

Frugal Innovation : Contact-Less Last Mile Delivery As Résilient Business Model

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Abstract:

Recently, new ideas and thoughts have been developed in order to make the life quality of people easy and comfortable in almost every domain. This paper focuses on frugal innovation of global logistics provider who became important to both retailers and consumers around the world and especially in countries where the highest spending per person has been recorded. When last mile delivery become the nerve center of the e-commerce service during the global pandemic due to COVID 19, contactless delivery became new normal in last mile delivery. While operating in the region where postal addresses and post box information are not fully matured, operating challenges become very significant and therefore service innovation become vital for survival. Service innovation packed with an extended 'service package' are the competitive advantage in allowing people to get their facilities done in a fast, precise and accurate manner without wasting their time.

Keywords:

Frugal innovation, Operations strategy, Last mile delivery, Service package, Contactless last mile delivery

1. Introduction:

Today, the utmost goal of most of the companies is satisfying and fulfilling customer needs. These companies try to create more value for their customers to better satisfy their unmet needs, but this is too rigid for companies to achieve permanently. A study claimed that of 95 percent of all companies, managers don't agree on what exactly are the needs of a customer (Donald et al. 2003). This means it's impossible for them to know the customers' needs and be consensus of the unmet demands. Most of customers' needs can be divided into four basic categories. Customers' first need is to be understood by companies in a way that enable them to read their thoughts and pleases them, additionally they also need to feel that the message they are sending is being correctly received and interpreted. Second, they need to feel welcomed, meaning that customers need to feel that companies are happy to see them and pleased to satisfy all their requirements. The fourth tip that companies have to know is that customers need to feel important and special. Finally, the need for comfort is an important feeling that companies have to take in consideration; customers need both physical and psychological comfort.

The question that can be raised is: Can a company constantly assure customers' needs when it doesn't know clearly where the customer location is, what they all are, or even what represents a need? Chances are it can't. At present, statistic showed that less than one percent of all companies were able to grow 5 percent or more every year for ten years, according to a recent study published in the Harvard Business Review (Harvard, 2010). Clearly, it is cited that value creation is a challenge that a lot of companies fail to achieve, which is the key to customer loyalty.

Although the existing companies, especially logistics and transportation are successful in possessing an important segment of the market, they still miss some features that can make them perfect due to the lack of innovation,

creation strategies and goals to enhance its supply chain to face internal and external challenges, and thereby acquire customers loyalty & competitive advantage. However, Aramex is a third party logistics (3PL) and well-organized company in which logistics and supply chain management plays an important role in its success. The main goal of Aramex is enhancing the customer service since it is considered to be one of the main challenges of logistics and supply chain management, and by controlling it, companies will be prepared to face the market treats and consequently gain competitive advantage. By setting up new strategies, understanding customers needs, and frequently inventing new services and features, Aramex is placing itself in the top among the leading logistics companies in the world. In order to overcome these problems and reach the previous mentioned Aramex goal, this paper will first introduce the company structure and business model of Aramex Company in order to get an overall idea about its organism and its composition. Second, the key elements strategies of the Aramex' supply chain will be analyzed to find out how effective they are. In the third section, the key supply chain issue and challenges of the company will be discussed. Finally, recommendations and suggestions to overcome the problems will be proposed and argued to see at what extent the proposed solutions will help the company change its supply chain strategy and be one of the most powerful companies in the world.

2. Company Overview:

Aramex is an international provider of complete logistics services and transportation solutions. The company was established in 1982 and is headquartered in Amman, Jordan. It rapidly evolved into a worldwide brand recognized for its original product and advanced services that include, freight forwarding, domestic and international express delivery, warehousing, integrated logistics, information management solutions, and online shopping facilities.

In 1997, Aramex became the first international corporation from the Arab world to trade on the NASDAQ. After five years of innovation and success, the organization progressed to private ownership and continued to grow and expand as a privately owned corporation through responsible business practices and international alliances. In 2005, the company returned to public on Dubai Financial Market. In 2011, Aramex expanded its geographic coverage across the GCC, Asia, North America, Levant, Africa and Europe with more than 53 offices and over 12,300 employees providing complete logistics and transportation solutions to both global wholesalers and retailers (Aramex, 2010). In the middle-East region, the Arabian countries have deeply concentrated in the expansion of aviation related services (Kamarudeen et al, 2019). This expansion has been well utilized by the companies such as Aramex in promoting their services with high mobility.

Today, there are over 353 Aramex locations around the world in 60 countries. The network is continually expanding and growing through Global Distribution Alliance (GDA). This alliance connects over 40 logistics and transportation providers worldwide, each have its own region with the unified quality business practices and technology of Aramex.

2.1 Aramex Geographic Coverage

The global network has more than 12,000 offices, 33,000 vehicles and 66,000 employees from different nationalities serving alliance clients in more than 240 countries as shown in Figure 1. (aramex.com) Aramex also founded the World Freight Alliance (WFA), which is a dynamic and international network of freight forwarding experts that offer both air and ocean freight services to clients (Aramex, 2020).

