Asian Journal of Business Management 3(4): 325-332, 2011
ISSN: 2041-8752

Submitted: September 23, 2011 Accepted: October 28, 2011 Published November 15, 2011

Supply Chain Integration, Competition Capability and Business Performance: A Study on Turkish SMEs

[1]A.İ. Özdemir and [2]E. Aslan
[1]Department of Business, Faculty of Economics and Administrative Sciences, Erciyes University, Kayseri 38039, Turkey
[2]Department of Business, Faculty of Economics and Administrative Sciences, Gazi Osman Paşa University, Tokat 60250, Turkey

Abstract: In this study, the effect of supply chain integration on the SME's (Small and Medium Sized Enterprises) competition capability and performance is attempted to be investigated. The data is gathered from the conducted surveys with 181 SMEs. Regression models have been built between supply chain integration and competition capability and by building hierarchical regression models between competition ability, supply chain integration and performance, the effects are attempted to be determined. As a result, it is found that supply chain integration affects competition capability positively and competition capability partially affects performance positively. It is also found that supply chain integration has very little effect on business performance; affects only market performance positively.

Key words: Business performance, competitive capability, hierarchical regression analysis, SCM integration, SMEs

INTRODUCTION

Recently, It is accepted that competition is among supply chains, not between companies anymore. Supply chains, which work more efficient and create more value, will be ahead in competition. It is considered that the degree of the integration of the business functions through the supply chain, which is in any point in the chain that starts from the suppliers and continues till end users, affects the member companies' competitive capabilities and business performance in the supply chain.

Companies that manage the supply chain as a single entity and ensure the appropriate use of tools and techniques in order to meet the needs of the market, will not get left behind in the fight for survival (Stevens, 1989).

The companies which can combine the internal processes with the suppliers and customers in supply chain, are able to gain important competitive advantage (Frohlich and Westbrook, 2001). Supply Chain Management (SCM) tries to strengthen competitive advantage and performance by integrating the functions inside the company and associating these with the suppliers', customers' and other chain members' operations effectively. Gain is obtained with supply chain integration from connections between different supply chain operations. The connections between operations depend on building different supply chain applications and using these. Kim (2006) argue that To be successful in SCM applications which aim to achieve high supply chain performance, external integration with suppliers and customers in addition to integration between the inside functions in the company are needed (Kim, 2006).

Supply chain integration reflects the external integration which means companies' relations with upstream suppliers and downstream customers. But it includes strategic internal integration degree apart from the external integration. It is mentioned that internal integration is the first step to achieve the supply chain integration and new opportunities will be obtained by integrating with the suppliers, distributors and customers to improve the internal operations (Rosenzweig *et al*., 2003).

Supply chains integrate a range of partly independent companies, but the competitive advantage lies in integrating activities (Peck and Juttner, 2000). It is important to know which integration style will ensure maximum performance improvement or if supply chain integration has an effect on performance.

Between the chain members, early functional integration and internal integration steps have been associated with competitive capability such as reducing cost rather than performance improvement, later internal integration and external integration phases have been associated with the traceability of full system from distribution to the purchase and ensuring the supply of

Corresponding Author: A.I. Özdemir, Department of Business, Faculty of Economics and Administrative Sciences, Erciyes University, Kayseri 38039, Turkey

high quality products on time, sharing full information with partners and long term participation (Kim, 2006).

Although the importance of supply chain's importance is widely accepted, there are still question marks about determining the integration type of the companies for making relationship with their suppliers and customers (Frohlich and Westbrook, 2001). Designing supply chain is very important for strategic advantage for the companies (Ayers, 1999).

This study's aim is to investigate the effect of supply chain integration on competitive capability and business performance. While this effect is being examined, supply chain integration's effect on performance, both directly and through competitive capability, have been considered. Fort his purpose, Hierarchical Regression Analysis is applied and research has been made on small and medium sized enterprises (SMEs). Although the SMEs' needs and operational environment are different from the big companies, scarce reseach in the developing economies, such as Turkey, about the supply chain management applications and their effects on SMEs' performance (Koh *et al*., 2007) and importance of the SMEs both in Turkey and world's economy are the reasons to conduct the research on these companies.

