



Supply Chain Integration and Firm Performance: The Food (Fast-Food) Delivery Service industry

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ABSTRACT: Over the years, the concept of Supply Chain Integration (SCI) and its effect on firm performance has been an essential topic of interest in the field of Supply Chain Management (SCM). Previous research on SCI and firm performance concentrated much on the manufacturing industry with less focus on other fast-growing industries. This research mainly focused on determining the impact of Supply Chain Integration on performance in the fast food delivery service industry. The firms were selected based on their size and frequency of deliveries they make to customers. The research was conducted in a metropolitan city in Turkey with a considerable number of fast food delivery firms and moreover, with customers whose demand for fast food is essentially high. The results of this study further compliment the growing evidence which depicts a positive relationship between SCI and firm performance. On the contrary, this research also contradicts some of the results of the earlier research on Supply Chain Integration. Analysis of the results and regression showed that internal integration is positively related to external integration and firm performance. However, the correlation coefficients between internal and external integration showed high relationship while the relationship between the internal integration and firm performance showed a very feeble relationship but was significantly related. Similarly, external integration significantly has a positive relationship with firm performance but their relationship was however weak but they were significantly related.

Keywords: Supply chain management, Supply Chain Integration, internal integration, external integration and firm performance.

I. INTRODUCTION

The theory of Supply Chain Management (SCM) has undergone several changes over the decade. Supply chain basically encompass companies or business activities needed to design, make or deliver and use a product or service. SCM can be defined as “a network that includes vendors of raw materials, plants that transform those materials into useful products, and distribution centers to get those products to customers” [1]. SCM also known as the value chain, is the sequence, which involves producing and delivering of a product or service.” Stank, Keller and Daugherty suggested that the concept of supply chain management contains the package of activities which include planning, implementing, and control – sourcing, manufacturing and delivery processes from the point of raw material origin to the point of consumption [2]. The supply chain does not only include the manufacturer and suppliers, but also transporters, warehouses, retailers and customers themselves [3]. Supply chain management incorporates logistics management of a firm. Logistics is normally considered as that aspect of supply chain management that adds value to the supply chain process [4]. Over the decade, the trend in supply chain management has changed from internal process to integration of key business processes across the chain [5].

Current challenges faced by manufacturing firms have caused them not only to focus on improving internal efficiencies but the supply chain as well [6]. In addition to these challenges, there is a lot of increasing pressure for firms to include external organizations in the product development process for the distinct purpose of reducing time-to-market on new product introductions [7]. It is futile to continuously increase or improve the internal operation without improving the firm’s activities with the external world [8]. Corbett et al. indicated that in the last decade, supply chain management has inculcated the philosophy of extending or maximizing services to customers and forging closer relationship to suppliers of firm’s materials. This philosophy often influences firms to move away from arms-length transactions towards longer term, partnership – type arrangements for the distinct purpose of creating highly competitive supply chains [9]. Linden further illustrated that original scope of supply chain has been across firms although some firms are integrating within before expanding to other firms [10]. Meaning, firms have adopted the system of collaboration of supply of chain or supply chain collaboration by firstly integrating activities within the firms and extending such integration or

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collaboration to its outside partners (suppliers and customers). Many researchers have established the reasons why firms need close and integrated relationship between manufacturers and their supply chain partners [11],[12] and [13].

Supply chain integration is generally considered to involve integration, coordination, and collaboration across organizations and throughout the supply chain. Supply chain integration does not only involve suppliers, customers, and firms participating in production and distribution of products but effective integration involves mutual understanding, a common vision, shared resources and achievement of goals [14]. In simple terms, integration involves coordinated efforts within the organization and extending such collaboration to outside partners of the firm to achieve maximum performance of firms. Various researches in supply chain integration focused much on internal applications, that is, interrelationships and trade-offs within firms [15]. Currently, much attention has moved from internal operations to extending relations with customers, and suppliers. Supply chain integration comes in three dimensions; internal integration, supplier integration, and customer integration. Some of the earlier authors also categorize supplier and customer integration simply as external integration. This study, however, considers two dimensions of integration; internal and external. Moreover, external integration in this study, implies customers and suppliers' integration. Stevens confirmed that integration process has four phases; baseline, internal functional integration, integrating supply and demand along the company's own chain and full chain integration [16]. Research has also confirmed that internal integration must be effective for external integration to function effectively and efficiently. Stevens also suggested that internal integration induces effective external integration and therefore firms must concentrate more on internal affairs [17]. Before the act of integration takes place, firms must be willing to share information, coordinate ideas with suppliers and customers. Total Quality Management literature furthermore suggest that, for manufacturing firms to effectively produce new products it must collaborate extensively with the supply chain entities [18], [19] and [20]. During the act of integration, each partner in the supply chain consistently share knowledge thereby, creating one common knowledge.

