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**E-BUSINESS UTILIZATION OF SMEs IN EXPORTING
PROCESS: A CASE STUDY OF DIKKAYA GROUP**

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DECLARATION

I hereby declare that this master's thesis/non-thesis master's term project titled as "E-Business Utilization of SMEs in Exporting Process: A Case Study of Dikkaya Group" has been written by myself in accordance with the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list. I verify all these with my honour.

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ABSTRACT

Master's Thesis

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The significant contribution of SMEs to the world economy implies the importance of SMEs' growth and survival. In this context, Turkish SMEs have been witnessing noticeable firm size growth, product and services diversity, and an increasing level of internationalization. On the other hand, SMEs are characterized by having limited resources, making exporting riskier and more challenging. Yet, technology has emerged as a key tool for improving business processes not only for large firms, but for SMEs as well.

This study examines ways that SMEs can utilize e-business in their internationalization processes. Moreover, this study aims to study the SMEs' utilization of e-business to improve export performance, by identifying and describing types of e-business tools that contribute to the improvement of export performance.

The case study method has been followed for this study about a Turkish SME, Dikkaya Group, which is a manufacturer of water control valves, and a distributor of national and international water control systems products. Dikkaya Group has been exporting various types of water control valves for an increasing number of foreign markets, mainly in Eastern Europe and the Middle East, and is aiming to fortify its presence in its foreign markets. For this case study, in-depth interviews with the exporting manager at Dikkaya Group and the export

department staff have been conducted concerning the firm's export markets and the followed business processes. In addition, observation over a period of 7 months within the firm has been considered for supporting the findings of the interviews.

The results of this study show that SMEs in general still lag behind large firms in e-business adoption, mainly due to their poor perception about e-business usefulness and ways of utilization. However, the increasing availability of affordable and customizable e-business tools within the firm can encourage its adoption by SMEs. E-business provides SMEs with efficient collection of relevant intelligence and transforming it to useful data for internal operations and for meeting their clients' needs on time through better communications, especially when applying an export-market orientation strategy. Thus, SMEs can gain competitive advantages over local competitors in foreign markets.

Dikkaya Group needs to be flexible and open for emergent decisions where business opportunities or requests arise. Thus, suggestions have been proposed for Dikkaya Group for improving its export performance through e-business tools, such as establishing an Open Source CRM system, benefiting from e-markets, and creating internal system for training staff.

Keywords: Exporting, E-Business, Small- and Medium Sized Enterprises, SMEs.

ÖZET

Yüksek Lisans Tezi

İhracat Sürecinde Küçük ve Orta Ölçekli İşletmelerin E-İşUygulamaları: Dikkaya

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Küçük ve orta ölçekli işletmelerin dünya ekonomisine olan önemli katkısı bu işletmelerin gelişiminin ve faaliyetlerini sürdürmesinin önemine işaret etmektedir. Bu bağlamda, Türkiye'deki küçük ve orta ölçekli işletmeler, farkedilir bir büyüme hacmi gelişiminin, ürün ve hizmet çeşitliliğinin ve uluslararasılaşma düzeyinde iyileşmenin öznesi konumundadır. Bunun yanı sıra, küçük ve orta ölçekli işletmeler kaynakların sınırlılığı ile bilinmekte ve daha riskli ve zorlu ihracat süreçlerine de konu olmaktadır. Bu noktada, teknoloji, yalnızca büyük işletmelerin değil; küçük ve orta ölçekli işletmelerin de iş sürecini geliştiren önemli bir araç olarak ortaya çıkmıştır.

Bu çalışma, küçük ve orta ölçekli işletmelerin uluslararasılaşma sürecinde e-iş yöntemlerini kullanma yollarını incelemektedir. Buna ek olarak, bu çalışma, küçük ve orta ölçekli işletmelerin ihracat faaliyetlerini iyileştirmede e-iş kullanımını, ihracat performansındaki gelişmeye katkıda bulunan e-iş araç türlerini tanımlayarak ve detaylandırarak incelemeyi amaçlamaktadır.

Bu çalışmada vaka analizi yöntemi kullanılmıştır. Araştırmada, küçük ve orta ölçekli bir işletme olan, tüm teknik tesisat kalemlerini içeren geniş bir ürün portföyünde üretim gerçekleştiren ve su kontrol sistemleri disrtibütörü Dikkaya Grubu inelenmiştir. Dikkaya Grubu sayısı sürekli olarak artan, çoğunlukla Güney Avrupa ve Ortadoğu'da bulunan ülkelere su kontrol valfi ihrac etmekte ve dış

pazardaki varlığını güçlendirmeyi amaçlamaktadır. Bu vaka analizi için Dikkaya Grubu’nun ihracat müdürü ve ihracat departmanı çalışanlarıyla, firmanın genel işletme ve ihracat pazarlama süreçlerine ilişkin geniş kapsamlı derinlemesine mülakatlar gerçekleştirilmiştir. Buna ek olarak, mülakatları desteklemek amacıyla firmada 7 aylık bir süre ile gözlem yapılmıştır.

Bu çalışmanın sonuçları, genel anlamda küçük ve orta ölçekli işletmelerin, e-iş faydalanımına ve kullanım yollarına ilişkin yeterli düzeyde olmayan algıları dolayısıyla, e-iş uygulamasında büyük firmaların gerisinde kaldığını göstermektedir. Düşük maliyetli ve işletmeye özel e-iş araçlarının küçük ve orta ölçekli işletmelerde kullanımı desteklenmelidir. E-iş, küçük ve orta ölçekli işletmelere, uluslararasılaşma sürecinde ve özellikle ihracat pazarına uyum stratejisi geliştirmede, müşterilerin gereksinimlerini daha iyi bir iletişimle doğru zamanda karşılayabilmeleri için, verimli bir bilgi birikimi sağlamaktadır. Böylece küçük ve orta ölçekli işletmeler, dış pazardaki rakiplerine karşı rekabet üstünlüğü kazanırlar.

Dikkaya Grubu’nun iş fırsatlarının ve taleplerinin yükseldiği noktalarda, çevresel faktörlere bağlı ani değişikliklere karşı açık ve esnek olması gerekmektedir. Bu nedenle, Dikkaya Grubu’na “Açık Kaynak Müşteri İlişkileri Sistemi” kurulumu, e-pazaryerlerinden yararlanma ve çalışanlar için bir bilgi portal sistemi oluşturmaları gibi, e-iş araçları yoluyla ihracat performanslarını geliştirmelerine yönelik öneriler sunulmuştur.

Anahtar Kelimeler: İhracat, E-iş, Küçük ve Orta Ölçekli İşletmeler (KOBİ).

E-BUSINESS UTILIZATION OF SMES IN EXPORTING PROCESS: A CASE STUDY OF DIKKAYA GROUP

CONTENTS

THESIS APPROVAL PAGE	ii
DECLARATION	iii
ABSTRACT	iv
ÖZET	vi
CONTENTS	viii
ABBREVIATIONS	xi
LIST OF TABLES	xiii
LIST OF FIGURES	xiv
 INTRODUCTION	 1

CHAPTER ONE EXPORTING

1.1. SMALL AND MEDIUM- SIZED ENTERPRISES (SMEs)	3
1.2. IMPORTANCE OF SMEs FOR THE WORLD ECONOMY	5
1.2.1. Importance of SMEs in the Turkish Economy	6
1.3. INTERNATIONALIZATION OF SMEs	7
1.3.1. Practices Involved in the Internationalization Process of SMEs and Exporting	8
1.3.2. International Licensing	9
1.3.3. Management Contracts	9
1.3.4. Turnkey Operations	10
1.3.5. Joint Ventures	10
1.3.6. Exporting and Types of Export	11
1.4. EXPORTING PROCESS OF SMEs	13
1.5. EXPORTING AND SUCCESS OF INTERNATIONALIZATION	16

CHAPTER TWO

E-BUSINESS UTILIZATION BY EXPORTING SMEs

2.1. DEFINITION OF E-BUSINESS	19
2.2. STAGES OF E-BUSINESS ADOPTION BY FIRMS	19
2.3. MAIN FUNCTIONS OF E-BUSINESS	24
2.3.1. Revenue Generation	24
2.3.2. Business Process Improvement	26
2.3.2.1. E-Business in Production Process	26
2.3.2.2. E-Business in Supply Chain Management	27
2.3.2.3. E-Business in Management	28
2.3.2.4. Use of ERP in Business Process Improvement	30
2.4. COMMON BARRIERS ON THE UTILIZATION OF E-BUSINESS BY SMEs	34
2.5. UTILIZING E-BUSINESS TO IMPROVE EXPORT PROCESS	35
2.5.1. Export Market Intelligence Generation	35
2.5.2. Export Market Intelligence Dissemination	37
2.5.3. Export Market Intelligence Responsiveness	39
2.6. TURKISH SMEs' UTILIZATION OF E-BUSINESS IN EXPORTING	40

CHAPTER THREE

CASE STUDY OF DIKKAYA GROUP

3.1. Aim of Research	42
3.2. Research Methodology	43
3.3. DIKKAYA GROUP	44
3.3.1. Domain and Development	44
3.3.2. Dikkaya Group Workflow	45
3.3.3. A Detailed Look at Dikkaya Group's Export Process	46
3.3.4. Findings Related to Export Marketing Strategy of Dikkaya Group	51
3.3.5. Suggestions to Contribute for Export Process Improvement at Dikkaya	61
3.3.5.1. Establishing an Appropriate CRM System	61
3.3.5.1.1. CRM Software Options	63
3.3.5.1.2. Implementing a CRM System	66
3.3.5.1.3. Vtiger	70

3.3.5.2. Involving in E-Marketplaces	75
3.3.5.3. Creating a Knowledge Management (KM) Supported System	80
3.3.5.3.1. SMEs' View about Knowledge Management Systems (KMS)	81
3.3.5.3.2. Framework for Implementing KMS System	82
3.3.5.3.3. OpenKM	86
CONCLUSION	90
REFERENCES	93
APPENDICES	

ABBREVIATIONS

ADB	Asian Development Bank
AfDB	African Development Bank
B2B	Business-to-Business
B2C	Business-to-Consumer
CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CIO	Chief Information Officer
CRM	Customer Relationship Management
e.g.	Exempli Gratia – For Example
EIS	Enterprise Information System
EMO	Export Market Orientation
ERP	Enterprise Resource Planning
ES	Enterprise System
EU	European Union
EWS	Enterprise Wide System
E-Commerce	Electronic Commerce
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IMC	Integrated Marketing Communications
ICT	Information and Communication Technology
IS	Information System
IT	Information Technology
JIT	Just-in-Time
KM	Knowledge Management
KMS	Knowledge Management System
MIS	Marketing Information System
MIF_IADB	Multilateral Investment Fund_ Inter-American Development Bank
MRP	Material Requirement Planning

MRPII	Manufacturing Resource Planning
OECD	Organization for Economic Co-operation and Development
OSS	Open-Source Software
PC-GNI	Per-Capita Gross National Income
R&D	Research and Development
PO	Purchase Order
SEO	Search Engine Optimization
SME	Small and Medium-Sized Enterprise
TCA	Total Cost of Acquisition
TQM	Total Quality Management
UNDP	United Nations Development Programme
VoIP	Voice over IP

LIST OF TABLES

Table 1: SME Definitions Used by Multilateral Institutions	p.04
Table 2: Stages of E-Business	p.23
Table 3: Estimated Cost of Implementing ERP Based on Business Size	p.33
Table 4: Perceived Importance and Score Sheet of Exporting Best Practices at Dikkaya	p.55
Table 5: Existing Practices at Dikkaya Group	p.60
Table 6: Suggestions for Improving Practices at Dikkaya Group	p.61
Table 7: Popular Open Source Software and Their Purpose of Use	p.65
Table 8: Features of Open Source and Commercial CRM Software	p.66
Table 9: Strategies Used at Each Buyer-Seller Relationship Level	p.69
Table 10: Approximate Implementation Time for a Mid-Market CRM System	p.73
Table 11: Summary of Implementing Vtiger System Requirements	p.75
Table 12: Used Strategies at Each Buyer-Seller Relationship Levels	p.77
Table 13: Minimum Technical Requirements for OpenKM	p.87
Table 14: Outcomes of Implementing OpenKM	p.88

LIST OF FIGURES

Figure 1: Internationalization Stages of SMEs	p.15
Figure 2: Model of E-Commerce Utilization in Small Firms	p.25
Figure 3: SMEs Transition toward Different Advanced ICT Tools	p.29
Figure 4: Some of Typical ERP Models	p.32
Figure 5: Work Flow Chart across All Departments at Dikkaya	p.47
Figure 6: Detailed Export Process at Dikkaya	p.49
Figure 7: Integrated Marketing Communications Tools Used for Current and Potential Clients	p.53
Figure 8: Steps for CRM Implementation	p.67
Figure 9: Contact Page (Vtiger Screen Shot)	p.70
Figure 10: Dashboard (Vtiger Screen Shot)	p.71
Figure 11: Cloud Vtiger CRM Support Packages Pricing	p.74
Figure 12: Development of E-Business Usage at Each Client Relationship Level	p.79
Figure 13: Sharing Files to Specific Users (OpenKM Screen Shot)	p.84
Figure 14: Wiki and Forums in a KMS System (OpenKM Screen Shot)	p.85

INTRODUCTION

Globalization has triggered the production and investment flows to cross the boundaries of a country, creating fierce market competition. This fierce competition has made competition difficult for firms, not only competing their local rivals, but their foreign competitors as well, which in turn, required firms to establish and retain strong relationships with their customers that can yield needed gains for their growth and survival.

Small and medium-sized enterprises (SMEs) have always been the backbone of the world economy in general, and an engine of social and economic development in most countries. SMEs, in turn, are encouraged to export their products and services to outside markets in order to handle the local economic fluctuations, national and international competitions, and gain more market share. In addition, exporting can act as a catalyst for SMEs to increase their productivity and product quality, thus, increasing their competitiveness. Nevertheless, a typical SME is characterized by its limited resources compared to big firms. Slower business process of SMEs and their responsiveness to their clients (especially in foreign markets) can hinder its service quality, thus, negatively affecting its competitiveness among rivals.

Information technology (IT) has developed through different stages before becoming a complexed business solution for facilitating storage, retrieval, analysis and transmission of data. According to Zuppo (2012), IT pertains to the hardware, software and skills for a single computer user, which is considered as a basic level of the wider concept of Information Communication and Technology (ICT) that is related to networked equipment (LAN/WAN) that allows for intra- and inter-network communication via email and the Internet. Hence, ICT is viewed as an extension of IT that involves many users sharing information. ICT focuses on enabling the external activities and relationships of business with the help of the internet, becoming a powerful tool in the modern business world. E-business is one of the important applications of ICT in the business environment. As a result, managers and entrepreneurs in SMEs have started adopting e-business to benefit from the numerous

opportunities e-business provides. Choosing the appropriate e-business tools by SMEs can grant them competitive advantage through reaching, satisfying, and retaining their domestic and international clients. Such business tools require firms to make structural changes, including the improvement of their internal business process, and managing relationship with their customers whom are crucial for their survival and growth. These needs and changes require effective activity based e-business models, such as Enterprise Resource Planning (ERP) and the well-known Customer Relationship Management (CRM).

The first chapter of this study discusses the importance of exporting for firms, and types of exporting. Furthermore, the chapter presents the concept of SMEs, by highlighting diverse definitions of SMEs among various economies and organizations, SME's importance to the world economy, and their internationalization process by means of exporting.

The second chapter evolves around e-business utilization by SMEs, in terms of adoption stages, e-business framework, and an example about the benefits of e-business tools such as ERP. This chapter further presents common barriers of utilizing e-business by SMEs, and explains the various ways of utilization of e-business to improve export process, through export market intelligence.

The third, and final chapter, states the aim of the field study and the followed research methodology. This chapter presents the case study about a Turkish manufacturing SME, Dikkaya Group. Firm domain and organization structure of Dikkaya Group are presented, before describing their export process steps in details. Referring to the observation and interviews inside the firm, three e-business solutions that Dikkaya group can consider for improving its exporting process, including CRM, active use of e-market places, and a knowledge management model for employee training.

CHAPTER ONE

EXPORTING

1.1. SMALL AND MEDIUM- SIZED ENTERPRISES (SMEs)

There are various definitions of SMEs in the literature. The reason is that, each government or economic union would define SMEs in their economies according to different measures, as the number of employees, total assets, and business revenues. SME definition varies related to the industry as well (Kushnir, 2010). Until today, there have been several attempts to set a universal definition for an SME to better classify enterprises. SMEs are considered as the “moving wheel” of the economy and/or its “backbone”. Thus, there is a great need to define SMEs, especially in developing countries (Gibson and van der Vaart, 2008), for policymakers, for estimating the categories of business and their contribution to employment, gross domestic product (GDP), and other macroeconomic indicators. Accordingly, with a clear definition, policymakers can better monitor efforts and legislations, and develop support programs for SMEs.

Definition of SME varies among different countries and economies as Table 1 demonstrates. According to European Union (EU), SME is an enterprise with up to 250 employees and turnover of no more than €50 million or a total balance sheet of no more than € 43 million (European Commission Enterprise and Industry, 2014). However, the official definition in China varies greatly from one sector to another. For example, in the heavy industries a business can be qualified as an SME with as many as 3000 employees, but in the retail sector an SME may have no more than 300 employees. There are “also separate sub-definitions for small and medium businesses within each sector” (B2B International, 2015). Yet, SMEs definitions do not include micro enterprises, which are small business that employs a small number of employees, usually operating with fewer than 10 people, and is started with a small amount of capital.

Table 1: SME Definitions Used by Multilateral Institutions

Institution	Maximum Number of Employees	Max. Revenues or Turnover	Maximum Assets
World Bank	300	\$15,000,000	\$15,000,000
MIF – IADB	100	\$3,000,000	(none)
EU	250	€50 million	€ 43 million
AfDB	50	(none)	(none)
ADB	No official definition. Uses definitions of individual national governments.		
UNDP	200	(none)	(none)
The Union of Chambers & Commodity Exchange of Turkey	249	40,000,000 T.L.	(none)

Source: Adopted from T. Gibson and H., van der Vaart (September 2008). Defining SMEs: A Less Imperfect Way of Defining Small and Medium Enterprises in Developing Countries.

http://www.brookings.edu/~media/research/files/papers/2008/9/development%20gibson/09_development_gibson.pdf, (18.02.2016).

Characteristic of the disparities among definitions is the substantial difference between how the World Bank and the Multilateral Investment Fund (MIF) of the Inter-American Development Bank (IADB), and the African Development Bank (AfDB), define an SME (Gibson and van der Vaart, 2008). For example, as shown in Table 1, the World Bank's definition includes businesses three times larger in terms of employees and five times larger in terms of turnover or assets than the largest SME under the Multilateral Investment Fund (MIF) definition. Simultaneously, the average gross national income per capita (PC-GNI) of the developing member countries of the World Bank Group is significantly less than the average PC-GNI for the countries of Latin America and the Caribbean served by the (MIF). In Turkey, as of November 4, 2012, an SME is considered to have a number of employees less than 250, or having an annual turnover of 40 million Turkish Lira (TUIK, 2015).

1.2. IMPORTANCE OF SMES FOR THE WORLD ECONOMY

SMEs dominate the world business environment, where it is estimated that more than 95 percent of enterprises across the world are SMEs, accounting for approximately 60 percent of private sector employment (Edinburgh Group, 2012).

It is reported that in OECD economies, that mostly include developed countries such as the United States of America, United Kingdom, Canada, Japan, and even Turkey, over 95 percent of firms are SMEs and micro enterprises, accounting for around 55 percent of GDPs. SMEs in such countries benefit from high-end IT services and effective governmental support programs.

Whereas in developing countries, over 90 percent of all firms outside the agricultural sector are SMEs or micro enterprises of which also produce a considerable part of GDP that varies from one developing country to another. Morocco is a developing country in which 93 percent of industrial firms are SMEs, accounting for 38 percent of the production, 33 percent of investments and 30 percent of exports. Another example of a developing country is South Africa, in which the contribution of SMEs is considerably higher than Morocco, where it is estimated that 91 percent of the formal business entities in South Africa that are SMEs, contributing 52–57 percent to GDP. The same can also be said about another developing country, Ghana, in which SMEs are even more prominent in the local economy, representing about 92 percent of Ghanaian businesses and contributing about 70 percent to Ghana's GDP" (Abor and Quartey, 2010: 218-28).

In emerging markets, formal SMEs contribute up to 45 percent of total employment and up to 33 percent of national income (GDP) in emerging economies. For example, in India, SMEs employ close to 40 percent of India's workforce, account for 40 percent of Indian's total exports, but according to Goyal (2013), SMEs in India contribute only 17% to GDP due to their low scale and poor adoption of technology, resulting in weak productivity. In Brazil, on the other hand, formal SMEs contribute to 20 percent of Brazil's GDP, account for over 50 percent of Brazil's formal jobs. However, unlike most of Indian SMEs, Boston Consulting Group (2013) found that

many of Brazilian SMEs realize the benefits of IT, where 29 percent of the 250 fastest-growing Brazilian SMEs focus on IT utilization, growing their revenue 16 percent more than their counterparts and generating 11 percent more jobs.

Thus, SMEs have an important role in contributing to GDP and employment in the overall world economy. However, SMEs in developing countries and emerging markets vary in terms of technology use and growth rates, which affects their contribution to the local economy, unlike SMEs in all of the developed countries that drastically contribute to the local economy due to fast growth and governmental support programs.

1.2.1. Importance of SMEs in the Turkish Economy

Turkish SMEs constitute 99.8 percent of the total number of enterprises registered in Turkey, constituting 74.2 percent of employment, 54.7 percent of wages and salaries, 63.8 percent of turnover, 52.8 percent of value added at factor cost, and 53.3 percent of gross investment in tangible goods (TUIK, 2015). In addition, SMEs have managed to exceed big companies, contributing for 56.4 percent of the Turkey's total exports. The report has added that exports by large enterprises (of more than 250 employee) constituted 43.5 percent of total Turkish exports, compared to 17.3 percent of micro enterprises (one to nine employees), while small enterprises (10-49 employees) was 20.7 percent, and medium-sized enterprises (50-249 employees) had a rate of 18.4 percent of total Turkish exports. SMEs operating in the industry sector accounted for 35 percent of exports and SMEs whose main activity was trade accounted for 60.7 percent of exports.

The importance of SMEs in the development of the Turkish economy is indicated by the \$3.061 billion worth of research and development expenditure performed by SMEs, which accounts for "17.4 percent of all Research and Development (R&D) spending in Turkey, while employing 26.5 percent of a total 115,444 workforce in R&D" (DAILY SABAH, 2015, November 19).

1.3. INTERNATIONALIZATION OF SMEs

Globalization has offered much-needed opportunities for firms to counter the consequences of economic slow-downs in their local economy, which may last for years. Serving foreign markets would provide the firm with new market share, which can compensate the loss in the current local market share due to market fluctuations or crisis. Furthermore, foreign markets can offer the firm distinctive advantages in terms of product/service quality, cost advantage, and opportunity to provide missing value-added services at those markets (Johanson and Mattsson, 2015: 111-132).

Calof and Beamish (1995: 115-31) defined internationalization as “the process of adapting firms’ operations (strategies, structures, resources, etc.) to international environments”. Whereas, Ruzzier, Hisrich, and Antoncic (2006: 467-97) defined internationalization as a “synonym for the geographical expansion of economic activities over a national country's border”. Scholars have agreed upon the term of internationalization, as a concept of going outside geographic borders to conduct business. Yet, the process and requirements within the model of internationalization have been disputed. Large firms choose to enter the international market for the major benefits it offers for them. These benefits include “having new market opportunities, setting benefit from economies of scale and scope, seeking new markets for growth, exploiting distinctive capabilities and reducing risk” (Siawsurat and Önel, 2011).

Several theories tried to explain the process of internationalization taken by SMEs, including the Uppsala internationalization model, psychic distance, establishment chain, network theory and I-models. Johanson and Wiedersheim-Paul (1975) created the Uppsala internationalization model (U-model), which introduces theoretical ways of explaining the process of internationalization, by stating that firms commit more resources to the foreign market when their exporting experience and knowledge incrementally increase over time. Child and Rodrigues (2008) found out that improved exporting knowledge and experience through personal contact reduces the psychic distance between domestic and foreign business environments, which is a set of factors that prevent or disrupt information flow between the firm and its market. The U-model

involves different stages that form an establishment chain, which reveals the increased level of commitment towards internationalization by a firm. In the first stage of the U-model, the firm has no regular exporting activities, due to the lack of interest in the international market. In the second stage, the firm would typically start its international activity to a foreign market using direct or indirect exporting. The following stage is creating sales subsidiaries in a foreign country. In the last stage, the firm establishes a production manufacturing facility abroad. If SMEs plan to move from one stage to another, requirements of the current stages should be fulfilled, which indicates that each stage of internationalization are an important factor in achieving the direction of further foreign business involvement (Forsman, Hinttu, & Kock, 2006: 19). Another theory about internationalization stages is the network theory, which suggests that internationalization process is also designed and influenced by business relationships that develop as a form of networking. Johanson and Mattsson (1988: 302) suggested that developing and sustaining business interactions are substantial, meaning that a firm's success in entering new markets is connected to networks. This network consists of business actors, activities and resources whose interaction affect the firm's establishment process in foreign business. Moreover, internationalization stages of SMEs in the modern literature are also described in another models, such as the Innovation-Related International Models (I-models) inspired from infamous models explaining the internationalization process, such as models by Bilkey and Tesar, Cavusgil and Czinkota (Gankema, Snuif, and Zwart, 2000: 17-18). These stages are used for describing the export development process of firms, including SMEs, similar to the establishment chain theory.

1.3.1. Practices Involved in the Internationalization Process of SMEs and Exporting

Enterprises can start their international activities using multiple low risk practices. Such low risk practices can be commenced gradually. Karabulut (2013: 69-70) suggests that SMEs can be low committed to international activities at first by starting to

export, then increase their commitment and scopes of their operations to licensing, establish joint ventures with foreign firms, ultimately, SMEs can later achieve full commitment to foreign markets through foreign direct investment (FDI). The “globalized” world with its liberal markets and easier communication is increasingly bringing foreign competition for SMEs, making exporting a vital activity to secure long-term survival. However, Ruzzier, Hisrich, and Antoncio (2006: 467-497) argue that theories of internationalization working well for large firms may not work for SMEs who may have completely different needs, experience and knowledge. Lima (2008: 13-22) reports that export operations lead to deeper level of commitment to internationalization, and of higher risks.

1.3.2. International Licensing

Under a licensing agreement, the firm, or licensor, allows a foreign firm, designated as licensee, to use its expertise and other intellectual property assets, like patents and trademarks, for the manufacturing and sale of the company’s products. The licensee has to pay a compensation designated as a royalty (such as a percentage of the sales of the licensed products) in exchange for the rights granted by the company. Licensing does require significant investment abroad, takes most of the investment risk, and allows for some control of field operations. However, Licensing includes some shortcomings because the income depends on the licensee, whom can become also a competitor, and the licensor may risk the loss of proprietary knowledge (Lima, 2016). In Turkey, the concept of franchising has been witnessing significant growth, where up to 32 Turkish-based franchisors in food and housing industries have started offering their licenses outside the Turkish market (Sabah, 2013).

