SERVICES CONTRIBUTION TO VALUE CHAINS: CASE STUDY OF THE EGYPTIAN READY-MADE GARMENTS SECTOR

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Abstract

This paper aims at highlighting the role of services in the Egyptian manufacturing sector, with a focus on the ready-made garments industry. By analysing services in the value chains of three case studies, this paper shows that inefficiencies in service provision have negatively affected the performance of the Egyptian Ready-Made Garments Industry. In a sector where profits are generated from a set of intangible services, weak local capabilities in R&D and design along with limited contact with direct buyers increase the cost of services, limit the sector's potential to seize a larger portion of the value added and effectively integrate in global value chains. Inefficiencies in the provision of services provided by the government either totally or partially negatively impact the competitiveness of the sector in terms of lead time, price and meeting quality specifications. Companies located in the governorates further suffer from inadequate infrastructure, inflating the transportation costs. Companies' strategies to deal with this inefficiency differ by company size. Smaller companies try to economize on the high cost of services by avoiding high cost items. The paper concludes with specific policy recommendations to turn the service sector from a shackle to a booster of the sector and the economy at large.

ملخص

تهدف هذه الدراسة إلى إبراز دور الخدمات في قطاع الصناعة التحويلية المصري مع التركيز على صناعة الملابس الجاهزة. وتبين الورقة من خلال تحليل الخدمات في سلاسل القيمة لثلاث دراسات حالة أن وجود قصور في تقديم الخدمات قد أثر سلبا على أداء صناعة الملابس الجاهزة المصرية. ففي قطاع تتحقق فيه الأرباح من مجموعة من الخدمات غير الملموسة، فإن ضعف القدرات المحلية في البحث والتطوير والتصميم ومحدودية الاتصال المباشر مع المشترين من شأنهما زيادة تكلفة الخدمات بشكل كبير والحد من قدرة القطاع على المساهمة بجزء أكبر في القيمة المضافة، والاندماج الفعال في سلاسل القيمة العالمية. إن عدم كفاءة الخدمات التي تقدمها الحكومة إما كليا أو جزئيا، يؤثر سلبا على القدرة التنافسية للقطاع من حيث المهلة الزمنية والسعر واستيفاء مواصفات الجودة. كما تعاني الشركات الموجودة في المحافظات من عدم ملاءمة البنية التحتية مما يضخم تكاليف النقل. وتختلف استراتيجيات الشركات للتعامل مع عدم الكفاءة في تقديم الخدمات باختلاف حجم الشركة. فالشركات الصغيرة تحاول أن تحد من التكلفة العالية للخدمات عن طريق تجنب البنود مرتفعة التكلفة مثل البحوث والتطوير وتصميم واستخدام تكنولوجيا المعلومات. وفي النهاية، تخلص هذه الورقة إلى توصيات محددة تتعلق بالسياسات تهدف إلى تحويل قطاع الخدمات من عبء على القطاع إلى محفز له وللاقتصاد بصفة عامة.

1. IMPORTANCE OF SERVICES IN THE GLOBAL ECONOMY

The service sector has been increasingly dominant in most economies. According to the World Development Indicators, the share of services in world GDP was 69 percent in 2016, compared with 53 percent in 1970. The steady growth of the service sector over the years is attributable to several factors. New technologies, globalisation of financial markets and the move towards trade liberalization have played a pivotal role. Furthermore, and in certain ways more significantly, the gradual paradigm shift in the service economy, which transformed services from primarily government functions, performed by monopoly public utility entities, into commercial products exchanged in competitive markets. This has also led to structural changes in service industries, leading to further segmentation of the production process and product differentiation resulting in more arms-length service transactions, many of which are inputs into the production of goods and other services.

In terms of the share of services in GDP of individual countries around the world, in most cases, it is greater than manufacturing, agriculture and mining combined. The rise of global supply chains (GVCs) and new business models has given services even more prominence and strategic importance. Services are rightly perceived as the "glue" that holds the chain together.

This reality is not only true for advanced industries such as ICT equipment or sophisticated cars, but it also holds for the most basic of production operations such as producing a loaf of bread. A recent case study by the Fung Global Institute in Hong Kong on the value-chain for the production and consumption of bread revealed that services account for 72 percent of the final cost of a loaf of bread. The broad categories of services accounted for include importation, manufacturing, transportation, distribution, and retail and back-office support functions. The example of the 30 services entering the value chain in this case can probably be found, in one form or another, in almost all manufacturing operations to varying extents. It is, therefore, no wonder that the strength of the service sector is always a determinant of the overall level of competitiveness in any economy.

The service sector is also a determinant of the level of social welfare and quality of life in societies. The strength and efficiency of sectors like health care, education, communication, energy, public transport, retail, banking, insurance and others, will always be necessary to fulfil the daily needs of the population at large.

In today's world, national economies cannot function effectively without access to competitive global services markets, not only to strengthen the capacity of their own services sector, but also to ensure the availability of competitive, high-quality service inputs essential to all its productive sectors, whether in manufacturing, agriculture, or mining. On the other hand, shortcomings in the service sector, leading to more expensive and inefficient inputs lead to huge losses in competitiveness across the economy.

The role of competition, introduced through liberalisation of service industries (not deregulation), has been increasingly recognized as a critical component of any successful policy mix aiming at strengthening the service sector and the economy at large.

Over the past four decades, advanced economies, as well as emerging developing countries, have devoted major efforts and attention to the liberalization of the service sector and the development of pro-competitive regulatory frameworks. However, designing and implementing sound and coherent service policies and regulation have always been challenging, given the diversity and heterogeneity of service sectors as well as the multiplicity of governmental and non-governmental institutions involved in policy making and regulation. Service policies in various sectors also often overlap with many other crosscutting policies such as competition, labour, environment and others. However, one of the most important areas of overlap relates probably to investment policies and regulation. It is very difficult to have a sound investment policy that succeeds in attracting needed foreign direct investment (FDI) without a corresponding policy vision for the service sector, and vice-versa. After all, in today's world, services account for two thirds of global FDI stock.

A few decades ago, in response to the rising of the strategic importance of service in the global economy and, in particular, the importance of international trade in services (i.e., all cross-border transactions including investment and labour mobility for services), the international community started giving serious consideration to institutional arrangements for international cooperation in the field. The first such arrangement was the WTO General Agreement on Trade in Services (GATS), which entered into force in 1995 and, for the first time, provided a definition of, and multilateral rules for service trade, as well as a forum for continuing negotiations for the progressive liberalization of services among WTO Members. The GATS provided subsequent guidance to many bilateral and regional preferential trade agreements covering trade in services.

2. THE ROLE OF SERVICES IN EGYPT'S ECONOMY

Egypt's economy has long been dominated by its service sector. According to 2016 figures (World Bank), it represents more than half of its GDP (2016 – 55 percent; 2000 – 50 percent) and employs roughly half of its labour force in 2015. At the same time, the share of agriculture, which is gradually diminishing, was no more than 12 percent of GDP and manufacturing industries no more than 17 percent in 2016. The remaining share lies with non-manufacturing industries. The service sector is also the biggest generator of foreign exchange revenue. Of course, as in other economies, it plays a strategic role in providing inputs for the production of all products, be they goods or services. The backward and forward linkages with other sectors of the economy make the service sector the real "glue" for value chains, be they global or domestic.

Furthermore, the service sector is directly related to the level of social welfare in Egypt and the quality of life of the Egyptian society. The availability of, and the access to services such as education, health care, energy, banking, insurance, transport and retail, will always represent priorities for any government policy. Ensuring the quality of such services is also necessary through sound policy and regulatory approaches.

Shortcomings in the services sector, on the other hand, could have serious adverse effects on economic performance. Egypt, for instance, has been rated number 6 worldwide in producing fresh vegetables in 2011 (Economist statistics 2014). However, this impressive production capacity is not commensurately reflected in Egypt's export performance, or in Egypt's own domestic market in terms of supply and price-levels. It is one thing to grow tomatoes in the field; it is another to get them to the shelves of a supermarket, at home or abroad. Between the two points lies a chain of services that include finance, professional services, packing, transport, storage, wholesale, etc.