Earlier research has proven the advantages firms have derived from integrating operations with suppliers and customers; firms have maximum efficiency and increased productivity[21] and [22]. Currently, in the manufacturing industry, the successful manufacturers are those that have adopted and closely linked their internal process to external suppliers and customers in unique supply chains [23]. Additionally, when supply chain entities work in consistent harmony with each other, transaction-specific know-how accumulates [24]. When any of the entities in the supply chain undermine the goals of other partners then further with their own goals, the manufacturing system becomes sub-optimized [25].

Even though, many investigations have been conducted on supply chain integration, many authors have suggested for more careful study into the relationship between manufacturers and supply chain partners [26], [27] and [28]. A careful study conducted revealed that research into other sectors of supply chain such as retailers and customers are limited. Majority of the researches have been conducted in other western cultures [29], [31], [32], [33], [34] and [35] with none focusing on the Turkish industry. For the current debate on supply chain integration and firm's performance to be valid and reliable, series of research must be conducted on the other aspect of the supply chain such as retailers and wholesalers and more specifically on the other non-manufacturing firms (service industry) such as food delivery firms. This study will focus on food retail industry in Turkey with major consideration on the fast-food delivery service industry. The fast food delivery industry has been a growing one in the world currently. Many food retailers in Turkey has extended their services to include delivery. In view of the continuous benefits integration provides to firms, this research seeks to investigate whether these fast food firms have integrated with their supply chain partners and furthermore, investigate the benefits these firms have derived from integration so far.

Fast food industry in Eskisehir is divided into about 82 districts. Each district contains a considerable number of fast food firms. Firms in the fast food industry in this city are both small and medium scaled. One fast food firm may have subsidiaries in almost all the districts. Majority of the renowned fast food firms in the world such as Macdonalds, KFC, Burger King and many more are present in this city. These firms do not only offer the world's most popular fast foods, but also some of the Turkish local fast foods which includes doner and other famous Turkish cuisines. The total number of fast food firms in Eskisehir is approximately 300, however, this research classified all the subsidiaries and the head office as one. Moreover, this number includes both small scaled firms where the number of activities performed in these firms does not include supply chain processes/activities and medium scaled firms where supply chain activities are present in the firms' transactions. This research, however, targeted the medium scaled firms since their activities were massive enough to be useful for this research.

Therefore, the main purpose of this study is to explore the impact of integration activities on firm's performance in the fast food delivery services industry in Turkey by mainly examining the relationship between internal and external integration and the impact integration has on firm's performance in the industry. This research is to contribute to the existing literatures of supply chain integration and performance in three ways; whether fast food firms practice integration, secondly, whether internal integration has actual effect on external

integration and whether both external and internal integration have a positive relation with firm performance. The rest of the paper would be conducted as follows; the next section will present the findings from the literatures and simultaneously develop the hypotheses. The subsequent section will describe the methodological approach, how the questionnaires were developed and how data was collected. The next section will discuss the findings from the research. The last section will present the main conclusions and provide suggestions for future research.

II. LITERATURE REVIEW

This section reviews the findings from previous studies, discuss few theories related to this study, define the variables and further develop the hypotheses for the study.