LITERATURE REVIEW

There are a lot of study on supply chain integration, competition capabilities and business performance. In one, Frohlich and Westbrook (2001) in their study, examined the effect of supply chain integration level on performance, classified the supply chain integration in five classes (inward-, periphery-, supplier-, customer-, outward-facing) according to the integration intensity of the company towards the customer direction and the supplier direction. They examined the performance differences between these five classes. As a result, it is found that outward-facing companies which were defined as the most comprehensive integretion level of supply chain, have better performance in many criterias than the other companies in other classes.

Simatupang and Sridharan (2002) propose that members of the supply chain should consider appropriate performance measures, lntegrated policies, information sharing, and incentive alignment for collaboration.

Narasimhan and Kim (2002), examined the effect of Supply Cahin Integration on the relationship between diversification and a firm's competitive performance. By comparing the main and interaction effects of supply chain integration and diversification on performance, they showed that supply chain integration strategy modifies the relationship between diversification and performance. Additionally, they argued that coordinated use of supply chain integration and diversification strategies has a significant effect on firm performance.

Rosenzweig *et al*. (2003) examined the supply chain integration's effect on the business performance in the consumer products sector in their study and also considered the competitive capabilities which affect the relationship. They reached the conclusion that supply chain integration is directly related with the business performance. The consumer products producers which have high integration density found to have better product quality, delivery reliability, process flexibility and cost leadership. Delivery reliability and cost leadership capabilities are the prominent links between the integration and performance. It is mentioned that integration affects tbe financial performance indicators positively through decreasing operational cost. Apart from this, no effect of integration intensity on performance indicators such as sales increase and customer satisfaction has been detected.

Vickery *et al*. (2003) examined the performance implications of an integrated supply chain strategy, with customer service performance followed by financial performance as performance constructs. Two major components of an integrated supply chain strategy are identified and defined:

- Integrative information technologies, which is modeled antecedent to
- Supply chain integration. The results showed positive *direct* relationships between
- Integrated information technologies and supply chain integration
- Supply chain integration and customer service, and
- Customer service and firm performance

The relationship of supply chain integration to financial performance was indirect, through customer service; i.e., customer service was found to fully (as opposed to partially) mediate the relationship between supply chain integration and firm performance for first tier suppliers in the automotive industry.

Kim (2006) found that supply chain integration plays a critical role for the performance improvement for the small companies while supply chain practices and competitive capabilities have much more important effect on the performance improvement in bigger companies. Therefore it is mentioned that it is more important to focus on the supply chain integration in the early phases and it is better to focus on supply chain practices and competitive capabilities after being integrated.

Leavy (2006) emphasais that Making supply chain management a competitive advantage requires meeting two main challanges, the strategic challange and integration challange.

Devaraj *et al*., (2007) examined the effects of e-business technologies on the performance, they have considered the supply chain integration is one of the factor which has an effect on this relationship. They

hypothesized that e-business technologies improve the integration with the customers and suppliers in the supply chain and this affects the performance. As a result, they found that integration with suppliers affect the cost, quality, flexibility and delivery performance in a positive way, while the integration with customers does not have an effect.

Lee *et al*. (2007), have examined the effect of integration(internally, with suppliers and customers) on the supply chain performance. Performance was handled under under two titles; cost and reliability. They have found that internal integration is basic determinent of the performance regarding the cost and integration with the suppliers is the basic determinent of reliability and overall performance.

Koh *et al*. (2007) in their study, which examined the supply chain practices' effect on SME's performance, found that supply chain practices have positive effect on operational performance and that they do not have significant effect on organisational performance related with supply chain.

Fabbe-Costes and Jahre (2007) mentions that with the evidence from the studies, it is difficult to come to a conclusion that integration clearly affects the performance, since in the studies in this field, integration and performance have been defined and measured in a different and mostly limited way.

Sezen (2008) examined the effect of supply chain design, integration and information sharing on the supply chain performance. Performance has been handled with flexibility, resource and output titles. While it is detected that none of the variables; design, integration and information sharing; have significant effect on the performance related with flexibility; only supply chain design's significant effect is detected on the performance related with the resource and output.

Özdemir (2009) found that the supply chain integration affects the product quality positively. it is mentioned that SME's which form close relationship within departments in the business and their customers will affect their competitive capabilities in a positive way and it is found that highly integration within departments in the business and the customers has positive affect on product quality.

METHODOLOGY

It is supposed that supply chain integration effect the competitive capability and business performance, and competitive capability also effect business performance. The model gives the relationship between integration, competitive and business performance below in Fig. 1.

