Investigation Of SMEs Preventative Measures Against Financial Failures Under Economic Crisis Environment: A Research Study In TR22 Region[*]

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ABSTRACT

SMEs take significant roles for Turkish Economy to maintain its stability. However, these businesses are unavoidably affected by the economic crises of both national and international level. Stabilizing their position under the market conditions where the crises occur and the strategies that they implement in order to avoid from the financial failures have critical importance. Core to the mentioned strategies remains the decisions taken at accounting and finance bases. In this scope, a survey has been designed towards investigating SMEs preventative measures against financial failures in crisis periods and the data have been evaluated statistically. Obtained results put forward that participant businesses followed several strategies namely; avoiding from excess long-term assets, regular follow-up of cash flows and realizing sales in cash during the times of crisis.

Keywords: Economic Crisis, Financial Failure.

Jel Classification: G01, M49.

Ekonomik Kriz Ortamında KOBİ'lerin Mali Başarısızlıktan Korunma Stratejilerinin İncelenmesi:TR 22 Bölgesinde Bir Araştırma

ÖZET

KOBİ'ler Türkiye ekonomisinin istikrarı sağlamasında kritik rol üstlenmektedir. Bu işletmelerin hem ulusal hem de uluslar arası bazda yaşanan krizlerden etkilenmeleri kaçınılmazdır. Krizlerin yaşandığı piyasa koşullarında KOBİ'lerin ekonomik faaliyetlerinde dengesini koruması ve bunun sonucunda başarısızlığa uğramaması için uyguladıkları stratejiler kritik öneme sahiptir. Bu stratejilerin odağında muhasebe ve finansman temelinde alınan kararlar vardır. Bu bağlamda kriz döneminde mali başarısızlıktan korunma stratejilerinin incelenmesine yönelik anket çalışması gerçekleştirilmiş olup, elde edilen veriler istatistiksel analizlere tabi tutulmuştur. Ankete katılan işletmeler, ekonomik kriz dönemlerinde özellikle aşırı duran varlıklarından kaçınılması, nakit akışının düzenli takip edilmesi ve satışların nakit olarak gerçekleştirilmesi gibi hususlar ortaya çıkmıştır.

Anahtar Kelimeler: Ekonomik Kriz, Finansal Başarısızlık.

JEL Sınıflandırması: G01, M49.

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1. INTRODUCTION

Economic crises can be referred to as incidents which leave negative effects to all sides of society both at macro and micro levels. Businesses' operational capacities are endangered when an economic crisis occurs and it leads them take certain financial measures on this subject. Economic crises are a great danger for financial sustainability of Turkish SMEs, an important part of economic life in Turkey. Economic crises cause several problems such as failure of financial structure and inefficiency of operations and resources for SMEs.

The problem of financing as one of the fundamental problems of SMEs reveals itself more severely during the times of crisis. A business which can implement preventive measures of financial failure, form a suitable risk model and operate it successfully can reduce the effects of crisis from this aspect.

The purpose of this study is to evaluate effectiveness of SMEs' strategies towards avoiding from financial failures. For this aim, a survey was conducted to perceive effectiveness of businesses' strategies to avoid from financial failures. Moreover, several conclusions have been reached about protection of businesses' financial structures and their sustainability. The study consists of four parts including the introduction. After referring to the concepts of crisis and economic crisis concepts, a literature review has been presented about the subject's study field. Final part of the study includes statistical analysis of the obtained data and the evaluation of research results.

2. CRISIS AND THE CONCEPT OF ECONOMIC CRISIS

The concept of crisis is defined as "economic rout, hard times seen during the life of a society or business in a country or among the countries, depression, great depression" (www.tdk.gov.tr, 2015) with respect to economy by the Turkish Language Institution. The crisis intensified its effects in the late 1980s in Turkey especially as a result of globalization. On the other hand, economic crisis refers to sudden and unexpected events which cause severe results that affect national economies at macro-level and businesses at micro-level. In this regard, economic crises harden the processes of purchase, production and sales for businesses (Tuğay ve diğerleri, 2014:2-3). Economic crisis is particularly a phenomenon that affects accounting applications of businesses. In general, excess increases in the debts of businesses and rigid fluctuations in their asset prices are seen during the times of crisis (Pavlatos and Kostakis, 2015:152).

Some of the most significant problems for businesses during the times of crisis are unstable conditions and the increase of costs. Increases that occur in the production costs bring production problems for businesses. Reducing the workforce as a policy measure to face experienced production capacity loss is seen frequently in these periods. Besides, demand side decreases during the times of crisis also lead low levels of sales potential. Businesses should

take following factors into consideration during the times of crises (Karacan and Savcı, 2011:41);

- Effectiveness levels of management strategies

- Reinforcing the financial structure.