Increase in global competition has made manufacturing firms consider the need for cooperative, mutually beneficial supply chain partnerships [36]. Current researchers in supply chain management has become more interested in the integration of firms' activities to include customers and suppliers. The concept of supply chain integration has received many attention and have become subject of interest to many researchers [37]. Even though, many investigations have been conducted on supply chain integration, many authors have suggested the need for more careful study into the relationship between manufacturers and supply chain partners [38] and [39]. Currently, the integration of suppliers, customers and manufacturers has become feasible, making room for SCI to be studied [40]. More so, forming collaboration with customers and suppliers has been the current practice of many supply chain managers. Mostly, collaboration starts from customers and extends back to help improve firms from distribution of finished goods to manufacturing, raw material, as well as material and service suppliers [41]. For over a decade, manufacturing firms and therefore, supply chain managers have concentrated more on creating value for customers and forming a greater bond with its suppliers through supply chain integration [42], [43] and [44]. With enormous research conducted into SCI, none has been able to make clear the major influences of SCI [45] and research into other sectors of supply chain such as retailers and customers are limited.

Even though, different methods have been used by previous researchers, majority of them have concluded on supply integration having a positive influence on performance. For firms to achieve optimum performance from supply chain integration they must first have to integrate operations internally. Even though, most of the authors have the same conclusion on this issue, few of the previous study do not agree on that. This research is aimed at contributing to the debate on whether internal integration has a positive effect on external integration. Many authors have concluded that for integration and collaboration between supply chain partners to succeed, the partners must be willing to collaborate effectively with each other. Integration and collaboration can occur at either tactical or operational level. At the operational level, collaboration basically require consistent sharing of information where Stank concluded that:

“A new initiative called collaborative planning, forecasting, and replenishment; (CPFR) is an excellent illustration of the scope of collaboration in many of today's best practice firms”. [46]

At the tactical level, research has shown there involve two types of integration that firms adopt, the first involves integrating and coordination the physical flow of goods between customers, firms and suppliers [47] and [48]. The other type also involves several measures which includes implementing product postponement and mass customization [49]. Integration and collaboration of supply chain partners comes in several forms; namely internal, supplier integration and customer integration. Whilst some of the research have considered supplier and customer integration as external integration others also treated them separately. This research, however, considers customers and suppliers as an external integration. Many researchers have conducted several research into the establishing the relationship between supply chain integration and performance. Few of the research that relates to this work would be reviewed. Many research conducted into integration and performance proved there is positive relationship between supply chain integration and performance. All these research serve as a foundation for this current research and it gives a clearer picture of the outcome of this current study.

Other research have contributed to the relationship between supply chain integration and performance but this research will adopt and not necessarily replicate the framework of the reviewed literatures above. However, the only point of difference is that this research will concentrate on food delivery industry other than manufacturing and multi-industrial research conducted by the previous researchers. This research will also classify the customer and supplier integration into external integration.

Considering the literatures reviewed, supply chain integration is made up of two elements internal integration and external integration. External integration, consist mainly of the supplier and customer integration but this paper considers supplier and customer integration as external integration. The variables to be measured in this research are internal integration, external integration and business or firm performance.

1.1 Hypothesis

2.1.1 Internal integration

Internal integration in this research refers to the degree to which a firm can structure its organizational practices, procedures and behaviors into collaborative, synchronized and manageable processes in order to fulfill customer requirements [50]. Today's business activities and operations have given much importance to effective integration of suppliers, customers and manufacturers [51]. Narasimhan and Kim considered system-wide integration which is internal integration as an essential element and determinant of supply chain performance [52]. The need for constant flow of information, communication and collating of ideas within a firm is essential to improved supply chain performances. Firms often use Enterprise Resource Planning, real-time searching of inventory and operating data in different functional areas [53]. It involves the whole departments in a firm working together to achieve a common goal. The concept of synergy also states that the whole is greater than the sum of its component parts, achieving a cross functional behavior is essential, providing enough as to why firms need to be integrated internally [54]. Firms establishing good system-wide integration among the several functional areas in the organization improves delivery, growth and flexibility of the supply chain.

Various research has also concluded that for external integration to be strengthened and be strong, firms need stronger internal integration. Since internal integration overcomes the functional barriers within a firm and unifies the functional areas in the firm to meet customer's requirement than specification and departmentalization, it is expected to increase performance [55]. While some researchers found no direct relationship between internal integration and performance [56] and [57]) others found a positive relationship between internal integration and performance [58] and [59]. Research has also indicated that both internal and external integration influences firm performance. Droge asserted that both internal and external integration are related to market share and financial performance. Few of the research has concentrated on the other aspects of supply chain such as retailers [60]. This research argues that internal integration is positively related to the external integration of a retailer. Also, this research argues that internal integration has a positive relationship with firm performance.