Hypothesis: In order to gain process flexibility, whose importance is increasing more and more in highly competitive sectors and where production volume and product mix are changed frequently, it is required to be close to the supply chain members. The producers who are highly integrated have cost advantage in comparison with the producers who are less integrated. Increasing communication, cooperation and coordination between buyer and seller companies by time, ensures cost decrease in both sides. Without the cooperation with the partners in the supply chain, the producers can not continue to manufacture high quality products consistently. In order to achieve on-time delivery, it is compulsory to obtain parts with correct type and amount from many different suppliers and offer the product and service in a time period which is acceptable customer to wait for (Rosenzweig *et al*., 2003). Companies focusing on high quality, differentiation and value maximization try to form long term cooperation with their commercial partners to reduce the uncertainity and risk, while improving productivity and quality. Companies focusing on flexibility, try to build close coordination with their commercial partners and make their product and service customized. The companies which have strategic perspective try to form long term cooperation with their partners in the chain (Kim, 2006). Based on all these, the hypothesis that supply chain integration affects the competitive capabilities below in a positive way, can be expected.

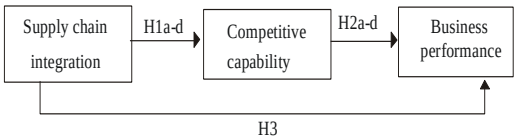

Fig. 1: The effect of supply chain ıntegration on competitive capability and business performance

H1a: Supply chain integration has a positive effect on cost leadership capability.
H1b: Supply chain integration has a positive effect on customer service capability.
H1c: Supply chain integration has a positive effect on flexibility capability.
H1d: Supply chain integration has a positive effect on product capabilities.

Cabilities such as quality, delivery, flexibility and cost make contribution to the business performance (Vickery *et al*., 1993, 1994; Ward *et al*., 1994). The company has to offer lower price in comparison with its competitors or in order to put high prices the value of the products offered should be higher in comparison with the competitors (Kim, 2006). Product quality and mix should meet or exceed the customers' expectations. They should have high order execution rate, low order cycle time and accurate order and delivery information. These

Table 1: The scale of supply chain ıntegration, statements and reliability

	Mean	Cronbach alpha
Integrated closely within departments in our business		
Integrated closely with raw material suppliers		
Integrated closely with distributors/retailers		
Integrated closely with customers		
General mean	5.24	0.873

* (1): I definitely do not agree…; (7): I definitely agree

Table 2:Competitive ability scale, statements and reliability

	Mean	Cronbach alpha
Cost leadership	4.46	0.839
Offer lower priced products than competitors*		
Manufacture products at lower internal costs than competitors*		
Customer service	5.71	0.880
On time delivery capability**		
Promptly handle customer complaints*		
After sale service capability**		
Flexibility	5.11	0.871
The capability to develop new product*		
Ability to rapidly change product mix**		
Ability to rapidly change production volume**		
Design flexibility depending on customer demand**		
Product Indicatiors	5.94	0.929
Product quality*		
Product reliability*		
Product durability*		
General mean	5.36	0.907

*: denotes Rosenzweig *et al*. (2003) study; **: denotes Kim's (2006) study; (1): Very low …; (7): Very high

competitive capabilities ensure that company satisfies its customers and reach good market performance (Tracey *et al*., 1999). All these lead to the hypothesis that competitive capabilities below affect business performance in a positive way.

H2a: Cost leadership capability has a positive effect on business performance.
H2b: Customer service capability has a positive effect on business performance.
H2c: Flexibility capability has a positive effect on business performance.
H2d: Product capabilities has a positive effect on business performance.

Supply chain integration affects responsiveness and production performance with its key connection between the degree of achieving the purchase and production targets (Kim, 2006). In a competitive environment, the companies which are highly integrated, gain competitive advantage in two ways in comparison with the companies who are more independent: Firstly, integrated supply chain partners can respond faster to the sudden demand changes with their increased information visibility. Secondly, highly integrated companies in the supply chain have the potential to decrease the operating cost and total cost passed to the customer (Rosenzweig *et al*., 2003). Depending on these, hypothesis that supply chain integration affect the business performance in a positive way, can be built.

H3: Supply chain integration has positive effect on the business performance.