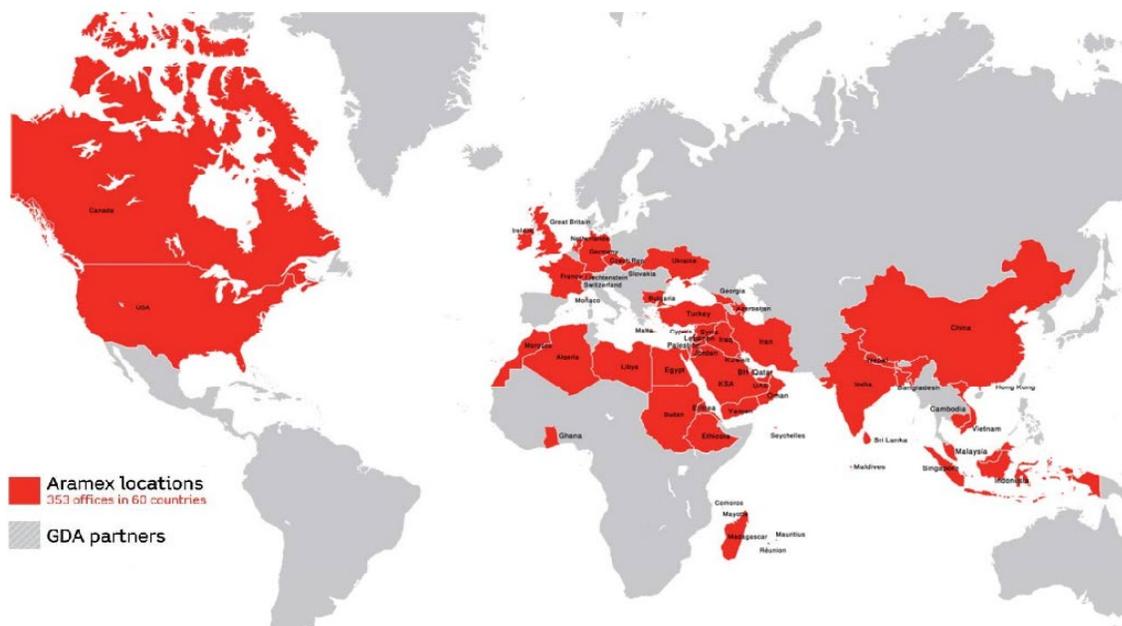


Figure 1. Aramex Locations and Partners (Source: Aramex. (2020))

2.2 Aramex Products and services:

Aramex provides logistics and transportation solutions to its customers by facilitating commerce and trade worldwide through responsible business practices. It offers a variety of standard services and customized and distinctive products, all under one roof. The main services and products provided by Aramex are:

- **International Express Delivery:**

Aramex provides its international express delivery services to both wholesalers and retailers which are a global solution for door to door delivery across the globe with time sensitive aspect. The company enables customers to track their shipments all over the world through their website or by Email and SMS if the client requests delivery notification. For urgent documents, the company promises on time door-to-door delivery to any destination in the globe thanks to its competitive transportation rates and broad network (Aramex, 2020).

- **Domestic Express Delivery:**

Aramex has an advanced express delivery network for transporting small packages and urgent parcels within cities or countries in which it performs its services. The company provides a broad range of domestic delivery services to meet client's specific delivery needs; from regular services such as same-day, next-business-day delivery, document return for valuable documents that must to be signed and rapidly returned, package collection, and cash on delivery for sold products and invoices (Aramex, 2020).

Aramex is considered as one of the leading companies in term of domestic express delivery as it provides its clients with e-tools and Application Programming Interface that enable customers to integrate in different applications such as Enterprise Resource Planning solution, a web service or a website to

automate their operations, minimize costs, and reduce errors. Aramex' costumers include pharmaceutical corporations, e-commerce companies, telecom operators, local suppliers, and banks. (Aramex, 2020).

- **Freight Forwarding:**

Aramex is based on a Multi model transportation model as it provides a broad range of freight forwarding services that cover ocean, land, and air transportation. Its complete menu of services include break bulk services, customs clearance, third-party shipping, advanced online tracking, exhibition handling, and regional distribution. Freight forwarding typically related to heavier packages that exceed 50 Kg on average. This kind of shipment requires more control and less time sensitivity compared to express delivery. Aramex offers comprehensive door to door services from, to, and within a large number of countries all over the world.

Land freight is gradually more demanded by customers than air freight as it is less expensive and more environment-friendly. For that reason, Aramex focused on its ground transportation portion to get the most advanced and extensive land freight networks in the United Kingdom, Ireland, and the Middle East. For effective interregional delivery services, Levant and the GCC regions were also a part of Aramex ground transportation network in order to satisfy the increasing demand from its network and local customers. Usually, Aramex transports its land shipments by inland hauling and trucks and makes sure to lease drivers, local trucking vehicles corporations, and other employees needed to complete the service (Aramex, 2020). Moreover, Aramex has joined with Dubai Customs and Emirates Airlines in adopting paperless cargo operations in order to enhance the trade movement (Khaleej Times, 2010).

- **Integrated Logistics:**

Aramex offers end to end integrated logistics solutions that enable the efficient management of the product in all stages of the supply chain from the transfer, passing through storage till the distribution. It starts from the instant when the clients' inventory leaves their plants or suppliers until it attains their end or retail customers. The company also provides other customized services such as third-party facility management, customs brokerage, consultancy services, and multiple storage alternatives such as open-yard, bulk, and temperature measured to rack.

Aramex' logistics facilities are functioned using world-class warehouse management systems that ensure the security and the supervision of all services at all levels 24 hours a day. Using the World Wide Web in Aramex's web site, all inbound and outbound deliveries in all the logistics offices can be checked and traced. These centers are strategically located at major areas across the GCC, Western Europe, Middle East, Asia, and North Africa.