H1: Internal integration has a positive relationship with external integration of a fast food delivery service firm.

H2: Internal integration has a positive relationship with firm performance of a fast food delivery service firm.

2.1.2 External Integration

External integration refers to the degree to which a firm can partner with its key supply chain members (customers and suppliers) to structure their inter-organizational strategies, practices, procedures and behaviors into collaborative, synchronized and manageable processes in order to fulfill customer requirements [61]. External integration involves firms forming strong alliances with customers and suppliers, developing strong partnerships, sharing of pertinent information to overcome market problems by developing good strategies [62] and [63]. Consistent sharing of information, planning with suppliers, obtaining feedback from customers consist good practices of external integration. Research has confirmed that external integration is the most essential part of the supply chain [64] and [65]. Effective management of a firm's external environment leads to increased performance both operational and business [66]. The above evidence reveals that, external integration can be further classified into customer and supplier integration. Flynn asserted that;

“A close relationship between customers and the manufacturer offers opportunities for improving the accuracy of demand information, which reduces the manufacturer's product design and production planning time and inventory obsolescence, allowing it to be more responsive to customer needs. Because customer integration generates opportunities for leveraging the intelligence embedded in collaborative processes, it enables manufacturers to reduce costs, create greater value and demand changes more quickly”. [67]

Many researchers share opposite views on the effect of external integration on performance. This research proposes a positive relationship between external integration and firm performance.

H3: External Integration has a positive relationship with firm performance of a food delivery service firm.

2.1.3 Firm Performance

Performance in supply chain management is measured firstly, from the supplier's angle and from the supply chain's angle. Additionally, performance could be further categorized into operational and business performance. However, this research only considers operational performance aspect of firms. With the operational performance measurement, previous authors have adopted several metrics such as replenishment lead time, on-time performance, supply flexibility, delivery frequency, quality, viability, information coordination capability and much more. Nonetheless, the most widely used are quality, increase productivity and efficiency, return on assets, cost, dependability and many more. This work will adopt the operational performance metrics in trying to measure the firm performance.

III. CONCEPTUAL MODEL

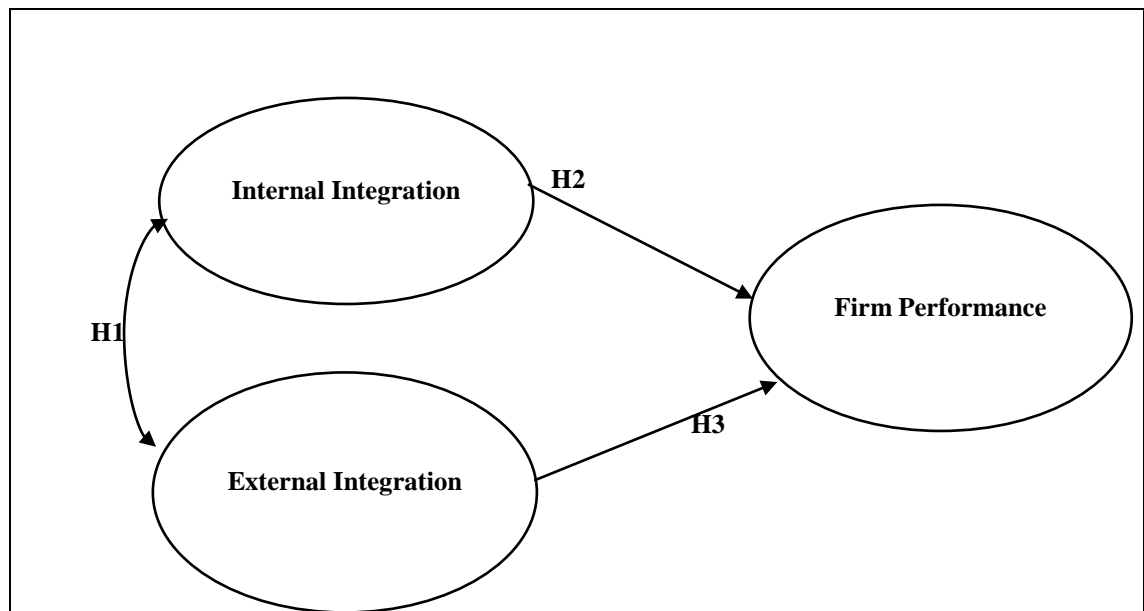


figure 1-conceptual model with the hypotheses

IV. METHODOLOGY

In this section, first the development of measures would be described and the sample design. Second, the procedures used to analyze the data will also be discussed.