Sampling: The population of the research is the SME's in Turkey. The businesses which are registered in the Small and Medium Sized Business Information Network (Kobinet, 2008) database in Small and Medium Size Industry Development and Support Management Presidency (KOSGEB), that is attached to Industry and Commerce Ministry, have been determined as population frame. There are 22100 companies with the number of employee less than 250 are registered in the database in 2008. At 95% confidence level for the population of 25000, a sample of 244 when the sample is homogeneous and 378 when sample is not homogeneous is sufficient (Bas, 2003). Because of the difficulty to get information

Table 3: Business performance scale, statements and reliability

	Mean	Cronbach Alpha
Market performance	4.57	0.868
Sales growth		
Market share growth		
Financial performance	4.18	0.816
Total cost reduction		
Return on investments		
Return on assets		
Net profit		
Customer satisfaction performance	3.81	0.608
The reduction degree of product return ratio		
Customer satisfaction level		
Customer complaints		
General mean	4.14	0.833

* (1): Very low…; (7): Very high

Table 4: Descriptive statistics and correlations

Variable	n	MSE	1	2	3	4	5	6	7
Integration	177	5.24; 1.26							
Cost leadership	176	4.46; 1.52	0.32* (0.00)						
Customer service	181	5.71; 1.15	0.63* (0.00)	0.31* (0.00)					
Flexibility	176	5.11; 1.37	0.45* (0.00)	0.51* (0.00)	0.52* (0.00)				
Product indicators	179	5.94; 1.11	0.47* (0.00)	0.24* (0.00)	0.65* (0.00)	0.55* (0.00)			
Market performance	178	4.57; 1.23	0.42* (0.00)	0.25* (0.00)	0.43* (0.00)	0.50* (0.00)	0.51* (0.00)		
Financial performance	177	4.18; 1.09	0.35* (0.00)	0.42* (0.00)	0.36* (0.00)	0.51* (0.00)	0.50* (0.00)	0.68* (0.00)	
Customer satisfaction	177	3.80; 1.25	0.13 (0.06)	0.06 (0.40)	0.11 (0.12)	0.14* (0.05)	0.23* (0.00)	0.37* (0.00)	0.40* (0.00)

*: Significant correlations ($p \leq 0.05$); p-values are provided in the parenthesis near each correlation; **: Sampling volume (*n*) has been composed according to the missing data

Table 5: The sectoral distribution of the companies

	n = 174	
	f	%
Food	11	6.3
Metal industry	20	11.5
Machine and equipment	19	10.9
Textile	17	9.8
Electric and electronic	11	6.3
Construction	8	4.6
Paper, plastic ve package	15	8.6
Automotive	11	6.3
Furniture	21	12.1
Service	19	10.9
Others	22	12.6

from SMEs and applying web based survey and considering the possible low rate of return, 1000 companies are determined and it is planned to survey these determined companies.

Since the database is not up-to-date and there is missing information for the some of the selected companies, communication information could not be gathered for some companies. In total e-mails were sent to 892 companies and this was repeated three times with one week interval. 236 companies could not be reached because of the problems in their e-mail adresses. From remaining 656 companies, despite the repeated e-mails, only 187 of them filled the survey. From these filled forms, 6 of them were not taken to evaluation since they were not filled fully, data from the remaining 181 companies have been analysed as employable data.

The sectoral distribution of these companies are in Table 5. In the option of "others"; there are companies from different sectors such as consultancy, health, advertisement, architecture, insurance, information technology. The companies from different sectors in the option "others" are the first with 12.6%.share. This is followed by furniture (12.1%), metal (11.5%).and machine-equipment and service sectors (10.9%).

In Table 6, the distribution of the companies according to the number of employee is shown. Micro scaled companies are the first with 42.5%. They are followed by small companies with 32.4% and medium sized companies with 25.1.

Structured survey technics is used for collecting the data. Survey is performed with the application of web-based database on internet. The answering of the questionnaires have been ensured by directing the companies to the questionnaire form with the web link given in the e-mail and saving the answers immediately in the database. The questionnaire consists of four parts. In the first part, there are four statements to measure the companies' supply chain integration level; in the second part, there are twelve statements to measure the companies' competitive capabilities; in the third part, there are nine statements to measure the business performance. In the fourth part, five demographic questions about companies are asked.

Table 6: The distribution of companies according to number of employee

	n = 179	
	f	%
1-9 Employee	76	42.5
10-49 Employee	58	32.4
50-250 Employee	45	25.1

The four statements in the first part of the questionnaire have the purpose of determining the level of supply chain integration of businesses (Table 1). These statements have been taken from study of Rosenzweig *et al*. (2003). The reliability of the scale is found to be highly reliable with 0.873 Cronbach Alpha value.