- **Information Management Solutions (Info Fort):**

Info-Fort is a leading information management and document records solutions providers acquired by Aramex in 2005. This company is located in the Middle East and North Africa, and offers solutions to secure storage, manage electronic and physical records, protect data, archive digital, secure shredding, and provides consultancy services. It is mainly addressed to the rising need for privacy accessibility, business and compliance sustainability, and information and data security (Aramex 2020).

In 2019, Aramex became the first one in the region to have a complete Business Continuity Management Program in its industry, and got the ISO 9001 certification for Physical and Electronic Records management in the United Arab Emirates. Info fort also grew and expanded its services into Ghana and Kenya, and installed its principal documents record management center in Egypt.

- **E-Business Solutions:**

Back in 2000, Aramex launched a specialized online shopping delivery service called Shop & Ship. This service allows customers all over the world to receive what they bought from the internet in China, UK, and US online shops affordably, easily, and in a reasonable time by getting personal mailing addresses. The company transports the purchased goods to the address specified by the customer across the Middle East, Europe, Asia, and Africa.

- **E-Commerce Solutions:**

Aramex is exploiting its infrastructures and logistics capabilities to partners with online retailers and entrepreneurs in order to get on line with the fast growing companies of the e-commerce domain in the emerging countries. In that sector, Aramex offers a wide range of online solutions to meet the retailers' needs and helps them expand and develop their e-commerce operations such as order handling, payment collection, integrated logistics and warehousing, and outsourcing of customer service through several third parties centers. In order to facilitate and simplify the integration process with every e-commerce companies, Aramex has extended various access levels to the Application Programming Interface and installed various technical supports.

2.3 Applications:

As mobile applications witness continuous growing nowadays and tablets and smart phones dominant the market, Aramex has launched Windows Phone 7 (WP7) and two iOS apps in order to be updated of this fast growing of innovative applications. These applications enable customers to track and view the location of their purchased goods even with the online shopping delivery service Ship & Shop. The company is also working on updating the iOS version and releasing other root versions of these applications for Blackberry and Android. Aramex does not focus only on innovative mobile applications; it also launched several advanced and original tools through Social Media as Tweet & Track application on the Twitter platform to track Shop & Ship shipments, and Facebook application on the Facebook platform to track Aramex deliveries (Aramex, 2020).

3. Aramex Supply Chain

3.1 Competitive strategy:

A competitive strategy is a plan adapted by a company to help achieving a competitive advantage over its competitors. This plan seeks to satisfy the company's customers' needs through its products and services. Aramex differentiated itself between the competitors by its unique business model. While they are all following the asset-heavy model, Aramex is leasing its transportation companies including air, sea and land, which implies that the suppliers have little influence on the prices setting, the organization enjoys a variety of carriers' choice, and it would be difficult to find an alternative to the organization. Aramex model also spares the organization from investment in transportation vehicles and warehouses, which makes it a strong competitor able to entry different services; thus, offering a large range of services from warehousing and facility management to consulting and professional engineering, which allowed covering 50,000 customers, expected to grow since Aramex is aiming small and medium enterprises.

Therefore, Aramex is a Red Ocean company since the business sector already exists, the market is known, and the competition is fierce. A red ocean company is a company that is in continuous contest with its competitors through adapting strategies to distinguish itself, and build a strong customer base. Surviving in a red ocean market is a hard to achieve, and Aramex made it, and is a top player in the market.

3.2 Service development strategy:

Service development is the set of services a company is willing to develop. Aramex is already providing many services that were already discussed in the supply chain part, and they are offered in 240 countries; however, Aramex strategic focus is to expand its business additional companies in order to reach and reinforce their operations in other regions. In fact, Aramex conducted some partnerships and acquisitions in South Africa, Kenya, and Tanzania, in order to step into those dynamic markets. It also signed some acquisitions in Turkey, Malaysia, Bangladesh and Vietnam so that the organization reinforces its operations in the rapidly growing Asian Nations, and also to improve operations with Singapore, Indonesia, India and Sri Lanka. Improving the organizations' operations and expanding its markets are Aramex strategic direction towards developing their services.

3.3 Innovation Strategy:

For any organizations to achieve excellence, it is crucial to adapt a supply chain strategy that support the competitive strategy and the service development strategy. The supply chain strategy defines all the operations that will allow the delivery of the product or the service to the customer. For the Strategy to be effective there should be a clear understanding of the targeted customer needs and the supply chain capacities, a development of the products or services portfolio, a selection of the suppliers, and a time horizon. Aramex supply chain strategy is to serve people or organizations that need transportation or logistics services for an effective price, and be a top logistics and transportation player globally. To do so, Aramex provides many services ranging from intermodal transportation services and warehousing to IT products and their installation. Some of the functions are performed In-House globally, locally (UAE), or outsourced.

Aramex is one of the top logistics companies thanks to its savoir fair, latest technologies, large network, and professionalism in offering transportation and logistics solutions. These solutions are cost effective, and allow efficient management of products, information and resources between the up-stream and the down-stream supply chains. Aramex monitors the flow of material throughout the supply chain since the moment inventory leaves the stock until it reaches the wholesalers or the end-user.

Aramex customers are people or organizations that need transportation solutions internationally or at the regional level, express or normal mode. Aramex also serves organizations that need logistics solutions, whether it is about warehousing, IT, facility management or shopping services. The customers can get different pricings depending on the urgency of their shipment, and the price they are willing to pay.

4. The Service Package-DMAIC process

The research applies six-sigma process as detailed below.