5.1 Development Of Measures

The questionnaire designed purposely for this study was adopted from the survey instrument developed by Stank, Keller & Daugherty [68]. In the first part of the questionnaire, firms were asked to measure their internal integration with five items on a five-point scale where 1=strongly disagree, 5=strongly agree. The variables used in measuring the internal integration are presented in Table 1 below.

The second part of the questionnaire measured the external integration activities of the firms with six items. Firms were asked to measure their external integration activities on five-point scale where 1=strongly disagree to 5=strongly agree. The variables used in measuring the external integration activities are indicated in Table 1 below.

The third section of the questionnaire measured firm performance. Items regarding firm performance used a slightly different scale where 1=worse than competitors to 5=better than competitors. Seven items were used in measuring firm performance.

Part of the questionnaire contained list of various kinds of foods offered by the respondents. Respondents were asked to choose the kind of services/foods they offer from this list provided. To ascertain whether these firms have supply chain managers, the respondents were also asked to state their title in the firm.

Table 1 Questionnaire Items

<p>Internal Integration Int 1 My Firm Maintains An Integrated Database And Access Method To Facilitate Information Sharing. Int 2 My Firm Effectively Shares Operational Information Between Departments. Int 3 My Firm Has Adequate Ability To Share Both Standardized And Customized Information Internally. Int 4 My Firm Provides Objective Feedback To Employees Regarding Integrated Logistics Performance Int 5 My Firm’s Compensation, Incentive And Reward Systems Encourage Integration. External Integration Ext 1 My Firm Effectively Shares Operational Information Externally With Selected Suppliers And/Or Customers. Ext 2 My Firm Has Developed Performance Measures That Extend Across Supply Chain Relationships.</p>
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Ext 3 My Firm Experiences Improved Performance By Integrating Operations With Supply Chain Partners.
Ext 4 My Firm Has Supply Chain Arrangements With Suppliers And Customers That Operate Under Principles Of Shred Rewards And Risks.
Ext 5 My Firm Has Increased Operational Flexibility Through Supply Chain Collaboration.
Ext 6 My Firm Benchmarks Best Practices/Processes And Shares Results With Suppliers.
Firm's Performance
Log 1 The Ability To Reduce The Time Between Order Receipt And Customer Delivery To As Close To Zero As Possible.
Log 2 The Ability To Meet Quoted Or Anticipated Delivery Dates And Quantities On A Consistent Basis.
Log 3 The Ability To Respond To The Needs And Wants Of Key Customers.
Log 4 The Ability To Provide Desired Quantities On A Consistent Basis.
Log 5 The Ability To Modify Order Size, Volume Or Composition During Logistics Operation.
Log 6 The Ability To Accommodate Delivery Times For Specific Customers.
Log 7 The Global Judgement Regarding The Extent To Which Perceived Logistics Performance Matches Customer Expectations.

Because, the limitation of the study is Turkey, the survey instrument was translated from English to Turkish language by a Linguistic Experts and was assessed by faculty members and research assistants at Anadolu University whether the translated instrument had the exact meaning as the English version of the questionnaire. The Turkish version was again translated back into English by another linguistic expert and then the translated English version was checked on sentence by sentence basis to check against the original English version. This was done to assess the discrepancy level. The Turkish version was then administered to respondents.

The research was conducted in a metropolitan city in central Turkey with quite a number of fast food firms. This city was selected because of the substantial amount of customers it has with majority of them being students and because all the major fast food firms in Turkey have subsidiaries in this city. Stratified sampling method was then used to select firms from each district based on the frequency of demand of services and deliveries to customers.