The government of Egypt has always been interested in promoting a strong and a competitive service sector. The most recent expression of that vision was contained in the Sustainable Development Strategy (SDS), announced by the government during the "Egypt Economic Development Conference" in March 2015. In the part of the SDS that relates to the economy, one of the key performance indicators (KPI) is to "increase the contribution of services to GDP to 57 percent". This KPI comes in the broader context of the overall

economic strategy of supporting "a market-competitive, diversified, knowledge-based and private-sector led economy."

Experiences of countries around the world at various levels of development have shown that the share of services in GDP always grows as the economy advances.

It is also noteworthy that the development of the Suez Canal area into an international industrial hub, which is one of Egypt's most strategic projects at this stage, will depend largely on efficient and competitive service industries. Sectors such as maritime transport, logistics, port services and other modes of transport will be the backbone of the waterway operations. Furthermore, industrial projects foreseen around the area, are expected to enhance Egypt's participation in industrial global value chains, will also be dependent on other infrastructure services such as energy, telecommunication, ICT, finance, insurance and many others. The quality and efficiency of such services will no doubt be a key determinant in the overall success of the project and the extent to which the area will develop.

It has been well-established over the years that introducing competition in service markets through liberalization can bring about tremendous welfare gains for both economy and society. However, it also poses serious challenges, in particular that of regulation. Designing policies for economic and social development, as complex as that might be, is never enough. Policies need to be given effect through laws and regulations that guarantee effective implementation. That normally involves the design of new rules in the form of laws and regulations as well as necessary accompanying institutional reforms that ensure the proper functioning of the regulatory process. Perhaps one of the most important features of the service paradigm shift over the past few decades has been the fundamental change in the role of governments in the service sector. Instead of being the providers of services, governments have now become the regulators of services. The regulatory responsibility is proving to be far more complicated and sophisticated compared to the old role of the provider. It is indeed a challenging task, the specifics of which vary from one sector to another, while the broad objectives remain common, namely, to introduce competition in the market through liberalization (not de-regulation) and to ensure that in each of the sectors policies and rules are set to effectively deal with market failures as well as negative externalities of reforms.

3. THE NEED FOR FURTHER ANALYSIS

Developing an efficient and competitive service sector in a market economy is far from a simple matter. Arriving at sound policy reform strategies requires thorough analysis and appraisal of current and future challenges and opportunities. It also requires careful consideration of various policy options as they relate to the broad range of policy objectives (economic development, social, environmental, etc.) that Egypt aspires to achieve. So often, such reform processes are also fraught with political hardships that involve difficult choices. However, by providing a sound information base, careful analysis and a thorough process of consultation and constructive interaction among different government agencies and stakeholders in Egypt, it should be possible to arrive at optimal reform strategies that could fulfil the potential of the service sector in Egypt.

With a view to contributing to the development of an information base with rich analysis, this analytical exercise aims at achieving a clearer appreciation of the importance of services in the value chains relating to specific products.

4. PURPOSE OF THE ANALYTICAL EXERCISE

Service inputs into production operations are often determinants of the competitiveness of final products by they manufactured, agriculture or other services.

The purpose of this exercise is to better understand the complex, multifaceted and often overlooked role of services in production, distribution and consumption in order to identify additional sources of improvements in competitiveness, and consequently, arrive at proposed policy and regulatory reforms.

5. METHODOLOGICAL APPROACH

To achieve the purpose of this analytical exercise, the following methodology has been adopted:

1. Identification of the value chain from beginning to end, from the sourcing of inputs to the delivery of the final product, focusing on one product or a homogeneous group of products.
2. Identification of all service inputs into the value chain while avoiding any double counting. A guiding questionnaire was designed, including a list of potential services,

with the possibility of including additional services based on interviews with the companies (Table 1 in the annex). Government-provided services were also included in the questionnaire, the rationale behind this being twofold:

First: government services, including those related to customs, infrastructure and utilities, are part of the services utilized by the companies, and any inefficiency in the provision of these services burdens companies with extra costs, which could be reduced by such action.

Second: the ultimate goal of this exercise is to identify specific actions for policy intervention, and thus there is a need to identify gaps in service provision.

3. Enumeration of all services entering the value chain. Once all service inputs into the value chain had been identified, an analysis in terms of cost was conducted. Companies interviewed were asked to disclose an approximate cost of the services utilized within their value chain as a percentage of total cost of production. However, with different degrees of success, the data provided was not inclusive of all the services mentioned in the questionnaire, but rather represented the cost of key services. In some cases, the cost of specific services was not explicitly priced. In other cases, the companies indicated the cost of the service to be minimal; consequently, the contribution of services in many instances could have been under represented. However, what was provided could be considered as indicative to approximate the value of services in the total cost of production.

4. Description of the manner in which services are supplied, indicating whether in-house or outsourced, and whether any regulatory requirements affect the choices of the producer of the final product.

To the greatest extent possible, if some services are not supplied separately but bundled with goods or with other services, individual services components were identified. In addition, an analysis was conducted of the reasons behind voluntary outsourcing: lack of in-house capacity, cost cutting, or other efficiency gains.

5. Analysis was carried out of how government policies and regulations affect the market of each service entering the value chain. Positive and negative effects were identified including issues related to competition, and the quality of services provided, thus

helping to determine the desirable policy interventions in the service sector concerned to improve efficiency.

6. SERVICES IN THE READY-MADE GARMENTS VALUE CHAIN

The ready-made garments (RMG) value chain is organized around three main phases: pre-production, production and postproduction. The preproduction phase involves a number of activities manifesting the backward linkages of the RMG industry with the rest of the economy. As highlighted in Figure (1), the RMG value chain begins with the supply of raw material, whether natural or synthetic fibres, from both the agriculture sector and the petrochemicals industry. This is followed by the provision of components including yarn and fabrics in addition to other accessories like buttons and zippers, and thus linking the RMG to other feeding industries like the textile and plastic industries. At the level of the RMG factories, the preproduction phase includes key value adding intangible activities, specifically: research and development (R&D), design and sample development.

Figure 1. Ready-Made Garments Value Chain

activities, including cutting, sewing, finishing, and packaging of the end products. Finally, the RMG value chain ends with post-production activities including distribution and marketing.

Zooming in on the role of services in the RMG value chain, as Table 1 shows, services lie at the heart of the value chain. Not only do services act as enablers in the value chain (e.g., communication, finance, insurance, logistics), but they are also tasks in their own right, and are considered the main source of value along the chain (design, marketing and distribution). According to (Stark, Frederic, and Gereffi 2011) profits are generated in the sector from a set of intangible services including those related to research, design and marketing and brand management. In an industry characterized by low entry barriers, these services provide good tools for gaining competitive edge, consequently global leading firms in the industry have exclusive access to these services, outsourcing the labour intensive production process to least cost companies around the globe.

Table 1. Services along the RMG Value Chain

Stage in the value chain	Related services
Preproduction phase	1- R&D ▪ Researching new fabrics and materials ▪ Market and consumer research to understand and predict the next fashion, fabric trends, retail requirements and competitive forces and other sources of innovation 2- Design ▪ Producing the design using hand sketches, technical drawings, three-dimensional draping on dress forms or computer-aided design (CAD) to create new concepts and samples. ▪ Courier shipment of the samples to customers ▪ pattern making to reproduce a designer's sample, and grading to replicate the pattern into all proper sizes 3- Procurement ▪ Procurement of material inputs from either a local or an international source. ▪ Customs inspection and clearance. ▪ Transportation of raw material to warehouses. ▪ Fabric inspection to ensure it meets specifications. ▪ Inventory management
Production	▪ Production management. ▪ Engineering services. ▪ Quality control & compliance management. ▪ Testing & trailing ▪ Safety inspection
Post-production Phase	1- Distribution: ▪ communication with a network of wholesalers; agents; and other companies ▪ warehousing ▪ transportation ▪ customs inspection and clearance 2- Marketing: ▪ branding or advertising ▪ catalogue design ▪ web development
Cross Cutting Services	There are a number of services that are utilized across all stages of the value chain, and these include among others: banking services,* insurance, accounting, internal & external auditing, security, human resource management, legal services, courier and postal services, utilities, repair and maintenance, cleaning, telecommunication, general management, personnel training, business consultation services.

Sources: Based on Stark, Frederic, and Gereffi 2011; Milstein & Co Consulting Inc 2008.

