert 11	Executive Vice President
Expert 4	Bank General Manager	Expert 12	Finance and Management Counsellor
Expert 5	Bank General Manager	Expert 13	CFO and Finance Counsellor
Expert 6	Academician	Expert 14	IZTO
Expert 7	Wholesale Risk Senior Manager	Expert 15	Futures Market Manager İzmir Branch of Bank
Expert 8	Academician	Expert 16	Academician

As shown in Table 2, the expert set consist of finance, banking and academicians who have knowledge about zombie companies and conducted on related projects and published articles about this subject. According to expert opinions, weights of each factor are calculated. As an example, the table of the factor weighting result of the 1st expert is given as shown in Table 3.

Table 3. Results of 1st Expert’s Factor Weighting as an Example

Expert 1		
Factors	Importance Order	w(j)
F1	1	0.40
F6	2	0.22
F2	3	0.14
F5	4	0.10
F4	5	0.07
F3	6	0.05

4. As a result of the study, weights and importance order of each factor are determined as shown in Table 4.

Table 4. The Importance Order and Weights of Each Factor

Factors	Weights	Rank
F₁	0.35	1
F₂	0.13	4
F₃	0.08	6
F₄	0.09	5
F₅	0.17	3
F₆	0.19	2

As shown in Table 4., the most important factor that cause companies to turn into zombie companies is determined as *High Debt* (F₁). Moreover, second and third important factor that cause companies to turn into zombie companies are determined as *Governmental Regulations* (F₆), *Low Expected Profitability* (F₅), respectively. The importance order of other factors is obtained as *Demand Fluctuations* (F₂), *Age of Company* (F₄), *Deflation* (F₃), respectively.

6. DISCUSSION AND IMPLICATIONS

As mentioned before, zombie company is the expression used for companies that are trying to survive by providing financial support to companies that are in fact bankrupt (Zoller-Rydzek & Keller, 2020), or to help them get out of their troubled situation as financial support (Krugman, 2020). Before they turn into zombie companies, these companies are given the opportunity to postpone their debts or restructure their debts so that they can clear their debts (Madyan et al., 2021). By considering studies, zombie companies cannot get rid of zombies when they cannot use these configurations regularly (Parry and Zhao, 2021; Zhang and Zhao, 2021). Moreover, De Martiis and Peter (2021) focused on new ways that could prevent companies from turning into zombies. As stated before, there are various studies about zombie companies in the literature, however, the biggest difference that distinguishes this study from other studies is that it seeks the answer to the question of why companies turn into zombie companies in developing countries, which is unique in the literature.

As a result, top 3 important factors are determined as High Debt (F₁), Governmental Regulations (F₆) and Low Expected Profitability (F₅). Therefore, first of all, it is essential to make permanent solutions of these factors are enable to decrease of the number of turning zombie companies for managers and policymakers.

High Debt (F₁) is determined as the most important factor that cause companies to turn into zombie companies in emerging economies in this implementation. Companies often find themselves in a difficult situation when they cannot make a profit and with it, they have high debt. In particular, managers need to be conscious and planned against the fluctuations in interest rates and foreign currency borrowing. In order to raise this awareness to companies, trainings can be organized or expert support can be provided to advise each

company. From the point of view of policy makers, policies should find solutions to interest rate fluctuations that can occur and be prevented throughout the country.

According to results, Governmental Regulations (F6) are determined as second most important factor that cause companies to turn into zombie companies in emerging economies. Therefore, the government should support the companies with the policies it has put forward by directing its limited resources to the companies that are likely to become zombies. State regulations have become extremely important, especially in the face of the devastating effects of the pandemic. State regulations should be planned in a way that increases demand and investments.

Companies that do not want to turn into a zombie company are turning to new investments to increase their profitability in order to get rid of this situation. However, when these investments are not adequately planned, they cause Low Expected Profitability (F5). In terms of managers, companies should be able to find permanent solutions instead of trying to pay their debts with debts. They can prepare action plans in the face of economic difficulties that may occur in order to find permanent solutions. These action plans will prevent the company from panicking in the face of any economic difficulties and will ensure that reasonable solutions are found with a holistic approach.

7. CONCLUSION

Zombie companies are inefficient, very indebted companies with very low productivity. Since the number of zombie companies worldwide is not known exactly, adequate precautions can never be taken. Especially in some countries, large-scale zombie companies are supported because of the importance they provide to employment. With the COVID-19 period, there is an increase in the number of zombies. It is also thought that the main increase will occur after the end of COVID-19. Because, with the measures taken and the economic regulations, the bankruptcy of the companies is postponed, but it cannot be saved from being zombies. Increasing competitiveness in economies is one of the most important reasons for the increase in the number of zombie companies.

By considering the literature, researching zombie companies, especially in emerging economies, and revealing why they turn into zombie companies is an issue that has not been addressed. In order to fill this research gap, the aim of the study is to determine why companies turn into zombie companies in emerging economies. For this reason, 6 factors that cause companies to turn into zombie companies are determined based on the literature. In the study, the example of Turkey is given as a case study. As a result, the most important factor is determined as High Debt (F1) for Turkey.

As a limitation of the study, there is a limited information about zombie companies in detail in the literature. Moreover, it is hard to find a knowledgeable expert on the subject. For future researches, it is expected that the prepared factor set can be applied to other emerging economies to obtain an order of importance. In addition, the factor set can be expanded in terms of developed countries and comparative studies can be prepared.

Author Contribution Rate Statement

The study was co-written by the authors.

Conflict Statement

There was no conflict of interest between the authors in the study.

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