The questionnaire was sent to each firm or the strategic business units. In total, 150 questionnaires were distributed to the participants. 56 validated responses were received from the respondents. This represents 37.33% response rate. Similarly, other studies also have worked with a low response rate; Groves and Valsamakis worked with a response rate of 15%, Stank, Daugherty and Autry also worked with a response rate of 20.2%, Stank, Keller and Daugherty also worked with a response of 11.5% and Gimenez and Ventura worked with a response rate of 32.3%. [69]

27 General Managers, 17 owners, 6 service managers, 4 cashiers and 2 supply chain managers responded to the questions that was provided. In response to the question as to whether firms have supply chain managers, 27 of the respondents answered positively to the question while 27 responded negatively to the question. Two firms declined to answer the question. This research was conducted on firms with food items such as pizza, doner, pide, burgers, rice, waffles, fried chicken, sandwiches, French fries and many more.

An analysis of non-bias was conducted. Overton and Armstrong [70] require responses to be numbered sequentially in the order they were received and comparisons between late and early responses to all model variables using T-test. No differences in terms of means were revealed. This affirms that there is no evidence of response bias.

Principal components and confirmatory factor analyses were conducted on the variables to test their validity and reliability and unidimensional characteristics for each of the factors [71]. Also, for each of the variables, internal consistency was ascertained and validity was further tested using Cronbach Alpha [72] and [73]. The analyses revealed positive, valid and reliable features of the variables. Table 2 contains the principal component scores and it also contains the variables' one factor solutions as described by Stank et al., [74]. Statistically, all factors that meet or exceed .60 are normally considered valid for the analysis. With the exception few of the factors not meeting the required point, all other factors meet or exceed 0.60. The table also addresses the concept of reliability (Cronbach Alpha Test). Generally, values of Cronbach Alpha exceeding 0.60 are considered reliable for analysis [75] and [76]. In table 2 below, Cronbach Alpha for all the constructs ranged from .78 to .90 which signifies a reliable survey instrument. The table also provide enough insight into how deletion of any item would not improve the reliability of the scales.

Table 2 Reliabilities and Principal Component Scores

ITEMS	Pc Scores	Factor Scores	Item-To-Total Correlation	Alpha If Deleted	Cronbach Alpha For Scale
Internal Integration					.780
INT 1	.658	0.81	.500	.758	
INT 2	.666	0.93	.556	.739	
INT 3	.767	0.40	.705	.687	
INT 4	.594	0.40	.602	.728	
INT 5	.855	0.54	.440	.781	
External Integration					.848
EXT 1	.529	1.01	.542	.843	
EXT 2	.759	0.35	.715	.807	
EXT 3	.570	0.81	.469	.850	
EXT 4	.713	0.43	.669	.814	
EXT 5	.708	0.42	.708	.809	
EXT 6	.710	0.54	.704	.808	
Firm Performance					.905
LOG 1	.638	0.82	.619	.904	
LOG 2	.783	0.27	.804	.883	
LOG 3	.753	0.29	.789	.884	
LOG 4	.760	0.21	.808	.881	
LOG 5	.807	0.42	.815	.880	
LOG 6	.654	0.86	.706	.894	
LOG 7	.537	0.84	.545	.911	

V. RESULTS

The main aim of this research was to measure and explore both internal and external integration of Fast Food sellers. Secondly, the additional purpose was to test how these internal and external integration influences the performance of firms. For this purpose, the theoretical framework was subjected to an analysis using Structural Equation Modelling via AMOS. This section contains the detailed analysis of the test of the hypothesis and overall model fit.

In structural equation modelling, determining the fit of the model is a major determinant factor of the accuracy of the model and the gateway for accurate regression analysis [77]. Although, the model fit conducted initially, provided weak measures, adjustments were made in the modification indices to achieve a good and supporting model fit. The chi-square was significant (115.372, df=85 and p=.016). The adjustments made to the model also provided a good support for the model (GFI=.809; CFI=.93; RMR=.098, RMSEA=.081; NNFI=.792; PCLOSE=.106; IFI=.93). The analysis would further be depicted on table 3 below.