4.0 Define stage

- **Warehousing**

since warehousing is the supply function that balances the mismatch between supply and demand, and is at the heart of operations. Aramex offers to store their customers' inventories in their strategic logistic centers in the conditions that their customers require, with different payment options. With their highest technology, Aramex promises that their customers storage needs will be fulfilled, including absolute clarity for inventory control.

- **Engineering design**

Aramex provides a professional design for their customers' warehouse, including storage optimization, material handling, receiving and picking, and administrative paperwork within the standards.

- **Distribution**

Aramex provides distribution services to their customers by delivering their products using their substantial networks, and their GPS equipped fleets for tracking purposes. Aramex follows paperless strategy for most of its distribution services by enabling latest tech in to the system.

- **Door to door delivery with no delays**

The company enables convenient delivery of service in the customer's doorsteps with least probability of delay. The delivery time and date can be customized by the customer based on their suitable timings.

- **Consulting services**

Aramex offers services to help their customers achieve excellence and services using some procedure and indicators to monitor their improvement. Aramex can also evaluate their facilities derived from their experience in logistics and supply chain operations. This experience allows Aramex to give recommendations about different sides of the business, such as: regional or global expansion, creation of new warehouses or logistics centers, improving transportation and transshipment network. No matter how complicated the decision is, the consulting services provide the optimal recommendations that improve efficiency without affecting responsiveness.

- **Facility Management**

This service can take care of the customers' warehouse management to reduce waste, improve exploitation, minimize costs, select right material, and operate in the highest possible levels.

- **IT services**

Aramex operates using their internally developed Warehouse Management System, called OPTILOG that communicate information using the intra net and online portals. Aramex provides this product that helps taking their customers' warehouses to the optimal level.

- **Shop and ship**

This service is about customers registering for an account in their location, and have items forwarded to them all over the world by Aramex. This service is implemented already in New York, London, Shanghai and Dubai in the form of virtual mailboxes. This service is a result of the growth of e-commerce and online transactions.

4.2 Measure stage - Selection of partners:

Aramex has a low suppliers' bargaining power for the reason that Aramex does not deal with a unique supplier, it leases their sea, land and air transportation based on the best price offered by its suppliers. Basically, it finds the best route, mode, and port with a competitive price to transport and deliver goods and services for their customers. Using this approach (Figure 2), Aramex keeps its control over the price, and their suppliers have little influence on it.

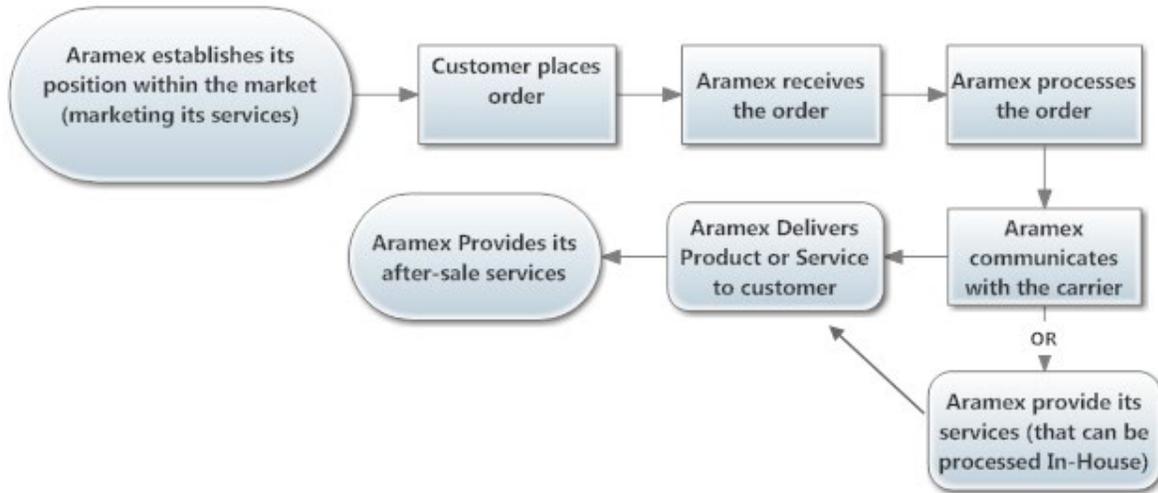


Figure 2: Last mile process Map

Aramex services can all be viewed from the push/ pull since goods or services are requested, and then processed to be stocked in Aramex warehouses, waiting and prepared for delivery to customers.

In the case of Aramex, especially for the shop and ship service (defined in the Service development strategy part), the organization is the carrier for other supply chains. Then, the supplier is the manufacturer that produces an item to be delivered to the customer via Aramex. Thus, the supplier supplies the product ensuring the product availability (Push), so that the customer’s order is processed after it is placed, and the product is delivered (Pull) as shown figure 3.

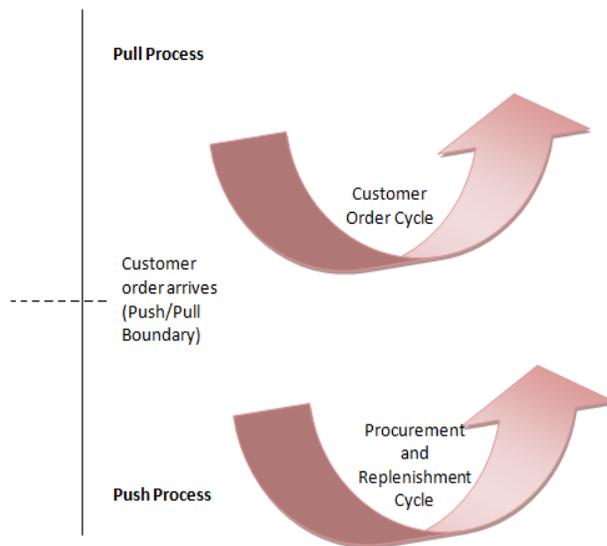


Figure 3: Push and Pull Process

Achieving Strategic fit means adapting the supply chain strategy along with the competitive strategy to fit, which involves making sure that the supply chain design and strategies sustain the desired service levels. The following table summarizes briefly the key points about Aramex responsiveness to customer demands, and their cost efficiency.