1.3.3. Management Contracts

Management contracts are used in situations “where a company with experience in specific business areas or industrial sectors makes its personnel available to perform

general or specialized management functions for another company” (Lima, 2008: 16). Such option can be advantageous from an SME if it has the managerial capacity and in-depth experience in certain fields (such as managing hotels or running airport facilities), which are scarce in the target market. For example, the Turkish construction Albayrak Group and Somali government officials signed a 20-year agreement to upgrade and run the operation of the port by the firm, which will bring in new technology to modernize the cargo hub to international standards (Khalif, 2013).

1.3.4. Turnkey Operations

Turnkey contracts apply to “a form of international operation, most commonly involving large-scale complex projects, which may provide opportunities for smaller firms of the host country to serve as subcontractors and suppliers”. In such contracts, the main contractor contracts a sub-contractor to deliver a ready-to-operate industrial plant or infrastructure facility (such as plant, a high way, or a port) for a client. Such turnkey operations are preferred when the client lacks project management capabilities to implement complex project, where the contractor takes the responsibility of coordinating the overall project, thus the client would avoid risks involving delays, cost overruns, and performance failures. According to BCCT (British Chamber of Commerce Turkey), the construction sector is an important element of the Turkish economy, forming a key part of Turkey’s wider role in the international business community. During 2015, Turkish contractors undertook 7,735 projects in 104 countries, valued at a total of \$304.5 billion, represented the second highest country of origin for contractors in the 2015 “World’s Greatest 250 International Contractor”, with 43 companies, second only to China (BCCT, 2016).

1.3.5. Joint Ventures

FDI is another mode of entry in a foreign market by a firm that is already internationalized to some extent. Through FDI, the firm acquires minimum of 10% of

voting power in a foreign enterprise, participates in a joint venture, or in some cases it invests in a wholly owned subsidiary by purchasing an existing company or establishing a new company (Tiusanen 2010; Hollensen 2007). FDI is considered as an expansion of the firm's activities or a response for possible changes in the target country's policies or environment. One of the most common FDI modes are joint ventures. A joint venture "is the long-term participation of two or more firms in an enterprise in which each party contribute assets, has equity participation, and shares risk" (Lima, 2008: 20). Some consider that SMEs, unlike big firms, are mostly destined to fail at joint ventures, due to their limited resources (financial, managerial, and information resources) (Buckley, Newbould and Thurwell, 1988). However, joint venture can also be seen primarily "as a mean to gain access to resources embedded in other organizations, as well as, a mean of acquiring local management expertise and connections in order to facilitate fast entry into new markets" (Gomes-Casseres, 1989: 17-26). Throughout joint ventures, SMEs and their partners can share: common vision and objectives, synergies and complementarities, shared risks and mutual benefits, which in-turn extend the parties collaboration duration (Lu and Beamish, 2006: 461-486).

1.3.6. Exporting and Types of Export

Due to globalization, any domestic market is no longer safe from competition, where many SMEs experience aggressive competition from foreign firms that access their domestic markets (Ghanatabadi, 2005: 2), adding further pressure to the domestic competition. Moreover, a domestic market swings along with business cycles. Thus, firms aim for growth and long-term survival by seeking new opportunities in foreign markets to support their business activities, compensate potential market share losses in their domestic market, and widen their marketing base (Svetlicic, Jaklic and Anze, 2007: 36-65). Hessels and Terjesen (2007:4) state that extending business to foreign markets means that SMEs are becoming international. SMEs are typically regarded as resource-constrained, lacking market power, knowledge and resources to operate viably in

international markets that causes SMEs to face with long and numerous modes of internationalization processes, each includes several advantages and disadvantages.

Internationalization have different modes, which differ in complexity and degree of riskiness such as international licensing, FDI, and management contract. However, the most common patter of entry and business involvement in the international marketplace for SMEs is exporting, due to its low business risk, low commitment, and its high flexibility (Kedia and Chhokar, 1986: 35; de Caldas Lima, 2008: 24). Thus, due to SMEs limited resources and relatively low business intelligence compared to large firms, exporting seems to be a safe initial mode of entry in internationalization process.

Exporting can be structured as direct exporting, when the firm develops its own relationship with customers in foreign markets, for example by establishing sales offices in those markets (de Caldas Lima, 2008: 24). Direct exporting involves selling directly to the target customer in a market, which could be done through the internet and regular trade visits, or by setting up a branch, office or firm in the target country. Direct exporting grants the exporter better control of pricing (where the absence of intermediaries increases the change margin of price), provide full control of his own brand, direct understanding of end users' needs (enabling the exporter to customize accordingly), and the ability to maintain the customer relationship through direct communication channels. In addition, direct exporting provides better chance to seize new opportunities through deeper and wider insight of the market. Finally yet importantly, a direct exporter, which may be the manufacturer, can efficiently meet a client's order according to the technical specifications and ability to customize production according to the client's needs (Hessels and Terjesen, 2007: 7).

However, direct exporting does involve some disadvantages presented by difficulties and barriers in the process, as reported by Delaney (2014). Firstly, direct export requires a lot of time, energy, staff resources and money (which can be limited in SMEs). Secondly, local competitors in the targeted foreign market might be observed as less risky than the exporter, since they are well established in their own market. Thirdly, after-sales commissioning and service requires the possession of the local language in the market, which can be an obstacle for some exporters.

Indirect export, on the other hand, is another path for SMEs through internationalization whereby small firms are involved in exporting, sourcing or distribution agreements with intermediary firms who manage on their behalf, the transaction, sale or service with overseas firms” (Fletcher, 2004: 289-305). Hiring an intermediate not only does help SMEs to identify customers, obtain financing support and find third-party logistics providers (Balabanis, 2000; Delaney, 2014), but also helps SMEs in overcoming knowledge gaps and can reduce uncertainties and risks associated with operating in foreign markets (Hessels and Terjesen, 2007: 7). Also, firms hire intermediaries because they perform certain functions related to exporting better or at lower costs than the firm itself could, for example because they possess country-specific knowledge that the firm lacks (Li, 2004: 443-63). In distant, unfamiliar markets, export related search costs (e.g. marketing research) and negotiation costs could be very high. For this reason, “manufacturers may be more likely to use intermediaries when entering foreign market” (Peng and Ilinitch, 1998: 609-20). Intermediaries also add costs to exporting, in particular transaction costs and rent extraction. In addition, when a firm hires an intermediary, it can suffer from loss of control to a certain extent especially due to the possible inclusion of technically complex specifications in the communication between the exporter and the intermediary on one side, and between the intermediary and the client on the other side. Such complexity in communication can stall response to client inquiries. Therefore, using an intermediary is associated with benefits as well as costs (Hessels and Terjesen, 2007: 7).

1.4. EXPORTING PROCESS OF SMEs

For firms to go international, theories mentioned earlier have suggested steps that firms follow to reach foreign markets. One of the mentioned theories suggests I-Models for firms, including SMEs, planning to expand out of their domestic markets in systematic steps (Siawsurat and Önel, 2011):

Step one – Nature of Business Activity at Startup: According to I-models in Figure 1, the business of some firms is limited within their domestic markets in the very

beginning (at Step 1), whereas some firms do not have domestic activities, but rather the intention and purpose to solely export right after their start up “Born to be global”.

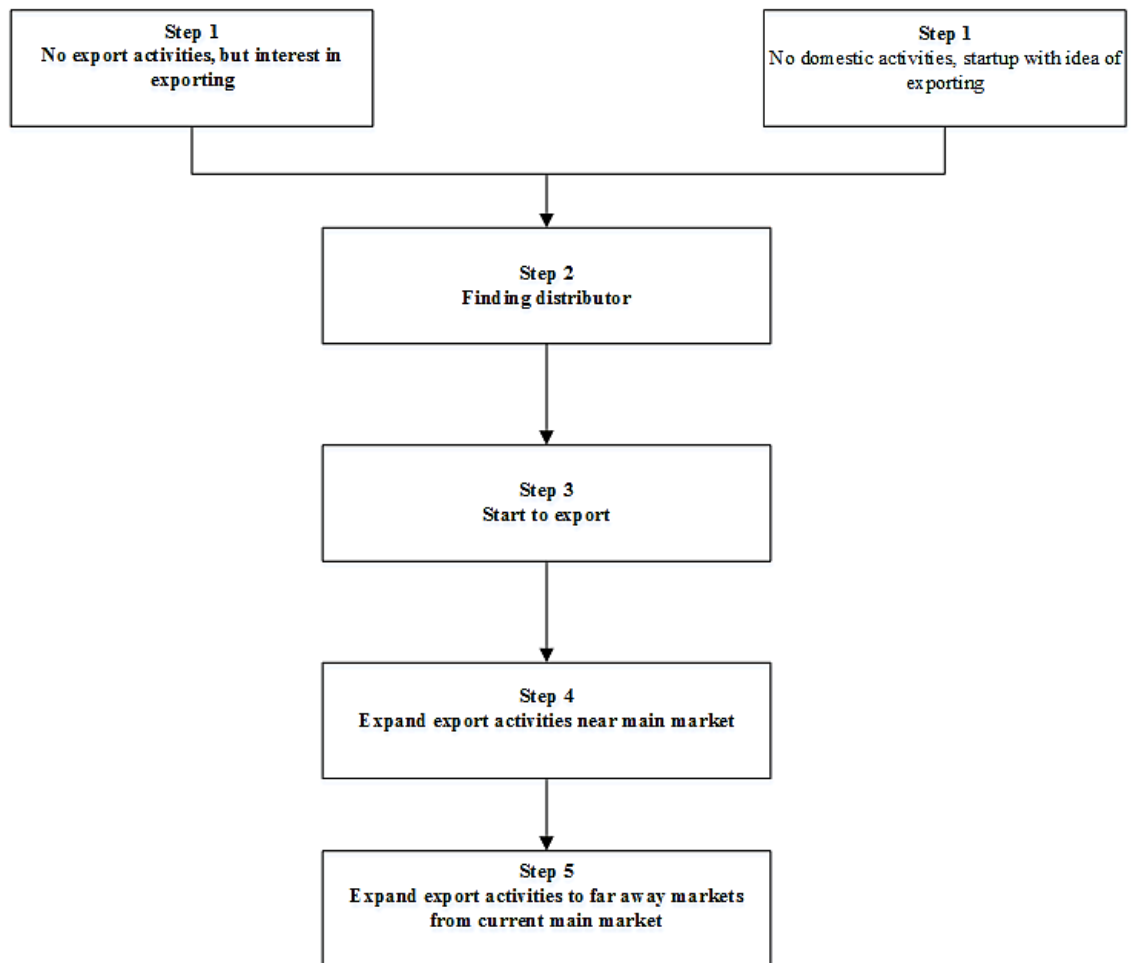
Step two – Finding Distributor: After the first step, the firms start to have increasing interest in exporting and they start to explore the feasibility. Firms do have “psychic distance reasoning” when they start to export, meaning that they first export to psychologically close countries to their domestic markets. However, SME’s need to find distributors because they have limited or no business networks to export products. Thus, one of the most important ways to find customers is to attend trade fairs. Firms, especially SME’s, usually tend to work with distributors to sell their products because they do not want to deal with distributing and finding retailers themselves. Afterwards, they get more experienced and they are termed an “experienced exporter”, hence, starting to export to overseas countries.

Step three – Start to Export: When firms find a distributor, they start to export, but it does not matter which country they export to first, as psychic distance is not a thing that SMEs would think about. Firms in general do not perceive advantages in exporting to their neighbor countries, but to different cultures and further geographically located markets. For example, countries such as Switzerland, Germany, Belgium, Sweden, and Japan, would be more appealing for Thai firms than Indonesia and Malaysia, even though they are far away from Thailand both culturally and geographically. Turkish SMEs, in turn, would start exporting to far away markets since they do not consider psychic distance at the early stages of exporting, such as to North African countries or Mexico.

Step four – Expand export activities near main market: In the fourth stage, firms try to expand their business to countries close to their main market. According to the literature, firms were believed to start their exporting operations to neighboring countries of their local market, albeit, they usually export to the countries which are neighbors to their main markets as in the finding of (Siawsurat and Önel, 2011) about six Thai exporting firms. For example, a Turkish SME can export to neighbor countries of Turkey such as Bulgaria, Romania, Russia, etc.

Step five – Expand export activities from current main market to far away markets: In the fifth stage as in Figure-1, the firm would tend to diversify its exports, which can be -far from their main markets. For instance, a firm whose main business activities are in Europe, would tend to start exporting to the US market.

Figure 1: Internationalization Stages of SMEs



Source: D., Siawsurat and Y.C., Önel (2011). *Internationalization Stages of SMEs Through Exporting* (Unpublished Master's Thesis). Umeå. Umeå University: Umeå School of Business.

Therefore, SMEs are likely to follow systematic steps in exporting, as a part of their internationalization process, according to the I-Model that involves incremental

steps to analyze firms for explaining the development of internationalization and international activities.

1.5. EXPORTING AND SUCCESS OF INTERNATIONALIZATION

An increasing number of SMEs look for selling products to international markets through exporting. For this reason, many academics have researched on internationalization process of SMEs and their contribution on exporting activities (Siaw Surat and Önel, 2011; Ölmez, 2006).

Being the first step towards the internationalization process for SMEs, exporting requires certain factors within the firm. According to Karadal (2001: 18-21), the factors that affect the success of the SMEs in the international markets are as follows:

- In order to get into the market in the first place, SMEs should have sufficient manufacturing capacity, technical and commercial information, qualified staff towards capital and finance.
- The willingness to take part in the international markets should be solid.
- Their produced goods and services should be compatible.
- They should have sufficient financial and human resources.
- They should have concrete marketing approach in the international sense.
- Furthermore, the relevant modifications should be performed in the manufacturing, sales policies and distribution system according to the new markets standards.

Export performance is considered as the outcome of a firm's activities in export markets (Cavusgil and Zou, 1994: 1-21), where Shoham (1998) contends that a firm's export performance is a composite of its international sales, profitability and export growth.

SMEs export process can be improved on macro level (external) and micro level (internal). On the macro level, the importance of SMEs in global economy had led many governments to design dedicated support programmes and policy initiatives, aiming for creation and development of a national SME sector. Examples of such initiative

programmes include SME support policies in countries such as in “Argentina, Brazil, Chile, Mexico and Uruguay; While the European Union is covered by the Small Business Act, India by the Micro, Small and Medium Enterprises Development Act, and the United States by another Small Business Act” (International Trade Forum, 2013). Support programmes help SMEs tackle environmental factors that can be export barriers and impede export performance, such as entry costs presented by customs duty and policymaking, as well as, developing infrastructure needed for facilitating exporting operations such as transportation (Borgersen, 2005: 1-19). Institutional support and capital sources availability are also included, which consist of support provided by local institution, which are financial support, consultancy support, education support and international market entry support (Karpak and Topcu, 2010: 60–70). The Turkish government has created export promotion programmes targeting SMEs implemented by the Ministry of Economy, TIM, KOSGEB and Turk Eximbank to stimulate exports. Such programme supports Turkish SMEs in enhancing their capacity for better exporting performance, and supports marketing and branding activities. In addition, other official support programs in Turkey supports the internationalization of SMEs through fostering the international competitiveness of Turkish SMEs by conducting needs analysis, providing training and consultancy services, and organizing foreign marketing and procurement activities in Turkey (OECD, 2016: 345).

Yet, aside from government policies and support programmes, there are micro level methods that SMEs can adopt to improve their export process (Xu and Hu, 2010).

- **Firm Competencies:** The stronger the capabilities of SMEs, the greater will be the competitive advantage enjoyed over existing or potential local competitors, thus, leading to better performance (Xu and Hu, 2010). A firm’s competency can be presented in its competitive advantage, which can be enhanced by technological resources in terms of manufacturing, new product development, and product superiority over its competitors. In addition, aside from technological capabilities, marketing capabilities (presented by the distribution and delivery quality), and product adaptation strategy, are positively associated with export performance (Calantone, Kim, Schmidt and Cavusgil, 2006).

- **Firm Network:** Borgersen (2006) argues that the existence export cooperation and networking in foreign markets greatly influence SMEs' export performance. SMEs rely, largely, on network relationships with other firms in the market place as they pursue international opportunities. Such international networks, when established, may assist SMEs overcoming their resource constraints by using their partners' resources (Rutihinda, 2008).
- **Entrepreneurial Aspects:** Unlike large firms whom employ large pool of professionals in addressing specialized tasks, SMEs are greatly dependent on the experience, capabilities, and strategies of their own managers (Rutihinda, 2008). On the other hand, managerial restrictions such as risk aversion or limited knowledge about foreign opportunities and foreign languages, can limit the firm's ability to pursue international operations. McCarthy and Perreault (1984: 36) stated that the entrepreneurial orientation of SMEs is linked to export market orientation (EMO) by the implementation of the marketing concept. Hence, a market-oriented organization is one whose actions are consistent with the marketing concept involving: (1) customer focus, (2) coordinated marketing, and (3) profitability, by the "wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization wide responsiveness to it" (Kohli and Jaworski, 1990).

The firm, in its various functional departments, should address micro and macro level factors and competences using facilitating tools, for effective and timely decisions in their international operations. In addressing the micro level factors specifically, e-business has become one of the most efficient and reliable facilitator for any firm aiming to compete in its local and international market. E-business tools have been developed to suit not only large firms, but also SMEs that aim to benefit from the information technology in improving their business process and generating revenues in domestic and foreign markets (Beheshti and Salehi-Sangari, 2006: 233–245)..

CHAPTER TWO

E-BUSINESS UTILIZATION BY EXPORTING SMEs

2.1. DEFINITION OF E-BUSINESS

E-Business is the integration of the internet and related ICT into the business organization (Windrum and Pascale, 2002), for cutting costs and improving efficiency, as well as, for providing better customer service (Ashrafi and Murtaza, 2008). Developing intranets, linked with extranets, enables SMEs to exploit benefits of ICT, through the fusion of its business with other organizations by means of strategic alliances (Magrys and Maguire and Koh, 2007). E-business was exclusive for big firms due to its high costs and high technological complexity, but later became more accessible and less costly for SMEs to adopt and get the most out of the benefits to reach their customers and interact with them in a two-way communication (OECD, 2004).

2.2. STAGES OF E-BUSINESS ADOPTION BY FIRMS

Many scholars denoted the motive for e-business adoption to the innovation adoption theory, which seeks to explain how, why, and at what rate new ideas and technology spread. Such theory tries to explain how the perception of the participants in the social system about a new idea can spread, eventually, convincing more people to adopt the new idea presented in a technology innovation, which is e-business in this case. Van der Veen (2004), Kimberly and Evanisko (1981), and Tornatzky and Fleischer (1990) have related the adoption of e-business to three predictors for innovation adoption: CEO characteristics, organizational characteristics and environmental characteristics. CEO should realize the benefits of basic communication tools such as ICT (telephone, internet, and fax) in order to anticipate further benefits of implementing more advanced and complexed e-business tools, thus, making decisions about e-business utilization in the business process. Organizational characteristics is another predictor, where older firms tend to have more reliability and

accountability than younger firms, and failure rates tend to decrease as firms grow older, thus increasing the chance of adopting modern communication and analysis tools of as e-business. Furthermore, the environmental characteristics include the external pressure from competitors, who always seek achieving competitive advantage through developed and modern business tools, as well as, suppliers can impose pressure on the firm within the supply chain to adopt more developed tools for better supply chain integration. The process of e-business adoption is related to the technology level of each e-business tool. If a more developed and technology innovated e-business tool is produced, an increasing number firms will be informed about its benefits and will consider its adoption (Hemmatfar, 2010: 158-169).

Development of e-business tools passed through different stages, in which more advanced technology and improved features have offered firms more competencies in different business needs. Kaplan Financial Limited Model (2012) in Table 2 explains four stages of e-business development. Each stage involves more developments and improvements of e-business tools than the previous stages.

First stage: Web presence. One of the first e-business solutions for a firm was the establishment of a website to increase the awareness about itself. A websites was as simple as a site that displays brief static information about the background of the firm, and contact information. Such type of websites was a “Flat ad website”, which merely consisted of one or two documents. Later on, website platform developed into more complex and information-rich websites called “Brochure website”. A brochure website provided a more detailed description of product/service features, price, availability, and possibility for online order. It made possible for more graphical illustrations, as in a traditional product catalogue that can be send by mail, but more reachable in terms of geographical coverage and more time and cost convenient. Despite the several advantages that the brochure website offered, it could not abide with the advanced search engines requirements (such as of Google, Bing...), and could not provide SME’s with enough information and statistics to evaluate its sales performance. Sharp (2014) has specified main downsides of brochure websites:

- Brochure websites cannot measure ROI from a firm's website due to the lack of essential data gathering and reporting.
- Brochure websites lacks any plan for adding website content regularly, which put a ceiling on keyword rankings, organic traffic, and ability to generate links naturally. Refreshing the website regularly with new data is critical to Google's algorithm for high keyword ranking in the search engine results.
- Furthermore, brochure websites does not allow the insertion and testing of features and built-in apps in the website of which they are essential for data mining and interactivity.

Second Stage: Electronic commerce (e-commerce). E-commerce is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, mainly over the internet. These business transactions occur as either business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business (Jahanshahi, Zhang, and Brem, 2013: 849-865). According to Rouse (2016), e-commerce utilization was revolutionized by eBay and Amazon in the 1990s, after businesses were using the electronic data interchange (EDI) as a universal plain system for sharing documents. E-commerce enabled easy purchase of items online, beside the traditional brick and mortar stores. As a result, websites were developed to execute e-commerce online transactions after when websites aimed solely to attract a customer and well inform him about the offered products/services in a detailed manner. Websites were developed to process the purchasing order through a list where customers can enter their billing address, shipping address, and credit card information at real-time, while also allowing to track inventory. In addition, websites could display shipping information, merchandise return policies, general policies, customer service, and contact information (Graphix, 2016).

Third Stage: Integrated e-commerce. The need for better understanding consumer behavior and prediction of future demand arises for providing value-added services while cutting costs resulted from inaccurate data and advertisement campaigns. E-commerce have developed to include analysis of data about each customer's habit. Using cookies, tracking tools, and data base analysis, firms could easily integrate data

from heterogeneous sources: web, transactional data and campaigns. In addition, firms have advanced knowledge of web visitor behavior and advanced analytics to prevent customer churn, and to identify the best products to recommend. Such advanced analysis can result in early detection of loss of customer value (Afshar, 2015).

Fourth Stage: E-Business. According to Bartel (2000), e-commerce and e-business are sometimes used interchangeably. E-business includes e-commerce, yet it includes internal processes. For example, e-commerce covers outward-facing processes that touch customers, suppliers and external partners, including sales, marketing, order taking, delivery, customer service, purchasing of raw materials and supplies for production and procurement of indirect operating-expense items, such as office supplies. However, the e-business strategy is yet more complex, more focused on internal processes, and aimed at cost savings and improvements in efficiency, productivity and cost savings. Such strategy includes complex integration of four directions according to Burke (2008) which are difficult to implement:

- Vertical integration between Web front-end (order placement and customer relationship management) and back-end systems (order processing, customer history, inventory and shipping).
- Lateral integration, between a firm and its customers, business partners, suppliers or intermediaries.
- Horizontal integration, among e-commerce, ERP, CRM, knowledge management and supply-chain management systems.
- Downward integration through the enterprise, by drastic redesign of business process using new technologies.

Succeeding in this four-direction integration of e-business yields in processes that are more efficient, lower costs, and potentially greater profits. An example of useful integration of e-business tool in a large or SME business process is the EDI system, that enables effective linkage and synchronization of all functions within the firm. EDI is the electronic transmission of routine business documents between computers in a standard format. EDI enables trading partners to conduct routine business transactions, such as

purchase orders, invoices and shipping notices more quickly and efficiently than would be possible with conventional, paper-intensive methods (Brookes and Nazemetz, 1997). The need of e-business tools arises from the fact that fierce competition in the market demands the engineering enterprises to be flexible and highly responsive to the market needs (Timimi and Mackrell, 1996).

Table 2: The Stages of E-business

Stage		Characteristics
1	Web Presence	Static or dynamic web pages but no transactions are carried out. Would show information about the organization, products, contact details, FAQs (Frequently Asked Questions). Faster updates are possible than with paper-based information could be cheaper than paper-based catalogues.
2	E-Commerce	Buying and selling transactions using e-commerce. Might cut out intermediaries, but there is probably no fundamental change in the nature of the business.
3	Integrated e-commerce	Integrated e-commerce. For example, information can be gathered about each customer's buying habits. This can allow the organization to target customer very precisely and to begin to predict demand.
4	E-business	E-business is now fundamental to the business strategy and may well determine the business strategy.

Source: Kaplan Financial Limited. (2012). *E-business*.
<http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/e%20business.aspx>, (08.11.2015).

Large firms worldwide, and later on, an increasing number of SMEs have started utilizing e-business applications, such as EDI, developed into complicated suits that improved in terms of business functions coverage and more user-friendly interfaces. In addition, buying and selling transactions were easily carried out through e-commerce, facilitating trade for the buyer and seller as well (Topkarcı, 2005).

2.3. MAIN FUNCTIONS OF E-BUSINESS

E-business is utilized in firms to serve two main functions: Revenue Generation, and Business Process Improvement.

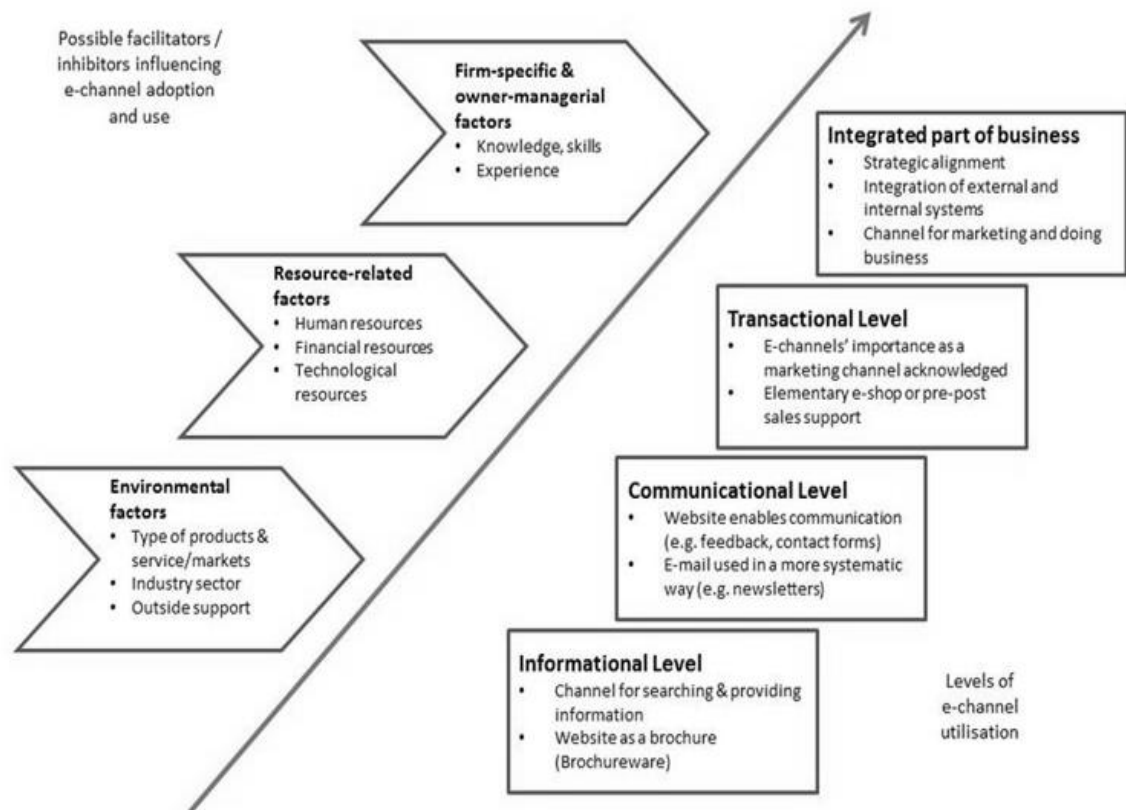
2.3.1. Revenue Generation

Internet utilization as an e-business tool, serves SMEs in revenue generation. Firms deploy internet applications in facilitating transactions online, such as direct sales, promotion, and as a communications tool, which are on continuous growth and considered as a must in the fierce competitive market (Samiee, 1998). Such internet applications are quite popular, yet feasible and easy to use, which makes it possible for virtually anyone of basic computer practice to benefit from these services by placing orders and tracking them, instead of the telephone and fax.