The twelve statements in the second part of the survey have the purpose of determining the businesses' competitive capabilities (Table 2). These statements have been taken from studies of Rosenzweig *et al*. (2003) and Kim (2006). The scale has been found to be highly reliable (0.907).

The nine statements in the third part of the survey have the purpose of determining the business performance (Table 3). These statements have been taken from studies of Kim (2006), except customer satisfaction level and complaints from Rosenzweig *et al*. (2003). The scale has been found to be highly reliable (0.833).

There is positive and significant relation between the supply chain integration and each competitive capability and performance variable (Table 4) except for the customer satisfaction factor ($p \leq 0.05$).

Analysis of data: The data obtained from the survey are analyzed in SPSS 15.0 for Windows. regression analysis

Table 7: The Effect of Supply Chain Integration on Competitive Capabilities

Independent variables	Cost leadership	Customer service	Flexibility	Product indicators
Constant	2.428 (0.000)	2.818 (0.000)	2.622 (0.000)	3.857 (0.000)
Integration	0.393 (0.000)	0.557 (0.000)	0.481 (0.000)	0.404 (0.000)
R^2	0.108	0.399	0.202	0.220
F	20.669	115.942	43.412	49.400
df	(1.171)	(1.175)	(1. 172)	(1.175)
P	0.000	0.000	0.000	0.000

*: p values for parameters are provided in the paranthesis; Significant parameter forecasts for each dependent variable($p \leq 0.05$) are shown as bold

Table 8: The effect of competitive capabilities and supply chain ıntegration on performance

	Market performance		Financial performance		Customer satisfaction	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	0.911 (0.052)	0.811 (0.079)	0.962 (0.018)	0.906 (0.025)	2.782 (0.000)	2.725 (0.000)
Cost Leadership	0.000 (0.996)	- 0.016 (0.777)	0.167 (0.001)	0.158 (0.002)	- 0.006 (0.927)	- 0.016 (0.824)
Customer Service	0.091 (0.320)	- 0.026 (0.800)	- 0.077 (0.330)	- 0.141 (0.110)	- 0.112 (0.311)	- 0.179 (0.149)
Flexibility	0.235 (0.002)	0.217 (0.004)	0.161 (0.015	0.150 (0.023)	0.028 (0.759)	0.017 (0.853)
Product Indicators	0.332 (0.001)	0.316 (0.001)	0.356 (0.000)	0.348 (0.000)	0.263 (0.023)	0.254 (0.028)
Integration		0.198 (0.013)	0.110 (0.110)	0.114 (0.237)		
R^2	0.321	0.347	0.355	0.365	0.043	0.051
F	19.543	17.414	22.730	18.872	1.831	1.750
df	(4.165)	(5.164)	(4.165)	(5.164)	(4.164)	(5.163)
P	0.000	0.000	0.000	0.000	0.125	0.126
R^2 Change		0.025	0.010		0.008	
F Change		6.361	2.575	1.407		
d.f.		(1.164)	(1.164)	(1.163)		
p(Change)		0.013	0.110		0237	

*: The p values for the parameters are given in the paranthesis; Significant parameter forecasts and "F value change" ($p \leq 0.05$) for each dependent variable is shown as bold

is used for determining the effect of supply chain integration on competitive capabilities. Hierarchical regression analysis is used in determining the effect of competitive abilities and supply chain integration on business performance.

Findings: First, Findings of the effects of integration on Competitive Capabilities is given, then, Findings about the effect of competitive capabilities and supply chain integration on business performance are given.

Findings about the effect of supply chain integration on competitive capabilities: All the regression models built for supply chain integration and each subtitle of competition capability are found significant (Table 7). It is seen that high integration level affects cost leadership ($\beta = 0.393$; $p = 0.000$), customer service ($\beta = 0.557$; $p = 0.000$), flexibility ($\beta = 0.481$; $p = 0.000$) and product indicators ($\beta = 0.404$; $p = 0.000$) in a positive way. With these information, the hypothesis that supply chain integration has positive effects on capabilities of cost leadership (H1a), customer service (H1b), flexibility (H1c) and product indications (H1d) are accepted.

Findings about the effect of competitive capabilities and supply chain ıntegration on business performance: Hierarchical regression model is built for determining the effect of the competitive capabilities and supply chain integration on business performance. For this purpose, in the Model 1, regression models are built between the competitive capabilities and subtitles of performance; in Model 2, integration variable is added to this model in Table 8.