The following sections will give a quick review over services in the Egyptian ready-made sector value chain, zooming in on the role of services in three case studies. Finally, based on the analysis, the study presents a number of policy recommendations in specific areas, which are considered the most binding constraints facing services along the Egyptian RMG value chain.

7. SERVICES IN THE EGYPTIAN READY-MADE GARMENTS VALUE CHAIN[1]

7-1 A Brief Description of the RMG Industry in Egypt

Ready-made garments (RMG) is a key sub-sector in the textile & apparel sector in Egypt, according to the CAPMAS economic census, 2014.[2] The RMG sector constitutes 63 percent in total textile and apparel sector value added. It is considered a labour intensive sub-sector employing around 254937 workers, which also represent 10.6 percent of total employment in manufacturing sector and 58 percent of total employment in the textile and apparel sector.

The majority of the companies are of small size with only a limited number of medium and large enterprises. There are currently 48717 RMG firms, out of which only 333 [3]employ more than 10 workers. Facilities range from enterprises with simple primitive sewing machines, a significant number of which belonging to the informal sector, to sophisticated companies with state-of-the-art technology. The vast majority of the companies, particularly from the small sized group, direct their production to satisfy the needs of the local market, with only occasional involvement in export.

Only a limited number of companies, mostly medium and large, export their production directly to various markets and thus interact directly with demanding buyers. Others tend to export through Egypt's limited number of private trading companies. The reason behind this is that companies are mostly small enterprises and thus cannot afford the high transaction costs involved in exporting. Most of the companies are located around Cairo, Delta, and Alexandria and in cities along the Suez Canal close to the extra-long and long stable fields and ginning. Several industrial cities/zones are available; however, RMG companies remain largely concentrated in highly populated areas (Kassem and Abdel-Latif 2005). As for Upper Egypt, despite having lower prices and cheaper land prices, only a limited number of companies are located there. This is largely due to the lack of infrastructure, distance from ports and sources of raw materials (CHERZI 2016).

The ready-made garments value chain suffers from a number of bottlenecks, especially in upstream activities. Cotton is the primary locally supplied material for the textile industry in Egypt, and it is currently produced in long stable and extra-long stable varieties. In addition to being expensive and irregular in supply, confining the supply of Egyptian cotton to only

[1] Information obtained from a focus group, and the numbers included represent industry average.
[2] The census was conducted for the year 2012/2013.
[3] CAPMAS, Annual Industrial Statistics, private sector, 2013.

long and extra-long stables creates a mismatch between supply and demand. There is an increasing demand by the Egyptian textile industry for short stable cotton mainly because it is the most suitable type of cotton for blending with polyester. Other natural fibres are of limited supply. Needs from raw materials are met primarily through imports, especially for export oriented firms (Kassem and Abdel-Latif 2005).

Other shortcomings are in the spinning industry, which is considered one of the weakest parts of the value chain. This weakness arises from the fact that the public sector dominates a large part of the sector. The indecisions about the privatisation of this important industry has resulted in lack of investments, and thus the ageing of production technologies, deterioration of productivity and poor product quality. Employment in these companies are higher than it should be given the nature of this industry. The share of the wages in total production cost in spinning & weaving companies affiliated to the Holding Company for Spinning and Weaving is estimated at 62 percent on average, while it should not exceed 8 percent in spinning & weaving. These problems have led to accumulation of losses to close to EGP 4 billion in recent years.

As for the weaving industry, it suffers from weakness in processing activities such as bleaching, dyeing and printing, thus forcing the RMG producers to import processed fabrics. Investment in these processing activities requires large capital investments as well as trained labour force. (Booz & Co 2014)

The lack of quality local source inputs is not confined to the fabrics but also extends to accessories. Accordingly, the RMG industry tends to import most of its needs in dyed fabrics & accessories. Egyptian Imports from raw material & fabrics[4] reached US$2.83 billion in 2015, of which 20 percent is synthetic filament yarn.

This weakness in the textile industry has its implication on the ability of the RMG companies to integrate in the global value chain, and to benefit from the presence of many international retailers in the Egyptian market. Responding to the needs of lean retailing[5] & the ever-shorter life spans of styles and fashion trends, producers have to offer a full package services (Enlightenment Economics 2008) as well as to ensure the speedy response to

[4] HS code 50-60 except code 57 (carpets and other textile floor coverings)

[5] In lean retailing, "the retailer transfers as much as possible of the rest of the supply chain activities onto its supplier who offer full package service. Upstream, this can mean taking the responsibility for sourcing the fabric and trim, downstream, it means organizing the logistics and transportation, and delivering the items to the retailers' warehouse or even stores in a ready for sale packaged state. Taken to the limit, a supplier may take responsibility for monitoring the retailers' stocks and placing replenishment orders" (Enlightenmentt Economics 2008)

retailer's orders. The extent to which producers are able to deliver the product in such a short time depends partially on the availability of inputs—particularly textile, they need in turn to make sure that they can access the appropriate raw material (ElShennawy 2016). Given the low quality of the domestically produced textiles, large RMG producers are either vertically integrated or they import the required textile, which is time consuming obligating them to keep high levels of inventory.

Other sources of inefficiencies in the value chain come from the services provided along the chain, which will be discussed in more details below.

7-2 Services Along the Chain

Taking a closer look at the services along the Egyptian RMG value chain reveals that the RMG industry is burdened with additional cost due to inefficiencies in service provision whether they are at the preproduction phase (R&D and design services), enabling services that are provided during production phase or the postproduction phase (distribution and marketing). These inefficiencies partially arise from the lack of competition with its implications on both the quality and price of the services provided, and partially from the inadequacy of the services provided to the needs of the industry for reasons other than those related to competition. It is important to highlight that we are focusing here primarily on those services where bottlenecks have been identified.

Starting with preproduction phase, Egypt suffers from weak local **design capabilities**, with limited number of institutes[6] offering training and consultancy services in design. As a result, RMG producers either outsource the design service to an international entity, and/or produce the design in-house, hiring an international designer for that purpose or alternatively implement designs that have been provided by customers. On average design costs nearly 2.5 percent of total production cost.

As we move along the value chain, RMG companies utilize a multitude of enabling services during the production phase, the number of which varies with: the size of the firm; whether it directs its sales to the local market only or both the local and international markets; the technology of production used and the linkages with global retailers. However, there are some essential services, which are utilized by all firms, and there is a consensus on their

[6] These include the Fashion Design Centre affiliated to the Ministry of Industry and Trade, and a few private fashion institutes like the Fashion Design Centre in Giza.

negative impact on the firms' competitiveness. In what follows, we are going to discuss these services trying to highlight the source of inefficiency in their provision.

Transportation and logistics

Road transportation is considered to be the main mode of transportation in Egypt, with a share of around 95 percent. With poor infrastructure and ageing truck fleet, road transportation is one source of inefficiencies that raises the cost of transportation in Egypt.

Road construction and maintenance services is dominated by 4 public entities[7] due to their ability to offer lower cost for construction and rehabilitation of paved roads in their bidding offers. The lack of competition in road construction and maintenance, coupled with the low budget allocated by the General Authority for Roads, Bridges and Land Transport (GARBLT) for road maintenance, and the weak enforcement of the law on heavy trucks have resulted in poor road quality in Egypt (Ragab and Fouad 2011).

As for road freight transportation, there is a large number of truck operators, the majority of which are privately owned, with the exception of five specialized truck operators belonging to the Ministry of Investment. The remainder largely belong to freight transport cooperatives located in most governorates (24 cooperatives), in addition to individual operators, and own account trucks belonging either to the public or private sector entities carrying their own products. Both the public sector companies and the cooperatives suffer from ageing fleets with the average fleet age in the main five public companies being about 15 years, thus affecting negtively the efficiency of road freight transportation in Egypt, in addition to the weak enforcement of service strandrads regulations (Ragab and Fouad 2011). More recently, the cost of road transporation has increased as a result of the increased price of disesel, in addition to the high toll rate on highways.