Table 1: Efficiency and Responsiveness of Aramex

Efficiency	Responsiveness
<ul style="list-style-type: none"> • Aramex delivery prices depend on the urgency of the shipment and the amount they are willing to pay (implied uncertainty demand). In other words, the less urgent packages are transported at economical rates. • Aramex offer the best prices to its customer, and leases their sea, land and air transportation accordingly. 	<ul style="list-style-type: none"> • Aramex deliveries are door-to-door, and can be traced and tracked. • Aramex aims to set up customer services in over 90% of their locations. • Aramex offers a wide range of services including shipment, warehousing a complaint handling. • Aramex aims to drive more than 50% of their transactions to be done electronically.

4.3 Analyse stage- Structuring Drivers:

The drivers of the supply chain drivers structure the understanding of any supply chain and the way to improve it in order to reach the desired levels of responsiveness at the lowest possible costs (Figure 4). The following diagram summarizes information about Aramex Supply Chain for simplification purposes:

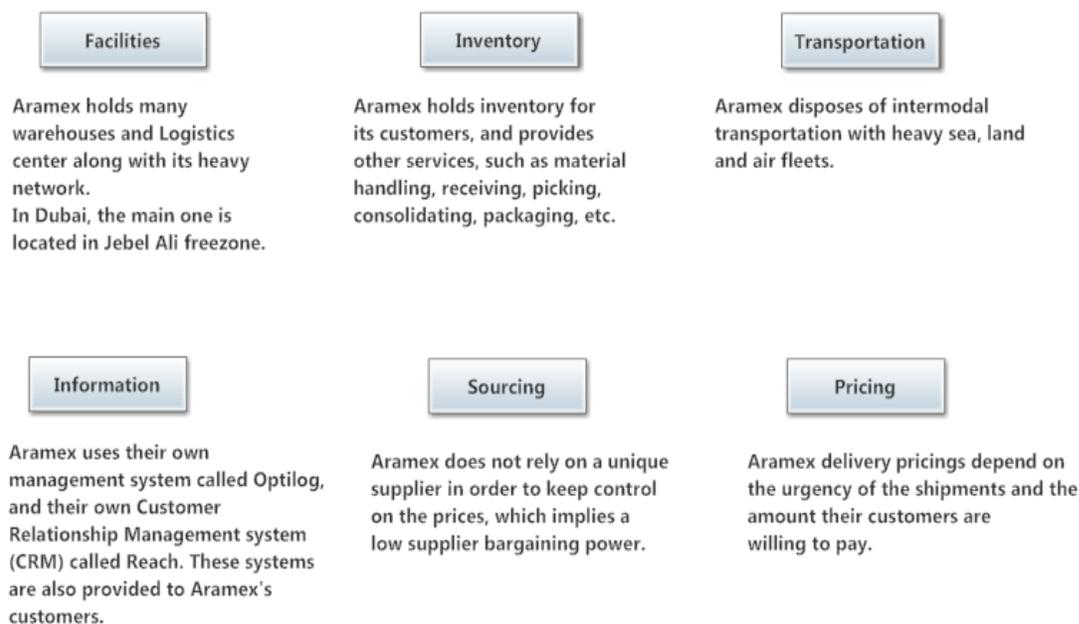


Figure 4: Supply Chain Drivers of Aramex

Aramex has been extremely professional in engineering their supply chain which enabled them to reduce unnecessary cost in the system. The drivers of Aramex supply chain have been successful in driving the goals of the organization and attaining highest level of customer satisfaction.

4.4 Improve - Operations Strategies:

Suppliers:

As mentioned in the supply chain section, Aramex does not deal with specific suppliers when it comes to trucks being used, ports where the boats arrive, and airports where airplanes land. Depending on the route, mode, and address selected for different packages, the company may deal with different suppliers in order to respond to customers' request and minimize costs.

Order Management:

According to Aramex's website, customers at Aramex can make the order online and choose between domestic and international express depending on the destination.

Domestic: Aramex used for packages to be delivered within a country or city. Aramex pick up the order and promises to deliver the package within the period agreed upon. If the order is urgent, the cost of delivery increases since the package goes directly into the distribution center in order to be delivered to the promised address. On the other hand, if the order is normal, it goes to the warehouse where it stays for a couple of days where it will be shipped along with similar destination orders. There are 3 types of Domestic express solutions:

- Same-Day: Aramex guarantees that the package will be delivered on the same pick up date.
- Next-Day: packages are delivered on the next business day.
- Deferred: in this case, the delivery takes between 3 and 5 business days.

For the domestic express, most packages are shipped through land freight. Aramex is known to have one of the most sophisticated land networks in the Middle East, U.K, and Ireland. As mentioned in their business model, Aramex follow the light-asset model where heaviest assets are leased; it does not mean that trucks in the case of land freight are not controlled by Aramex. Most of the trucks are modern and equipped with GPS-tracking devices, which make the land freight type cost-effective in the case of Aramex. Moreover, for urgent deliveries, Aramex uses the Air freight system to respond to customers' needs around the country where it operates.