Findings about the effect of the competitive capabilities on the business performance: The regression models built between the competitive capabilities and market performance and financial performance are found to be significant (Table 8). However the model between the competitive capabilities and customer satisfaction, which is subtitle of performance, is not found to be significant. Market performance is affected by flexibility ($\beta = 0.235$; $p = 0.002$) and product indicators ($\beta = 0.332$; $p = 0.001$). Financial performance is affected by cost leadership ($\beta = 0.167$; $p = 0.001$), flexibility ($\beta = 0.161$; $p = 0.015$) and product indicators ($\beta = 0.356$; $p = 0.000$).

The hypothesis (H2a) that cost leadership capability has a positive effect on the business performance can be partially accepted. It is found that cost leadership has significant effect only on financial performance ($\beta = 0.167$; $p = 0.001$) and does not have significant effect on market performance ($\beta = 0.000$; $p = 0.996$) and customer satisfaction ($\beta = -0.006$; $p = 0.927$). No significant effect of the customer service ability on any subtitles in performance is detected, so the hypothesis (H2b) that customer service capability has positive effect on business performance is rejected. It is found that flexibility capability has significant effect on market performance ($\beta = 0.235$; $p = 0.002$) and financial performance ($\beta =$

0.161; p = 0.015). However no significant effect on customer satisfaction (β = 0.028; p = 0.759) is determined. While significant effect of product capabilities on market performance (β = 0.332; p = 0.001) and financial performance (β = 0.356; p = 0.000) is determined, no significant effect on customer satisfaction (β = 0.263; p = 0.023) is found. The hypothesis (H2c and H2d) that flexibility and product capabilities have positive effects on business performance can be partially accepted.

The findings about the effect of the supply chain ıntegration on business performance: In deciding the effect of the supply chain integration on the performance of the SMEs', it is considered whether the change in F value between the Model 1 and Model 2 in Table 8 is significant or not. Only the model between the integration and market performance is found to be significant. According to the model, integration affects the market performance in a direct positive way (β = 0.198; p = 0.013). No significant effect of integration on financial performance (β = 0.110; p = 0.110) and customer satisfaction (β = 0.114; p = 0.237) is found. Only this model is not sufficient to support the hypothesis (H3) that supply chain integration has a positive effect on the business performance.

Flexibility (p = 0.004) and product indicators (p = 0.001) from competitive capabilities indirectly contribute to significant effect of the integration on the market performance (β = 0.198; p = 0.013). No direct significant effect of integration on the financial performance is found (β = 0.110; p = 0.110), but by the help of cost leadership (p = 0.002), flexibility (p = 0.023) ve product indicators (p = 0.000) from competitive capabilities indirectly affect this relationship. Similarly, no direct significant effect of integration on customer satisfaction has been found (β = 0.114; p = 0.237), however has indirect effects on customer satisfaction through product indicators (p = 0.028).

CONCLUSION

In this research, the effect of supply chain integration on the companies' competitive capabilities and performance is examined. It is found that the supply chain integration affects the competitive capabilities positively. All models built between the supply chain integration and subtitles of the competitive capabilities (cost leadership, customer service, flexibility and product indicators) are found to be significant. This result is compatible with the result of Rosenzweig *et al.* (2003). In the models built between the competitive capabilities and performance; while it is found that competitive capabilities affect market performance and financial performance in a positive way, no significant effect on customer satisfaction is found.

When the supply chain integration intensity is added to the model, which examines the effect of competitive capabilities on performance, it is found that integration only affects the market performance in a direct positive way. In the study of Rosenzweig *et al.* (2003), competitive capabilities affect dependent variables of performance (customer satisfaction, sales increase and assets' return). When the competitive capability variables which affect the performance variables are examined, results are not much compatible with this study. Kim (2006) found that competitive capabilities have indirect effect on the performance of small companies and have direct and significant effect on bigger companies. He mentioned that supply chain integration plays a critical role in the performance increase of small companies. When we consider the fact that our study is made on SMEs and compared to the study of Kim (2006), it can be mentioned that it is not compatible with this study, even it has opposite results since competitive capabilities partially affect the performance and supply chain integration has effect only on market performance.