As a part of e-business, e-commerce embraces a wide-range of different online business activities some of which is business to business (B2B) and some is business to consumer (B2C). Its advantages include the ability to reduce transaction costs, increase market reach, build online communities with suppliers and customers, and secure access to valuable information (Mazzarol, 2012). It is unsurprising to find that some of the world's top retailers in their relative domains have record online sales profits. HP, Walmart, Apple Inc., Staples Inc., Amazon.com Inc., etc., are the world's leading online retailers, just like being of the world's most profitable firms. E-business had transformed SMEs and some of today's biggest firms from bankruptcy bound, to become top profitable firms. Starting from a static page in 1994, Dell was one of the pioneers to integrate e-commerce in their sales process (Dragan, 2013). The customization of computer orders online had been proven to be a huge success, where Dell turned their recorded losses of nearly \$100 million (before launching Dell.com), to become the market leader in PC sales worldwide from 2000 until 2006 through its expanded online operation network that included Europe and Asia.

The evolution process of e-commerce utilization by SMEs in their online strategies has been drawn as a linear process, along which firms has to pass along. Studies by Foley and Ram (2002), Karagozoglu and Lindell (2004), comply with a model done by Karjalutoto and Huhtamaki (2010), that explains a theory about SMEs' transition in e-business adoption as in Figure 2.

Figure 2: Model of E-commerce Utilization in Small Firms



Source: H., Karjalutoto and M., Huhtamäki (2010). The role of electronic channels in micro-sized brick-and-mortar firms. *Journal of Small Business and Entrepreneurship*, 23(1): 17-38.

The process initiates with publishing information on their website, it then moves to interaction with suppliers and customers via buying and selling. Finally, they engage in a process of business transformation that includes more complex systems to allow

customers to have more control over the relationship through specifying order times, tracking deliveries and customizing orders (Mazzarol, 2012).

2.3.2. Business Process Improvement

Beside revenue generation, e-business can also be used for the automation of supply chain and intra-firm activities. Samiee (1998: 5-21) stated that automation of supply chain have been one the main goals that firms have been pursuing since the early 1970s , where Procter & Gamble and Wal-Mart are example of numerous success stories of investing and developing e-business applications to serve such goals. According to Mazzarol (2015: 79-90), initiating e-business applications in a firm's different functions can be a part of strategic initiatives to cut costs, improve productivity and obtain real-time visibility, by improving each of the following business processes:

2.3.2.1. E-Business in Production Process

E-business offers several improvements to the production process of manufacturing SMEs. Technological revolution brought by the internet has lead manufacturing SMEs migrating toward e-business technologies in order to lower their operating costs, raise productivity and quality, and respond rapidly to requirements from their customers and other business partners (Jardim-Goncalves et al, 2011; Raymond et al, 2005). Findings from Olhager and Rudberg (2003) regarding e-business utilization in manufacturing process for SMEs reveal that vertical integration, manufacturing planning, and control systems, are mostly improved through new ways to communicate and exchange information. Such improvements in information availability and quality lead to gains in delivery speed and reliability in general; especially for make-to-order firms (make-to-stock firms benefited less in this aspect). Furthermore, manufacturing firms can benefit from removing some customer order handling activities, leading to a direct reduction of the customer order lead-time, which is transferred to a shorter and more reliable delivery lead-time. Indeed, manufacturing SMEs have been following

large manufacturing firms in utilizing different technologies for enhancing their production process using e-business such as material requirements planning (MRP), manufacturing resource planning (MRP II), flexible manufacturing systems (FMS), and computer integrated manufacturing (CIM). SMEs have achieved significant results when such technology is successfully implemented by the firm (Beheshti and Salehi-Sangari, 2006: 233–245).

2.3.2.2. E-Business in Supply Chain Management

Automation of the supply chain and intra-firm activities has been one of the main goals that firms have been pursuing since the early 1970's. Procter & Gamble and Wal-Mart are example of numerous firms that have been investing and developing applications, mainly EDI, and its internet-based equivalent extranet to serve this goal (Grean and Shaw, 2002: 19).

SCM requires constant communication between trading partners. The communications are usually recorded within their systems for further processing. For instance, if a supplier receives an order from a client, he would reply with the confirmation and/or modifications. Such interaction should be recorded into the clients' systems so that the production planning can be accurate and according to the client's needs. Nevertheless, receiving such records using basic ICT tools such as phone or email is time consuming and prone to human error, hence, requiring a more efficient system for better future planning (Harsono, 2014). EDI is an effective tool for a firm to communicate with its trading partners (such as its suppliers, logistics providers, warehouse operators, customers, etc.) in which the supply chain gets integrated electronically to all the users in the system. EDI includes standardized processes such as data conversion (e.g. from Excel sheets to standard format messages), transmission of EDI messages between the involved parties (supplier, retailer, logistics, etc.), and receiving of EDI messages by each party (TpSynergy, 2013). Thus, initiating EDI programs can be a part of strategic initiatives to cut costs, improve productivity and obtain real-time visibility (OpenText, 2014).

While large exporters/importers have the expertise and the financial requirements to adopt EDI network using appropriate channel structures and locus of power, “sporadic and smaller, less powerful exporting firms are not situated well for either researching and developing processes, or to ask their clients to adopt them” (Samiee, 1998: 413-426). Even some SME suppliers would struggle to adapt or be able to get involved in the first place in such complicated and rigid system, and therefore, the large firm cannot afford to lose such valuable suppliers and for that, it should assist them in terms of expertise and equipment to involve them in the “community”. Even though EDI network aims for a win/win situation for both the firm and its suppliers, some firms in certain cultures would still refuse such move and would opt-out from it, as with the Italian Carrefour’s suppliers who refused such new e-business approach (Samiee, 1998: 5-21).

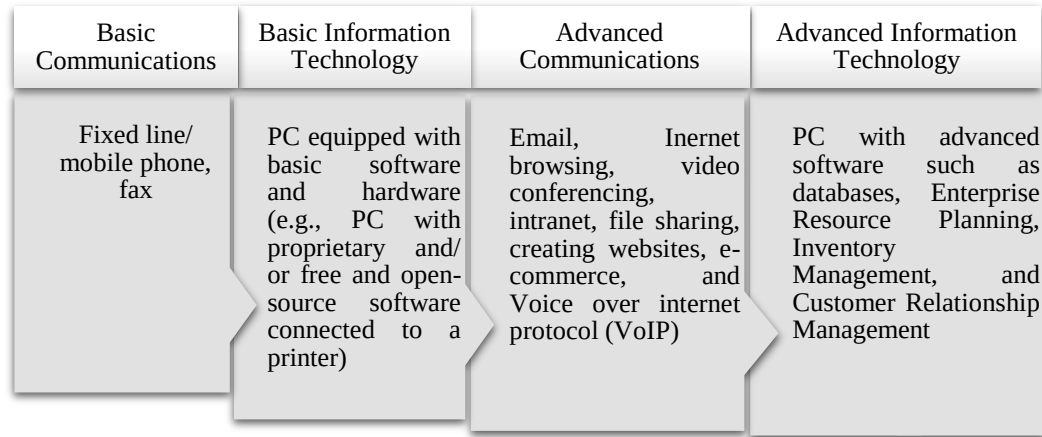
The power of the firm have a significant impact on the cooperation of its smaller suppliers to participate in the EDI network, as such suppliers may lose great profits from the firm to the many existing competitors in the market. However, it is not always the threatening method that is the most useful to convince smaller supplier to be involved – and probably not the most effective in the modern business relations. The ability of the firm to convince its suppliers about the advantages of implementing such network as part of the e-business strategy for the sake of greater profits on the long run proves to be the most sustainable (Nairn, 1997).

2.3.2.3. E-Business in Management

ICT has laid the infrastructure for firms to develop more complicated and advanced e-business applications towards efficient business processes. ICT tools are essential for employees to conduct their daily tasks, such as communicating with customers, partners and between each other, as well as, for preparing and transmitting documents and files. In addition, ICT tools facilitates internet browsing and conducting several types of electronic transactions (Marius, 2013). Based on the concrete benefits those ICT can bring to its core business, the capacity of its employees and the financial resources available, an SME decides which type of ICT products to adopt. SMEs may

adopt the tools progressively or -immediately adopt advanced ICT capabilities (see Figure 3).

Figure 3: SMEs Transition Toward Differently Advanced ICT Tools



Source: Adopted from OECD. (5 June 2004). ICT, E-BUSINESS and SMEs.

<http://www.oecd.org/cfe/smes/31919255.pdf>, (23.04.2015).

Basic ICT tools include fixed phone lines, mobile phones, fax, computers, and basic document processing software – like Microsoft Office are adopted by most of today firms (SEVRANI and BAHITI, 2008). Advanced communication technology relies primarily on the Internet and the intranet, which allow people within the firm to share files with each other over the same network. Having Internet connectivity enables firms to do faster research, set up websites, conduct e-commerce, and set up video conferences.

Although ICT and E-Business offer numerous advantages for large firms, SMEs can benefit the most. According to Tarutè (2014), the extremely busy daily routine of SMEs' personnel hinders the sufficient sharing of business information between managers and employees on one side, and among the employees themselves on the other side. Responsiveness to customers by the firm, client feedback and other information regarding employees' previous experience and findings, can be electronically stored and shared with the rest of the personnel through easy access anytime. In such way, SMEs

can exploit ICT to enhance internal communication, and thus increasing the response rate and efficiency to its customers, increasing customer satisfaction, and meeting their declared and hidden needs (METI, 2001). A Japanese firm of 40 employees, had established a firm-wide intranet with an on-line BBS (bulletin board system) of which all employees could access customers' claims and inquiries that are categorized and updated on a daily bases (OECD, 2004).

2.3.2.4. Use of ERP in Business Process Improvement

ERP stands for Enterprise Resource Planning. ERP is one of the most important e-business tool for improving business process as a management tool. Other common names used are Enterprise Information Systems (EIS), Enterprise Wide Systems (EWS) or Enterprise Systems (ES). ERP is a category of business management software forming a complex, multi-layered, and integrated software solution used to manage the business process (Continelli, 2016; Beal, 2016). ERP facilitates managing resources in the most effective way possible by connecting people, departments, and every process within the firm with the right information. Firms, including SMEs, can benefit from a well-integrated ERP software through simplified and enriched business interactions with clients, employees, suppliers, etc. The increased awareness of ERP advantages by SMEs significantly increase its adoption rates. According to (Chaudhari and Ghone, 2015) the projection that SMEs will contribute a compound annual growth rate (CAGR) of 7.9 percent from 2014 to 2020 is in part due to ERP incentives for SMEs, which include low operating costs, inventory reduction, and improvisations in scheduled compliance.

ERP software typically consists of multiple enterprise software modules that are individually purchased, based on what best meets the specific needs and technical capabilities of the organization. Each ERP module is focused on one area of business processes, such as product development or marketing. As in Figure 3, a firm can use ERP software to manage back-office activities and tasks including the following (Beal, 2016):

- Distribution process management.

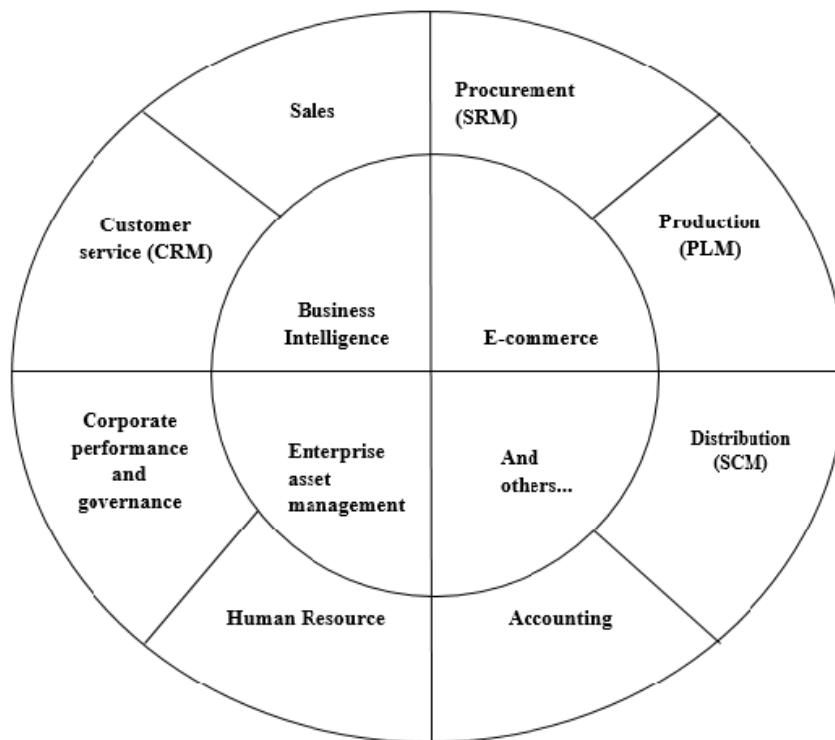
- Supply chain management.
- Services knowledge base.
- Configure prices.
- Improve accuracy of financial data.
- Facilitate better project planning.
- Automate employee life cycle.
- Standardize critical business procedures.
- Reduce redundant tasks,
- Assess business needs.
- Accounting and financial applications.
- Lower purchasing costs.
- Manage human resources and payroll.

Earlier, ERP targeted large businesses, which accompanied dedicated teams to customize and analyze the data, as well as, costly maintenance (Netsuite, 2016). In other words, ERP interface was not user friendly and included high cost of ownership. On the other hand, “Small business” ERP software was developed as a less heavy software for business management solutions, which is customized for the business industry of the user. In addition, not all firms have the same needs for ERP solutions (Christofi et al., 2013: 304-323). A firm listed in the Fortune 1000 would require far more complexed and sophisticated solutions than an SME that has much smaller revenues, fewer employees, and less number of branches. Thus, each firm has its own needs that can be met by a certain type or tier of ERP systems, of which would efficiently meet the firm’s human and financial resources as in Figure 4 (check Appendix 1).

- **Tier 1:** Three firms dominate the ERP market for large enterprises: SAP, Oracle and Microsoft. Such software is designed for very big firms, which are complex, large businesses that have many departments and global locations, and whose revenues are in billions of dollars. A Tier 1 ERP solution is built with complexity of process in mind. For example, a Tier 1 ERP allows several people to be working on a single function. The software can split out the task among multiple

users. The number of steps and the general complexity of such ERP solution, unlike a billion dollar firm, would overwhelm a smaller firm. Tier 1 ERP solutions generally take a long time to implement and are equipped with a wealth of features at a high price (Compudata, 2013).

Figure 4: Some of Typical ERP Modules



Source: Adopted from Veterans2work. *Enterprise Resource Planning (ERP)*. <http://www.veterans2work.org/enterprise-resource-planning.html>, (29.04.2016).

- **Tier 2:** Epicor ERP, Infor, Microsoft, Sage and many vertical players are examples of Tier 2 providers. Such ERP software fit well with mid-size firms having single or multiple locations. Commonly, the needs are less complex than firms adopting Tier 1, but the level of complexity does vary quite a bit in this group, especially due to the fact that developers of such software often are

industry focused, such in food processing and automotive industries (Ultra, 2016).

- **Tier 3:** QuickBooks and Sage 50 are examples of the lowest cost Tier, which do not offer the functionality of Tier 1 and 2 solutions (and may not even qualify as ERP systems). Small businesses or businesses running a vertical line of business (LOB) application with weak accounting benefit from using a Tier 3 solution. They have a low total cost of acquisition (TCA) and are easy to implement. Yet, the major risk of such tier 3 software is the fact that small but growing firms could have their needs surpassing the limited capabilities of Tier 3 solutions (although such software do often include the data migration features when upgrading to advanced and bigger software.

Depending on the type of business, number of applications included, number of users, country, etc. Cost of implementing an ERP varies greatly. Below is the estimated cost of ERP implementation depending on the business size (Table 3).

Table 3: Estimated Cost of Implementing ERP Based on Business Size

Business Size	Small Businesses	Mid-Sized Businesses	Large Enterprises
Cost of Implementing ERP	\$10000 - \$150,000	\$150,000 - \$1 million	\$1 million - \$10+ million
Breakdown of the budget percentage allocation	• Database management system costs: 5 percent to 10 percent • Infrastructure costs: 10 percent to 20 percent • Software costs: 15 percent to 30 percent • Human resources costs: 40 percent to 60 percent		

Source: C., Hutchison (05 January 2015). ERP Software, ERP Implementation. Retrieved from Clients First: <http://blog.clientsfirst-ax.com/blog-1/>, (15.04.2016).

ERP software has become a critical e-business tool utilized by large firms and SMEs of various size and industries, where several business operations can be

automated and performed more efficiently, resulting in significant returns (Mehrjerdi, 2010: 308-324).

2.4. COMMON BARRIERS ON THE UTILIZATION OF E-BUSINESS BY SMEs

Some SMEs are not capable of utilizing ICT and e-business, not only due to the type of the sector and their location, but most importantly, due to one or more of the following:

Lack of applicability to the business, where SMEs have different perceptions regarding the usefulness and worthiness of utilizing. Some firms do not believe internet is useful for their selling of products/services, or they do not have the qualified personnel for conducting such transactions. In addition, customers of an SME may not prefer to shift to internet from the traditional ordering and purchasing via telephone or fax (OECD, 2004). Meanwhile, not all firms believe their domain of business is suited for the usage of e-commerce. For example, “A study of 20 small construction contractors in Australia with 2-45 employees suggests that small firms in this industry have been not only slow but even reluctant to implement ICT for e-commerce. The most common ICT application used by these firms is automation of communications and none had conducted B2B or B2C” (OECD, 2004:20).

Unlike large firms, SMEs may have the intent and desire to implement e-business as an evolving strategy, but they might lack the time, information, and knowledge. SME’s may not afford the risk of changing their current business model with new investments and new business models, which their customers and suppliers may be reluctant to be involved in such dramatic change, and that is in case there exists a real competition in the related market in the first place.

SMEs may also “lack managerial understanding and skills for e-business” (OECD, 2004; Windrum and Pascale, 2002), where restructuring the business process of an organization requires them to redefine their core competence and positions in the value chain. Visionary power and strategic decisions on how to use ICT to serve the organization strategy are much needed to utilize the e-business tools in an SME. The

absence of a qualified Chief Information Officer (CIO), along with IT technicians and assistance, due to their high costs, can be a barrier for an SME to implement e-business.

Chang and Dasgupta (2015) stated that security and trust factors (security and reliability of e-commerce systems, uncertainty of payment methods, legal frameworks) are further issues that SMEs can encounter in countries where legislations and laws resolving issues related to internet transactions and customers rights and complains, are not found. In addition, the absence of a legal department or qualified lawyers in the SME (unlike in large firms), can inhibit the firm from entering into new fields within e-business.

2.5. UTILIZING E-BUSINESS TO IMPROVE EXPORT PROCESS

Export market orientation (EMO) is regarded by Cadogan et al. (2003: 493-513) and Samiee and Walters (1990: 235-248), as a key factor affecting export performance, consisting of constant monitor of customers, competitors and market environments by the firm, in order to develop and sell goods and services perceived as valuable by customers in export markets. Developing an export market orientation (EMO) for improving export performance requires the firm to gather market intelligence, analyze and disseminate the marketing knowledge developed across departments and work groups. Using EMO knowledge, the firm would develop an appropriate strategy and tactics as a response towards achieving competitive advantage (Kohli and Jaworski, 1990), while using e-business as a facilitator in such strategy.

2.5.1. Export Market Intelligence Generation

According to literature, the firm's ability to achieve and maintain competitive advantages in foreign markets is closely related to its ability to implement a differentiated marketing strategy that requires adapting to the needs and desires of its target markets (Morgan et al., 2004; O'Cass and Julian, 2003; Sousa et al., 2008). If an exporting firm succeed in adapting its marketing mix to each foreign market's qualities,

Theodosiou and Leonidou (2003: 141-171) state that its products are more likely to be perceived by foreign clients as being higher value than those of local competitors and therefore it can expect a good result from the exporting activity (Theodosiou and Leonidou, 2003: 141- 171. On the other hand, failing to adapt to foreign clients' needs is one the main reasons for product failure in a new foreign market (Osborne, 2002). Such failure can be related to the failure of firms to generate market intelligence needed for the adaptation to foreign client expectations and preferences.

Hence, (Antonio Navarro-García et al., 2013: 9-31) has underlined the need to develop a marketing information system (MIS) for the ongoing capture and processing of information on local competitors' capabilities, strategies and actions and on foreign customers' tastes, preferences and desires as well. MIS minimizes the psychological barriers of export managers, due to psychological distances, who are reluctant to enter a new foreign market. Export managers are provided with access to information about cultural, economic, political, legal and social aspects that influence managerial attitudes, motivations and perceptions related to volatility in the external environment of the firm (Pentina and Strutton, 2007). MIS is a set of procedures and methods designed to generate, analyze, disseminate, and store anticipated marketing decision information on a regular, continuous basis. Within MIS, e-business tools are widely utilized for generating data, such as search engines that provides access to external sources online, internal databases and servers storing information from all departments within the firm, and various decision support systems such as ERP and CRM that help managers in analyzing data and taking better decision. The later type MIS tools, decision support systems, are e-business tools that have been used by an increasing number of exporting SMEs, especially manufacturer SMEs due to the enhanced product performance and efficient complying with clients' needs.

E-business effects on improving productivity of the manufacturer SMEs is due to the development of the utilized information technology, such as ERP systems or ERP equivalent – material requirements planning (MRP) or manufacturing resource planning (MRPII) for production planning (Magrys, S. Maguire and S.C.L. Koh, 2007). For example, technology modern manufacturing SMEs need to plan and schedule work

order use such types of systems because they need to handle the volume and variety of parts and products simultaneously, especially when trying to meet foreign clients' orders. Some of the ERP software used by firms are of commercial types, which are served as standard packages or features. As by SMEs, the used commercial ERP systems include software such as Tetra CS3, Caliach MRP and Alliance Manufacturing, in addition to "in-house" ERP systems that are customized and developed for the enterprise (Ruivo et al., 2013: 84-93). Therefore, e-business is utilized in the generation of export market intelligence as part of vital systems for gaining competitive advantage in foreign markets, such as MIS.

2.5.2. Export Market Intelligence Dissemination

Differences in legal regulations and technical requirements across markets influence the degree of a firm's inter-functional coordination. Uncertainty arises when a firm attempts to export to countries not deemed similar to the home country in terms of legal regulations and technical requirements (Erramilli and Rao, 1993) since the difficulty of interpreting the information correctly increases substantially. Many often, organizations do fail to use the market knowledge readily available to them. The importance of using available intelligence knowledge grows ever more important as competing organizations more frequently have access to the same market intelligence. "Ever more, competitive advantage lies not simply in access to market intelligence-but in the ability to use it" (Maltz and Kohli, 1995).

Export market intelligence dissemination includes activities which involve the sharing of export market intelligence (e.g., Formal meetings) and which are focused towards export customers, competitors, or the related environmental changes. Export market intelligence dissemination concerns the formal and informal information exchanges, which allow the information generated to reach appropriate export decision-makers (Olimpia, Chewit and Amonrant, 2009). The importance of export-market-intelligence dissemination is to provide a shared basis for concerted actions' by different departments (Ahimbisibwe, Ntayi and Ngoma, 2013). Various authors such as (Kohil

and Jaworski, 1990); Alhakini and Baharun, 2009) stated that the competitive advantage of a firm in international markets lies largely on the ability of the firm to disseminate information and not in its access or acquisition.

“Market intelligence dissemination process itself-specifically the frequency and formality with which marketing managers communicate with non-marketing managers-affects the quality of market intelligence as perceived by its receivers” (Maltz and Kohli, 1995), denoting the role of e-business in disseminating messages in certain frequency and quality, across visitors the that its influence is dependent on its ultimate usage. The same authors concluded in their study -involving 788 non-marketing managers in high-tech equipment manufacturing firms- that marketing contact must send a rather significant minimum threshold level of communications (at least 125 in three months) to a non-marketing manager before he or she is motivated to learn effective usage of the information. Yet, the study also proposes that too many communications can diminish the receiver's perception of the quality of the intelligence, where the rate of transmitting new information should not exceeds a receiver's capacity to process it, else it can be perceived as unclear, incomplete, or contradictory. A fairly equal mix of formal and informal communications appears to maximize the perceived quality of intelligence disseminated across functions, where market intelligence disseminated through formal means appears to be used largely than that disseminated through informal channels. This is because formal communications (mostly) are easily verified (Maltz and Kohli, 1995). The frequency of market intelligence disseminated is related to:

- Inter-functional distance.
- Joint customer visits by a receiver and a sender.
- The sender's positional power.
- The receiver's organizational commitment.
- The receiver's trust in a sender.

On the other hand, the formality of the dissemination process appears to be shaped by:

- The inter-functional distance.
- Receivers' trust in senders.

- Structural flux.

Informal communication (via telephone and mail) needs to be complemented with formal dissemination mechanisms. While informal communications may provide greater openness and clarification opportunities, formal communications tend to be more credible and verifiable. This seems to encourage the use of intelligence, particularly if it runs contrary to receivers' prior beliefs. Therefore, information disseminated informally is backed-up with verifiable, formal communication.

2.5.3. Export Market Intelligence Responsiveness

In a competitive export market where firms are under intense competitive pressure, their need for more communication and collaboration among their departments to enhance the firm's responsiveness and capability of meeting customer needs are stressed on, for gaining competitive superiority (Sousa and Lengler, 2015). Differences in customers' needs, product quality standards, and legal regulations across markets, influence the degree of a firm's inter-functional coordination. Sousa and Lengler (2015) also add that, inter-functional coordination is escalated as to increase the effectiveness of collaboration between departments to ensure product and/or service specifications meet the requirements necessary in the export market. In highly competitive markets, firms that are not market-oriented are likely to perform worse as "customers switch to more market-oriented competitors" (J. , Cui and Li, 2003). Not only do firms following export market orientation strategy do respond to export market needs, but also insure aftersales following up that contributes to customer satisfaction and loyalty. E-business applications such as CRM and ERP provide exporting firms with integrated features for storing generated information about customers, marketing activities, sales performance, production forecasting and planning, etc. Decision makers, such as export managers, can have a clear overview about modifications, in addition, to the coordination between all functions that is composed of several interrelated factors such as communication and common understanding, organizational culture emphasizing responsibility, cooperation

and contribution, removing conflicts among functions and common business focused goals.