- Saving in the production costs

- Increasing the effectiveness of investments

- Density of competitive level

SMEs are directly affected by the fluctuations of economy as one of the most significant actors of Turkish economy. However, economic and financial instabilities in the periods of crises affect financial structure of SMEs negatively. At this point, SMEs need to revise their financial measures regularly with respect to strengthening their financial structures and providing sustainability in their operations.

3. LITERATURE REVIEW

Some of the studies in the literature about economic crisis are summarized as follows;

Erol et. al. (2011) investigated the measures of businesses in economic crisis with respect to accounting. The study stresses the efforts of businesses particularly about economizing over their cost items. Alwan (2012) analyzed macro and micro level effects of global financial crisis and concluded that financial crisis affected accounting standards and applications directly.

Iatridis and Dimitras (2013) studied the effects of crisis over public limited companies in Portugal, Ireland, Greece and Spain. The study concluded that businesses located in mentioned countries move forward the policy of earning management in order to increase their profitability and liquidity levels and face high indebting during the times of crisis. The study stressed that earnings manipulation activities were seen less in businesses located in Ireland and Spain.

Gençtürk et al. (2011a) investigated the effects of global crisis over manufacturing industry. Based on the marble industry, the study stressed that businesses took and implemented measures towards avoiding from negative effects crisis successfully. Apak et al. (2012) conducted a survey for SMEs about their opinions of accounting measures that should be taken during the times of crisis. The authors identified that measures that aim cost effectiveness, that facilitate cash flows and that are strategic in nature during the times of crises were important for SMEs that participated in the survey. Especially, implementing policies that facilitate cash to cash cycle instead of cost effective techniques and expanding investments played a critical role during the times of crisis.

Günay and Kesimli (2011) analyzed the effects of crisis over construction industry. The study put forward that construction industry heavily went into indebting during the crisis

and that the industry took financial crisis. Tuğay et. al. (2014) attempted to assess the attitudes of businesses towards accounting during the periods of crisis from the point of view of accounting professionals. The study noted the significance of paying duties to the state during the times of crisis as long as its managed well.

Gençtürk et. al. (2011b) aimed at finding how the businesses' financial structures and their financial decisions based on this were affected by the crises of April 1994, November 2000, February 2001 and 2008 Global Economic Crisis. The results of the study demonstrated that indebting tendency of businesses increased during the times of crisis; yet, it occurred in the nature of long-term indebting.

Orhan and Yazarkan (2011) identified how the Istanbul Stock and Exchange 30 companies were affected from the global crisis by using the financial ratios in their studies. Findings of the study revealed that a decrease was seen in the current ratios of businesses that were analyzed in the study and an increase was identified in the ratio of short-term debts to their working assets. One of the significant factors that can cause crisis for businesses is the financial failure. At this point, Terzi (2011) attempted to identify financial failure risk of food companies in BIST by using financial ratios. The study concluded that return on assets and debts to equity ratios were affective in the identification of financial failures.

Çatal (2014) investigated how the businesses in the automotive industry publicly-traded in BIST were affected by the 2008 global financial crisis by comparing the changes in their capital structures before and after crisis. The study revealed that businesses increased the ratio of their liabilities in the financing of their total assets in the after-crisis period compared to pre-crisis period while they decreased the ratio of equity capital.

4. RESEARCH STUDY

This part of the study consists of research design. According to this, research subject, its purpose and its significance as well as the method used in the research have been presented. Final part of the study includes evaluation of findings obtained by the data in the research.

4.1. Subject of the Study and Purpose

The subject of the study is investigating the preventive strategies of SMEs against financial failures in the periods of economic crisis and a research in TR 22 Region. The purpose of the research is to identify the effectiveness of preventive strategies of SMEs against financial failures in the periods of economic crisis.

4.2. Significance of the Research

Businesses' financial structure is affected to a great extent during the times of crisis. Businesses that try to avoid financial failures in these periods need to take necessary measures. In this regard, it is necessary to identify the strategies that businesses implement in the crisis periods and evaluation of their effectiveness.

4.3. Universe and Methodology of the Research

Obtained data from the survey have been compared in the light of the theoretical studies in the scope of the research. The research area of the study is restricted with TR22 Region according to the Statistical Regional Classification of State Planning Institution. TR22 Region consists of Canakkale and Balıkesir Provinces. SMEs that are operational in these provinces have been included in the study and face to face surveys have been conducted with 210 businesses. In the application of survey; opinions and suggestions of senior managers/accountants/financial specials have been taken.