International: This service is designed for customers who want to deliver their products or documents to another country. Customer can track online or via SMS at any time the location of the product, and customers can also request a document proving that the shipment has been delivered in good conditions and within the promised delivery time. There are four types of International Express solutions:

- Document Express: this type of delivery is concerned with the delivery of urgent documents across the world, and in most of the case Air freight is used.
- Parcel Express: delivery of non-document products where they are gently packaged and shipped to any international destination. Here, the parcels are consolidated and delivered to the same destination once the shipment reaches certain desired to quantity. In this case, the most common mode of transportation is ships.

- Express Inbound: in this case, the customer requests Aramex to deliver for him/her a product coming from a different country. As a first step, the client contacts a local Aramex office and request the service. Aramex provides its customer with a unique account number. Then, the client should send the account number and references to the suppliers, who will in return provide the necessary information and package to the local Aramex office. Finally, Aramex will deliverer the product to the customer's door and invoice him/her a bill in local currency.
- Value Express: this service is designed especially for Middle East and south Asian countries where the rates are more cost-effectively.

For its international deliveries, Aramex usually sources the Air or the Sea freight; however, the company may combine the 3 options in order deliverer more effectively and less costly. The Air freight is mostly used with urgent and non-heavy packages such as documents; the aircrafts are not owned by Aramex. The Sea freight is the most common method used by Aramex for international delivery where heavy shipments are delivered in cargos. In addition, there are four types of services that Aramex offers when it comes to ocean freight: Full Container Loads (FLC), Less than Container Loads (LCL), import or export, and consolidated cargo. Still, most of the time Aramex does not rely on one mode of freight, it uses different combinations among the three freight methods available. For example, it may use fleet tracks to transport shipments from ports (or airports) to local warehouses or distribution centers. Finally, Aramex allow its customers to track orders either by shipment number or by references. They can do so online, or via Email, or via SMS.

4.5 Control - Customer Order Operating Model:

According to Aramex report (2020), the order processing model can be divided into 7 stages. In the beginning, Aramex receives the order from its customer who can choose among different means and channels: the company's website, mails, telephone, and fax. The information initiates the whole supply chain; each stage should perform the required tasks in order to deliver the packages to the concerned customer. After picking up the package from the shipper's location, Aramex employees check if information given by the shipper is enough to answer his request; and set up the appropriate rate and price for further invoicing. After that, Aramex should determinate the appropriate route between its facilities and destination among different network of paths. In order to minimize costs and deliver packaged in the promised dates, Aramex should find the shortest path. The next step is to pick merchandise from the warehouse, and this depends on the order size and its urgency. Once the order is picked and the route selected, shipment follows using the most appropriate mode of transportation, which depends on the nature of the products and the urgency (Figure 5). Air freighting is used for small shipments such as documents that need to be delivered urgently. Aramex leases also trucks for medium size products that need to be delivered within a specific period of time. The last mode of transportation is the ocean used especially for heavy products; time is not as sensitive as in the previous modes. The final step of the order processing is invoicing, which can be done in two ways: either paying the bills by the shipper before the merchandise leaves the warehouse, or by letting the customer who will receive the merchandise to pay the bill in his local currency.