As a result, various benefits are associated with adaptation of e-business for implementing an export marketing orientation. Benefits include the ability of an exporting firm to adjust its supply to the particular characteristics of each market, reducing uncertainty among foreign consumers (Madsen, 1998). Additionally, according to (Shoham, 1999), relationships with local intermediaries-distributors. Moreover, the exporting firm can achieve greater profitability by offering products adapted to clients' needs, which can be perceived as more suitable and reliable compared to its competitor's products (Leonidou et al., 2002).

2.6. TURKISH SMEs' UTILIZATION OF E-BUSINESS IN EXPORTING

According to TurkStat (2015), the proportion of Turkish SMEs in 2014 was 56.4% in exports. Turkish SMEs are encouraged to emphasize on playing a bigger role in foreign markets, and assemble suited conditions and methods for serving this role. According to the European Commission (2014), Turkey should focus on improving the conditions for SMEs to get more involved in international trade "by promoting training and innovation in IT tools", given the favorable position of Turkey's currency now. According to Kaplan Financial Limited (2012), with the use of e-business, Turkish SMEs are benefiting in exporting operations by:

- Cost reduction - e.g. lower overheads, cheaper procurement.
- Increased revenue - e.g. online sales, better CRM.
- Better information for control - e.g. monitoring website sales.
- Increased visibility.
- Enhanced customer service - e.g. via extranets.
- Improved marketing - e.g. e-mailing customers with special offers.
- Market penetration - e.g. even small suppliers can gain a global presence via the internet.

The combination of the above yields the enhancement of the firm's competitive advantage. Ideasoftware, a major e-commerce system provider in Turkey serving for more than 10 years in the industry, has conducted an analysis for a study involving 4000 Turkish SMEs at 2014. According to the study, SMEs conducting e-commerce have shown 30% increase in sales in 2014 compared to the previous year, offering 15 million product in online stores, and delivered 1.5 million order for their customers (Ideasoftware, 2015). In addition, the same study has stated that the share of SMEs in the 5-6 billion Turkish Lira e-commerce market is continuously growing.

As for improving business processes in the Turkish firms, only large firms were previously implementing global business infrastructure and applications through e-business suite (including CRM, SCM, and ERP systems) provided by foreign software developers such as Microsoft, Oracle, and SAP (Ventura and Soyuer, 2010). However, a few number of Turkish SMEs have been adopting e-business software provided by smaller size local developed software, such as the popular Logo and Netsis. According to Ventura and Soyuer (2010), lack of time and knowledge of information technology for SMEs have been negatively affecting the implementation of more developed information system.

CHAPTER THREE

CASE STUDY OF DIKKAYA GROUP

3.1. AIM OF RESEARCH

Due to the high importance of SMEs to the overall world economy (Edinberg Group, 2012; OECD, 2004), to the economy and social welfare of countries (Abor and Quartey, 2010; Hunjra, 2011), and specifically to the Turkish economy (TUIK, 2015; DAILY SABAH, 2015, November 19), it has been decided to study on the factors and conditions which effect the growth and development of SMEs in Turkey. Particularly, this study focuses on the export process part, which affects SMEs ability to grow and survive in volatile economic conditions and business cycles.

Furthermore, because communication is a keystone in modern business, the development of e-business tools from basic activity based tools to more complex business solutions made it a critical need in the modern business for facilitating business process and managing long-term sustainable customer relationships. Such benefits lead to the increase of firms adopting e-business, not only large firms, but SMEs as well. E-business has shown significant impact on the firms' performance when planned and applied appropriately, taking into consideration the fast pace of business solution development, and the availability of customizable multi-functional business software matching SMEs' firm size, financial resources, and level of complexity (Konings and Roodhooft, 2002: 569-581; Wu, Mahajan and Balasubramanian, 2003: 425-447; Raymond, Bergeron and Bili, 2005: 106-118). E-business has become an essential element in a firm's plans for raising business standards, applying structural changes, and creating more efficient business solutions that support exporting SMEs in meeting the ever-growing challenges.

The aim of this study is to highlight on the e-business tools as a facilitator in improving SMEs' export performance, especially that technology is becoming more accessible and affordable for SMEs rather than for large firms only. For this purpose, the main questions are to be answered by this study:

1. How can SMEs integrate e-business tools in their internationalization process?
2. How can e-business tools contribute to the improvement of exporting process of SMEs?

By answering the above questions, the study can contribute in raising awareness about the importance of e-business for exporting, SMEs aiming to go international, and more specifically, manufacturer SMEs similar to Dikkaya Group, as the case study presented. Furthermore, this study can serve Dikkaya Group as a guide, assisting their efforts towards more efficient and updated business process within their current local market, and their expanding international market.

3.2. RESEARCH METHODOLOGY

The research objective is to study the modes of e-business utilization in the exporting process of SMEs. Considering the limited empirical knowledge found about e-business utilization by SMEs in Turkey, and considering the exploratory nature of this study, the qualitative case study method was followed. This exploratory study enables the creation of new knowledge about the case company, Dikkaya Group, including the firm's organization structure, e-business activities, and current business methods in exporting. By answering the research questions, from the Dikkaya Group perspective, this study can be referred to as to solve some current exporting issues and improve the exporting performance within the firm. Furthermore, Dikkaya Group is ideal for this case study because it is a rapid growing Turkish SME firm that turned into a group, which has been expanding its exporting to an increasing number of foreign markets, and building its brand image in its foreign markets as a high quality Turkish manufacturer. Furthermore, this study did not include the local business operations of Dikkaya Group as the study is in the scope of only exporting performance.

The limited generalizability of the findings is the main limitation of the case study method. Thus, to support the findings, this study includes analysis of interviews with the export manager and exporting department staff at Dikkaya Group, about exporting process details, current and future foreign markets, and current e-business

modes utilized mainly by the exporting department. Furthermore, the case study is known to have some disadvantages related to external vs. internal validity, where the researcher does not have control on certain variables and events, and hence, the researcher should realize that the findings are may be only applicable to similar cases (Garger, 2013). For this reason, the case study is supported by the observation method for a period of 7 months from within Dikkaya Group, providing further understanding about the case company to be appropriately related to other similar subjects from the literature. In addition, in-depth interviews with managers involved in the study's main topics (e.g. export manager) are conducted, providing deeper understanding about the organization and clear any ambiguity that the researcher may face, albeit, the researcher should be aware of biased answers by the interviewees, whether intentionally or not.

Data obtained in the case study are analyzed and compared with findings from the literature, including subjects sharing similar characteristics about the firm under study. This helps in drawing a clear picture about the firm's stance from the common practices in the modern business.

3.3. DIKKAYA GROUP

3.3.1. Domain and Development

Dikkaya Group is a family business founded by Mustafa Dikkaya in 1998, becoming a group of companies, from the initial establishment Dikkaya Technical Materials Co. Dikkaya Group started as a Turkish distributor of water control valves for several international brands in the field of drinking water, agricultural and fire protection systems. Since 2001, Dikkaya group has been producing its own models and patented water control valve designs, and continuously working on expanding its product line in the local Turkish market, and increasing its local market share. Besides being a distributor for several international brands, Dikkaya Group includes a manufacturer firm producing 32 type of water control valves, founded under the name "DKY Valves & Controls". Under the management of Özgür Dikkaya (2nd generation), Dikkaya Group is

striving to establish its brand in the international market, and expanding its customer base from foreign markets. Utilizing modern technology and skilled employees by the manufacturer firm, Dikkaya Group is meeting the Turkish quality standards, as well as, complying with various international and regional quality standards, such as TSE, TUV NORD, and ISO 9001.

Moreover, to serve its development and business sustainability, Dikkaya Group has been serving new markets, through exporting to regional and foreign markets. Such regional markets include mainly the Middle East and Eastern Europe countries, in which Dikkaya had recently opened a branch in Belarus. Nowadays, Arabian GCC countries has become an important market to focus on by the firm as well. As for foreign regions, Dikkaya had been exporting to Mexico, as an example of their growing business in the Latin American market.

3.3.2. Dikkaya Group Workflow

A workflow has been prepared about Dikkaya Group, based on interviews with the export manager and his assistant, who are responsible for export/import operations. Furthermore, observations were recorded over a period of 7 months in various business departments within Dikkaya Group, as local sales department, marketing department, accounting department, and mainly within the export department. These methods have greatly supported in creating a general overview about the workflow of Dikkaya Group, presented in Figure 5, which covers 6 levels: suppliers, processing and manufacturing, local and international sales, financial intermediaries, logistics, and customer type.

Since its foundation, Dikkaya Group has been collaborating with international suppliers to serve the local market in Turkey. As a distributor, the firm imports plumbing materials, pumps, fire suppression systems, and other infrastructure projects materials from local and foreign suppliers. In addition, Dikkaya Group purchases raw material for its manufacturing needs from local suppliers. Going international requires the firm to expand the supply base in order to serve a wider customer base in the local and international market. However, this international expansion is met by an increasing

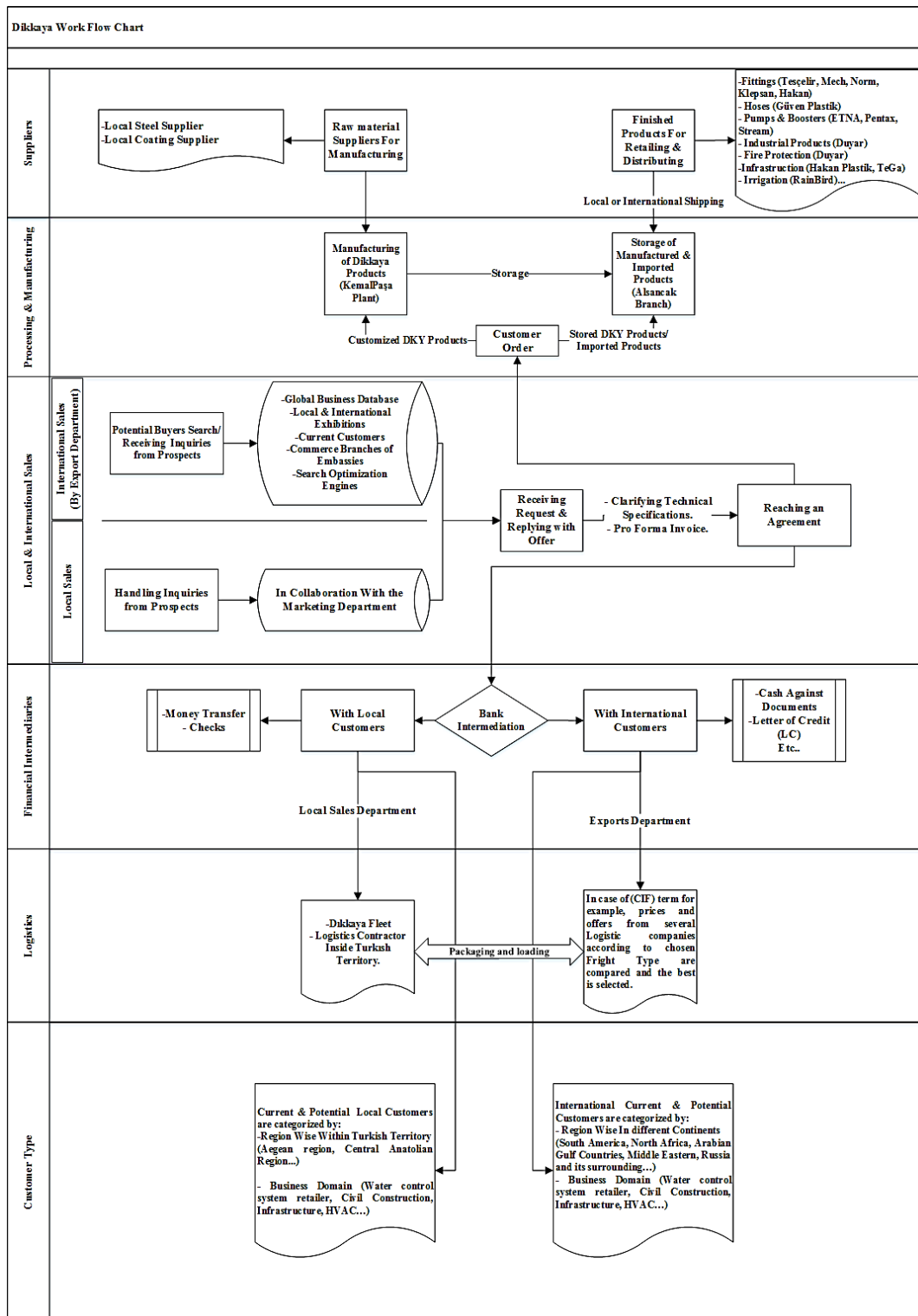
need for efficient communication between the firm and its suppliers from one side, and between its customers on the other side. Furthermore, as Figure 5 shows, intermediaries such as shipping firms and banks are an essential part of the logistics and financing operations of Dikkaya in its international business. As a manufacturer SME, Dikkaya faces the challenge of efficient communication between headquarter and manufacturing site, where orders from local and international clients need product availability check at the main stock, and the temporary stock at the manufacturing site.

Having multiple departments, with different but interrelated functions, the firm builds on the local market performance to gain momentum for entering new markets and strengthening its market share in current ones. Such process requires continuous follow up for the functional departments by the exporting department in order to meet agreed deadlines for international orders and create customer value, which is crucial for building and sustaining customer relationships.

3.3.3. A Detailed Look at Dikkaya Group's Export Process

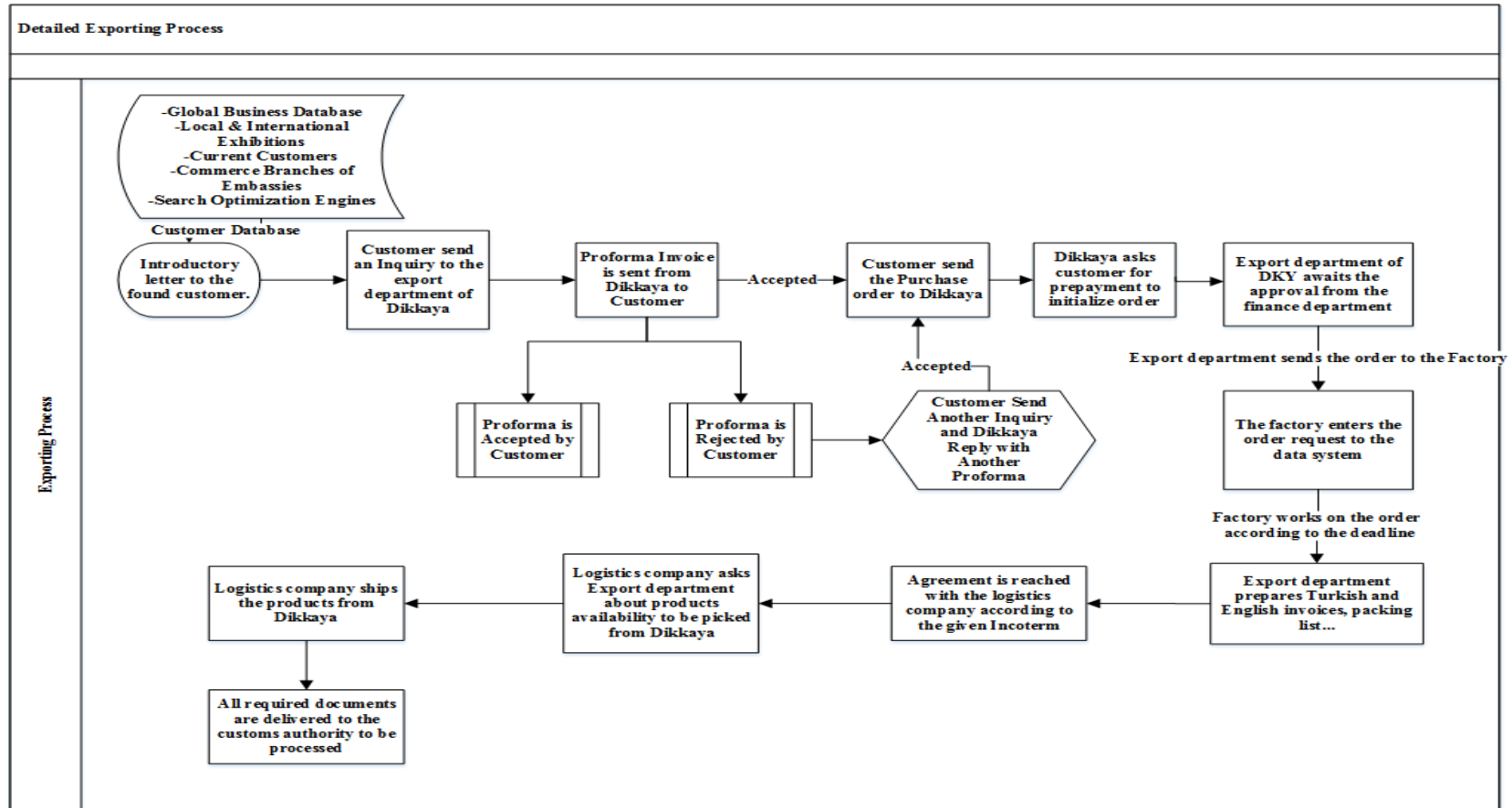
Due to geographical distance between the firm and potential customers, the export department needs the acquisition of useful intelligence about specific prospects in targeted markets. The export department at Dikkaya Group contacts and approaches each potential or current customer according to his culture and preferred communication channel. The introduction of the firm via email and telephone yield best results if there has been a previous personal contact with the customer (exhibitions, fairs, site visits, etc.) where the firm reintroduces itself and inquire about any potential orders. The export department continuously contact its current customers for the aim of meeting any potential buying request, answering questions, and further negotiations.

Figure 5: Work Flow Chart across All Departments at Dikkaya Group



The interrelated business flow at Dikkaya Group, as shown in Figure 5, implies that the performance of each business department is dependent on the performance of other business departments. For example, the manufacturing plant at Dikkaya Group is unable to meet the orders received by the local sales and export departments, unless the procurement department manages the raw material needed for processing and manufacturing from the suppliers. Likewise, the export department continuously follow up with various business departments to insure that the clients' orders are met according to the specified technical specifications, high quality, and according to the agreed schedule.

Figure 6: Detailed Export Process at Dikkaya Group



The export department of Dikkaya Group constantly works on conducting researches about potential clients through different credible sources including (but not limited to):

- Global business database (e.g. Kompass.com).
- Local and international exhibitions (Water control system, construction).
- Commerce branches of embassies (Who provide information of registered businesses within the required domain).
- Search optimization engines (where Dikkaya Group would be included within the top found results of the potential clients' searches).

When the export department targets a potential client out of the obtained search results, it then sends an introductory letter introducing the firm (as the first step in Figure 6) and clarifies how the department has found them, using a reference. Such reference is crucial in adding credibility to the seller, and pave the way for a two-way communication.

If the client gets interested with the offered product line and services, they send the export department an inquiry, which is usually a reply for the initial email sent by the export department. The inquiry includes appreciation for the email, the inquiry of products, and the expected date to reply for it).

The export department sends back a proforma invoice, a price quotation information to the client. The customer would either accept the received proforma, or reject it. If rejected, the client may respond again after a period with a new inquiry for Dikkaya Group.

In case the client accepts the received proforma invoice, the following steps take place:

1. The client sends back a purchase order (PO) to Dikkaya Group, which includes specified terms and conditions.
2. The export department would then check the terms of conditions for meeting them, and ask the client for a prepayment to start the order. Dikkaya Group usually asks for a prepayment when the order includes products manufactured by Dikkaya Group's factory.

3. After the approval of the order by the finance department, the export department sends the order to the factory through an integrated system within the firm, and the export department waits for the factory's response, which in turn, replies in a related document.
4. Export department would be preparing the English invoice at this stage, after issuing the Turkish version, and packing list, that the customs authority requires.
5. In the agreed purchasing order, the Ex works incoterms are specified, and for that, the export department contacts the assigned logistics firm to synchronize the order processes through an agreement. The logistics firm would ask the export department to inform them as soon as the products are ready for shipping from Dikkaya Group.
6. After the logistics firm takes the products for shipping from Dikkaya Group, the export department would then be delivering the prepared documents to the customs office. The firm may be asked by the client to apply for a certain certificate (such as Euro 1 certificate), as a part of the terms and conditions.

Along the exporting process, international clients require specific and reliable answers from the export department. Apart from the conventional communication tools such as the email and telephone, the export manager along with the export department staff require fast acquisition of needed information from the firm or from third party firms simultaneously. Thus, an authorized source of information (database), that allows the dissemination of information from various departments, is an essential element in the export department for providing feedbacks to its clients.

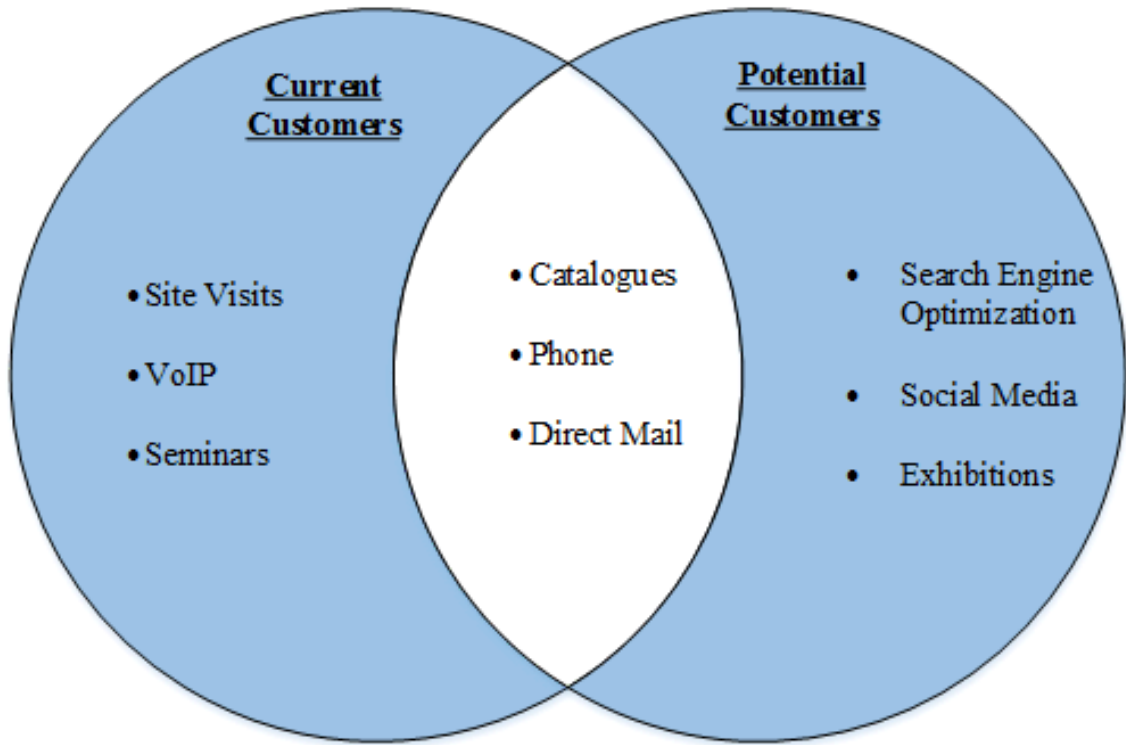
3.3.4. Findings Related to Export Marketing Strategy of Dikkaya Group

In a face-to-face interview with Murat Oktay, the import/export department specialist, he stressed on the importance of the entrepreneurial side of the export strategy of Dikkaya Group. The top management has set clear strategy, with objectives including steps regarding the expansion of the exporting process. The presence of flexible management allows the firm to effectively communicate and react with the different

parties involved in the exporting process using IMC mix (Integrated Marketing Communications) for external and internal communications, see Figure 7 below.

External communications target current and potential customers. Dikkaya regularly updates its current customers in various foreign markets about its latest products, promotions, and upcoming events via direct mail, phone calls, and VoIP methods. In addition, updated soft and hard copy catalogues in different languages are sent to current customers. Furthermore, due to the importance of foreign suppliers and intermediaries in linking Dikkaya with end customers, the export department regularly updates them about latest products and plans through seminars. In addition, top management along with export department members regularly undergo site visits to the firm's distributors and partners, whom in turn accompany them to their respective end customers. On the other hand, potential customers are always for the search by the firm, through direct mails, search engine, and mainly through exhibitions in Turkey and abroad. Exhibitions are of great importance in meeting new prospects, where the firm can display samples of its products and have direct face-to-face meetings with interested visitors, in which it can be the starting point for building business relationships. Therefore, intelligence acquiring in its various international markets helps Dikkaya Group in anticipating possible challenges in its target markets and in realizing marketing-driven business orientation, which are essential SME features for successful exporting according to Maldifassi and Chacón (2014).

Figure 7: Integrated Marketing Communications Tools Used for Current and Potential Customers



Yet, internal communications within the firm is also crucial for processing received client orders. For data entry and process at each functional department, Dikkaya Group has been using a simple ERP software from “Logo Netsis” company in Izmir, Turkey, for data entry and data accessibility by various departments. However, as part of the firm’s expansion and the growth of its business activities and markets, Dikkaya Group is currently developing a more advanced ERP system by an external service provider, which can combine different functions and tools for each department to assist in data collection, entry, dissemination, and analysis. According to Murat Oktay, the high significance of technology management at Dikkaya Group requires continuous market research and close follow-up for clients’ requirements, especially technical standards needed by the manufacturing plant for production feasibility studies.

Dikkaya Group has been working on expanding its distributors and partners network out of Turkey. Building and strengthening relationships with distributors and partners yielded in contractual cooperative arrangements and presence of intermediaries in destination countries. Such distributors and intermediaries networks are essential for linking Dikkaya Group to the local customers in each foreign market, especially for collecting essential market intelligence of customers' needs and preferences. Thus, the export department continuously provide its partners with product catalogues and seminars, as well as, visiting them on separate occasions. As a result, Dikkaya Group was able to expand its export activities through distributors and partners in major markets to include Indonesia, Mexico, Russia, KSA, UAE, Greece, Azerbaijan, and Georgia.

Despite the fact that Dikkaya Group focuses on enhancing market intelligence, where it also conducts marketing and selling activities for imported products from its suppliers (other than its manufactured products), the firm still lacks internet marketing activities such as advertising and well-established e-commerce platform. Murat Oktay has further added that the firm's public relations and advertising activities are limited in the local Turkish market.

In addition, a questionnaire has been prepared, adopted from various literature sources, such as Maldifassi and Chacón (2014) and Thompson (2015), about characteristics, dimensions, and best practices of exporting SMEs for achieving success. Several sources in literature focus on the importance of defining a clear strategy, presence of partners and collaboration activities in foreign markets, presence of export market orientation, efficient manufacturing process, and internal communication within the firm. Table 4 presents SME features for successful exporting from literature, of which each includes several dimensions and characteristics, references of the findings, perceived importance score of each dimension by Dikkaya Group, perceived achieved score for each dimension by Dikkaya Group, and the contribution of e-business to each of the success factors. The score range used in the questionnaire was from 1 to 10, where 1 is the lowest score, and 10 is the highest score.