A questionnaire methodology has been used in the research. Survey, as one of the primary data collection methods has been defined as "a method of data collection where respondents answer to the questions designed in a pre-defined classification and structure" (Altunışık et al., 2007:68). Moreover obtained data by the survey forms have been analyzed by using frequency, factor and variance (ANOVA) analyses. Results of the analyses have been evaluated.

4.4. Frequency Distribution of the Data and Interpretation of the Results

Percentage values of the statements included in the questionnaire other than the statements of the scale have been presented in Table 1 and Table 2.

Table 1: Field of Operation

Field of Operation	**n**	**%**
Production	94	44,8
Services	64	30,4
Trade	52	24,8
TOTAL	**210**	**100**

Of all the businesses that participated in the survey; 44,8% of the participant businesses in the survey has been production business, 30,4% of the participant businesses has been services business and 24,8% of the business has been trade business.

Table 2: Number of Employees

Number of Employees	n	%
1-5 employees	78	37,2
6-10 employees	43	20,5
11-50 employees	57	27,1
50 and over	32	15,2
TOTAL	**210**	**100**

Of all the businesses that participated in the survey; 37,2% of the businesses employed between 1 to 5 employees, 27,1% of the businesses employed 11-50 employees, 20,5% of the businesses employed 6 to 10 employees and finally 15,2% of the businesses employed 50 and over employees.

Percentage distribution of factors related to the internal and external financial failures seen in businesses during the times of crisis have been presented in Table 3 and Table 4 (1-most important, 5 –least important)

Table 3: Percentage Distribution of Internal Factors

Internal Factors	1	2	3	4	5
Insufficiency of Senior Management's Strategies	49 (%23,3)	29 (%13,8)	41 (%19,5)	45 (%21,4)	46 (%21,9)
Insufficiency of Liquidity	47 (%22,4)	50 (%23,8)	62 (%29,5)	35 (%16,7)	16 (%7,6)
Excess Indebting	71 (%33,8)	54 (%25,7)	35 (%16,7)	33 (%15,7)	17 (%8,1)
Ineffective Operational Capacity of Accountancy Information System	24 (%11,4)	33 (%15,7)	48 (%22,9)	42 (%20)	63 (%30)
Increase of Costs	99 (%47,1)	39 (%18,6)	32 (%15,2)	15 (%7,1)	25 (%11,9)

Participant businesses of the survey have carried cost increase factor the top of the ranking. Excess indebting followed secondly, liquidity insufficiency has stayed in the third position. Moreover, insufficiency of senior managements' strategies became fourth and finally ineffective operational capacity of accountancy information system remained in the last place.

Table 4: Percentage Distribution of External Factors

External Factors	1	2	3	4	5
Rapid change in production and information Technologies	36 (%17,1)	29 (%13,8)	44 (%21)	57 (%27,1)	44 (%21)
Instabilities in Monetary and Capital Markets	77 (%36,7)	38 (%18,1)	33 (%15,7)	41 (%19,5)	21 (%10)
Low Demand	56 (%26,7)	64 (%30,5)	46 (%21,9)	24 (%11,4)	20 (%9,5)
Insufficiency of Legal Applications	22 (%10,5)	38 (%18,1)	50 (%23,8)	35 (%16,7)	65 (%31)
Density of Competition	81 (%38,6)	45 (%21,4)	35 (%16,7)	24 (%11,4)	25 (%11,9)

Of all the business participated in the survey; density of competition has been the most significant factor; while low demand has been the second, instabilities in monetary and capital markets has been in the third place. Rapid changes in production and information Technologies and insufficiency of legal applications fill the fourth and fifth places in order.

4.5. Standard Deviation and Average Values of the Data

Standard deviation and average values of the data have been presented in Table 5 and obtained results in the table have been discussed.