Today, companies use enterprise system packages to integrate their internal functions. By achieving internal integration with enterprise systems, shared database will be used for company's all functions, there will be gains such as improvements in information flow and processes in the company. Transactions between companies will be performed more effectively by information sharing in supply chain with integrating with customers and suppliers. The internal integration and externel integration of the companies in the supply chain, will ensure that companies to be more competitive.

By considering the limitiations that research's sample is small and performing it on SME's; it can be mentioned that SME's which form close relationship with their suppliers and customers will affect their competitive capabilities in a positive way and competitive capabilities will partially affect the performance in a positive way.

ACKNOWLEDGMENT

We would like to thank all respondents who reply our survey from SMEs in Turkey.

REFERENCES

Ayers, J., 1999. Supply Chain Strategies, Information Systems Management, Spring 1999.

Bas, 2003. Türker, Survey, Seçkin, Ankara.

Devaraj, S., L. Krajewski and J.C. Wei, 2007. Impact of ebusiness technologies on operational performance: The role of production information integration in the supply chain. J. Oper. Manage., 25: 1199-1216.

Fabbe-Costes, N. and M. Jahre, 2007. Supply chain integration improves performance: The Emperor's new suit. Inter. J. Phys. Distribution Logistics Manage., 37(10): 835-855.

Frohlich, M.T. and R. Westbrook, 2001. Arcs of integration: An international strategy of supply chain strategies. J. Oper. Manag., 19: 185-200.

Kim, S.W., 2006. Effects of supply chain management practices, integration and competition capability on performance. Supply Chain Manag. Inter. J., 11(3): 241-248.

Kobinet, 2008. Retrieved from: www.kobinet.org.tr.

Koh, S.C.L., M. Demirbag, E. Bayraktar, E. Tatoglu and S. Zaim, 2007. The impact of supply chain management practices on performance of SMEs. Indus. Manage. Data Syst., 107(1): 103-124.

Leavy, B., 2006. Supply Chain Effectiveness: Strategy andIntegration.HandbookofSupplyChainManageme nt,EmeraldGroupPublishingLimited.pp:331336,ISS N: 0894-4318, DOI: 10.1108/10775730610619025.

Lee, C.W., I.G. Kwon and D. Severance, 2007. Relationship between supply chain performance and degree of linkage among supplier, internal integration and customer, supply chain management. Inter. J., 12(6): 444-452.

Narasimhan, R. and S.W. Kim, 2002. Effect of supply chain integration on the relationship between diversification and performance: Evidence from Japanese and Korean firms. J. Oper. Manag. 20(3): 303-323.

Özdemir, A.İ., 2009. The Effect of supply chain Integration on product quality: The case of Turkish SMEs. Proceedig of the International Conference on Business and Technology, Baltimore, USA, pp: 179-192.

Peck, H. and U. Juttner, 2000. Strategy and Relationships: Defining the Interface in Supply Chain Context. Inter. J. Logistics Manage., 11(2): 33-44.

Rosenzweig, E.D., A.V. Roth and J.W. Dean, 2003. The influence of an integration strategy on competitive capabilities and business performance: An exploratory study of consumer products manufacturer. J. Oper Manag., 21: 437-456.

Sezen, B., 2008. Relative effects of design, integration and information sharing on supply chain performance, supply chain management. Inter. J., 13(3): 233-240.

Simatupang, T.M. and R. Sridharan, 2002. The collobrative supply chain. Inter. J. Logistics Manage., 13(1): 15-30.

Stevens, G.C., 1989. Integrating the Supply Chain. Inter. J. Phys. Distribution Logistics Manage., 19(8): 3-8.

Tracey, M., M.A. Vonderenbse and J.S. Lim, 1999. Manufacturing Technology and strategy formulation: Keys to enhancing competitiveness and improving performance. J. Oper Manag., 17: 411-428.

Vickery, S.K., C. Droge and R.E. Markland, 1993. Production competence and business strategy: Do they affect business performance? Desicion Sci., 24(2): 435-455.

Vickery, S.K., C. Droge and R.E. Markland, 1994. Strategic production competence: convergent, discriminant and predictive validity. Prod. Oper Manag., 3(4): 308-318.

Vickery, S.K., J. Jayaram, C. Droge and R. Calonte, 2003. The effects of an integrative supply chain strategy on customer service and financial performance: An analysis of direct versus indirect relationships. J. Oper. Manag., 21(23): 523-539.

Ward, P.T., G.K. Leong and K.K. Boyer, 1994. Manufacturing proactiveness and performance. Desicion Sci., 25(3): 337-358.