Table 3 Model Fit Indices

χ^2	DF	P VALUE	GFI	CFI	RMR	RMSEA	NNFI	PCLOSE	IFI
115.372	85	0.016	.809	.93	.098	.081	.792	.106	.93

In Table 3 above, The Goodness of fit index (GFI), Comparative Fit Index (CFI) and others such as Incremental Fit Index (IFI) were conducted. The normal and recommended fit level is .90 but the values in-between zero and one are also considered. The higher index coefficients, therefore, represents high levels of goodness of fit. Even though, some of them are not showing the required fit, they are considered as acceptable for further analysis [78], [79] and [80]

VI. RESULTS OF HYPOTHESIS TESTING

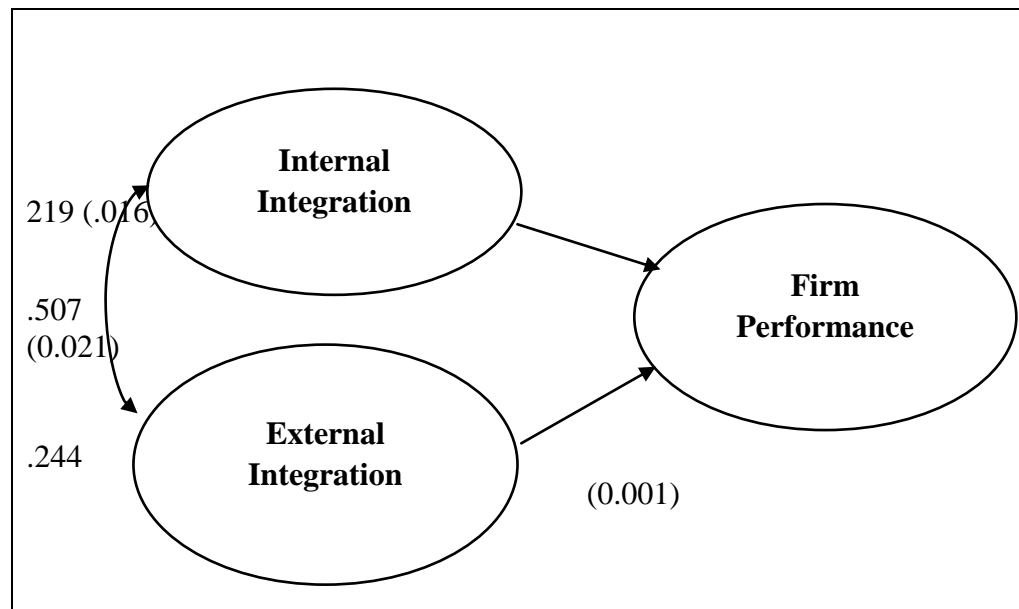


Figure 2-the regression coefficients are written on top of the significant values which are in parenthesis.

In “Fig.2” above the items in the parenthesis represent the p-values. The conceptual model above provides the summary of the results of the hypothesis. With the analyses of indices provided above and multiple analysis of the significance, magnitude and each parameter coefficient, the hypothesis can be firmly discussed. Internal integration is significantly related to external integration. Meaning, the effective collaboration of internal activities of fast foods firms has a positive relationship with external collaboration. The correlation coefficient of .507 represents high correlation. Hypothesis 1 is highly supported. Internal integration has a positive relationship with firm performance. This relationship is highly significant. Internal integration of the firms improves the speed at which foods are delivered, customer satisfaction, high levels of flexibility, helps firms in reducing cost and delivery dependability. However, correlation coefficient of .219 represents a weak relationship between internal integration and firm performance. Even though, Hypothesis 2 is supported there is a weak relationship between the two variables. External integration is significantly related with firm performance. However, correlation coefficient of .244 represents a weak relationship between external integration and firm performance, even though hypothesis 3 is supported by the analysis, there is a weak relationship between the two variables.