Table 5: Descriptive Statistics

	N	Mean	Std. Deviation
V1:Regular budget checks	210	3.9810	.84129
V2: Use of Contemporary Costing Methods	210	3.9048	.74531
V3: Effective Management of Liquid Assets	210	4.0238	.80335
V4:Long term Structuring of Indebting Policies	210	3.6667	1.03680
V5: Alternative Investment Tools	210	3.5810	.98098
V6: Cost Saving	210	3.9381	.82484
V7: Decreasing Expansion Investments	210	3.9095	1.00067
V8: Regular Monitoring of the Cash Flows	210	4.0762	.76020
V9: Reusing the Inactive Assets	210	3.8333	.86164
V10: Effective Management of Supply Chain	210	3.9905	.72541
V11: Activation of Accounting Information System	210	4.0381	.75677
V12: Increasing the Effectiveness of Accounting and Finance Department	210	3.9381	.76463
V13: Implementing Institutional Management Principles	210	3.9286	.80646
V14: Economizing the Operational Costs	210	3.6048	1.08092
V15: Shortening the Period of Cash Cycle	210	3.9381	.87001
V16: Decreasing the Debt Resources in Fixed Assets	210	3.8810	.80079
V17: Establishing Effective Cost System	210	4.0571	.71657
V18: Regular Performance of Profit-Cost-Volume Analysis	210	4.0619	.75835
V19: Forming Suitable Risk Model	210	3.9095	.85078

V20:Elimination of Non-value Operations	210	3.9571	.78446
V21:Productive use of resoures at product base	210	3.9476	.78996
V22:Moving towards Technological Investments	210	3.4524	1.16984
V23: Increasing the Capital	210	3.4286	1.10117
V24:Increasing the ratio of R&D Investments	210	3.5667	1.07953
V25: Establishing an Effective Internal Control System	210	3.9000	.73498
V26: Realizing Sales in Cash	210	4.0286	.80616
V27: Avoiding from the Excess Long Term Asset Investments	210	4.1095	.70704
Grand Average	210	**3.8760**	

It is seen that participant businesses in the survey agreed most of the statements in the survey form in general. Accordingly, businesses share the idea in the statement that avoiding from the excess indebting is the one of the most important strategy that can be used during the times of crisis. Participants also noted that effective management of liquid assets, regular cash flows and realizing sales in cash were also important. Moreover, effective operation of cost system also came forward in the survey results. Other factors that were stressed in table 5 can be given as follows;

- Redirecting inactive assets into alternative investments during the times of crisis, conducting regular budget controls, elimination of non-value activities and activating internal control structure.

- Productive use of resources by economizing operational costs during the times of crisis and moving towards R&D activities and technological investments.

- Being on the safe side with respect to indebting policies during the times of crisis, particularly using long term debts for fixed asset investments, establishing appropriate risk model and strengthening the institutional management policies in the business.

4.6. Testing the Data Using Factor Analysis

Cronbach's Alpha value of the variables included in the study is 0.846. Factor analysis is a method to investigate the relationship among the variables, to present the variables meaningfully and in a brief way. In this method, each variable is assumed to have the characteristic of normal distribution and the observations to be independent from each other. It is also assumed that the relationship among the variables is linear (Bayram, 2004:131). According to the KMO test about the variables, sampling efficiency was at desired levels. On the other hand, the variables were found to be suitable for factor analysis according to the Barlett's test. These results are presented in table 6.

Table 6: Kaiser-Meyer-Olkin and Bartlett's Test Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,772
Bartlett's Test of Sphericity	Approx. Chi-Square	1581,095
	df	351
	Sig.	,000

KMO value of the variables was found 0,772 and they were suitable for factor analysis. Five factors were found in the factor analysis over the variables. Statistical results about the 5 factors have been presented in table 7.

Table 7: Factor Analysis About the Strategies Implemented in Times of Crisis[a]

Factors	Variables	Component					Cronbach's Alpha	% Variance
		1	2	3	4	5		
F1:Economic Crisis and Investment Effectiveness	**V23**	.812						
	V24	.806					0,790	21,242
	V22	.782						
F2: Economic Crisis and Asset Productivity	**V1**		.800					
	V3		.763				0,736	8,901
	V2		.676					
F3: Economic Crisis and Resource Saving	**V15**			.730				5,997
	V16			.622			0,527	
	V14			.590				
F4:Economic Crisis and Resource Effectiveness	**V21**				.722			
	V20				.662		0,512	5,577
F5:Economic Crisis and Liquidity Effectiveness	**V26**					.798		
	V27					.743	0,623	5,134
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 11 iterations.								

Factor 1 has been stated as economic crisis and factor effectiveness. This factor explains 21,242% of total variance. According to this,; besides R&D investments, businesses need to increase their technological investments and to strengthen their equity structure, a capital increase is required under the crisis conditions.

Factor 2, has been noted as economic crisis and asset productivity. This factor explains 8,901% of total variance. According to this; particularly, businesses' productive use of current assets comes forward in the crisis environment. Once again, participants consider that assets

to be controlled by the budgets and asset productivity would increase by contemporary costing approach in the crisis period.