Table 4: Perceived Importance and Score Sheet of Exporting Best Practices at Dikkaya

SME's Features for Successful Exporting	Explanation	Characteristics/ Dimensions	References	Perceived Importance Score	Perceived Achievement Score	E-Business Contribution to the Success Factors
Defining clear and precise strategy, with objectives and specific plans.	A broadly defined objective that an organization must achieve to make its strategy succeed.	Mission: Why we exist.	Maldifassi and Caorsi Javier , (2014).	10	10	E-business should be deemed as a business strategy to be adopted and developed by Dikkaya Group, considering the significant advantages in internal and external communications of the firm, and for improving the export process.
		Values: What we believe in and how we will behave				
		Vision: What we want to be				
		Strategy: What our competitive game plan will be				
		Balanced Scorecard: How we will monitor and implement that plan.				
Proactive strategic planning. (anticipate possible challenges in the market)	Allows the company freedom to make its own decisions rather than responding out of necessity to a situation that already may be out of control.	Sustained and consistent information, coordination, and complementary internal /external communication to both general and targeted audiences at appropriate times.	Maldifassi and Caorsi Javier , (2014). Thompson, (2015).	10	8	E-business tools such as CRM includes forecasting feature, that the firm can estimate the outcome of its export strategy.
		Good research plan to measure public attitudes, define audiences and test ways to change attitudes or behaviors.				
		Monitoring goals progress				

Presence of business partners in foreign market.	An alliance of domestic and foreign entities (firms) that come together with an intention to finalize a contract on some tasks or jobs or projects in a hosting country.	Improving the financial growth of the collaborating firms.	Wilkinson and Young, (2002). Wiatr Borg and Young, (2013). Lussier and Halabi, (2008).	10	6	Communication between business partners is facilitated by e-business tools for efficient two-way interactions. In addition, e-business tools such as integrated supply chain management systems, Synchronize important information among the collaborating firms.
		Occupy a major market share for the collaborating firms.				
		Reducing the higher operating cost of the foreign firm.				
		Making an optimum and effective use of resources for the domestic firm in its country.				
		Generating employment in the hosting country.				
Realizing marketing-driven business orientation.	Gathering market intelligence, analyze and disseminate the marketing knowledge. Developed across departments and work groups. Using this knowledge to develop appropriate strategic and tactical responses that serve as the basis of competitive advantage.	Ability to sense events and trends in their markets ahead of their competitors.	Maldifassi and Caorsi Javier , (2014).	10	7	Through internet sources and servers storing data, gathered intelligence about clients, suppliers, and environment can be analyzed and disseminated across different departments.
		Can anticipate more accurately the response to actions designed to retain or attract customers.				
		Improve channel relations.				
		Act on information in a timely, coherent manner because the assumptions about the market are widely shared.				
Presence of flexible management	Modify management style to accommodate the needs of each team member, for effective leading of people having different strengths, backgrounds, personalities and work styles.	Realizing there is nothing “inauthentic” about modifying the managing approach as needed.	Moguillansky et al. (2006).	9	10	For this feature, the firm needs to provide its employees with unified guidelines and accessible knowledge resources to contribute for teamwork in each department, and among different departments.

Solid financial capability			Prochile (2015)	10	10	Due to the significant benefits that e-business can provide, the firm should invest in developing its existing e-business tools and adopt new solutions.
Significance of technology management	“The field concerned with the supervision of personnel across the technical spectrum and a wide variety of complex technological systems”.	Instruction in production and operations management.	Maldifassi and Caorsi Javier , (2014).	10	10	Improving quality standards and increasing product line requires adopting new knowledge and training for successful implementation of new projects. ERP systems are ideal for assisting with the planning and execution of manufacturing projects by tracking suppliers, materials and production costs and supporting the maintenance of relationships with end customers.
		Computer applications.				
		Project management. Quality control.				
		Safety and health issues.				
		General management principles.				
Product design and innovation.			Moguillansky et al. (2006).	10	8	E-collaboration is an internet-based solution for sharing project blueprints and price quotations between the firm and suppliers from one side, and between the firm and clients. Clients can access the firm's product database and help creating a non-existing product.
Quick response manufacturing	Shorter lead times improve quality, reduce cost and eliminate non-value-added waste within the organization.	Top-down control to team ownership.	Maldifassi Caorsi Javier , (2014).	10	8	As a suite of integrated applications, ERP systems allows the manufacturing team in the firm to collect, store, and interpret data from several business activities, such as

	Increasing the organization's competitiveness and market share by serving customers efficiently.	Specialized workers to a cross-trained workforce.				product planning, purchasing, and service delivery. Hence, the firm can determine best practices for minimizing costs while increasing responsiveness in manufacturing operations.
Personnel training.			PROCHILE (2005).	10	6	Knowledge Management Systems can be an effective tool for personnel training through creating, editing, and disseminating knowledge between managers and employees, and between the employees themselves.
Competitive Prices.		Using the sales force.	Wiatr Borg and Young, (2013). Kohli and Jaworski, (1990). Acikdilli (2015). Descotes and Walliser, (2011).	10	10	E-business utilization provides the firm with resources need to cut costs and improve business activities, hence, enabling the firm to provide competitive pricing for its products.
		Channel partners whom are business owners.				
		Network competitors, sales representatives, and channel partners.				
		Seeking external help –Hiring a consultant or a market research agency.				
Enhancing market intelligence.	Involves the spread of marketing information such that the decision makers are capable of taking - the right decisions or altering their overall strategy based on the	Providing company-wide updates and communications from each department; and, wherever possible, promoting cross-departmental meetings	Kohli and Jaworski, (1990).	10	7	Intelligence acquired from internal and external sources can be analyzed and interpreted for enhanced operational responsiveness.

	intelligence acquired.	and projects.	Moguillansk-y et al. (2006). Penttinen, (2015).			
Efficient coordination and communication within the company.	The act of organizing and enabling different people to work together to achieve an organization's goals.		Morgan, Kaleka, and Katsikeas, (2004). Bapna and Sugumaran, (2001).	10	10	Sharing information about foreign clients’ needs and preferences, business environmental in foreign markets, and inventory database between the firm and its distributors can strengthen the relationship between them.
Strengthening relationship with Distributors in foreign markets.		International Standard (ISO)	Siawsurat and Önel (2011)	10	9	Direct mail and VoIP are main communication tools that are efficient for continuously acquiring intelligence updates from various external channels.
Meeting international quality standards.	A focus on quality delivers competitive advantage, where many businesses cannot compete by lowering prices because their market is very competitive.	European Standard (EN)	Maldifassi and Caorsi Javier, (2014). Duangporn Siawsurat and Önel (2011)	10	9	Business process improvements through e-business utilization include improved product quality and customer service, which can meet international quality standards required by many clients in foreign markets.
		Standard in Britain (BS)				
		Publically Available Specifications				
		Private Standards				
		Company Materials				
* From 1 = Lowest Score to 10 = Highest Score						

Findings in Table 4 provide a better understanding of Dikkaya Group's position compared to successful exporting firms having specific characteristics and dimensions according to the literature. Various e-business tools can contribute to relevant success factors as mentioned in the table. At Dikkaya Group, there are four main factors that need to be better assessed and improved, using appropriate e-business tools, for improved export performance: strengthening the alliance with foreign business partners, creating and using knowledge related to the marketing-driven business orientation, providing personnel training, and achieving efficient internal communication and coordination. In addition, these steps can be referred to as a starting point towards gradual and well-studied add-ons to some of the currently used e-business tools by the top management, with the assistance of the export department. Table 5 presents the existing practices for successful exporting at Dikkaya Group, as well as, the existing practices to be improved.

Table 5. Existing Practices at Dikkaya Group

Existing Practices for Successful Exporting	Existing Practices to be Improved
• Defining clear strategy, with precise objectives and specific plans. • Presence of flexible management. • Solid financial capabilities. • Competitive prices compared to competing products of the same class. • Good level of coordination between departments within the firm.	• Increased collaboration with business partners in foreign markets. • Realizing marketing-driven business orientation. • Regular personnel training. • Enhanced foreign market intelligence.

3.3.5. Suggestions to Contribute for Export Process Improvement at Dikkaya

After observing and studying the business work flow at Dikkaya, focusing on the exporting process, along with interviews with managers at the export department, several suggestions can be drawn out of the modern e-business literature to improve Dikkaya's export performance on the medium and long turn. Table 6 lists 3 suggestions for Dikkaya Group to improve the mentioned weak practices mentioned in Table 5.

Table 6. Suggestions for Improving Practices at Dikkaya Group

Practices to be Improved	Suggestions
• Realizing marketing-driven business orientation. • Enhanced foreign market intelligence.	Establishing an Appropriate CRM System (Open Source CRM).
• Increased collaboration with business partners in foreign markets.	Involving in E-Marketplaces.
• Regular personnel training.	Creating a Knowledge Management (KM) Supported System.

3.3.5.1. Establishing an Appropriate CRM System

Findings from questionnaire and observation at Dikkaya Group indicates an absence of efficient CRM that can manage data of foreign clients, monitor marketing activities on forecasting, and analyze export performance for each foreign market.

It has been reported that firms having more than 10 employees need software support to store the necessary information that can store the firm's product options, prices of products offered, and other customer related data (Wright, Bisson and Duffy, 2011). Yet, Wright, Bisson and Duffy (2011) have found, in a survey including 206 Turkish SMEs that up to 52.4% of the surveyed SMEs rely on their memory to manage their competitive information, rather than using any systems for data management

(Yılmaz, 2011). The same study pointed to the status of technology support as a “Simple Technology Support”, presented by the usage of free web such as a search engine or searching in web sites requiring no specific knowledge. In addition, the status of currently used IT by the majority of surveyed Turkish SMEs is “Dismissive”, meaning the lack of any IT system usage to manage competitive information (Yılmaz, 2011). Such findings match the current IT system usage at Dikkaya Group, specifically for export operations, to manage customer and other product related data, instead, basic spreadsheet software (e.g. Excel), which does not provide efficient data management, nor data analysis. This implies that the awareness and usage of technology at Turkish SMEs is still low, which strengthens the importance of CRM software adoption by SMEs. Fortunately, Dikkaya Group’s top management, along with the export department, realize the importance of establishing their own CRM system, which is currently under study as reported. Thus, it is recommended that the firm consider the following main points for establishing an efficient system fitting their needs and budget.

Yılmaz (2011) has conducted a clear and detailed study about CRM software for small and medium enterprises, which can pave the way for CRM software adoption process for Dikkaya. Starting with the importance of implementing CRM, focusing on customers is a key factor for SMEs and large organizations alike, for their survival in the local and global market. Furthermore, (Payne, 2002) found that acquiring a new customer is five times more than the cost of retaining an old customer, signifying the high importance of customer retention for SMEs, considering their limited resources (Baumeister, 2002). Ramdani, Kawalek, and Lorenzo (2009) have stressed that if SMEs are to compete effectively and beyond that survive in the global market, they have to implement CRM. Xu and Walton (2005) gave six main reasons for CRM implementation:

- Improving customer satisfaction level.
- Retaining existing customers.
- Improving customer lifetime value.
- Providing better strategic information to sales, marketing, finance etc.
- Attracting new customers.

- Cost savings.

Referring to some research findings of Yilmaz (2011) and to the export process at Dikkaya, implementing appropriate CRM would offer Dikkaya the following:

- The system would track every interaction and transaction that describes the customer's purchase, interest and demands for Dikkaya.
- The system can report the changing needs of the customer, so one will be aware of the needs of customer, allowing the firm to react effectively to the change.
- CRM systems collect data about the service requests, customer information, order entry, billing etc.
- Using CRM, Dikkaya could measure its performance, including its overall export performance.

3.3.5.1.1. CRM Software Options

Due to the limited financial resources of SMEs relative to large firms, as well as, their less complicated nature of business transactions and organization structure, CRM is offered in the market in two options: **Commercial** and **Open Source**.

CRM software of commercial type is “typically sold in computer stores or at Web sites. Although you buy this software, you actually purchase only the right to use it under the terms of the software license” (Parsons and Oja, 2010: 159). Albeit, features and tools in such commercial software are designed in respect to general needs, as well as, making the purchasing firms dependent on the vendor for its maintenance. However, one of the main barriers for adopting such commercial CRM is the very high price tag it carries, where in Turkey for example, the average cost of Microsoft Dynamics CRM server for an SME is \$5.823, which is recommended for companies with more than five users (Yilmaz, 2011).

On the other hand, CRM software are offered by another option, as an Open Source Software (OSS). The advantages of OSS are presented in one of its definitions by Hansen, Köhntopp, and Pfitzmann (2002, p.461) as “the source code is distributed along with the executable program, and it is free to use. It includes a license allowing anyone

to modify and redistribute the software”. Krogh and Spaeth (2007: 236-253) provided certain characteristics for a software to be characterized as an OSS, it should comply with all of the following prerequisites that would differentiate it from the commercial software:

1. Free redistribution.
2. Source code.
3. Derived works.
4. Integrity of the author's source Code.
5. No discrimination against persons or groups.
6. No discrimination against fields of endeavor.
7. Distribution of license.
8. License must not be specific to a product.
9. License must not restrict other software.
10. License must be technology-neutral.

The power of OSS is that they provide users free rights to run programs for any purpose, meaning that Dikkaya would not have to pay royalties to another developer, as well as, the ability to modify the programs within the software according to the firm's needs using the help of a software developer. In addition, OSS are compatible with mobile phones and computers, and can be used by single or multiple users located differently (such as by sales people and other staff of the firm's other branches).

Table 7 presents an example of popular open source software and their purpose that Dikkaya can consider to adopt as a cost efficient and useful software for data management.

Table 7: Popular Open Source Software and Their Purpose

Name	Purpose
Linux	Operating System
Apache	Web Server
GCC	C and C++ compiler
MySQL	Relational Database System
Mozilla Firefox	Web Browser
Perl	Programming Language
Open Office	Office Productivity Suites
Tomcat	Application Server
Pidgin	Instant Messenger

Source: Yilmaz, E. (2011). *Comparison Of Open Source Customker Relatotionship Management Software For Small And Medium Enterprises* (Unpublished Master's Thesis). Istanbul: Kadir Has University Graduate School of Science and Engineering.

Due to the mentioned advantages of OSS, the global market share of such software have surged greatly, and OSS awareness by Turkish firms is increasing by time according to Şule (2009). Firms have realized the major advantages of OSS in terms of lower total cost of ownership, reducing dependence on software vendors, easier customization, and high level of security.

To sum up the differences between Open Source and Commercial software according to advantages offered for SMEs, (Piroscâ et al., 2009) lists the following features for each in Table 8.

Table 8. Features of Open Source and Commercial CRM Software

OPEN SOURCE	COMMERCIAL SOFTWARE
Free licensing	Paid licensing
Full customization ability	Customization according to client pattern
Retaining control of user's data	Control over clients
Many features are for free	Best features or all features are to be paid for
Support Free	Hand-holding and follow-up
Used by the developer for advertising	Used by the developer for profit
Improvement along with good communication with users	Potential of spying on the users
Full access	Restricted access
Free will upgrades	Imposed upgrades
Lack of project support	Full support
Projects may "die on the vine"	Contractual obligations and schedules

Source: Yilmaz, E. (2011). *Comparison Of Open Source Customer Relationship Management Software For Small And Medium Enterprises* (Unpublished Master's Thesis). Istanbul: Kadir Has University Graduate School of Science and Engineering.

Therefore, SMEs such as Dikkaya Group should consider the cost efficient and unlimited features provided by OSS to reduce the cost of adoption, maintenance and support that commercial packaged software demand, reduce computer hardware costs, create software standards across departments, functions, and/ or business units or divisions, and create needed features not found in standard commercial software packages. Dikkaya Group can utilize such features in generating data about their local and international customers- in specific, disseminating them across its business functions, and analyzing data for responding to customer needs in less time and in most accurate way, thus, adding value to their services.

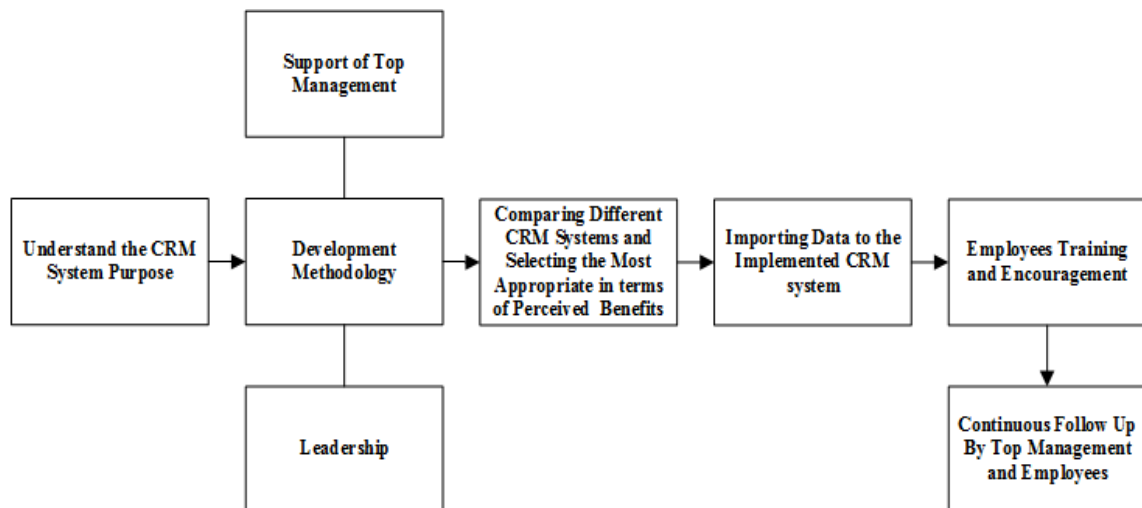
3.3.5.1.2. Implementing a CRM System

For Dikkaya Group to implement an appropriate CRM system, several steps should be taken to make sure the project would not be halted or stopped after the adoption process decision. Failure rates of CRM implementation projects are quite high

according to Chaffey and Wood (2005), where 70 percent of CRM implementation are doomed to failure as reported by “Butler Group”. Another study by “Gartner” reported 55 percent of all CRM project failed to meet customers’ expectations. Hence, Dikkaya should avoid such failure by following recommended steps in the CRM implementation process.

A research has found that more than half of organizations that have implemented CRM have difficulties during and after implementation (Nguyer et al., 2007: 102-115). Hence, Dikkaya should consider each of the steps in Figure 8 below.

Figure 8. Steps for CRM Implementation



1. Primarily, top management at Dikkaya Group should first have a clear idea about the CRM applications and potentials for the firm. Researchers such as Mendoza et al. (2006), Galbereath and Rogers (1999), all approve that CRM serve the purpose of maximizing a firm’s interaction with customers by being a cross-functional business application. In addition to top management, sales managers and other employees should have a full understanding about the functionality of CRM system and its purpose. Otherwise, the employee misunderstanding of the purpose of the CRM system can hinder its success (Sauer, 1993), just like many

firms lacking an overall corporate vision for the system, which disables the system to deliver the expected value (MacDonald and Wilson, 2002). Thus, the management should get everybody on board for a vision by clarifying how the CRM system is supposed to assist the stakeholders of it, and then to the lower levels of management and employees.

2. Projects are viewed by Dorsey (2000) as a tripod, in which its three keystones should be all in the right place for the project to stand stable. These three legs are support of top management, development methodology and leadership, which are elaborated below:

- Support of top management: The project cannot stand for long if it does not have the full support of the top management. In Dikkaya, the owner and the top management should support the CRM OSS implementation process starting from the first step presented by studying and consulting about the need for the system, funding the project, and involving other managers and employees in creating a common vision and understanding.
- Development Methodology: The implementation of a CRM OSS system consists of several steps as in Figure 7, thus, the management should stress on the completion and tackling any possible issues throughout the process.
- Leadership: The presence of an experienced person within the firm about such CRM systems can provide a solid leadership for the project, and this will increase the chance of the project completion. However, as in Dikkaya, the firm relies mostly on a third party IT support provider who manages the various IT needs and troubleshoots inside the firm. The CRM OSS developer can offer the system implementation inside the firm for reasonable prices that include implementation, added features in the system, and full time support. Another possible way is the implementation of CRM by an employee inside the firm who can follow detailed, yet simple, instructions from the OS developer official

website, CRM OSS forums and blogs, or inquiring the firm's IT provider for implementing the system.

3. CRM OSS projects have been tremendously increasing in the market, however, studies and reviews always rate them and pick the best for the reviewees to consider. Sourceforge.net is a single major supplier and repository for open source software projects, including as much as 687 results for only CRM OSS. Such rapid increase in CRM OSS in the market makes it more complicated for a firm like Dikkaya to choose.

Yilmaz (2011) has referred to several studies from the years 2006, 2007, 2009 and 2010 to pick the top 10 CRM OSS. The top 10 included in the list are compared in Table 7. Yet, it is important for Dikkaya Group to consider one system among the list by checking which system offers the most number of essential features that firms seek in a CRM system. Table 9 below offers a CRM OSS comparison in terms of features included.

Table 9. CRM OSS Comparison Table

OSS CRM	Vtiger	Sugar CRM	Daffodil	Tustena	Compiere	OpenCRX	Splendid	Hipergate	CentraView	Centric
Functionality										
SFA	+	+	+	+	+	+	+	+	+	+
Marketing Automation	+	+	+	+	✓	+	✓	✓	-	+
Service Automation	+	+	+	+	+	+	-	+	-	+
Ease of use	+	+	+	+	+	✓	✓	✓	+	+
Security	+	+	+	+	+	+	+	+	+	+
Extensibility	+	+	✓	+	+	+	✓	✓	+	+
Customization	+	+	✓	+	+	+	+	✓	+	+
Compatibility	+	+	✓	+	+	+	-	✓	✓	✓
Operating System Independence	+	+	+	-	+	+	-	+	+	+
System Requirements	+	+	+	-	+	+	+	+	-	+
Supported Browsers	+	+	+	+	-	+	+	-	+	+
Scalability	+	+	+	+	+	+	+	+	+	+
Support and Continuity	+	+	-	-	+	+	+	-	-	+
Internationalization	+	+	-	+	+	+	+	+	-	+

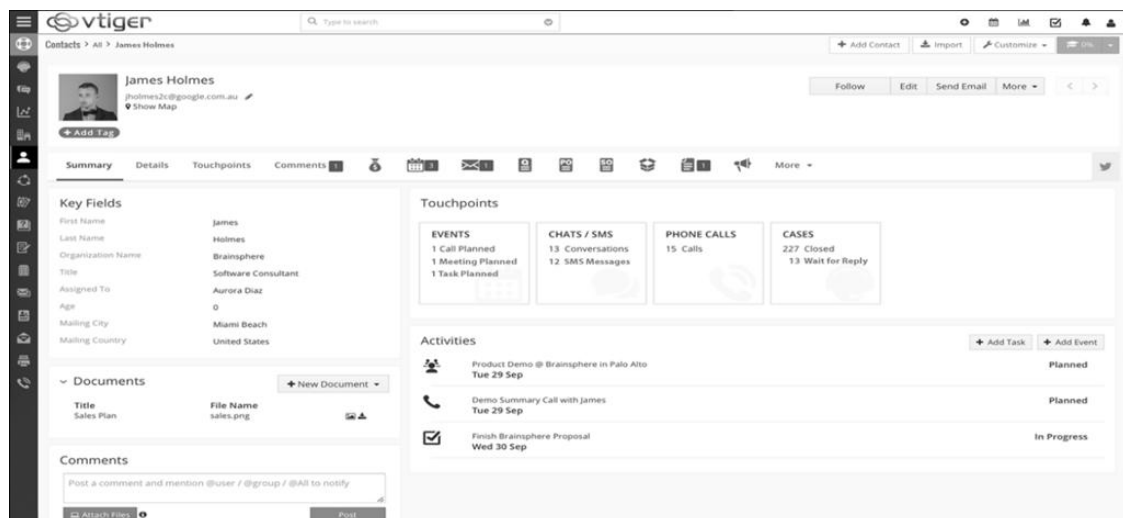
+ Available
- Not Available
✓ Partially Available

Source: Yilmaz, E. (2011). *Comparison Of Open Source Customer Relationship Management Software For Small And Medium Enterprises* (Unpublished Master's Thesis). Istanbul: Kadir Has University Graduate School of Science and Engineering.

3.3.5.1.3. Vtiger

As Table 9 shows, Vtiger and SugarCRM offer all the features possible compared to the rest of CRM OSS systems. Yet, Vtiger is reported to be have higher rating than SugarCRM in ease of use, value for money, and customer support (GetApp, 2016). In addition, Vtiger has accessed the Turkish market in 2014 (HaberTurk, 2014), and already having its Turkish version of website <http://www.vtigerturkiye.com>. The Turkish Vtiger website offers details about two training program: A content training program that offers training and tutorial programs for beginners, and another program which is executive training management for mastering the processes for the organization, as well as, mastering the software management issues. The tuition fee is determined by the quality and depth of education, the number of people participating, the time and location of the training are determined tuition fee. Furthermore, it is advisable that the trainee from the firm should have the capabilities to master the software management issues.

Figure 9. Contact Page (Vtiger Screen Shot)

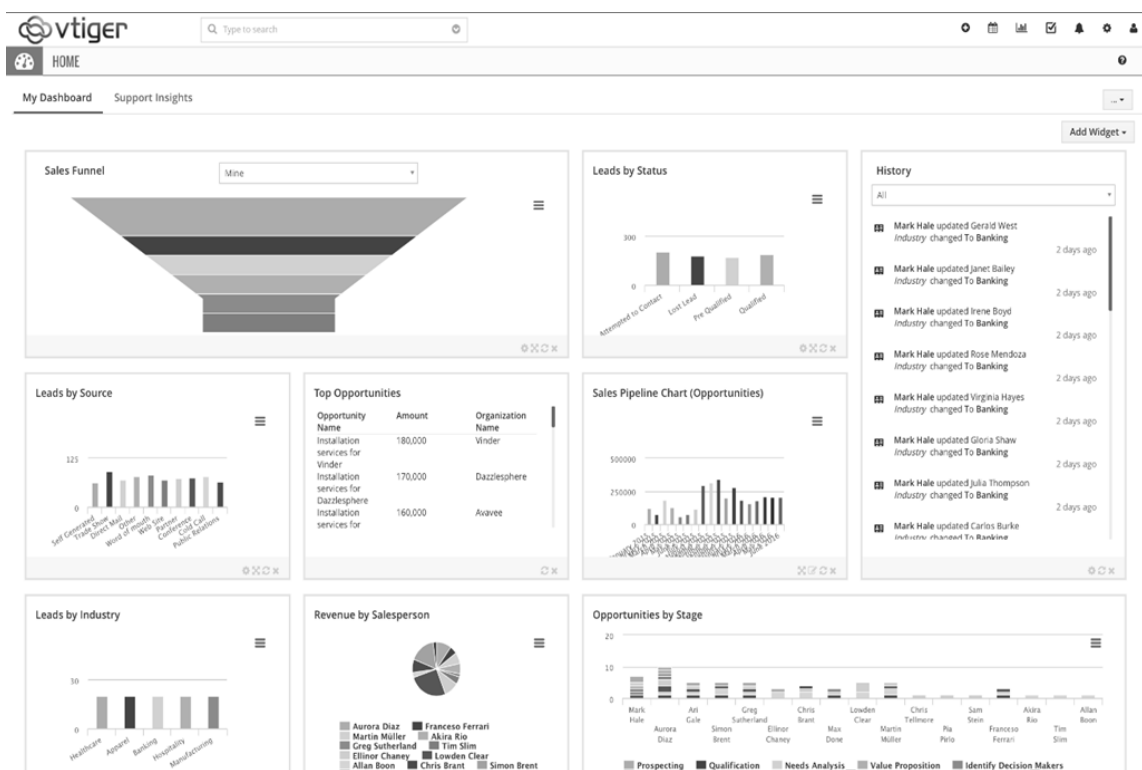


Source: GetApp (26 June 2016). *Vtiger CRM Pricing, Features, Reviews & Comparison of Alternatives*.