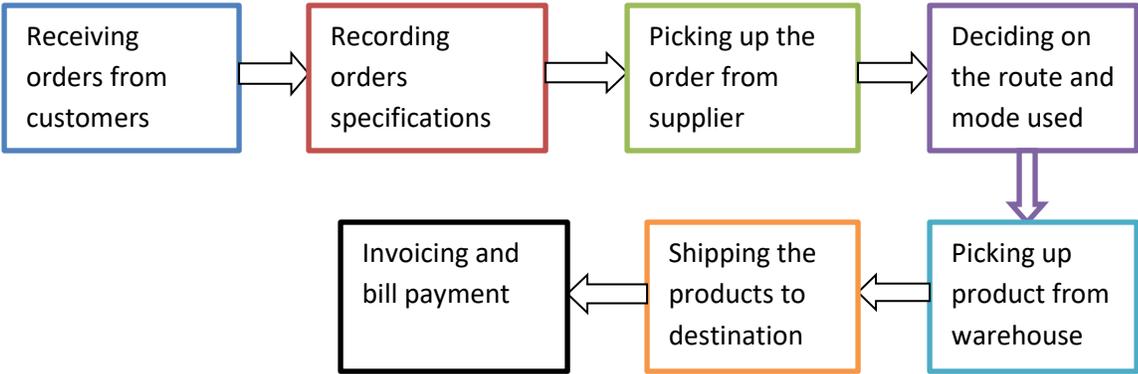


Figure 5: Customer Order Processing stages

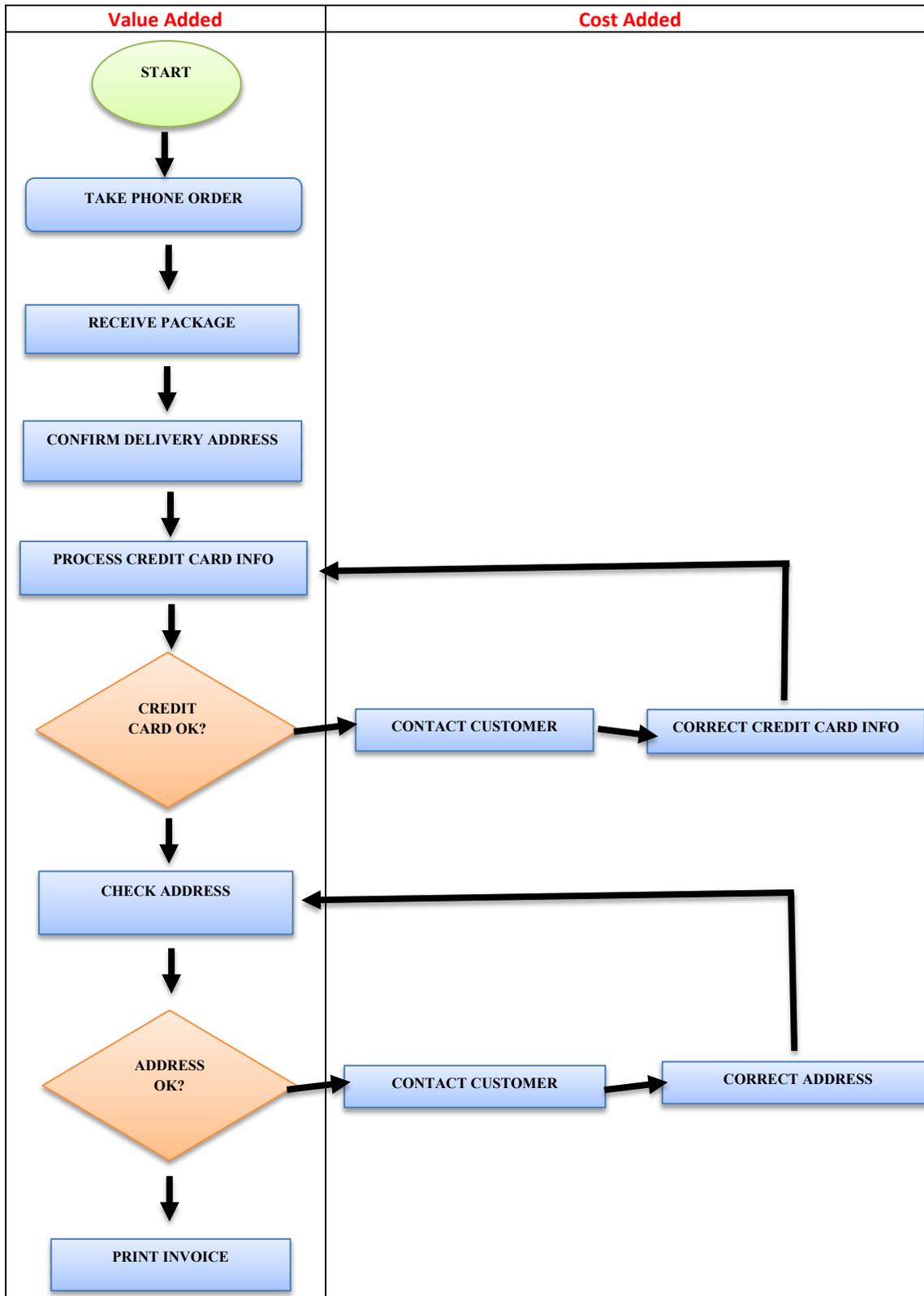


Figure 6: Value Added vs Non-Value Added

In the above Figure 6, it can be observed that there are two non-value activities in the system that are prone to consume time and cost. In this case, when the credit card details or the address details gets falsified, then the step gets reverted to the customer for verifying the correct credit card details and the address. This process is proved to be time and cost consuming which requires to be removed from the system.

4.5.1 Major Customers:

Some of the major customer are segmented in the below conceptual diagram in Figure 7. This clearly illustrates that the company has customer base from distribution to brick and mortar to click and mortar domain. This wide spread has given the company an edge over other competitors in the region.

Banks	Online Shopping	Designers	Groups	Logistics Companies
- Emirates NBD  - RAK Bank  - HSBC 	- Souq.com  - Sukar  - Namshi  - MarkaVIP 	- Gucci  - Dolce and Gabbana 	- ADMC (Abu Dhabi Media Company)  - DU e-shop 	- FedEx  - DHL  - UPS 

Figure 7. Major customer segments of the company

4.5.2 Information Technology:

Aramex relies a lot on technology to deliver products and services in a more responsive and efficient way. In order to make an order (shipment), one may do it on the company’s website. The customer may check the location of its article anytime online thanks to the GPS technology plugged in the trucks. Regarding the internal operations, Aramex uses a logistic system developed by Aramex’s software engineers; this ERP is part of its intranet. In order to better satisfy its customers, Aramex used to work with a CRM called “Accpac sage”, but to its hard-working software engineers developed again new CRM software called Reach. Information Technology plays an important role as it enables visibility for shipment and orders across each stage of the supply chain.

5.0 Issues and Challenges:

- By February 14th 2019, Aramex made two major acquisitions in Kenya. This constitutes a new challenge for Aramex since it is not used to operating in emerging countries, especially in East Africa Region. The company should better segment the market by offering supply chain and logistics solutions. In addition, Aramex should sign partnership with organizations that relies on delivery and transportation in order to deliver final products to its customers. Such organizations include: government departments, banks, and online shopping websites.