VII. IMPLICATIONS AND CONCLUSIONS

All the hypotheses of this research are supported by the analyses. The research found that there is a positive relationship between internal integration and external integration being the highest correlating factors in the analysis. This greatly suggests that the internal practices of firms have a positive influence on the relationship the fast food business have on external partners (suppliers and customers). The research discovered that fast food firms, internally operated under the principle of shared reward and risk, clearly defined specific roles and responsibilities and these roles are being designed in collaboration with their supply chain partners mainly suppliers and customers. The research also found that on the verge of practicing internal integration adequately, firms adequately share both standardized and customized information within the organization. Objective feedback of business performance is effectively communicated to employees and the firms’ compensation, incentive and reward system all effectively encourages integration in the firm. Clearly, the strong internal integration practiced in the firms enables them to share operational information with suppliers and/or customers. The strong collaboration in the firm also enables them to develop performance measures that extend across supply chain relationships. The extensive collaboration with supply chain partners enables firms to develop operational flexibility and helps them to benchmark best practices/processes and communicate the emerging results with suppliers. Apparently, the effective external integration is influenced by a strong and effective internal integration. The more firms are organized internally, the more cordial the relationship could be extended to suppliers and customers. The positive relationship between external integration and internal integration suggest that firms and for that matter fast food firms should continue developing more measures internally and collaborate more with external suppliers to increase firm performance.

The research also confirmed a positive relationship between internal integration and performance. Although, the relationship exhibited in the analysis depicts a meagre influence on firm performance, the truth cannot be denied that a strong collaboration between firms internally would improve the firm's performance. However, this result contradicts with the findings of Gimenez and Ventura [81], who found a negative relationship between internal integration and firm's performance. The location and the kind of firms used in their research and this research could account for the differences in the results. But it can be concluded vehemently that, the strong relationship or collaboration in a firm; the shared reward and risk, effective communication between departments and some of the factors discussed above could influence the ability of the firm to deliver food quickly, improve their delivery dependability to customers and has helped firms to be highly responsible to customers. The effective internal collaboration has influenced firm ability to provide desired quantities of products to customers on consistent basis. It also influenced firms' ability to accommodate time for specific customers. As a result, customer satisfaction increased. However, the relationship is very weak but the significant relationship implies that firms should increase and improve their internal integration as this would generate an increased firm's performance.

External integration is significantly related to firm performance. This implies that firms' effective relationship with supply chain partners especially with customers and suppliers has a positive relationship with their performance. Effective information sharing, provision of performance feedback, joint decision making and benchmarking best practices/processes and simultaneously sharing every emerging result with suppliers and customers would increase the performance levels of firms. This finding, however, is contrary to the findings of Stank et al., [82] who found a negative relationship between external integration and firm performance. Fast food firms should, therefore, increase their level of external integration to improve their performance in delivery, cutting cost, flexibility, dependability and other important performance factors of the firms. This internal integration influences external integration which in turn increases and improves firm performance. From another perspective, internal integration is a mediating factor that improves the relationship between external integration and firm performance. The stronger the relationship of the internal collaboration of firms, the stronger the relationship between firms and external partners and the increased performance firms attain.

Despite the findings made by the research, it is an undeniable fact that the research has some limitations. Firstly, this research concentrated only on one city with the assumption that the city has more fast food firms which includes the branches of major fast food firms in Turkey. Due to this, this research cannot be generalized for all fast food firms in the country. Future research should concentrate on more fast food firms from different cities and compare the results of the effect of integration on performance from these cities with this research. Moreover, since external partners such as the suppliers and customers help improve the performance of firms, information is needed to be collected from these partners to assess their viewpoint on the satisfaction of services provided by firms and benefits they derive from integrating with firms. This re-affirms the recommendations made by Gimenez & Ventura [83] and Stank [84]. Further research is also needed to assess the drivers of supply chain integration since earlier researches have not been able to pinpoint the actual causes or drivers of integration. This gap was also identified by Flynn [85]. Supply chain Integration needs to be tested, clarified and researched further [86]. Due to this, several research into other areas of business and other partners is needed to solidify the real impact of supply chain integration and performance.

Moreover, respondents were not actually aware of the major issues in supply chain integration, the variables had to be explained to the owners and general managers of the fast food firms. Majority of the firms, have no supply chain managers. The firms are managed like sole proprietorships. These may affect the credibility of the results of this research. Future research can concentrate solely on assessing the supply chain activities of these firms and results clearly published with the aim of educating the firms. Since this research was aimed at refocusing the concentration supply integration research from manufacturing firms to firms from a different industry, future research can concentrate on measuring the impact of integration on performance of retailers specifically, grocery or delivery retailers.

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