<https://www.getapp.com/customer-management-software/a/vtiger-crm/>, (16.06.2016).

Figures 9 and 10 show examples of the contact page and the dashboard (check appendices 2 and 3), displaying simple and detailed information about each contact entered to Vtiger database. Each function in the system (including marketing campaigns supporting social media) has a separate dashboard that provides the user a detailed report for the desired period (e.g. monthly) about sales, leads, opportunities, and even revenues by each salesperson as shown in Figures 9 and 10.

Figure 10. Dashboard (Vtiger Screen shot)



Source: GetApp (26 June 2016). *Vtiger CRM Pricing, Features, Reviews & Comparison of Alternatives*.<https://www.getapp.com/customer-management-software/a/vtiger-crm/>, (16.06.2016).

4. After realizing the advantage of a CRM OSS like (Vtiger for example) among its competitors, the firm would implement the system by any of the above mentioned

parties, after insuring the software technical requirements are met. Afterwards, data about contacts, sales, invoices, plans, etc. which are stored on simpler datasheets such as Excel, are imported to the new CRM OSS system, where it supports data importing from Excel and other CRM systems. Time is an important factor in implementing any system, Ranges from a period of 3-9 months for a firm of 10-50 employees (dbprosconsulting, 2012), up to a period of 11 months for a firm of 50-100 users (Boardman, 2010) as in table 8. Several factors affect the implementation of a successful CRM OSS system according to Dbprosconsulting (2012):

- **Size of Company** – The bigger the company, the longer the implementation typically takes, as there are more users, more departments, more meetings to make decisions, and more data.
- **Quality of Data** – If the firm's data is in multiple files/spreadsheets/filing cabinets distributed across the firm, sorting and eliminating unnecessary data would be necessary before entering them to the new system. The complexity of the data makes "cleanup" process more complex.
- **Availability of Key Decision Makers** – It usually takes a team of people to make all of the decisions necessary in a CRM implementation as mentioned before. "If that team, or the individuals needed to make each decision along the way, is not available to sit in on meetings, deliberate on decisions, follow-up with the implementation team to get answers or materials they require, etc., it can hold up the project".
- **Number of Systems Being Evaluated** – Comparing less number of systems requires significant less time than the case of having several systems to compare. Dikkaya can compare the two best CRM OSS systems according to table 7 (Vtiger vs SugarCRM) by seeing a demo; get pricing; and make executive decisions as a team on which to purchase.
- **Complexity of Customizations and Integrations** – "Some companies may only need a few fields added to the system to satisfy their needs. Others need fields, tables, automation/workflow built in that can severely impact the time to complete the implementation". The time needed for integration of data and

functions within the implemented system is also determined by features and add-ons that managers require to be included in the system according to the business activity needs.

Table 10. Approximate Implementation Time for a Mid-Market CRM System

Step Number	Task Name	Estimated Duration
1	Requirements definition	60 days
2	Vendor selection	40 days
3	System design	40 days
4	Data preparation and Cleaning	100 days
5	Development	30 days
6	Testing	30 days
7	Training	20 days
8	Go live activities	10 days

Source: R. Boardman (18.11.2010). *How long does a CRM project really take?*

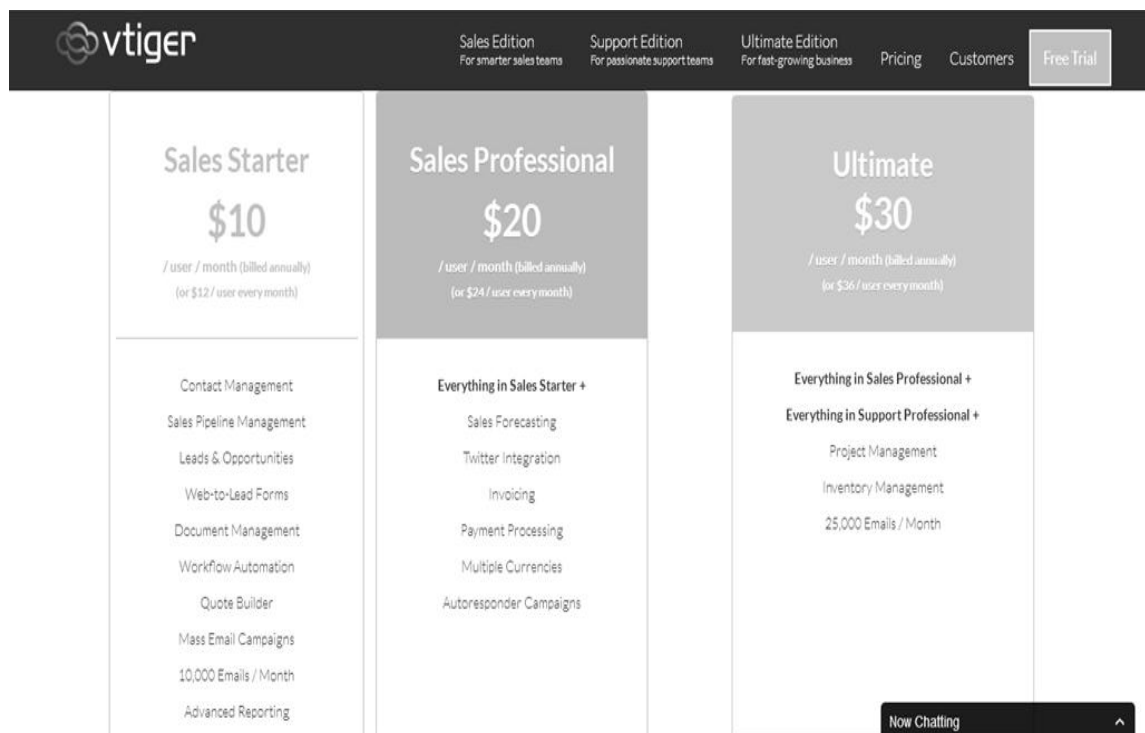
http://customerthink.com/how_long_does_a_crm_project_really_take/, (20.06.2016).

5. Again, top management should encourage managers and employees to better perceive the benefits of the CRM OSS system starting from the early steps of CRM system adoption to insure positive attitude from employees towards the system, greater responsibility and increase the chance of a successful adoption (Mendoza et al., 2006). In addition, top management should guide the potential users such as sales managers, sales representatives, and the exporting department staff in learning the effective usage of the system through the free trial offered by the developer, tutors, communities and forums created by thousands of the system users who share common issues and questions along with the solutions. In addition, the top management at Dikkaya may select from the managers and employees whom to participate in the CRM system training programs.

6. Like any project success factor, the top management at Dikkaya should always follow up on goals and provide feedback on performance (Anderson & Huang, 2006),

where managers can evaluate if the CRM is meeting the expected value to the firm, and highlight positive aspects for continuous use. Another important aspect is providing the system administrator with useful feedbacks by the system users to be followed up in order to improve or add a certain feature to the system, or to tackle barrier for successful usage of the system. In addition, system users should always receive continuous training and tutoring about the CRM system to get the best out of it, and contribute to the system's goal of improving local sales, and exporting performance.

Figure 11. Cloud Vtiger CRM Support Packages Pricing



Source: Vtiger (2016). *Work smarter and engage customers more effectively across the entire customer life cycle*. <https://www.vtiger.com/>, (21.06.2016).

In summary, implementing a low cost and efficient CRM OSS by Dikkaya requires the following skills, time, and cost as in Table 11, yet, the cost according to the type of CRM OSS chosen (i.e. free or cloud version).

Table 11. Summary of Implementing Vtiger System Requirements

Technical Requirements	- Basic Requirements: apache 2.2+, PHP 5.3, MySQL 5.1 / 5.2	
Skills Requirements	System Installation	- Visiting http://sourceforge.net/projects/vtigercrm/, downloading the desired version of the system, and following the install instructions that are clear and easy to follow by any employee in the firm having medium computer skills. - Installed by a third party IT service provider. - Installed by a third party Vtiger support provider in Turkey from http://www.vtigerturkiye.com.
	User Skills	- User Friendly for Managers and Employees after gaining basic knowledge and training through: A Vtiger third party support provider in Turkey, online tutors and demo, or support from hundreds of Vtiger users' communities and forums online.
Implementation Time	- Approximately 9 months, depending on the mentioned conditions such as size of company, quality of data, availability of key decision makers, complexity of customization and integrations.	
Cost	- Free demo. - Free of charge as an open source. - Paid version for the "Cloud" version, hosting the system online, which offers different support program packages starting from \$10/user/month until \$30/user/month, offering many sales and marketing support as in Figure 11. (Dikkaya Group reported 9 unique clients at its database, hence, the approximate cost for the "ultimate package" subscription will be equal to \$270/month.	

3.3.5.2. Involving in E-Marketplaces

Buyer-seller relationship is a main requirement for the sustainability of every firm. This relationship needs to be built, grown, and sustained for long-term, through mutual efforts by the buyer and the seller. Such task is not easy as buyer-seller relationships are not stable, where conflicts and misunderstanding may arise between the

two parties. Many literatures have addressed the build-up of buyer-seller relationships from transactional until relational (Boeck, BenDavid and Lefebvre, 2009).

SME manufacturers (suppliers) such as Dikkaya, hold different relationships with various distributors, ultimately aiming for building profitable long-term relationship with their buyers (local and international). However, taking relationships to higher levels with international buyers (distributors) is by no mean an easy task, as the selling firm has to adapt many challenging requirements imposed by some of its clients. For example, large buyers can present such challenges as demanding from SME suppliers to adopt new electronic interaction systems, for integrating both of the organizations systems in procurement processes as part of e-commerce adaptation. An SME supplier would risk losing big profitable buyers to its competitors who might be are more ready to adapt to the buyers' e-commerce requirements.

Presented in Table 12, Boeck et al. (2009) proposed four B2B relationship levels between buyers and sellers, which can be used to clarify each level of the relationship ladder for Dikkaya and its buyers, the e-commerce adaptation path for each level, and the potential benefits for the two business sides:

- The pre-relationship level: No transaction has yet been taken place between the buyer and the supplier; however, the goal of this relationship level is the buyer's awareness about the seller offering potential.
- The spot relationship level: At this relationship level, there is a sporadic relationship without any mid- to long-term agreement between the buyer and the supplier. The focus on this level is on reducing the price paid for goods and services while decreasing procurement cycle time and improving sourcing processes.
- The contractual relationship level: Usually, a three- to five-year contract is signed in order to meet a constant need for a product or service involving substantial volumes, repetitive transactions or increased product customization based on the pre-negotiated prices. To reach this relationship level, the electronic interactions demand a form of commitment by the supplier because it must invest

in specific assets as the supplier's internal information systems are ultimately integrated with the buyer's information system.

- The collaboration relationship level: A collaboration relationship exists when “some form of cooperation is involved”, when trust is found as a prerequisite, and when benefits and information are shared between the buyer and seller.

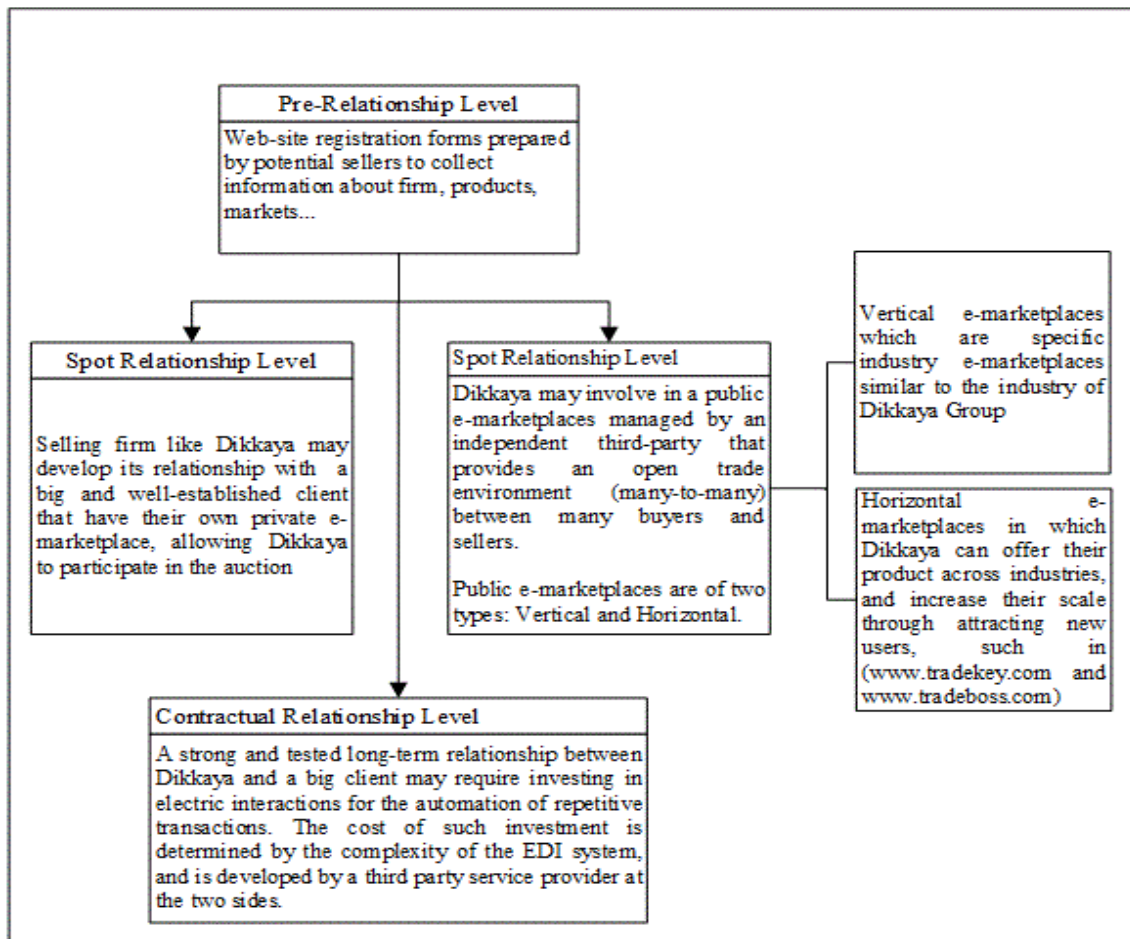
Table 12. Used Strategies at Each Buyer-Seller Relationship Levels

Buyer/Seller Relationship Level	Buyer	Seller
Pre-relationship level	An opportunity to contribute to cost savings, by evaluating potential suppliers more efficiently through pre-defined electronic tools imposed, such as requiring suppliers to complete web-registration form, to be evaluated by the buyer.	Advertise its products and services through the electronic medium that the buyer will use.
Spot relationship level	The buyer aims for the lower cost of procuring products and services through inviting a group of suppliers to participate in an electronic reverse auction by first sending out a request for quote (RFQ) on a specific E-Marketplace specified by the buyer.	A new seller can replace another current seller as one of the buyer's preferences through providing better auction proposal. Some sellers might suffer from “squeezed” profit margins but will gain significantly on the long run, as it will build stronger and lasting relationship with the buyer.
Contractual relationship level	The main objective for the buyer is to optimize the procurement process by automating repetitive transactions and thereby considerably reducing transaction costs. The buyer verifies the seller's (supplier) long-term relationship potential before asking them to invest in electronic interactions.	The large volume of business compensates for the less than desired margins of a contractual relationship negotiated over the long term for suppliers. Yet, moving from a spot to a contractual relationship level involves investing in new technologies, evolving B2B e-commerce adaptation for SME suppliers, developing new competencies, re-engineering existing business processes and adopting new ones.
Collaboration relationship level	Cost reductions is one of the main reasons for entering into a collaboration relationship. For example, the seller would be granted permission to gather inventory information from the buyer's local and remote sites, for its vendor -managed inventory (VMI) program. Furthermore, both sides could develop a joint venture to build a favorable new product, as well as, training programs provided by the big buyer to its supplier's employees...	

Source: H., Boeck, Y., BenDavid, and E., Lefebvre (2009). Evolving B2B e-commerce adaptation for SME suppliers. *Journal of Business and Industrial Marketing*, 28(8): 561- 574.

Dikkaya Group can enter high-ranking e-marketplaces in specific foreign markets. For example, Alibaba.com is the largest B2B portal in the world, where suppliers can provide the site visitors with needed information about the firm and its products. Indiamart.com is a good place for doing business in the Indian market, where 70 percent of customers in this e-marketplace are from India. Furthermore, globalsources.com is reported to have a very big database of the Asian market, offering an excellent place for finding potential clients or partners from Asia (b2bsiteranking, 2016). After the firm commence export activities with a foreign client through an e-marketplace, chances that buyer-seller relationship would evolve into a higher relationship level as in Figure 12.

Figure 12. Development of E-Business Usage at Each Client Relationship Level



Source: Adopted from H., Boeck, Y., BenDavid, and E., Lefebvre (2009). Evolving B2B e-commerce adaptation for SME suppliers. *Journal of Business and Industrial Marketing*, 28(8): 561- 574.

As a result, as the relationship evolve, changes at Dikkaya are required to develop, which will lead to increase in cooperation and profitability if the changes are undertaken correctly and in accordance with each of Dikkaya's biggest clients. Failing to do so, Dikkaya might risk stalling or halting current and promising future relationships as international buyers constantly seeking less number of suppliers but more sustaining ones, while demanding more developed business process techniques. The substantial process of B2B e-commerce adaptation can be "incremental over time". SMEs like

Dikkaya Group need time to build and strengthen relationship with big clients, moving a relationship from one level to another, and carry on with the adoption of more complexed and costly e-business tools required by the client at each level, which can yield significant returns.

3.3.5.3. Creating a Knowledge Management (KM) Supported System

The World Bank (2014) stated in a report that one of the conditions for improving an SME export performance is the improvement of export capacity skills in export-ready SMEs, such as Dikkaya. Workforce skills are also important in industries that want to grow by accessing new markets, in terms of either new market niches or new geographic destination, the same of which Dikkaya is currently aiming for, and has actually been taking steady steps towards expanding its international customer base. Furthermore, being an SME, Dikkaya's top management, which is very close to the lower level, can be fully occupied with solving short-term operational problems; thus, can often make it difficult for the management to address the firm's long-term strategy (Vos et al., 1998). Therefore, researches such as Vos (1998) proposes that SMEs should receive assistance in identifying gaps in knowledge and skills that may jeopardize their attempts to achieve competitive advantages.

“SMEs intending to export to high-income countries hire more skilled workers than firms that serve the domestic market only, or export to markets that are similar to the home market” (Brambilla et al., 2012). Nevertheless, resource restrictions of most SMEs make it difficult to find employees that constitute a good fit for the firm that requires periodical training and mentoring sessions for its employees (especially school leavers and graduates) about the knowledge, skills, and attitudes in demand. In addition, there is always a risk of an experienced employee exiting, leaving a knowledge gap hard to fill. For these reasons, Dikkaya Group's export department should have an access to a shared knowledge base supported by an internal electronic system, such as intranets that allow top managers share knowledge and views with the employees, and facilitate the interaction of employees in the same branch or among different branches to better

communicate and share knowledge. Furthermore, employees are confronted with situations, activities and problems which are unpredictable, unique and which require description and analysis (Owen, 1999), facilitating the share of explicit knowledge that is the knowledge that needs to be “externalized” and coded in some suitable form (e.g. documents). Adopting a knowledge management facilitator would lead to “socialization” among experienced and inexperienced employees among the same or different department, which enables the sharing of another type of knowledge, tacit knowledge, which is the knowledge privately held by individuals and is constantly refreshed and updated through learning and experiencing.

3.3.5.3.1. SMEs’ View about Knowledge Management Systems (KMS)

SMEs in general still lack the right perception towards implementing KMS due to their weak knowledge about the effectiveness of fast developing and innovative tools that are mostly developed as open source or developed by a third party for the firm to expand its IT tools for this purpose. Edvardsson (2009) lists characteristics shared by SMEs in communication and knowledge sharing:

- SMEs generally have a flat structure and an organic, free-floating management style that encourages entrepreneurship and innovation. They tend to be informal, non-bureaucratic and there are few rules.
- Most SMEs have no clear policy targeted at strategic KM, tending to treat KM on an “operational level- at the level of systems and instruments”.
- SMEs tend to place emphasis on management of tacit knowledge more than larger firms do, and communication channels in SMEs are more likely to be between firms, rather than internal within the organization.
- SME sector appears to be less advanced in terms of knowledge construction, having a more mechanistic approach to this concept and relying less on social interaction, which is crucial for sharing tacit knowledge.

- SME is weaker on formal and systematic discussion in order to share tacit knowledge than larger firms, which are, stronger on formal KM strategy.
- Most SMEs adopt short-term unstructured ways towards organizational learning, and managers in small family business tend to prevent outflow of knowledge from the company and thereby block knowledge sharing.

3.3.5.3.2. Framework for Implementing KMS System

Knowledge management may also increase innovation and help create better customer relationships, because sharing knowledge is easy. If a firm like Dikkaya, is taking steps toward having a global team, knowledge management can create a more powerful workforce when all of those different cultures are brought together to share assets. Knowledge management gives staff members the knowledge they need to do their jobs better, which makes them more productive. Dikkaya can follow a framework suggested by Robertson (2004) for implementing KMS system by expanding its intranet:

- 1. Identifying the knowledge needs throughout the organization:** Using approaches such as stakeholder interviews within the firm to draw a simple knowledge mapping. Such interviews are focused on the actual “doers” or the staff across different departments, instead of managers, by asking detailed questions to fully understand each other’s tasks, work environment, opinions (without asking for solutions). The staff should be informed about the project so they could be motivated for effective participation.
- 2. Develop a knowledge management strategy for addressing these needs:** Including issues that will be addressed through the deployment of intranet capabilities and content, by stating: information management policy, which outlines the role that each of the technology platforms in meeting organizational knowledge needs.
- 3. Use best practice usability and information architecture techniques to design effective interfaces and efficient information structures:**

Task analysis is performed by learning in details how each staff perform his tasks and achieve his intended goal, usually this is done by observing his actions.

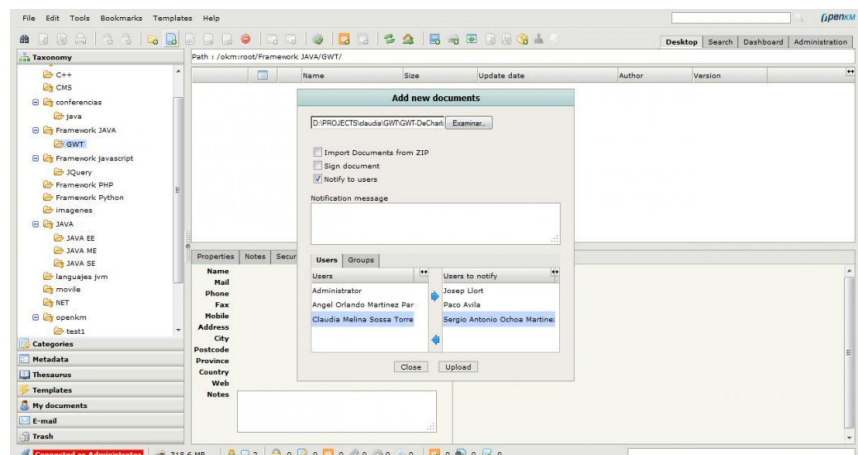
4. Develop suitable technology platforms: Technology platforms using intranets have been continuously developed to solve aged-long problems about sharing information. Most of these platforms are open source, meaning they are of low cost to implement. Some of the most common and effective platforms include:

- **Web logs:** which provide a simple interface for writing a new entry, typically via an online form. What is written would then be published to the site, with standard page layout and formatting automatically added. For example, owners and top managers may use such logs to deliver messages in “a very honest and powerful way. With weblogs being written in a first-person format, the voice of the author comes through clearly, thereby supporting the message with the reputation of the author”, and the readers consisting of the staff in different departments across various geographic locations can share common messages and visions about the firm and its goals.
- **K-logs:** Known as ‘knowledge logs’ or ‘k-logs’. Are considered useful for “breaking down barriers within the organization, and facilitating a more efficient flow of information and knowledge”. Key individuals with the knowledge in each department can use such weblogs to record and “narrate” progress on strategic projects or about certain issues. Such tool enables the tracking of every responsible member within a team about his identity and his responsibilities. The export department, for example, can keep track of every running project and key members within a specific field of department (manufacturing, logistics, marketing, etc.).

This enables quick inquiry about any urgent and technical specific issues from the right source.

- **Wikis:** Another approach for publishing online information, as in figure 13 (check Appendix 3). They are “an ultra-lightweight content management system, developed primarily in the open-source world”. A person of knowledge within Dikkaya can write about any specific topic within his domain or expertise (e.g. technical product specifications, exporting related issues, or answering questions about using an implemented e-business system, such as CRM or ERP system). Such topics can be useful for members of the same team or domain of the author, were new knowledge could be disseminated. In addition, the written pages can be edited and revised by readers (editing authentications can be specified) to enhance and contribute to the topic. Eventually, communities can be created by involving more staff or managers in discussion and support.

Figure 13. Sharing Files to Specified Users (OpenKM Screen Shot)

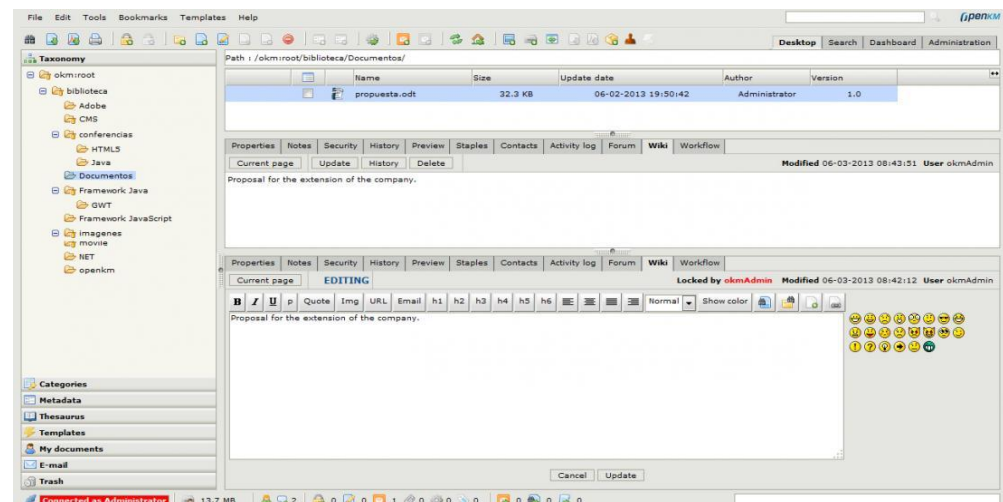


Source: SourceForge. *OpenKM Document Management – DMS*.