- Although Aramex is very successful globally and in the GCC, the operations in Saudi Arabia are suffering from many issues. These issues are related to the infrastructure and the address system in the country. Besides, most of the couriers are Indian, and therefore, there is often a communication problem between the customers and the couriers.
- Returning delivered products is costly and complex because of the costs incurred from going from upstream to downstream in the supply chain.
- The shop and ship service defined in the services part of this report has a complicated supply chain since it necessitates a third party that is responsible for delivering the products from the supplier to Aramex center in New York, London, Shanghai and Dubai, which implies an increase in the lead time and the costs.

5.1 Managerial Recommendations:

- Continue on future expansions, especially for emerging markets located in the south of both Africa and America. Aramex may explore also the Australian continent where there are no records of Aramex activities.
- Better management of shareholder's money. In 2019, the ROE equity ratio, which is net income over Average shareholder's equity, was only 12.6%. According to financial analysts, in order for to prove that a company is effectively using its shareholders' money to generate profits, the ROE should be higher than 15%. In the case of Aramex, this ratio does slightly deviate from the minimum required, so more efforts should be put together in future years to use the money invested by shareholders for product diversifications and expansions.
- Implementation of RFID Technology (Radio Frequency Identification System): small wireless device that can carry on a great amount of data and can be tagged to any good. Each tag has a unique serial member, which allows access to information for each single product. Thanks to RFID, we can easily track the location of the product, when did it leave the warehouse, and in how much quantity the product was delivered versus how much was expected to be delivered. Aramex could benefit from this technology since it deals with huge amount of deliveries each day and to multiple global destinations. According to the article published in logistics it's website (2007), benefits of RFID over simple bar codes include:
 - RFID allow users to access and modify information stored in the label.
 - No need to scan the item in order to access data and the user can access different labels at the same time.
 - Total control of the supply chain since it can be used even for tracking employees and delivery stuff.
 - Can operate even in harsh environments.
 - RFID can automatically send alerts when tags are moved to different locations than the ones given by users.
 - Enhance organization and order of items since there is no need to look for misplaced items; RFID can find them for you easily and alert you when misplacement occurs.

6. Conclusion

To conclude, Aramex is a third party (3PL) company that provides transportation and logistics solutions. Aramex's business model is the key to its success; it is adapting the asset light business model that relies on leasing the transportation fleets, which does not require a huge cost of capital. The organization has become a player among strong competitors such as: DHL, UPS and Fedex, has established a name in GCC region and globally, and has built a customer base of 50,000 customers, and has provided quality services for different functions in a very limited period of time. Aramex's supply chain is simple: receive the customer's order, process it by finding the best option that suits the requirement, and finally deliver the product or the service.

The organization has reached the strategic fit by pricing its services depending on the urgency of the shipment and the amount the customer is willing to pay, thus, more responsive when the implied demand is certain. In order to improve its services, and reach more markets, Aramex strategic focus is market expansion. The organization has established

partnerships with different countries to reinforce its operations within these countries and their neighbors. On the other hand, the organization faces the risk of entering these new markets adding to other challenges related to complexity associated with some services such as shop and ship and returning delivered objects. In a nutshell, Aramex has the opportunity of growing, and reinforcing its position among its competitors thanks to its expert people, strong financial position, asset light based model, and global alliances.

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References:

- Aramex, 2020. *Sustainability Report*. Pp.1-9
- Awan, H. (2008). Aramex, One of a Kind. *Investment Research*. Volume 1, Issue (1), pp.21-22.
- Aramex, 2020. *Aramex Profile*. [PDF] Available at:
<<http://www.aramex.com/content/uploads/109/200/44006/Aramex%20comprehensive%20profile.pdf>>
[Accessed on April 15 2020].
- Aramex, 2019. Aramex Annual Report. Pp.1-112.
- Aramex international, 2019. *Aramex Delivery Unlimited*. [online] Available at: <www.aramex.com> [Accessed Dec 15 2019].
- Benbow, D.,W., Elshennawy, A.,K., and Fred Walker,H., (2003), *The Certified Quality Technician Handbook*, ASQ Quality Press, pp 1-2
- Doha Center for Media Freedom. (2013). DCMF's report analyses GCC media landscape. Available:
<http://www.dc4mf.org/en/node/3637>. (Accessed on April 26 2020)
- Harvard University Team, (2010). *Customer Satisfaction Analysis*. [online] Available at:
<<http://www.ich.org/products>> [Accessed on 15 April 2020].
- IMF. (2013). United Arab Emirates. Available: <http://www.imf.org/external/country/ARE/index.htm>. (Accessed on 26/04/2020).
- Investment Research, (2008). *Aramex one of a kind*. Available: https://nanopdf.com/download/aramex_pdf.
(Accessed on 20 April 2013)
- Kamarudeen, N., and Sundarakani, B., (2019). Business and supply chain strategy of flying above the dessert: A case study of Emirates airlines, *8th International Conference on Operations and Supply Chain Management, Cranfield*. pp.1-17
- Khaleej Times, (2010). *Aramex joins Dubai Customs and Emirates on e-freight*. pp.1-10
- McGregor,R., (2007). The benefits of RFID technology. Available:
<http://www.logisticsit.com/articles/2007/03/22/2679-the-benefits-of-rfid>. (Accessed on 26 April 2013)
- Shahadeh,N., (2012). Economic Costs, the Arab Spring and the GCC. *ETH Zurich*. Pp.1-3
- Shehadi,R., and Oknayan,S., (2009). Technology in GCC? It's a walk in the park . Available:
<http://www.thenational.ae/business/technology/technology-in-gcc-its-a-walk-in-the-park>. (Accessed on April 26 2013).
- Vision Investment Services, (2013). *Aramex PJSC*. Pp.1-19.

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