Maritime transportation also suffers from a number of inefficiencies related to ports infrastructure and logistics. The Egyptian ports—with varying degrees—suffer from congestion and the need for regular maintenance and dredging. Some ports also suffer from relatively shallow draft. In addition, there is a need to enhance logistics functions, which are impaired by a multitude of problems including, for example, the need to develop intermodal logistics services, improve train/seaport transportation, and simplify customs procedures and

[7] The General Nile Company with its four affiliates; Arab Contractors, Ministry of Housing, Utilities and Urban Development with four large public sector companies under its jurisdiction ; the National Services Company under the armed forces; and the public road paving unit in each governorate

reduce the clearance time (Transport Planning Authority 2012). This is in addition to lack of public transportation linking industrial zones to city centers.

Egypt is ranked number 49 out of 160 countries in the logistics performance index in 2016, outranked by United Arab Emirates, Turkey, Israel, Qatar and Greece. Zooming in on the different dimensions covered by the index, we find that both the inefficiency of customs and border management, as well as bad trade and transport infrastructure stand as being most problematic.

More recently, the competitiveness of Egyptian exports has been negatively affected by the ministerial decree No.488 /2015 & 800 /2016, increasing the fees on maritime transport activities (towing, guiding, port services and transit fees). This resulted in the withdrawal of international shipping lines from Egyptian ports to other ports, thus increasing shipping costs, in addition to its effect on the ability of exporters to honour agreed deadlines with importers due to the decrease in the number of shipping vessels and lack of balanced maritime transport lines to different countries in all Egyptian ports.

This inefficiency in Egyptian ports affect all RMG companies, given the high dependence on imported inputs. The problem is aggravated for those who export their products, especially that lead-time is considered one of the competitiveness factors in the industry.

Inefficiencies related to transportation and logistics increase the costs incurred by RMG producers, especially for companies outside Cairo and those located out of an industrial zone. The cost of transportation is around 2-3 percent of total production cost on average. For other logistics, the share is around 4-5 percent.

Human resource development services

The RMG industry, in particular, suffer from inefficiencies in services related to workforce development at all levels. Only Helwan and Alexandria universities offer programs related to the textile industries, and the programs they offer are judged by the companies to be very academic and not related to the needs of the industry. The same applies to technical education schools under the supervision of the Ministry of Education, there is no coordination with the private sector with regards to the curriculum, and education is theoretical with limited practical training. As for technical schools applying dual education under the Mubarak-Kohl initiative, although they achieved some success at the beginning, their performance

deteriorated over time due to lack of funding. With respect to vocational training, there are multiple entities involved in industrial vocational training, including a number of affiliates to the Ministry of industry and trade,[8] the Ministry of Manpower, as well as NGOs (Traintex) and some private sector service providers. There is a variation in the quality of services provided by the different entities, and there is a limited supply of individual Egyptian textile experts to deliver these services to the RMG factories.

Although there have been several programs implemented over the years aiming at reforming technical education and vocational training in Egypt funded by different donor agencies (e.g., the Mubarak–kohl initiative, TEVT, and WISE program), the majority of these projects had a limited impact on the overall technical education and vocational training system in Egypt. This could be attributed to the fact that they generally focus on certain aspects of the technical education system, or certain specializations or governorates. Even at that limited scale, they have shown different degrees of sustainability subject to the availability of finance.

On the demand side, asymmetry of information can be identified, with SMEs not being able to benefit from the different vocational training programs offered by the different entities on a subsidized basis.

The difficulties associated with obtaining a highly skilled labour force have resulted in high labour turnover in the industry averaging between 20-25 percent and high absenteeism averaging 10-20 percent (USAID 2009) due to the competition among companies on the scarce labour force.

The lack of qualified labour force extends to maintenance and repair and in many cases, the companies are obliged to train the labour force in-house and sometimes utilize the service of foreign experts for that purpose. This increases the cost of the maintenance and repair, whose share is around 2 percent of total production cost for new and modern machines and 1 percent for old ones.

Quality Assurance & testing

[8] The Industrial Modernization Centre and the Industrial Training Council, Textile Technology Center, Productivity and Vocational Training Department.

In relation to quality assurance, as the structure of the RMG industry is largely dominated by small firms, we find that it is mainly exporters and large RMG producers who are keen to obtain quality certificates.

Although there are currently[9] 10 textile related accredited laboratories (private and public), ready-made garment producers sometimes resort to international global entities for testing. This is partially due to the fact that some customers might have specific requests concerning the testing laboratory. However, other justifications include the asymmetry of information, specifically small producers might lack the information on accredited laboratories in Egypt; the inaccuracy of testing results and long waiting period, especially for those laboratories affiliated to public entities; and finally the possibility that customers request a special test that is not performed in the locally accredited labs.

On average, the quality assurance services represent around 1 percent of the total production cost.

Government related services

With respect to government related services, it is characterized by being costly and time consuming due to the high level of bureaucracy and multiplicity of responsible entities and corruption. Efforts have been made to simplify some government regulations, like the issuance of law no 15 of 2017 concerning industrial license, but the extent to which this law would help in solving problems related to industrial licensing is yet to be tested.

Company specific issues

At the micro level, there is a lot of variation among companies with respect to efficiency of services conducted in-house like the production and human resource management. The study by Marello (2009) on 19 Egyptian RMG companies has concluded that the majority of surveyed firms apply moderate organizational practices. Studying the firms' performance in 7 specific areas and benchmarking them against best international standards, Marello concluded that there is a large room for efficiency gains with better production planning and controls, as highlighted in Table 2 in the annex.

Other studies have also revealed that logistics activities in RMG manufacturing companies in Egypt often overlap between different departments, which, result in the

9retrieved from EGAC website www.egc.gov.eg>on 25th of December 2017

inefficient organization and implementation of logistics improvements (El Zarka 2010). In addition, few RMG factories have a human resource department that offers full HR services to all levels of personnel, and it is quite often that the HR department also includes compliance officers who provide information on the conditions of the workplace to representatives of international buyers and auditing firms (USAID 2009).

Finally, with respect to postproduction services, from a macro perspective, the Egyptian distribution sector is one of the important economic sectors in Egypt. According to CAPMAS' latest economic census, 51 percent of the total number of establishments in Egypt are working in the wholesale and retail sector, contributing 19 percent of total net value added and employing around 32 percent of total employment. The sector is characterized by being highly fragmented, with the domination of private sector traditional outdoor outlets and small stores. Out of the 1,225,854 establishments working in wholesale and retail trade, 87.3 percent are sole proprietorships and there are only 61 branches of foreign companies and 28 public companies (CAPMAS 2016).

Focusing on the distribution of RMG, we find that 10.2 percent of the private sector retail companies are specialized in ready-made garments and footwear (CAPMAS 2016). The RMG retail sector is dominated by small-scale retail shops. As for large department stores, Egypt had a number of department stores before the 1952 revolution like Omar Effendi, and Sidnawi. These department stores were nationalized in the early 60s, and continued to play a role in the RMG retail up to early 70s. However, they gradually lost their client base, especially from the middle and upper income groups due to the low quality of their products, coupled with the surge in the imports of the RMG with the implementation of the open door policy. Further, with the expansion of the private sector clothing industry, these public sector department stores failed to adapt to the retail image needed by the emerging industrial sector.

During the late 80s, the small retail shop model that spread all over the country was affected by the opening up of the first shopping mall as an annex to Cairo-Ramses Hilton, a trend that began to expand ever since catering for the needs of higher classes. Another turning point for RMG retail in Egypt occurred in 2004. The lifting of the import ban on clothing in that year, coupled with the presence of international known brands on the Egyptian retail market, has intensified competition for the RMG industry leading to upgrading the quality of the local garment industry as well as becoming more cost efficient (Dihel and El Shinnawy 2006). Currently, Egypt is the host of many international retailers and department stores,

which depend mostly on imported items. Previously, international companies working in the retail sector were not allowed to engage in import activities. However, according to law no 7 for 2017 amending the importers registry law no. 121 of 1982, companies no longer need to be wholly owned by Egyptians. Rather, the amendments allow for a 49 percent foreign participation. However, the law has raised the minimum capital to LE 2 million for limited liability companies, and LE 5 million for joint stock companies. Further, the company's manager who is in charge for importation must be an Egyptian national.