<https://sourceforge.net/projects/openkm/files/stats/timeline>,
(20.06.2016).

5. Conduct change management and internal communications activities to encourage adoption of the new systems and processes: As with adopting any new system or technique within the firm, such as a CRM system, management should increase the employees' awareness about the benefits and usability of the new system. Furthermore, employees should be involved in regular discussions to inquire about opinions, feedbacks, and suggestions to better improve or add on the new system to serve the goals of such newly implemented systems as in Figure 14 (check Appendix 4).

Figure 14: Wiki and Forums in a KMS System (OpenKM Screen Shot)



Source: SourceForge. *OpenKM Document Management – DMS*.
<https://sourceforge.net/projects/openkm/files/stats/timeline>, (20.06.2016).

Successful implementation of a KMS system through following the above steps can identify key needs throughout the firm, covering all departments and functions, thus giving an overall view about the overall firm's needs and issues. Moreover, involving employees in planning and creating such system would encourage them to use the new system and continuously contribute in enhancing it. In addition, a vital benefit gained from a KMS system is the collaboration of employees in the same or different

departments, and continuous flow of updated and accessible information by inexperienced or knowledge seeking users.

KMS systems such as the popular (OpenKM) allow firms to “control the production, storage, management and distribution of electronic documents, yielding greater effectiveness and the ability to reuse information and to control the flow of the documents”. Furthermore, KMS would help Dikkaya to:

- Setting policies and standards.
- Establishing and disseminating procedures and guidelines.
- Designing, implementing and governing specialized systems for managing documents.
- Assigning responsibilities and authorities.
- Providing a range of services relating to the management and use of documents.
- Integrating documents management into business systems and processes.

3.3.5.3.3. OpenKM

OpenKM is one of the most high-rated Knowledge Management systems by www.sourceforge.net, downloaded over 1,300 times per week (sourceforge.net). OpenKM is offered in two versions: “Professional” version that is more features-added and supported, and a “Community” version that is cost free. Implementing OpenKM is explained in details through its official website www.openkm.com, and in many of its user communities in which questions, instructions, and discussions are shared.

Table 13. Minimum Technical Requirements for OpenKM

Type of Installation	OpenKM Small Installation	OpenKM Medium Installation	OpenKM on a Virtualized Server
Number of Users	- Less than 25 users. - Repository Size 10-60 GB.	- More than 50 users - Repository size bigger than 150 GB.	- With less than 50 users. - Repository size 20- 50.
Technical Specifications	- 1 GB RAM. - Dual core 2 (2.2 GHz). - 250-500 GB SATA (hard disk)	- 2 Gb RAM - Quad Core (2.2 GHz)/ 250-500 GB SATA (hard disk)	- 1Gb Ram - Dual core 2 (1.86 GHz) - 80-100 GB SATA (hard disk).
OpenKM Versions	Community	Cloud	Professional
Features	- Environments where the information stored is not critical since it does not include professional assistance. - Firm must have a qualified technician.	- Efficiently manage their information at reduced costs. - Allows cost savings in infrastructure, specialized IT staff, and making the most out paying for what it is used.	- Corporate environments that require availability and reliability where intellectual capital is critical. - With a professional performance at a lower cost than others.
Price	Free.	Depending on Repository Size.	Depending on Repository Size.

Source: SourceForge. *OpenKM Document Management – DMS*.

<https://sourceforge.net/projects/openkm/files/stats/timeline>, (20.06.2016).

Implementing OpenKM can be a significant solution at Dikkaya Group to share and store explicit and tacit knowledge between different departments, and among each department. As shown in Table 13, the firm has different versions of OpenKM to choose from, each offering extra value-added services for fees that depends on the type of installation and the repository size. Table 14 below lists the information contents of OpenKM system, its users, and the outcomes that Dikkaya Group can benefit from implementing OpenKM.

Table 14. Outcomes of Implementing OpenKM

Type of Users	• Owner • Department Managers • Employees
Content	• Defined strategy and vision of Dikkaya Group • Detailed technical specifications about products and services • Solution articles • Discussions about specific topics • Assigned tasks to groups or specific users • Complex workflows that can be reviewed, approved, and validated by experienced or well-informed members.
Outcomes	• Aggregation of content from both internal and external sources leading to enhanced intelligence generation and dissemination. • Classification of content according to the field of specialization and business functions. • Search tools. • Expertise location within the firm. • Views / Dashboards supporting monitoring of workflow tasks, status and process. • Support and guidance for employees.

Consequently, current business processes and any further developing methods to be applied for improving Dikkaya's export need continuous training and knowledge sharing among top management and employees on one side, and among employees on the other side, through an appropriate shared internal network within the firm.

Overall, the above-mentioned suggestions address Dikkaya's expansion progress in the international market in terms of acquiring relevant intelligence, disseminating it among related employees, and generating performance analysis of the firm's exporting performance using e-business as facilitating tools. The suggested solutions are concepts

that need to be assessed by Dikkaya's management with the exporting department according to the firm's medium and long-term plans. Again, such solutions are incremental over time, but will yield significant results in terms of facilitating their export procedures and strengthen their market penetration, as they will be gaining increasing competitive advantage over time.

CONCLUSION

The results of this study show the significance of e-business for exporting firms, especially exporting SMEs such as the case study of Dikkaya Group, which has been expanding its international markets and taking first steps for branching outside the local Turkish market. Such market expansion implies more customers to manage and more diversified customer relationships that need to be established, fostered, and sustained by efficiently meeting customers' needs.

Although Dikkaya Group has been using IMC tools for communication with its customers (such as telephone, VoIP, and Fax), they are still in the early stages of adopting more complex and effective e-business tools that can give them more clear and wider view about their current and potential export performance. Accordingly, three recommendations, based on e-business applications, were drawn for Dikkaya Group to consider:

1. Establishing an Appropriate CRM System (Open Source CRM).
2. Involving in E-Marketplaces.
3. Creating a Knowledge Management (KM) Supported System.

Using integrated features in CRM software, users at export department can utilize such systems in their marketing efforts, increasing sales (contact management, forecast, opportunity management, workflow automation, etc.), and in improving their productivity (collection, dissemination, and analysis of reports and documents). Additionally, collaboration and teamwork among export department staff, and among the different departments at Dikkaya Group is needed to create synergy at every business function, e-business tools include Knowledge Management systems that contribute to the sharing and developing tacit and explicit knowledge between staff and provide a learning tool for the employees in different departments. Furthermore, Dikkaya Group are recommended to update their electronic transactions and e-business adoption according to the requirements of bigger and more profitable prospects or current buyers. Meeting bigger buyers' requirements such as online applications, e-catalogues, e-

marketplaces, and supply chain integration can move Dikkaya's relationship with its main clients to higher levels through time.

Yet, considering such suggestions that involves utilizing e-business is by no mean very expensive since projects in the open source market have been developed mostly as free of charges for basic usage, and they are already being adopted by SMEs and even big firms at a fast pace. Open source software offer cheap and customizable framework for SMEs like Dikkaya Group to identify its needs and areas to improve in its efforts for taking exporting to higher levels. Consequently, such effective and cost efficient e-business tools can contribute to the internationalization process of SMEs, in which entrepreneurs are encouraged to learn more about the benefits and potentials gained from e-business, and involve the firm's employees in studying and developing such promising solutions.

The study used observations and interviews as a qualitative research design, no numerical data has been collected and analysis made based on verbatims and observational data. The findings of this study could have been generalized for Turkish SMEs if more cases have been applied. Furthermore, interviews with the managers at the case firm gave clear and detailed information about the firm position within the market and the followed business process, yet, there is always chance of more positive and shading of given data. Conducting further interviews with more staff within the firm would have given a broader view about different functions in the firm, rather than mostly about the export process.

The significance of SMEs for the economy provides various areas for further researches to be implemented. It would be interesting to conduct similar studies but with more empirical data and more case firms involved for findings to be generalized in specific market, such as in Turkey. Moreover, it would useful if a deep study about the export venture in an SME is implented, where numerical data and economical implications can be determined to further highlight the importance of exporting on the welfare of SMEs.

Further studies can include more than one case study firm, where the generalizability among Turkish exporting SMEs would increase, specifically, in terms of how Turkish SMEs are currently utilizing e-business for their business activities.

REFERENCES

Abor, J., and Quartey, P. (2010). Issues in SME Development in Ghana and South Africa. *International Research Journal of Finance and Economics*, 39: 218–228.

Afshar, V. (15.10.2015). *50 Important Customer Experience Stats for Business Leaders*. http://www.huffingtonpost.com/vala-afshar/50-important-customer-exp_b_8295772.html, (13.06.2016).

Ahimbisibwe, G. M., Ntayi, J. M., and Ngoma, M. (2013). Export Market Orientation, Innovation and Performance of Fruit Exporting Firms in Uganda. *European Scientific Journal*, 9 (4): 295- 313.

Anderson, R., Huang, W. (2006). Empowering salespeople: Personal, managerial, and organizational perspectives. *Psychology & Marketing*, 23(2): 139-159.

Al-Timimi, K., and Mackrell, J. (1996). *STEP: Towards Open Systems, STEP Fundamentals and Business Benefits*. Michigan: CIMdata, Inc.

Arthur, F. (1959). Making the Marketing Concept Work. *Harvard Business Review*, 37 (4): 55–65.

Ashrafi, R., and Murtaza, M. (2008). Use and Impact of ICT on SMEs in Oman. *The Electronic Journal Information Systems*, 11(3): 125-138.

B2B International. (11 February 2015). *B2B International, China Series: The Problem with SMEs*.

<https://www.b2binternational.com/b2b-blog/2015/02/11/china-series-problem-with-smes/>, (22.01.2016).

B2BsiteRanking (2016). *B2B Site Ranking*.

<http://www.b2biteranking.com/>, (02.07.2016).

Baker, M. J. (2001). *Marketing: Critical Perspectives on Business and Management*. Taylor and Francis, 1: 274.

Bartels, A. (30 October 2000). *The Difference between E-business and E-commerce*.

<http://www.computerworld.com/article/2588708/e-commerce/e-commerce-the-difference-between-e-business-and-e-commerce.html>, (28.06.2016).

Balabanis, G. (2000). Factors affecting export intermediaries' service offerings: The British example. *Journal of International Business Studies*, 31(1): 83-99.

Baumeister, H. (2002). *Customer relationship management for SME's*. Institut für Informatik, LMU. Oettingenstr, 67: 1-7.

BCCT (15.01.2016). *Turkish Construction Companies: Considerations for International Projects and Regional Dispute Resolution Trends*.

<http://www.bcct.org.tr/news/turkish-construction-companies-considerations-for-international-projects-and-regional-dispute-resolution-trends/14677>, (13.06.2016).

Beal, V. *ERP - enterprise resource planning*. Webopedia.

<http://www.webopedia.com/TERM/E/ERP.html>, (23.1.2016)

Bell, J. (1995). The internationalization of small computer software firms. *European Journal of Marketing*, 29(8): 60-75.

Boardman, R., (18.11.2010). *How long does a CRM project really take?*

http://customerthink.com/how_long_does_a_crm_project_really_take/, (20.06.2016).

Boeck, H., BenDavid, Y., and Lefebvre, E. (2009). Evolving B2B e-commerce adaptation for SME suppliers. *Journal of Business and Industrial Marketing*, 28(8): 561-574.

Borgersen, T. (2005). The Problem of Exporting for Developing Countries SMEs Market Entry Costs, Exchange Rate Shocks and the Capital Structure of Firms. *Journal of African Policy Studies*, 10(1): 1-19 .

Brambilla, I., Lederman, D., and Porto, G. (2012). Exports, Export Destinations, and Skills. *American Economic Review*, 102(7): 3406-38.

Brookes, M., and Nazemetz, J. W. *Using Standards In Commerce: EC/EDI and STEP*. <http://www.okstate.edu/ind-engr/step/WEBFILES/Papers/Standards.html>, (02.02.2016).

Buckley, P., Newbould, G., and Thurwell, J. (1988). *Foreign Direct Investment by Smaller U.K. Firms; The Success and Failure of First-time Investors Abroad*. London: Macmillan.

Burke, E. J. (2008). *The E-Business Model*. <http://www.prudens.com/patens/ebusiness/busmodel.html>, (02.07.2016).

Cadogan, J., Diamantopoulos, A., and Siguaw, J. (2002). Export market- oriented activities: Their antecedents and performance consequences. *Journal of International Business Studies*. 33(3): 615-626.

Cadogan, J.W., Cui, C.C. and Li, E.K.Y. (2003), Export market-oriented behavior and export performance: the moderating roles of competitive intensity and technological turbulence, *International Marketing Review*, 20(5): 493-513.

Cadogan, J. W., Kuivalainen , O., and Sundq, S. (2009). Export Market-Oriented Behavior and Export Performance: Quadratic and Moderating Effects and Moderating Effects Under Differing Degrees of Marketing Dynamism and Internationalization . *Journal of International Marketing*. 17(4): 71-89.

Calantone, R., Kim, D., Schmidt, J., and Cavusgil, S. (2006). The influence of internal and external firm factors on international product adaptation strategy and export performance: A three-country comparison. *Journal of Business Research*. 59(2): 176 – 185.

Calof, J. (1995). Adapting to foreign markets: Explaining internationalization. *International Business Review*. 4(2): 115-131.

Cavusgil, S., and Zou , S. (1994). Marketing strategy-performance relationship: An investigation of the empirical link in export market ventures. *Journal of Marketing*, 58(1): 1-21.

Chaffey, D. and Wood, S. (2005). *Business information management: Improving performance using information systems*. Essex: Pearson Education Limited.

Chang, J. and Dasgupta, B. (2015). An Investigation of the Barriers to E-business Implementation in Small and Medium-Sized Enterprises. *World Academy of Science, Engineering and Technology International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 9(1).

Chaudhari, S. and Ghone, A. (March 2015). *World ERP Software Market - Opportunities and Forecasts, 2013 – 2020*.
<https://www.alliedmarketresearch.com/ERP-market/>, (25.06.2016).

Child, J., & Rodrigues, S. B. (2008). The process of SME internationalization: British firms entering Brazil. *Revista Economia & Gestão*, 7(14): 31-55.

Christofi, M., Nunes, M., Chao Peng, G., and Lin, A. (2013). Towards ERP success in SMEs through business process review prior to implementation. *Journal of Systems and Information Technology*, 15(4): 304 – 323.

Computada. (8 March 2013). *The Difference Between ERP Tier 1, ERP Tier 2, and ERP Tier 3*.

<http://www.computada.com/difference-between-erp-tier-1-erp-tier-2-erp-tier-3/>, (02.02.2016).

Continelli, A. (28 March 2016). *Managing Resources: ERP Industry Trends That Impact Bottom Line*.

<http://www.business.com/software/managing-resources-erp-industry-trends-that-impact-bottom-line>, (27.06.2016).

Daily Sabah. (19 November 2015). Turkey's SME's driving force behind exports. *DAILY SABAH*.

<http://www.dailysabah.com/economy/2015/11/19/turkeys-smes-driving-force-behind-exports>, (10.02.2016).

Day, G. S. (1994). The Capabilities of Market-Driven Organizations. *Journal of Marketing*, 58(4): 37-52.

Delaney, L. (16 June 2016). *Direct Exporting: Advantages and Disadvantages to Direct Exporting*.

<http://importexport.about.com/od/DevelopingSalesAndDistribution/a/Direct-Exporting-Advantages-And-Disadvantages-To-Direct-Exporting.htm>, (17.06.2016).

Dikkaya (2016). *Dikkaya Teknik Malzemeler San. Ve Tic. A.S.*

<http://www.dikkaya.com/>, (20.05.2016).

Direct exporting. *Direct and Indirect Exporting*.

<https://www.nzte.govt.nz/en/export/preparing-to-export/preparing-your-strategy/direct-and-indirect-exporting/>, (20.05.2016).

Dorsey, P. (2000), *Top 10 Reasons Why Systems Projects Fail*.

http://www.dulcian.com/Articles/Dorsey_Top10ReasonsSystemsProjectsFail.pdf, (18.06.2016).

Dragan, M. (30 Jan 2013). *Top 5 Largest Online Retailers – Who Are These Companies And How Did They Make it To The Top?*

<http://netonomy.net/2013/01/30/top-5-largest-online-retailers-who-companies-how-did-they-make-it/>, (20.05.2016).

Edinburgh Group. *Growing the global economy through SMEs*.

http://www.edinburgh-group.org/media/2776/edinburgh_group_research_-_growing_the_global_economy_through_smes.pdf, (15.05.2016).

Ekemen, M. A., and Bayram, P. (30 March 2014). *Enhancing International Performance of Exporting Firms through E-Business Integration*.

<http://dx.doi.org/10.5296/ber.v4i1.5273>, (15.05.2016).

Erramilli, M., and Rao, C. (1993). Service firms' international entry mode choice: A modified transaction cost approach. *Journal of Marketing*, 57(3): 19–38.

European Commission (2014). *Enterprise and Industry 2014 SBA Fact Sheet (Turkey)*.

http://ec.europa.eu/growth/smes/business-friendly-environment/performance-review/files/countries-sheets/2014/turkey_en.pdf, (13.03.2016).

European Commission Enterprise and Industry. (02 February 2015). *What is an SME?*
https://web.archive.org/web/20150208090338/http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm, (13.03.2016).

Edvardsson, I. R. (2009). Is knowledge management losing ground? Developments among Icelandic SMEs. *Knowledge Management Research & Practice*, 7(1): 91-99.

Fletcher, D. (2004). International entrepreneurship and the small business. *Entrepreneurship and Regional Development*, 16(4): 289-305.

Foley, P., and Ram, M. (2002). *The use of online technology by ethnic minority businesses : a comparative study of the West Midlands and UK*. Sheffield: SBS Research Directorate.

Forsman, M., Hinttu, S., & Kock, S. (2006). Internationalization from a SME perspective. *International Marketing and Purchasing Group*.

Frost, A. (2012). *The Intranet & Extranet*.
<http://www.knowledge-management-tools.net/intranet-and-extranet.html>, (20.06.2016).

Galbreath, J., Rogers, T. (1999). Customer relationship leadership: a leadership and motivation model for the twenty-first century business. *The TQM Magazine*. 11(3): 161 – 171.

Gatignon, H., and Xuereb, J.-M. (1997). Strategic Orientation of the Firm and New Product Performance. *Journal of Marketing Research, Special Issue on Innovation and New Products*, 34(1): 77-90.

Garger, J. (20 August 2013). *Using the Case Study Method in PhD Research*.
<http://www.brighthub.com/education/postgraduate/articles/77789.aspx>, (17.06.2016).

GetApp (26 June 2016). *Vtiger CRM Pricing, Features, Reviews & Comparison of Alternatives*.

<https://www.getapp.com/customer-management-software/a/vtiger-crm/>, (16.06.2016).

Gibson , T., and van der Vaart, H. (September 2008). *Defining SMEs: A Less Imperfect Way of Defining Small and Medium Enterprises in Developing Countries*.

http://www.brookings.edu/~media/research/files/papers/2008/9/development%20gibson/09_development_gibson.pdf, (18.02.2016).

Gomes-Casseres, B. (1989). Joint Ventures in the Face of Global Competition. *Sloan Management Review*, 30(3): 17-26.

Goyal, M. (9 January 2013). *SMEs Employ Close to 40% of India's Workforce, But Contribute only 17% to GDP*.

http://articles.economictimes.indiatimes.com/2013-06-09/news/39834857_1_smes-workforce-small-and-medium-enterprises, (01.07.2016).

Grean, M. and Shaw, M.J. (2002). *Supply-Chain Integration through Information Sharing: Channel Partnership between Wal-Mart and Procter & Gamble*, Center for IT and e-Business Management. Illinois: University of Illinois, Urbana-Champaign.

Haber Türk (04.12.14). Vtiger CRM Türkiye pazarına girdi. *Haber Türk*.

<http://www.haberturk.com/ekonomi/is-yasam/haber/1015917-vtiger-crm-turkiye-pazarina-girdi>, (16.06.2016).

Hansen, M., Köhntopp, K., and Pfitzmann, A. (2002). The open source approach — opportunities and limitations with respect to security and privacy. *Computers and Security*, 21(5): 461- 471.

Harrison , M., and Cupman, J. *Competitor Intelligence Research and Market Intelligence*.

<https://www.b2binternational.com/publications/competitor-intelligence/>, (03.04.2016).

Harsono, A. (2014). The Role of E-Business in Supply Chain Management. *Universe of Emerging Technologies and Science*, 1(4): 1-10.

Hemmatfar, M. (2010). Competitive Advantages and Strategic Information Systems. *International Journal of Business and Management*, 5(7): 158-169.

Hessels, J., and Terjesen, S. (October 2007). *SME Choice of Direct and Indirect Export Modes: Resource Dependency and Institutional Theory Perspectives* .

<http://ondernemerschap.panteia.nl/pdf-ez/h200712.pdf>, (01.04.2016).

Hollensen, S. (1998). *Global Marketing, a Decision-Oriented Approach 4th Edition*, New Jersey: Pearson Education.

Hooshang, M., Beheshti, E., Ismael Salehi-Sangari (2006). The benefits of e-business adoption: an empirical study of Swedish SMEs, Berlin: Springer-Verlag.

Hürriyet Daily News. (5 November 2012). *Definition for SMEs broadened. Hürriyet Daily News*.

<http://www.hurriyetdailynews.com/definition-for-smes-broadened>, (01.04.2016).

Hutchison, C. (5 January 2015). *Erp software, Erp implementation*.

<http://blog.clientsfirst-ax.com/blog-1/-temporary-slug-3c1cb87b-0ca2-44d7-80cd-9394d0699444>, (02.04.2016).

IdeaSoft (19.01.2015). KOBİ'ler E-Ticaret Satışlarını % 30 Artırdı.

<https://www.ideasoft.com.tr/basinda-biz/kobiler-e-ticaret-satislarini-30-artirdi/>,
(01.06.2016).

ICC. (27 May 2015). *Turkish government launches World SME Forum as part of its G20 strategy*.

<http://www.iccwbo.org/News/Articles/2015/Turkish-government-launches-World-SME-Forum-as-part-of-its-G20-strategy/>, (09,3,2016).

International Trade Forum. (1 April 2013). *A strategic approach to SME export growth*.
<http://www.tradeforum.org/article/a-strategic-approach-to-sme-export-growth/>,
(10.03.2016).

Investopedia. (11 August 2015). *Export*.
<http://www.investopedia.com/terms/e/export.asp>, (14.03.2016).

Irwin, D. A. (2001). *A Brief History of International Trade Policy*.
<http://www.econlib.org/library/Columns/Irwintrade.html>, (08.11.2015).

J. W., Cui, C. C., and Li, E. K. (2003). Export market-oriented behavior and Export performance: The moderating roles of competitive intensity and technological turbulence. *International Marketing Review*, 20(5): 493–513.

Jahanshahi, A., Zhang, X., and Brem, A. (2013). E-commerce for SMEs: empirical insights from three countries. *Journal of Small Business and Enterprise Development*, 20(4): 849-865.

Jane, W. and Beamish P. (2006). Partnering strategies and performance of SMEs' international joint ventures. *Journal of Business Venturing*, 21: 461 – 486.

Jardim-Goncalves, R., Sarraipa, J., Agostinho, C., and Panetto, H. (2011). Knowledge framework for intelligent manufacturing systems. *Journal of Intelligent Manufacturing*, 22(5): 725-735.

Johanson, J. and Wiedersheim-Paul, F. (1975). The Internationalization of the firm—Four Swedish cases. *Journal of Management Studies*, 12(13): 305–323.

Johanson, J. and Mattsson, L. G. (2015). Internationalisation in industrial systems—a network approach. In *Knowledge, Networks and Power* (pp.111-132). Basingstoke: Palgrave Macmillan.

Johanson, J. and L.-G. Mattsson, (1988), *Internationalization in Industrial Systems - A Network Approach*, in Hood and Vahlne, eds., *Strategies in Global Competition*, New York: Croom Helm.

José, M. O., and Javier, C. C. (2014). Export success factors of small- and medium-sized firms in Chile. *Journal of Small Business and Enterprise Development*, 21(3): 450 - 469.

Kaplan Financial Limited. (2012). *E-business*.
<http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/e%20business.aspx>,
(08.11.2015).

Karabulut, A. T. (2013). Internationalization of Turkish SMEs: An Empirical Study. *International Journal of Business and Management*, 8(6): 69-70.

Karadal, H. (2001). *KOBİ'lerin uluslararası pazarlara açılmasını etkileyen faktörler üzerine bir araştırma. I. Orta Anadolu Kongresi: KOBİ'lerin Finansman ve Pazarlama Sorunları*, KOSGEB. Nevşehir: 18-21.

Karagozoglu, N., and Lindell, M. (2004). Electronic commerce strategy, operations, and performance in small and medium-sized enterprises. *Journal of Small Business and Enterprise Development*, 11(3): 290 - 301.

Karjaluoto, H., and Huhtamäki, M. (2010). The role of electronic channels in micro-sized brick-and-mortar firms. *Journal of Small Business and Entrepreneurship*, 23(1): 17-38.

Karpak, B., and Topcu, L. (2010). Small medium manufacturing enterprises in Turkey: An analytic network process framework for prioritizing factors affecting success. *International Journal Production Economics*, 125: 60–70.

Khalif, A. (28.10.2013). *Turkish firm lands contract to run Mogadishu port*.
<http://www.africareview.com/Business---Finance/Turkish-firm-lands-contract-to-run-Mogadishu-port/-/979184/2050474/-/j6tbi2/-/index.html>, (20.06.2016).

Kimberly, J., and Evanisko, M. (1981). Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24: 689–713.

Kohli, A. K., and Jaworski, B. J. (1993). Market Orientation: Antecedents and Consequences. *Journal of Marketing*, 57: 53-70.

Konings, J., & Roodhooft, F. (2002). The Effect of E-Business on Corporate Performance: Firm Level Evidence for Belgium. *De Economist*, 150(5): 569-581.

Kushnir, K. (8 November 2010). *A Universal Definition of Small Enterprise: A Procrustean bed for SMEs?*
<http://blogs.worldbank.org/psd/a-universal-definition-of-small-enterprise-a-procrustean-bed-for-smes>, (05.12.2015).

KOBİ Bilgi Sitesi (2012). Türkiye'deki KOBİ Tanımı.

<http://www.kobi.org.tr/index.php/tanimi/layout>, (11.07.2016).

Mazzarol, T. (2015). SMEs engagement with e-commerce, e-business and e-marketing. *Small Enterprise Research*, 22(1): 79-90.

Mehrjerdi, Y. Z. (2010). Enterprise Resource Planning: Risk and Benefit Analysis. *Business Strategy Series*, 11(5): 308 - 324.