Factor 3 has been stated as economic crisis and resource saving. This factor explains 5,997% of total variance. According to this, resource saving can be achieved by businesses' economizing on the operational costs, decreasing the debt financing for fixed asset investments and shortening cash cycle during the times of crises.

Factor 4 has been stated as economic crisis and resource effectiveness. This factor explains 5,577% of total variance. According to this, resource effectiveness can be obtained by businesses' elimination of non-value activities both pre-and post production processes and implementation of resource efficiency policies at product base in the crisis environment.

Factor 5 has been stated as economic crisis and liquidity effectiveness. This factor explains 5,134% of total variance. According to this, liquidity effectiveness can be achieved by businesses realization of their sales mostly in cash and avoidance from excessively fixed asset investments in the crisis environment.

Considering the reliability rates of factors, it is seen that Factor 1, 2 and 5 meets the certain criteria while Factor 3 and 4 remains at low levels. The reason for this can be two fold: Firstly, this is the first time this survey has been conducted on this sampling population and secondly, this study is a pilot study.

4.7. One-way ANOVAs Test of the Data and Evaluation of the Results

In one-way Anovas test one dependent and independent variables are required. In the analysis independent variable need to be assessed at sorter assessment level and it must have three or more categories (Bayram, 2004:99). Table 8 indicates the relationship between the area of activity and the strategies used during the times of crisis.

Table 8: The Relationship Between the Strategies Implemented During the Times of Economic Crisis and the Field of Activity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.076	2	.038	.250	**.779**
Within Groups	31.345	207	.151		
Total	31.421	209			

H_0=No significant relationship exists between the strategies implemented during the times of economic crisis and the field of activity of the business.

H_1=A significant relationship exists between the strategies implemented during the times of economic crisis and the field of activity of the business.

No significant relationship between the activity field of (industry, services, trade) businesses and answers given to the general part of the survey (V1-V27) has been found (p=0.779). According to this, whatever the field of activity of the business is, its point of view towards the survey does not change. Table 9 presents the relationship between the number of employees of the businesses and the strategies implemented during the times of economic crisis.

Table 9: The Relationship between Strategies Implemented During the Times of Economic Crisis and the Number of Employees

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.659	3	.220	1.471	**.224**
Within Groups	30.762	206	.149		
Total	31.421	209			

H_0= *No significant relationship exists between strategies implemented during the times of economic crisis and the number of employees.*

H_1= *A significant relationship exists between strategies implemented during the times of economic crisis and the number of employees.*

No significant relationship between the strategies implemented during the times of economic crisis answers given to the general part of the survey (V1-V27) has been found (p=0.224). This result implies that a difference in the number of employees of businesses does not change their point of view towards the strategies to be implemented during the times of economic crisis.

5. CONCLUSION

Rapid economic and technological developments, together with the global competition can cause businesses face crisis in certain periods. Effectiveness of managerial decisions is very important in these periods. Businesses need to take sound and correct decisions about the critical issues such as productive use of resources, strengthening the structure of equity and sufficiency of working capital. At this point finance is one of the first problems that SMEs face during the times of crisis.

The study has been conducted over SMEs that are active in TR22 region. Survey and face to face interview methods have been used. This study aimed at finding opinions of businesses about the effectiveness of the strategies implemented during the times of crisis. Starting from this point, when the financial failure part of the survey is analyzed; businesses consider increase of cost in times of crisis as the most internal financial failure factor. Moreover, they stressed that excessive indebting and liquidity insufficiency were important critical factors. On the other hand, businesses that participated in the survey stated density of competition and low demand volumes as the most important external factor. Besides, they

also identified general fluctuations seen in the monetary and capital markets were also critical during the times of crisis.

The data obtained from the study has been used to conduct factor analysis and Anova tests as well as descriptive statistics. According to this, during the times of crisis, the most stressed strategy to be followed during the times of crisis was to avoid from excess indebting during the times of crisis. Moreover, the participants considered effective management of current assets, regular cash flows and realizing sales in cash were other important factors.

According to factor analysis results, investment and asset effectiveness as well as efficient administration of liquidity come forward during the times of crisis. The results of Anova test demonstrated that no significant relationship existed between the area of activity of businesses and the number of employees and the strategies implemented during the times of crisis.

Finally, the variables in the survey part of this study were used for the first time in TR22 Region. Authors of the study consider that these strategies used in times of crisis can be investigated for other regions of Turkey and effects of crisis over businesses can be evaluated from a wider perspective.

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