Generally speaking, the majority of Egyptian RMG companies still lack a strong relationship with large international retailers, thus limiting the benefit from the presence of these retailers in Egypt to customers having access to a broader range of products, in addition to employing local staff in the stores (Dihel and El Shinnawy 2006). To maximize the benefit, there is a need to upgrade RMG companies to act as suppliers to these retailers. Raising the capabilities of the RMG companies does not only entail improving the quality of the products, but it also requires the need to adopt quick response technology (El Zarka 2010). As previosly mentioned new trends in RMG value chain requires that the supplier must be able to respond quickly to the orders of the retialers, and in some cases even monitor the retailers stock and placing replenishment orders. Accordingly, RMG producers must have the capability to be able to coordinate and run sevel stages along the chain, thus the need to use sophisticated technologies and specific managerial logisitcs (Enlightenment Economics 2008). It might be expected that in the future these trends will extend to local retailers as well, putting more pressure on RMG producers to enhance their competitivness (ElShennawy 2016).

Kamal (2014) measured the satisfication of 15 German fashion retialing companies who had expecince in sourcing from Egypt. The study revealed that lead time and flexibility are considered to be the main problems facing the Egyptian RMG companines. Half of the respondants have shown their complete dissatisfaction from Egyptian companies lead time. Regarding production flexibility, most of the companis had indicated the weak ability of Egyptian RMG to respond adequately when ordering small quantities or manufacturing different style models. Also, 50 percent of the sample have shown dissatisfaction with knowledge and technical skills in Egyptian RMG factories.

Finally concerning the export distribution network, Egypt's export network includes branded apparel companies, garment contractors, overseas buying offices and trading

companies. Although diversified, international trade and distribution networks accessible to Egyptian enterprises are limited.

Even locally established private trading companies tend to focus primarily on imports. Only a limited number are specialized in exports[1] and an even smaller number are large and experienced enough to meet the needs of the EU and US markets (Kassem and Abdel-Latif 2005).

8. CASE STUDIES

8-1 Case Study: Company (A)

Background

The company represented in this case study is a medium sized,[1] sole proprietorship, employing around 140 employees. It mainly serves the local market with occasional exports to the United States of America and Arab countries.

This company is located in an industrial zone and is specialized in high quality men's clothing, producing a wide variety of products including formal trousers, jackets and casual wear.

Services along the value chain

The company has the advantage of conducting both R&D and design services in-house, in addition to outsourcing these services to international global entities. Examples of R&D activities conducted in-house include operational methods and new finishing techniques. As for design, the company makes designs for its own brand, and hired an Italian designer for that purpose. However, when producing for international brands the designs are provided by the customer. In the latter case, the samples are produced and shipped to customers usually at the company's expense. The company has indicated the general lack of advanced research specific to the RMG, as well as deficiency in design skills in Egypt.

As for sourcing inputs, the company uses imported materials (fabrics and accessories) for its production process. It imports their inputs mainly from Europe benefiting from the European Partnership Agreement. Due to this high dependence on imported material, the

[1] These companies are responsible for guiding producing enterprises to the request of buyers in export markets.

[1] interviewed companies decided on the appropriate size of their enterprise based on sales criteria, utilizing the definition applied by the Central Bank of Egypt.

company partially outsources both procurement and customs related services. It takes around 5 to 10 days to have temporary customs clearance, and around 30 days to finish all customs inspection and have the final clearance, costing around 0.6 percent of total production cost. The company has referred to several problems related to customs services including lack of transparency in relation to rules and laws governing imports, lengthy procedures in addition to informal payments.

Most of the logistics are conducted in-house. The company has its own truck fleet and uses it for transporting inputs, and sending outputs to destination, except in rare cases when the size of the order is larger than its truck fleet capacity, or upon the request of the client, and in case of exporting. As for storage and warehousing, the company has its storage space within the factory premises. The cost of transportation comes in line with the industry average, constituting around 2 percent of total production cost.

The production processes conducted in-house include cutting, sewing and packaging. The company currently outsource some of its production processes, but is planning to integrate some of these activities (specifically, knitting and washing) to minimize cost, and to ensure quality and satisfaction of its customers.

The whole process is subject to quality control, and the company has acquired ISO 9001 certification. Services related to quality control and testing are partially outsourced, resorting to a global private entity when needed**.**

Analysing Table (3) in the annex reveals that out of the 35 services identified along the company's value chain, 48.6 percent are partially outsourced, 31.4 percent are conducted in house and 20 percent are totally outsourced. Ten of the services outsourced (either totally or partially) are government services. Some of these are normal functions of the government like safety and standards inspection, utilities, customs and company registration and licensing services. Others are services provided by both government entities[1] and the private sector[2] (whether local or global). It should be noted, however, that out of these ten services only utilities are outsourced to the government entirely. The rest are outsourced to both government and private entities (local and global), reflecting both the inefficiencies in the government services (like the case of customs) and the involvement of the government as a service provider in some cases like banking services, testing and trailing including laboratory

[1] Example of these entities include state-owned banks, the Industrial Modernization Centre, and Telecom Egypt.

testing, business consultation, telecommunications, personnel training and insurance services. According to the company, there is a high degree of inefficiency in all government related services due to the lengthy procedures, lack of transparency, and multiplicity of entities responsible for inspection, in addition to informal payments.

The company outsources twelve services to a private global entity (either totally or partially), on top of which are R&D and product design, procurement, quality assurance, repair and maintenance of machinery and equipment, courier, postal and local delivery services and IT & information system management.

Reference should be made here to both the business consultation and personnel training services, as we notice that in addition to preforming the service in house, the company benefits from all service providers (government, private local and global entities).

As for the services conducted in house, the majority of these services are directly related to manufacturing (like production engineering, production management, and production of templates) and back office services.

The high percentage of partially outsourced services reflects the preference of the firm to conduct all the services in-house. According to the company management, its decision concerning the manner in which the services are provided depend on the cost of the service, the time required to do it in house, the capabilities of its staff, the quality of the service provided, in addition to customers' requirements.

Services account for around 34.4 percent of total cost of production. As shown in Table (4) in the annex, R&D and design have the highest share in total production cost, constituting together around 7.5 percent, followed by the cost of utilities, production management, and repair and maintenance (machines and fleet) with shares of 5.6 percent and 3.7 percent, 3.4 percent respectively.

8-2 Case Study: Company (B)

Background

The company represented in this case study is a small sized, sole proprietorship, employing around 180 employees. It produces mainly polyester casual wear targeting low-middle level income consumers.

The company is located in a rural area in one of the delta governorates. The company's decision about its location was determined mainly by cost considerations. Despite starting its operations in Cairo, the management took the decision to relocate to benefit from:

1. The lower rental cost of its premises compared to the rental costs in both Cairo and the industrial zone in the governorate in which the company is located.
2. The low wage and labour turnover rates in the governorate.

The company exports 100 percent of its production to the USA benefiting from the QIZ, in addition to the low quality requirements in the USA market compared to the European market, which requires quality certification for all the materials used in production.

Services along the value chain

In contrast to the first case study, the company is not involved in any services related R&D, design and conception of the product. The company does not produce its own designs, rather it implements the designs provided by the customers. A sample is produced and sent to the customer at his own expense except for rare cases where the company bears the cost of sample shipment.

The company utilizes polyester fabrics for its production. Due to the unavailability of locally produced polyester fabrics of the required quality suitable for readymade garments, the company imports its needs from fabrics either directly from China or indirectly by sourcing the raw material from an importer. Despite preferring direct importation, the long duration of the process forces the company to locally source the fabrics from an importer to be able to meet the delivery time required by its customer. According to the company, it takes around 25 days for the raw material to arrive from China to Alexandria port and 5-6 days for the shipment to be cleared temporarily from the customs.

As for accessories, the company utilizes imported accessories sourced via one of the large local accessories companies. Locally manufactured accessories do not meet the maximum lead content allowed in USA.

Services related to ports and customs are among the key obstacles the company is facing in its value chain (costing around 0.8 percent of total production cost). The company has indicated inefficiencies in ports other than Alexandria, especially EL Sokhna port, in addition to disputes concerning the importation bill.

Transferring the raw material and other intermediate inputs to production sites is another hurdle that faces the firm. Despite the cost advantages of its current location, poor road infrastructure inflates the company's transportation cost compared to the industry average to reach around 4 percent of its production costs. The company has its own trucks, but sometimes it hires trucks depending on the size of the order.

After securing the required material and obtaining sample approval, the company starts the production process—including printing, cutting and sewing, finishing and packaging. The printing function is outsourced to a local private firm, and sometimes the company retains smaller workshops for the sewing function.