Netsuite (2016). *ERP Implementation Best Practices*.

<http://www.netsuite.com/portal/resource/articles/erp/erp-implementation.shtml>,
(11.06.2016).

Madsen, T.K., (1998). Executive insights: managerial judgement of export performance. *Journal of International Marketing*, 6(3): 82-93.

Magrys, A., and S. Maguire and S.C.L. Koh. (2007). The adoption of e-business and knowledge management in SMEs. *Benchmarking: An International Journal*, 14(1): 37-58.

Maltz , E., and Kohli, A. K. (1996). Market intelligence dissemination across functional boundaries. *Journal of Marketing Research*, 33(1): 47-61.

Marius, M. (20 September 2013). *4 ways ICT/technology can improve your business*.
<http://www.ict-pulse.com/2013/09/4-ways-icttechnology-improve-business/>,
(20.03.2016).

Mazzarol, T. (11 October 2012). *Developing an e-commerce strategy for small firms*.
<http://theconversation.com/developing-an-e-commerce-strategy-for-small-firms-10116>,
(10.04.2016).

McDougall, P., and Oviatt, B. M. (1996). New Venture Internationalization, Strategic Change, and Performance: A Follow-Up Study. *Journal of Business Venturing*, 11(1): 23-40.

Mendoza, L., Marius, A., Pérez, M., Grimán, A. (2006). Critical Success Factors for a Customer Relationship Management Strategy. *Information and Software Technology*, 49(8): 913-945.

METI. (2001). *White Paper on Small and Medium Enterprises in Japan*, SME Agency of Japan.
<http://www.chusho.meti.go.jp/hakusyo/h13/download/2001eibunzennbun.pdf>,
(10.04.2016).

Morgan, A., Kaleka, A., and Katsikeas, C. S., (2004). Antecedents of Export Venture Performance: A Theoretical Model and Empirical Assessment. *Journal of Marketing*, 68(1): 90-108.

Nairn. (27 August 1997). Trading places: from purchasing to invoicing, business are linking up. *Financial Times*, 20.

Navarro-García, A. et al., (2013). The Importance of Market Intelligence in Spanish Firms' Exporting Activity. *Esic Market Economics and Business Journal*, 44(3): 9-31.

Nguyen, T.H., Sherif, J., and Newby, M. (2007). Strategies for successful CRM implementation. *Information Management & Computer Security*, 15(2): 102-115.

Leonidou, L.C., Katsikeas, C.S. and Samiee, S. (2002). Marketing Strategy Determinants Of Export Performance: A Meta-Analysis. *Journal of Business Research*, 55(1): 51-67.

Li, L. (2004). Research Note: The Internet's Impact on Export Channel Structure. *Thunderbird International Business Review*, 46(4): 443-63.

Lima, J. M. (2008). *Patterns of Internationalization for Developing Country Enterprises*. https://www.unido.org/fileadmin/user_media/Publications/documents/Patterns_of_internationalization_for_developing_country_enterprises_contents.pdf, (07.01.2016).

Lima. *Global Licensing*.

<http://www.licensing.org/education/intro-to-licensing/global-licensing/>, (14.06.2016).

Luisa, L. (12 March 2014). *São Paulo 2014 Blog: Six Facts about SMEs in Brazil*.

<http://www.as-coa.org/blogs/s%C3%A3o-paulo-2014-blog-six-facts-about-smes-brazil>, (01.07.2016).

O'Cass, A. and Julian, C. (2003). Examining firm and environmental influences on export marketing mix strategy and export performance of Australian exporters. *European Journal of Marketing*, 37(3-4): 366-384.

OECD (2004), "ICT, E-Business and Small and Medium Enterprises", OECD Digital Economy Papers, No. 86, OECD Publishing.

<http://dx.doi.org/10.1787/232556551425>.

OECD (2016). *SME Policy Index SME Policy Index: Western Balkans and Turkey 2016. Assessing the Implementation of the Small Business Act for Europe: Assessing the Implementation of the Small Business Act for Europe*. Paris: OECD Publishing.

Olhager, J., and Rudberg, M. (2003). Manufacturing strategy and e-business: an exploratory study. *Integrated Manufacturing Systems*, 14(4): 334 - 345.

Olimpia, C., Chewit , C., and Amonrant , T. (2009). Market Orientation, International Business Relationships and perceived Export Performance. *International Marketing Review*. 24(2): 144-63.

OpenText. (7 July 2014). *Six Pitfalls to Avoid When EDI-Enabling Your Suppliers*.
<http://blogs.opentext.com/six-pitfalls-to-avoid-when-edi-enabling-your-suppliers-part-1/>, (10.05.2016).

Osborne, R. (2002). *New product development—lesser royals*. Industry Week, April.

Owen, J. M. (1999). Knowledge Management and the Information Professional. *Information Services and Use*, 19(1): 7-16.

Ölmez, S. (2006). *Internationalization Process of SMEs and an Application in Adana Region*. (Unpublished Master's Thesis). Adana: Faculty of Business Administration at Dokuz Eylul University.

Parsons, J., and Oja, D. (2012). *New Perspectives on Computer Concepts 2012: Introductory*. Boston: Cengage Learning.

Payne, A. (2002). *The value creation process in customer relationship management*.
<http://faculty.mu.edu.sa/public/uploads/1361950725.7537customer%20relationship27.pdf>, (15.05.2016).

Peng, M., and Ilinitch, A. (1998). Export Intermediary Firms: A Note on Export Development Research. *Journal of International Business Studies*, 29(3): 609-620.

Peter, I. *The history of email*.
<http://www.nethistory.info/History%20of%20the%20Internet/email.html>, (15.05.2016).

Piroscă, G., Serban, G. O., Serban, T. O., and Curea, C. (2009). A Survey on Economics of Open Source. *Open Source Science Journal*, 1(2): 58-81.

Premkumar, G., Ramamurthy, K., and Nilakanta, S. (1994). Implementation of electronic data interchange: an innovation diffusion perspective. *Journal of Management Information Systems*, 11(2): 157–86.

Ramdani, B., Kawalek, P., and Lorenzo, O. (2009). Predicting SMEs' adoption of enterprise systems. *Journal of Enterprise Information Management*, 22(1): 10-24.

Raymond, L., Bergeron, F., and Blili, S. (2005). The Assimilation of E-business in Manufacturing SMEs: Determinants and Effects on Growth and Internationalization. *Electronic Markets*, 15(2): 106–118.

Robertson, J. (02.08.2004). *Developing a knowledge management strategy*.
http://www.steptwo.com.au/papers/kmc_kmstrategy/, (17.06.2016).

Ross, P., McGowan, C. & Styger, L. (2012). *A comparison of theory and practice in market intelligence gathering for Australian microbusinesses and SMEs*. 19th International Business Research Conference: Research for Re-thinking. Sydney: Social Science Research Network.

Rutihinda, C. (2008). Factors Influencing the Internationalization of Small and Medium Size Enterprises. *International Business and Economics Research Journal*, 7(12): 45-54.

Ruzzier, M., Hisrich, R. D., and Antoncio, B. (2006). SME internationalization research: past, present, and future. *Journal of Small Business and Enterprise Development*, 13(4): 476 - 497.

Sabah (28.02.2013). *İşte Türkiye'de Franchise verecek 32 firma.*
<http://www.sabah.com.tr/galeri/ekonomi/iste-turkiyede-franchise-verecek-32-firma>,
(15.06.2016).

Sakai, K. (2002). *Global Industrial Restructuring: Implications for Small Firms.*
<http://www.oecd.org/sti/working-papers>, (16.05.2016)

Samiee, S. and Walters, G.P. (1990), Influence of firm size on export planning and performance, *Journal of Business Research*, 20(3): 235-248.

Samiee, S. (1998). Exporting and the Internet: a conceptual perspective. *International Marketing Review*, 15(5): 413-426.

Sauer, C. (1993). *Why Information Systems Fail: A Case Study Approach.* Alfred Oxfordshire: Waller, Henley - On -Thames.

Sevrani, K., and Bahiti, R. (2008). *ICT In Small And Medium Enterprises (Case Of Albania).*
<http://epoka.edu.al/new/icbs/14.pdf>, (19.03.2016).

Sharp, E. (30 June 2014). *Why a Brochure Website Doesn't Work Anymore.*
<http://www.protofuse.com/blog/why-brochure-website-doesnt-work-anymore/>,
(20.04.2016).

Shoham, A. (1999). Bounded Rationality, Planning, Standardization of International Strategy, and Export Performance: A Structural Model Examination. *Journal of International Marketing*, 7(2): 24-50.

Siaw Surat, D., and Önel, Y. C. (2011). *Internationalization Stages of SMEs Through Exporting* (Unpublished Master's Thesis). Umeå. Umeå University: Umeå School of Business.

SourceForge. *OpenKM Document Management – DMS*.

<https://sourceforge.net/projects/openkm/files/stats/timeline>, (20.06.2016).

Sousa, P., Monteiro, T., and Moreira, M. (2008). Relationship between Firm Size and Export Performance: An Exploratory Analysis. *Economics and Management Research Projects: An International Journal*, 3(1): 9-23.

Sousa, C. M., and Lengler, J. (8 March 2015). *Examining the determinants of interfunctional coordination and export performance: An investigation of Brazilian exporters*.

[http://dx.doi.org/10.1108/S1474-7979\(2011\)0000021011](http://dx.doi.org/10.1108/S1474-7979(2011)0000021011), (20.12.2016).

Stampfl, R. W. (1978). The Consumer Life Cycle. In R. W. Stampfl. *The Journal of Consumer Affairs*, 12(2): 209–219.

Stephen, T., and Li, J. (1996). Effects of International Diversity and Product Diversity on the Performance of Multinational Firms. *Academy of Management Journal*, 39(1): 179-96.

Şule, İ. (15 March 2009). *"Açık kaynak kodlu yazılımlar daha güvenli"*.

http://www.ntv.com.tr/turkiye/acik-kaynak-kodlu-yazilimlar-daha-guvenli,5bHzbNo5qUuzP0qwKaOlig?_ref=infinite, (18.02.2016).

Svetličič, M., Jaklič, A., and Anze. (2007). Internationalization of Small and Medium-Size Enterprises from Selected Central European Economies. *Eastern European Economics*, 45(4): 36-65.

Tarutè, A. (2013). ICT Impact on SMEs Performance. *Procedia - Social and Behavioral Sciences*, 110: 1218-1225.

The World Bank. (January 2014). *Development Of SMES Exports Through Virtual Market Places , Middle East and North Africa Region*.

<https://www.menatransitionfund.org/.../JO%20MA%20TN%20WB%20SMEs%20Exp>, (02.05.2016).

Theodosiou, M. and Leonidou, L. (2003). Standardization versus Adaptation of International Marketing Strategy: An Integrative Assessment of the Empirical Research. *International Business Review*, 12(2): 141-171.

Tiusanen, T. (2010), *International Business Methods*. Lecture handouts.

Thong, J. (1999). An integrate model of information systems adoption in small business. *Journal of Management Information Systems*, 15(4): 187–214.

Tornatzky, L., and Fleischer, M. (1990). *The Process of Technological Innovation*. Lexington, MA: Lexington Books.

Topkarcı, E. (2005). Research on Information Technologies Structure of Mersin Free Trade Zone SME's and it's Efficiency in Supplier Relationship. (Unpublished Master's Thesis). Adana: Faculty of Business Administration at Dokuz Eylul University.

TpSynergy (2013). *Role of EDI in Supply Chain Management*. <http://tpsynergy.com/blog/?p=31>, (28.07.2016).

TUIK. (19 November 2015). *Small and Medium Sized Enterprises Statistics, 2015*.
<http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=21864>, (10.01.2016).

Ultra Consultants (2016). *Tier II ERP Vendors*.
<http://www.ultraconsultants.com/erp-vendors/erp-vendors/tier-ii-erp-vendors>,
(10.06.2016).

van der Veen, M. (2004). *Explaining E-Business Adoption - Innovation and Entrepreneurship In Dutch SMES*. (Unpublished Doctoral Dissertation). Oosterhout: University of twente.

Ventura, K., Soyuer H. (2010), “Türk Firmalarının e-İş Uygulamaları: İmalat Sanayinde Bir Alan Araştırması”. Marmara Üniversitesi Sosyal Bilimler Enstitüsü Öneri Dergisi, 34(9).

Veterans2work. *Enterprise Resource Planning (ERP)*.
<http://www.veterans2work.org/enterprise-resource-planning.html>, (29.04.2016).

Von Krogh, G. and Spaeth, S. (2007). The open source software phenomenon: Characteristics that promote research. *The Journal of Strategic Information Systems*, 16(3): 236-253.

Vos, J.-P., Keizer, J., and Halman, J. I. (1998). Diagnosing Constraints in Knowledge of SMEs. *Technological Forecasting and Social Change*, 58(3): 227-239.

Vtiger (2016). *Work smarter and engage customers more effectively across the entire customer life cycle*.
<https://www.vtiger.com/>, (21.06.2016).

Webster, F. (1988). The Rediscovery of the Marketing Concept. *Business Horizons*, 31(3): 29-39.

Westhead, P. (1997). Exporting and non-exporting small firms in Great Britain: A matched pairs comparison. *International Journal of Entrepreneurial Behaviour and Research*, 1(2): 6-36.

Windrum , P., and Pascale , D. (2002). The adoption of e-business technology by SMEs.

Wilson, H., Elizabeth, D., and McDonald, M. (2002). Factors for success in customer relationship management (CRM) systems. *Journal of Marketing Management*, 18(1): 193–219.

WiseGeek. *What does the Legal Department of a Business do?*

<http://www.wisegeek.com/what-does-the-legal-department-of-a-business-do.htm>, (12.12.2015).

Wright, S., Bisson, C., and Duffy, A. (2011). A Behavioral and Operational Typology of Competitive Intelligence Practices in Turkish SMEs. *Journal of Strategic Marketing*, 20(1): 19-33.

Wu, F., Mahajan, V., & Balasubramanian, S. (2003). An Analysis of E-Business Adoption and Its Impact on Business Performance. *Journal of the Academy of Marketing Science*, 31(4): 425-447.

Xisle Graphix. *How Small Businesses Use and Prosper with Ecommerce Websites.*

<http://www.xislegraphix.com/website-types-ecommerce.html>, (03.04.2016).

Xu, C., and Hu, H. (2010). Factors Influencing SMES' Export Performance - A Case Study of Chinese SMEs. *International Journal of Innovation and Scientific Research*, 5(2): 136-145.

Xu, M., and Walton, J. (2005). Gaining customer knowledge through analytical CRM. *Industrial Management and Data Systems*, 105(7): 955-971.

Yilmaz, E. (2011). *Comparison Of Open Source Customer Relationship Management Software For Small And Medium Enterprises* (Unpublished Master's Thesis). Istanbul: Kadir Has University Graduate School of Science and Engineering.

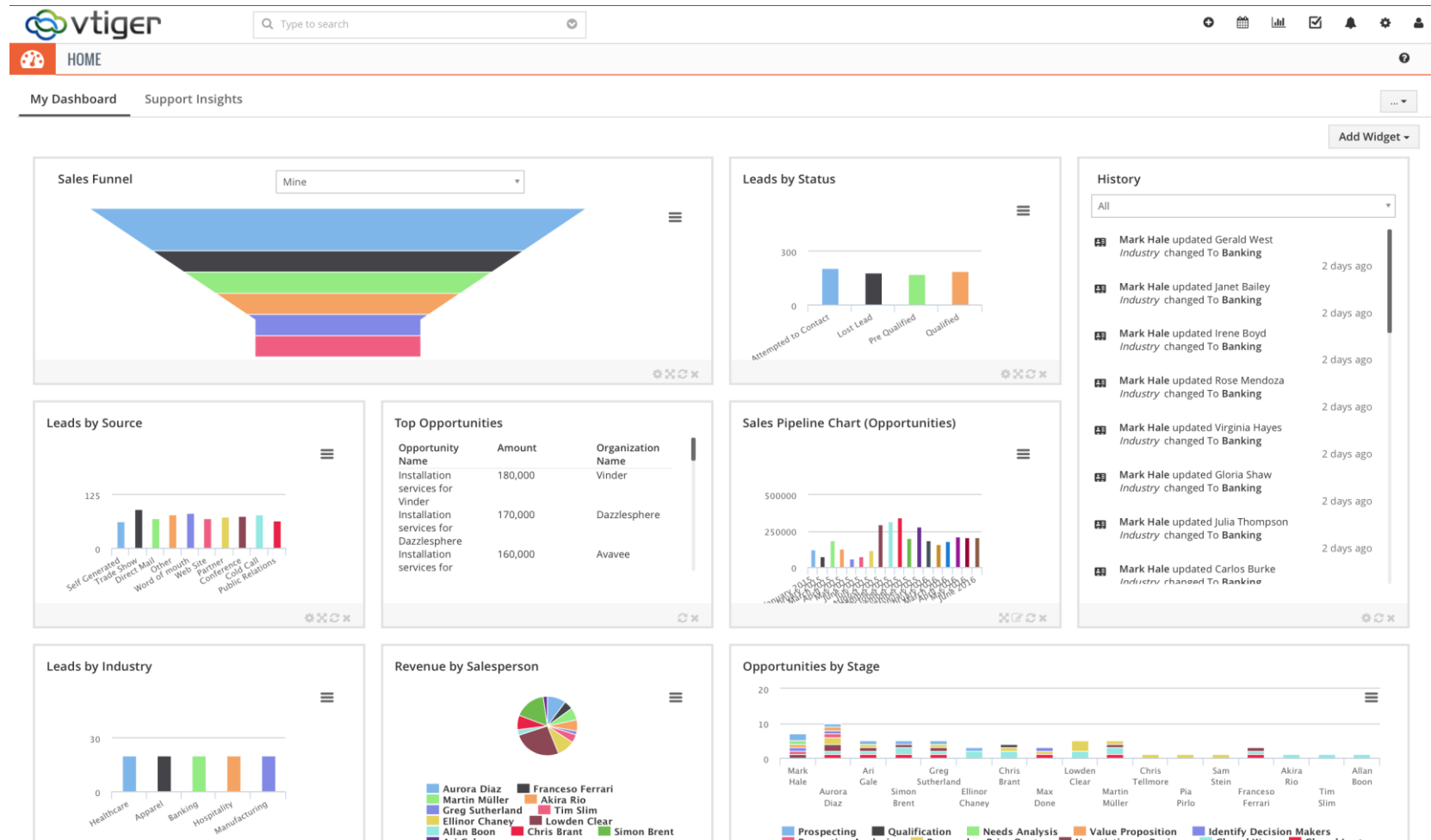
Zippo, M. (August 2012). Defining ICT in a Boundary less World: The Development of a Working Hierarchy. *International Journal of Managing Information Technology (IJMIT)*, 4(3): 13-22.

APPENDICES

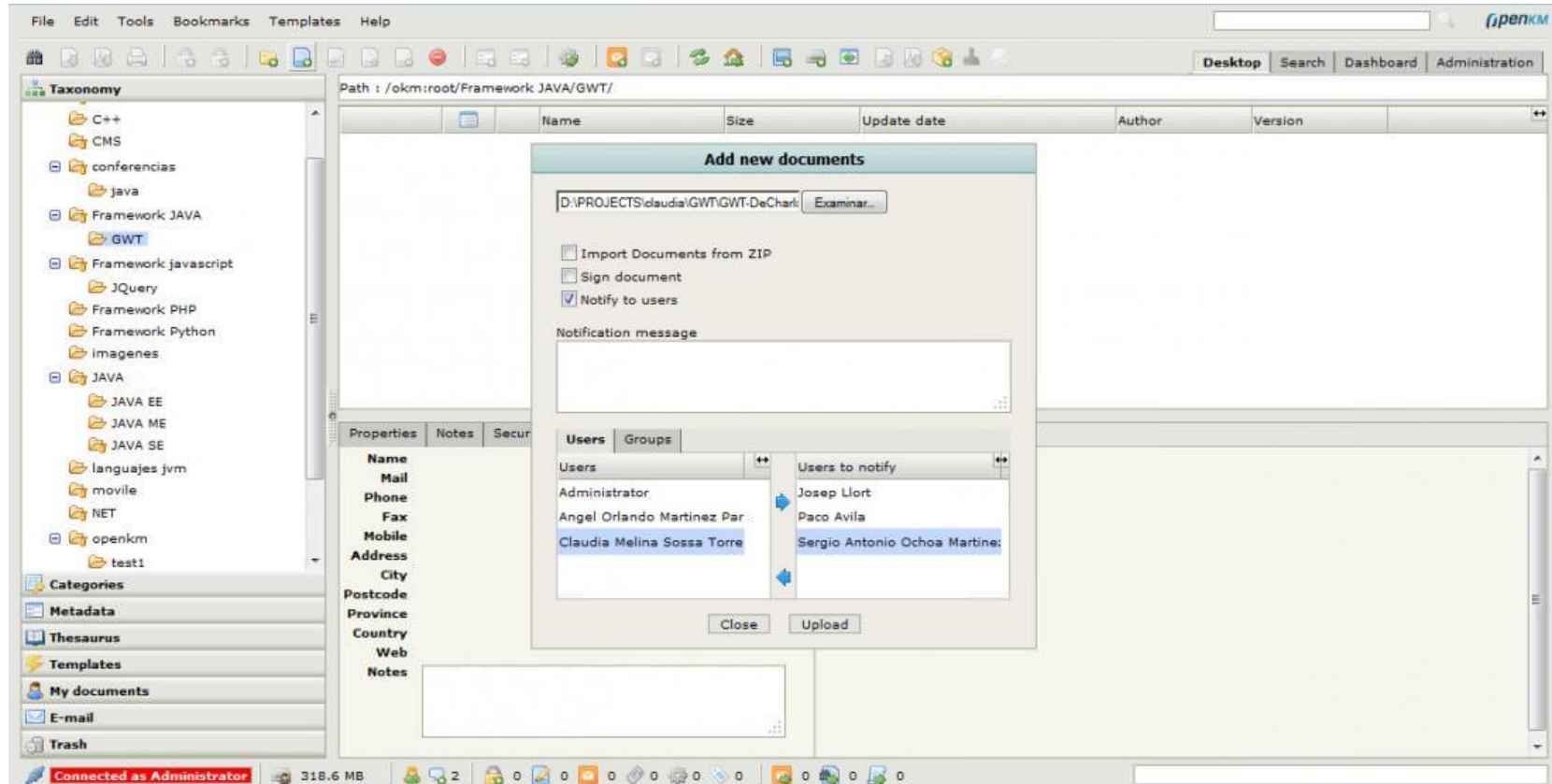
Appendix 1: Some of Typical ERP Modules

Type of ERP Module	Functions	Explanation
Business Intelligence (Analyze data and converts to information)	Sales	Implements functions of order placement, order scheduling, shipping and invoicing.
	Customer service (CRM)	Capture and maintain customer relationships, facilitate the use of customer experiences and evaluate the knowledge management.
e-Commerce (Focus on external strategies)	Procurement (SRM)	Maximize cost savings with support for the end-to-end procurement and logistics processes.
	Production (PLM)	Helps in planning and optimizing the manufacturing capability and material resources. It is evolved from the MRP.
Enterprise asset management (Efficiently and sustainably manage the entire asset lifecycle, improve asset usage and cut costs with powerful analytics)	Corporate performance and governance	Aims to streamline and gain greater control of the corporate services
	Human Resource	Maintain complete employee database and to optimally utilize of all employees.
Others	Distribution (SCM)	Control warehouse processes, manage movements in the warehouse, and respond faster to challenges and changes in supply and demand.
	Accounting	Automate any financing operations while ensuring regulatory compliance and gathering real-time insight into overall performance.

Appendix 2: Dashboard (Vtiger Screen Shot)



Appendix 3: Sharing Files to Specified Users (OpenKM Screen Shot)



Appendix 4: Wiki and Forms in a KMS System (OpenKM Screen Shot)

The screenshot displays the OpenKM web interface. On the left is a 'Taxonomy' sidebar with a tree view of folders including 'okm:root', 'ADOBE', 'C++', 'CMS', 'conferencias', 'Framework JAVA', 'Framework javascript', 'Framework PHP', 'Framework Python', 'Imagenes', 'JAVA', 'lenguajes jvm', 'mobile', 'NET', 'openkm', 'PHP', 'Python', and 'SCRATCH'. Below this are sections for 'Categories', 'Metadata', 'Thesaurus', 'Templates', 'My documents', 'E-mail', and 'Trash'. The main content area shows a file list for the path '/okm:root/'. The file list has columns for Name, Size, Update date, Author, and Version. The files listed are 'SCRATCH' (update date 21-12-2012 10:57:56, Author Administrator), 'backup.txt' (0 Bytes, 02-01-2013 06:41:56, Author Claudia Melina Soss, Version 1.0), and 'JavaPassion.com - New Use' (2.5 KB, 20-03-2010 11:32:50, Author User Registration). Below the file list are tabs for 'Properties', 'Notes', 'Security', 'History', 'Preview', 'Staples', 'Contacts', 'Activity log', 'Forum', 'Wiki', and 'Workflow'. The 'Forum' tab is active, showing a 'CREATE POST' form with the title 'Home > Submit new documents via email'. The form includes a 'Subject' field with the value 'Re: Submit new documents via email' and a rich text editor with various formatting options. The text in the editor reads: '[quote]Hi there, I think it would be cool if it were possible to [b]submit new documents via email[/b]. Many scanners have a 'scan to email' function. So i would scan-to-email a new document to specific email address. [b]OpenKM[/b] would then periodically check that, address, and put all new documents (= attachments into an inbox) waiting for me to categorize them. What do you think? Sergio, iD [/quote] You can mapping OpenKM as a network drive using Webdav or simply using OpenKM automatic mail importing.' To the right of the text editor is a row of 15 smiley face icons. At the bottom of the form are 'Cancel' and 'Create' buttons. Below the form, a post titled 'Submit new documents via email' by 'gnu.java.sergio' dated '02-01-2013 06:59:23' is visible, containing the same text as the one in the editor. The bottom status bar shows 'Connected as Administrator', '318.7 MB', and a row of icons representing various system metrics.

Name	Size	Update date	Author	Version
SCRATCH		21-12-2012 10:57:56	Administrator	
backup.txt	0 Bytes	02-01-2013 06:41:56	Claudia Melina Soss	1.0
JavaPassion.com - New Use	2.5 KB	20-03-2010 11:32:50	User Registration	

Forum Post:

CREATE POST Home > Submit new documents via email

Subject: Re: Submit new documents via email

[quote]Hi there,
I think it would be cool if it were possible to [b]submit new documents via email[/b]. Many scanners have a 'scan to email' function. So i would scan-to-email a new document to specific email address. [b]OpenKM[/b] would then periodically check that, address, and put all new documents (= attachments into an inbox) waiting for me to categorize them.
What do you think?
Sergio, iD [/quote]
You can mapping OpenKM as a network drive using Webdav or simply using OpenKM automatic mail importing.

Submit new documents via email
by gnu.java.sergio > 02-01-2013 06:59:23
Hi there,
I think it would be cool if it were possible to submit new documents via email. Many scanners have a 'scan to email' function. So i would scan-to-email a new document to specific email address. OpenKM would then periodically check that, address, and put all new documents (= attachments into an inbox) waiting for me to categorize them.
What do you think?
Sergio, iD