As for services related to quality assurance and testing, the company relies on outsourcing. According to the company, the lack of accredited labs in Egypt, forces it to outsource the testing and trailing function to an international private entity, which increases the costs incurred by the firm for that purpose (2 percent of total production cost).

As for the services related to human resources, including the training of the labour force, these services are conducted in-house, and represents a marginal share in the total cost of production. The training expenses are mainly in the form of interrupting production to conduct the training and the need to repair some machines due to incorrect usage.

As for marketing services, the firm depends on agents who do the "match making" between importers and exporters, in exchange for 5 percent of the value of the contract. Thus the marketing function consumes a sizeable share of the total cost of production (7 percent). The company has indicated inefficiencies of government services provided for small firms in relation to participation in exhibitions, and the weak matchmaking role of the commercial representative office. According to the company, trade missions are more effective in helping small firms sign contracts with importers.

Analysis of Table (5) reveals that out of the 32 services identified along the company's value chain, 43.8 percent are completely outsourced. Most of these services are outsourced to private local entities (12 service representing 37.5 percent of the services totally outsourced). Only two services are outsourced totally to an international private entity due to either the lack of these services locally or to meet customer requirements (conception and design of the products and testing and trailing).

As for the rest of the services, 43.8 percent are conducted in-house and 12.4 percent are partially outsourced. Services done entirely in-house are either back-office services or directly related to the production process like procurement, manufacturing of templates, production management and production engineering. There is a general preference to conduct all services in house, and the decision to outsource a service either totally or partially depends on the company's ability to conduct the function in house.

Services totally or partially outsourced to the government are functions the government normally perform like utility provision, inspection, customs and licenses services.

It should be noted that there are a number of services that are not utilized by the company, and these include R&D, business consultations, waste treatment, legal services and information technology.

Services account for around 24 percent of total cost of production. As shown in Table (7) in the Annex, marketing has the highest share in total production cost, constituting around 7 percent, followed by the cost of transportation, production management and testing and trailing with shares of 4 percent and 3.8 percent, and 2 percent, respectively.

8-3 Case Study: Company (C)

Background

The company represented here is a small partnership, located in Alexandria industrial zones in Bourg El Arab. It employs around 257 employees and produces mainly shirting- women and children wear. Currently, the company exports 100 percent of its production to the United States of America benefiting from the QIZ.

Services along the value chain

This company is similar to company (B) in not undertaking any services related to R&D, design and conception of the product. It implements designs provided by its customers, with the sample being sent to the customer at his own expense.

The company depends mainly on imports to secure its needs from production inputs, especially from fabrics and yarn, importing around 70% of its needs. In order to benefit from the QIZ the company imports around 10.5% of its needs from Israel. Other countries which the company import from include India and china depending on both price and quality.

Although the company did not indicate any problem regarding customs, with respect to the tax rebate system, it has pointed out that before its inclusion in the white list the company had to submit a letter of guarantee covering 50 percent of the value of the imported material in the case of fabrics, and 25 percent for yarn. Currently, the company submits this letter of guarantee only when it imports from Israel, covering 25 percent of the value of imported material.

Other problems related to securing raw materials via imports include the absence of a fast transportation method from the port to the industrial zone. Despite investing in extending a railroad line to Bourg El Arab Industrial zones, this line is not operational.

Regarding the material purchased from the local market, accessories is considered the main input locally purchased. As for fabrics and yarn, the company purchases around 30 percent of its needs from the local market. The company alluded to problems related to the quality and price of the products purchased as well as the instability of supply when sourcing its inputs from the local market. Further, the company has referred to the unavailability of a database that includes all suppliers of production inputs.

After securing the raw materials, the company starts its manufacturing processes, which involve cutting, sewing, and packaging. The company outsources other manufacturing processes like fabric production, printing and dyeing whenever needed.

The entire production process is subject to quality control, the company is ISO certified and it is compliant with international standards. The company has referred to the need for adequately clean containers to ensure maintaining the quality of the products when shipped abroad. As for testing and trailing, the company outsources the testing and trailing function to an international private entity, which has been nominated by its customers increasing further the cost of production.

As for the services related to human resources, the company suffers from the incompetency of the labour force at all levels, affecting negatively their productivity. The problems are aggravated by unavailability of training centres inside the industrial zones, and thus forcing the company to train all the labour force in house, incurring extra cost in the form of material wastage and production interruption.

Despite its location in an industrial zone, the company has complained from the lack of a multiple of services inside the zones, including specialized centres for maintenance and

repair of transportation vehicles, research centres, training centres, public transportation linking mid-town to the industrial zones, and weak security services with the majority of the companies depend on its own in-house security services. The company has also pointed out to the bureaucracy in all government related procedures, as well as the high cost of utilities.

Regarding marketing services, as previously mentioned the company exports its entire line of products to the USA, and it depends mainly on participation in international fairs and exhibitions as the main marketing technique, in addition to benefiting occasionally from the services provided via the commercial representative offices.

When exporting, the company has indicated the high cost of storage at the ports, as well as limited availability of shipping space with special reference to Alexandria port. The company has pointed out that the majority of shipments goes through the Damietta port. Both problems increase the cost and time required to export, thus affecting negatively the price competitiveness of the company and its lead-time. Trying to overcome these problems, the company has reached an agreement with its customers to deliver the products at the Egyptian ports, and thus they bear all port related costs.

Finally, concerning after sales services, although the company is keen to meet all customer's requirements, it does not offer any after sales services.

Analysing Table (7) reveals a clear tendency to conduct the services in-house, out of the 31 services identified along the company's value chain, 58.1 percent are conducted in house, 38.7 percent are outsourced, leaving 3.2 percent partially outsourced. According to the company, this preference could be attributed to the desire to reduce costs and control production.

The company's decision about the manner in which the services are supplied depends on the quality and efficiency in service provision, costs, the company's internal capabilities, as well as customer requirements

The only service that is partially outsourced is the transportation service. Despite having a number of buses for labour transportation, the company rent the majority of buses and trucks for transportation, in addition to resorting to an international company in the case of exporting.

There are three main export-related services that are outsourced to a private global entity, either partially or entirely, and they are all related to the process of exporting. These services include transportation, testing and trailing, and communication and marketing.

Other outsourced services are those that cannot be conducted in-house, and they are outsourced to either the government or a private entity. These include company licensing and registration, utilities, safety standards inspection, customs services, external auditing, telecommunications services, courier, postal and local delivery services, and banking and insurance services. In addition to these services, the company also outsources the maintenance and repair of its fleet. Services done in house are directly related to production, and back office services.

It should be noted here that there are seven services that are not utilized by the firm, on top of which those are related to R&D, business consultation services and production engineering and waste treatment.

Services account for around 15-20 percent of total cost of production. Transportation was indicated to have a high share in total production cost, constituting around 5 percent. This high cost of transportation could be attributed to the need to rent buses to transport workers, in addition to the fact that parts of the production process are outsourced, and thus incurring the cost of transporting materials and products from and to the factory.

Case studies conclusion

It is clear from the above case studies that if R&D and design costs are excluded, services constitute around 22-24 percent of the total production cost. The cost structure differs considerably depending on the size of the firm and its location.

All case studies revealed deficiencies in government related services, especially customs services and companies' registration and licensing. Companies also indicated the lack of many production services in industrial zones like training centres, maintenance and repair centres, and testing laboratories.

As far as logistics is concerned, due to the nature of the RMG industry, none of the companies surveyed suffer from any problems in relation to warehousing. However, companies B & C indicated deterioration of road infrastructure in governorates and the lack of

public transportation linking the city centre to the industrial zones, as well as the lack of fast transportation method to the ports.

All companies surveyed managed to benefit from the free trade agreements, especially the QIZ.

All companies also indicated problems related to the skills of the labour force and weak quality of training provided via training centres.

The cases of Companies B & C reveal the need to support small companies. There are a number of services that are not utilized by these companies like design, IT and information system management. Other services constitute a large share in the production cost of small companies like marketing.

For quality considerations, most companies prefer to conduct different activities within the value chain in-house. However, company B & C are obliged to outsource more of these activities due to lack of internal capabilities.

In light of the above, we present in the following section policy recommendations to key problematic areas facing the RMG sector, with a special focus on problems related to services.

9. POLICIES AFFECTING SERVICES IN THE VALUE CHAIN

It is clear from the above analysis that there is room for increasing the competitiveness of the Egyptian ready-made garments industry through enhancing the efficiency of the services provided along the value chain. Tackling services-specific problems is critical for both defending Egypt's position in the very competitive low-end garments, as well as moving up the quality ladder in garments. The study has identified the following services as being the most important drivers of change in the Egyptian ready-made garments industry.

1. **Design services:** Egyptian ready-made garments producers have referred to scarcity of supply of local designers. This has affected negatively the capability of the Egyptian ready-made garment producers to move up the value chain, as well as increased the cost of production.
2. **Human resource development services:** The weak education system in Egypt in general and technical education and vocational training in particular has resulted in a lack of skilled labour force. This deficiency is not confined to the blue-collar category

(cutting and sewing, knitting. etc.), but extends also to include administrative staff, logistics managers, production managers. The entire spectrum of skills is very important in this labour-intensive industry where quality, speed and flexibility are key factors affecting the ability of firms to compete in the international market.

3. **Transportation and logistics services:** Egypt suffers from extremely weak transportation and logistics services. The inefficiency of these services not only inflates the cost of production, affecting negatively the price competitiveness of the Egyptian firms whether in the local or international markets, but also affects their lead time and their ability to respond quickly to orders from international retailers

4. **Quality assurance and testing:** There is generally low consciousness about quality among employees and workers in manufacturing companies. Further, there is a lack of a proper assessment about quality of services provided by government laboratories including: the equipment used in testing, the number of tests performed, the cost of the service, the time required to obtain test results and human resource capabilities. These weaknesses have a great impact on the ability of Egyptian exporters to penetrate external markets, especially European countries with their higher quality standards.

5. **Government related services:** Bureaucracy in all government related services and the multiplicity of entities involved increases the costs incurred by firms, as well as negatively impacting the business environment in Egypt and its ability to attract international players in all segments of the value chain

Company strategies to deal with this inefficiency differ by company size. Smaller companies try to economize on the high cost of services by avoiding high cost items like research and development, design and use of informational technology. In general, companies prefer to conduct services in-house to guarantee the quality of services provided.

The majority of these drivers of change are noted to be horizontal in nature. Therefore, addressing the relevant problems encountered is going to have a positive impact on all manufacturing industries, not just the ready–made garments. Below are a number of measures that could be implemented to help address the inefficiencies in these services. However, it should be stressed that there are other factors, which are under companies' direct control, such as improving the management and marketing capabilities, adoption of quick response technology, enhancing supply chain coordination and management and alignment of logistics

responsibility. Those factors should be addressed at the company level with possible governmental support, especially for small firms.

Area	Problem	Responsible Entity	Proposed Solution	Comments
Design services	▪ lack of design capabilities	▪ Ministry of Trade and Industry ▪ RMG Export Council ▪ NGO's supporting the RMG industry ▪ Higher Council for Textiles	▪ Assess the role of the Fashion Design Centre and expand its role to include a program to link its graduates to ready-made garments producers. ▪ Incentive scheme to improve the capacity of existing design centres and encourage the establishment of new ones ▪ Determine special designs suitable for Egyptian RMG, and that can create a market niche ▪ Organize a yearly competition in the area of fashion design ▪ Design training programs for those who work in design on: - modern techniques in design, - how to implement the designs	
Human resource development	▪ lack of quality specialized education in the ready-made garments to meet the needs of the private sector and hence unavailability of skilled technical labour ▪ Lack of highly qualified labour who is capable of repairing high tech machines	▪ Ministry of Education ▪ Ministry of Trade and Industry ▪ Traintex* ▪ Higher Council for Textiles	▪ Update skills survey of the industry done by Traintex ▪ Update curricula in industrial technical schools to meet skill requirements in collaboration with WISE project ▪ Design an incentive program to encourage the establishment of accredited labour force training centres in industrial zones. ▪ Prepare a plan for the expansion of higher textile education in Egypt ▪ Promote the attractiveness of machine maintenance and repair function in the technical education schools ▪ Establish centres for machine repair and maintenance inside the industrial zones ▪ Design an incentive scheme to promote the establishment of company technical schools in collaboration with the Ministry of Education and simplify its procedures.	▪ There are Various efforts within the TVET in collaboration with all donor organizations and the private sector to overcome problems related to technical education and the mismatch between demand and supply
Transportation and logistics	▪ Lack of competition in road construction and maintenance.	▪ Governorates ▪ Ministry of	▪ Encourage PPP in road infrastructure ▪ Revise enforcement arrangement and enforce	

Area	Problem	Responsible Entity	Proposed Solution	Comments
	▪ Low budget allocated to road maintenance ▪ Weak enforcement of law on heavy trucks have resulted in poor road quality in Egypt ▪ Aging truck fleet ▪ High toll rate on highroad. ▪ Lack of public transportation linking industrial zones to city centres. ▪ Absence of fast transportation from the industrial zones to ports. ▪ Weak intermodal transportation. ▪ High cost of port-related services ▪ Limited number of shipping lines due to the withdrawal of major shipping companies from Egypt ▪ Corruption and unofficial payments	Transportation ▪ Ministry of Finance ▪ Higher Council for Textiles ▪ Ministry of Trade and Industry	fines to deter overloading. ▪ Revise enforcement arrangement of road transportation service standards regulations ▪ Design a program to encourage private truck operators to modernize their truck fleet along the lines of the previously applied white taxi program ▪ Extending railroad line between the ports and industrial zones, and operate the already established ones. ▪ Extend public transportation to industrial zones. ▪ Expand "Your Job Next to Your Home" initiative."	
Quality assurance and testing	▪ Weak enforcement of quality standards. ▪ The lack of a proper assessment about quality of services provided by government laboratories . ▪ Lack of information on the accredited labs.	▪ Industrial Control Authority ▪ Egyptian Accreditation Council ▪ Industrial Development Authority ▪ Higher Council for textiles	▪ Revise enforcement arrangement of ready-made garment standards regulations ▪ Conduct an assessment study for the capabilities of government affiliated laboratories. ▪ Distribute a flyer that includes a list of all accredited laboratories and the tests they preform when companies apply for registration.	
Government related services	▪ Lengthy procedures related to customs clearance ▪ Bureaucracy and multiplicity of responsible entities.	▪ Customs Authority. ▪ Industrial Development Authority ▪ All government agencies ▪	▪ Revision and simplification of export and import procedures. ▪ Simplifying the process of cotton importation, and apply a consistent policy in this regard ▪ Monitoring the implementation of law no 15 of 2017 to ensure the simplification of procedures concerning industrial operational licences is implemented. ▪ Revise and simplify all government-related procedures ▪ Introduce "one-stop-textile import/export units"	▪ Efforts done in that effect include: ▪ Customs Authority is working on the use of electronic scanners for export-import inspections

Area	Problem	Responsible Entity	Proposed Solution	Comments
			at Egyptian ports. ▪ Update the loss percentage in the RMG	
Services that enhance firm competitiveness	A- Marketing ▪ Limited direct contact with buyers, especially for small enterprise and weak role of Egyptian commercial representative offices in match-making ▪ Inefficiency in government support given to firms in relation to participation in exhibitions B- Procurement ▪ The lack of a database that includes all suppliers of production inputs C- Management ▪ Weak firm capabilities (e.g., logistics and supply chain management, quality control, etc.)	▪ Industrial Modernization Centre ▪ Export Promotion Centre ▪ Federation of Egyptian Industries ▪ Higher Council for Textiles	▪ Increase the participation of small exporters in trade missions. ▪ Upgrade the capacity of the commercial representative offices in matchmaking and provision of market studies ▪ Promote Egyptian cotton branding ▪ Establishment of a freely accessible database that includes all RMG producers ▪ Design a program to provide technical support to small RMG companies in obtaining ISO certifications, incorporate the use of information technology in logistics management, enhanced management capabilities, etc.	

Source: CHERZI (2016); Ragab and Fouad (2011); and an in-depth interveiw with readyMade Garment Companies.

ANNEX

Table 1. Guided Questionnaire

Service	In-House	Outsourced	Cost as % of total production cost	Relevant policies/measures
Government liaison services				
Company registration and licensing services				
Business consultant services				
Staff training				
Safety standards and inspection				
Personnel search and referral services				
Procurement agent				
Customs-related services				
Quality assurance				
Freight transportation				
Repair and maintenance of fleets				
Storage and warehousing				
Design of manufacturing machinery				
Product development / R&D for new technology				
Manufacturing templates				
Conception and design of products				
Production administration				
Engineering services				
Government inspections of fire prevention, health hazards, environmental protection and other aspects				
Compliance management				
Testing and trailing including laboratory testing				
Cleaning services (factory and warehouse)				
Security services				
Waste treatment				
Repair and maintenance services of machines and equipment				
Logistics				
Truck renting				
Utilities				
Auditing services				
Internal auditing				
Insurance services				
Accounting services				
Banking services*				
Legal services				
General management				
Communications and				

Service	In-House	Outsourced	Cost as % of total production cost	Relevant policies/measures
marketing				
Estate management				
Human resource management				
Courier, postal and local delivery services				
Telecommunications services				
IT and information system management				
Other services				

- Include only bank fees and charges (i.e.: interest payments are not included).

Table 2. RMG Sector Technical Performance

Performance Area	Level of Performance (100% =190 points)	Potential Efficiency Gains
Product development	145	
Cutting room organization	121	25%-80%
Sewing section organization	119	30%-100%
Finishing & packaging	119	20%-100%
Organization and control systems	115	
Productivity	98	
Quality control organization	127	

Source: Marello (2009).

Table 3. Company A List of Services

	Service	In-house	Outsourced to the government	Out- sourced to private local entity	Outsourced to private global entity
1	Transportation (including truck hire)				
2	Logistics other than transportation (including warehousing and storage)				
3	Procurement				
4	Customs-related services				
5	Quality assurance				
6	Repair and maintenance of fleet				
7	Design of manufacturing machinery				
8	Product development/ R&D for new technology				
9	Product conception and design				
10	Production management				
11	Engineering services				
12	Compliance management				
13	Testing and trailing, including laboratory testing				
14	Cleaning services of factory and warehouses				
15	Government liaison services				
16	Company registration and licensing services				
17	Business consultant services				
18	Personal training				
19	Safety standards inspection (including government inspections on fire prevention, health hazards, environmental protection and other aspects)				
20	Personnel search and referral services				
21	Security services				
22	Waste treatment				
23	Repair and maintenance services for machines and equipment				
24	Utilities				
25	Auditing services				
26	Internal auditing				
27	Insurance services				
28	Banking services				
29	Accounting services				
30	Legal services				
31	General management				
32	Human resource management				
33	Communications and marketing				
34	Courier, postal and local delivery (39 services)				
35	Telecommunications services				
36	IT & information system management				

37	Manufacturing templates				
38	Real estate management				

Source: Company A.

Table 4. Cost of Services in Company A

Service Item	Percentage of total production cost
Transportation	1.9
Procurement	0.1
Customs related services	0.6
Quality assurance	0.7
Repair and maintenance of fleet	1.7
Storage and warehousing	0.4
Product development/ R&D for new technology	1.9
Design and manufacturing of templates	5.6
Production management	3.7
Engineering services	1.5
Compliance management	0.6
Testing and trailing	0.4
Cleaning services	0.1
Company registration and licensing	0.6
Business consultant services	0.7
Staff training	1.1
Safety standards and inspection	0.7
Personnel search and referral services	0.4
Security services	0.2
Repair and maintenance of machines	1.9
Utilities	5.6
Insurance	0.9
General management **	0.9
Marketing and communications	1.9
Other services	0.7
Total	34.4

Source: Company A.

***** Including all government inspections & inspections for certifications and customer inspection.
** Including truck hire.
*** Including all back office services.

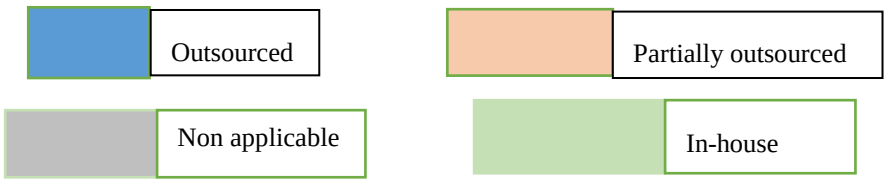


Table 5. Company B List of Services

	Service	In-house	Outsourced to the government	Out- sourced to private local entity	Outsourced to private global entity
1	Transportation (including truck hire)				
2	Logistics other than transportation (including warehouse and storage)				
3	Procurement				
4	Customs-related services				
5	Quality assurance				
6	Repair and maintenance of fleet				
7	Design of manufacturing machinery				
8	Product Development/ R&D for new technology				
9	Product conception and design				
10	Production management				
11	Engineering services				
12	Compliance management				
13	Testing and trailing including laboratory testing				
14	Cleaning Services of factory and warehouses				
15	Government liaison services				
16	Company Registration and Licensing Services				
17	Business consultancy services				
18	Personal training				
19	Safety standards inspection (including government inspections on fire prevention, health hazards, environmental protection and other aspects)				
20	Personnel search and referral services				
21	Security services				
22	Waste treatment				
23	Repair and maintenance services for machines and equipment				
24	Utilities				
25	Auditing services				
26	Internal auditing				
27	Insurance services				
28	Banking services				
29	Accounting services				
30	Legal services				
31	General Management				
32	Human resources management				
33	Communications and marketing				
34	Courier, postal and local delivery (39 services)				
35	Telecommunications services				
36	IT & Information system management				

37	Manufacturing templates				
38	Real estate management				

Source: In-depth interview with company B.

Table 6. Cost of services in company B

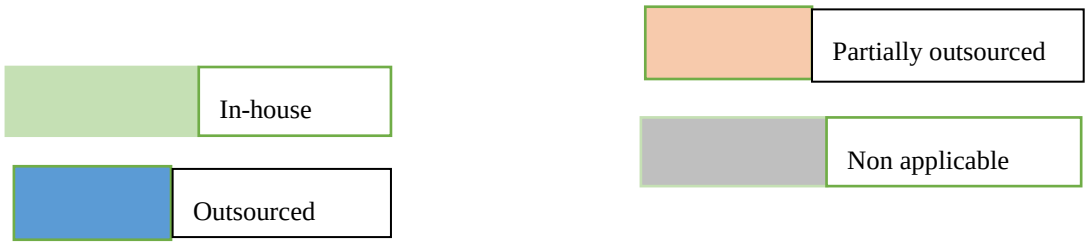
Service Item	Percentage of total production cost
Transportation & logistics	4.0
Customs related services	0.8
production management	3.8
Compliance management	0.8
Testing and trailing	2.0
Repair and maintenance of machines	0.6
Auditing	0.5
Utilities	0.6
Insurance	1.3
General management	1.3
Real Estate management	1.3
Marketing and communication	7.0
Total	23.8

Source: Company B.

Table 7. Company C List of Services

	Service	In-house	Outsourced to the government	Out-sourced to private local entity	Outsourced to private global entity
1	Transportation (including truck hire)				
2	Logistics other than transportation (including warehouse and storage)				
3	Procurement				
4	Customs-related services				
5	Quality assurance				
66	Repair and maintenance of fleet				
77	Design of manufacturing machinery				
88	Product Development / R&D for new technology				
99	Conception and design of the product				
10	Production management				
11	Engineering services				
12	Compliance management				
13	Testing and trailing, including laboratory testing				
14	Cleaning services of factory and warehouses				
15	Government liaison services				
16	Company registration and licensing services				
17	Business consultant services				
18	Personal training				
19	Safety standards inspection (including Government inspections of fire prevention, health hazards, environmental protection and other aspects)				
20	Personnel search and referral services				
21	Security services				
22	Waste treatment				
23	Repair and maintenance services for machines and equipment				
24	Utilities				
25	Auditing services				
26	Internal auditing				
27	Insurance services				
28	Banking services				
29	Accounting services				
30	Legal services				
31	General management				
32	Human resources management				
33	Communications and marketing				
34	Courier, postal and local delivery (39 services)				
35	Telecommunications services				

36	IT & Information system management				
37	Manufacturing templates				
38	Real estate management				



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