ARAMEX: Improving the Logistics Process

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Chapter One: Introduction

One of the main tasks of an operations manager is to provide goods, services, and products, which are in line with the customers' needs, and hence ensure customer satisfaction. The Operations Manager to achieve this, might result in reviewing the processes of a said organization, identify the problems in the processes, and seek ways to tackle these problems. Improving processes can help an organization gain a competitive advantage. It is in the view of this that the research wishes to study the problems facing the operations of Aramex Saudi Arabia, and come up with possible ways in which the organization can solve these problems to improve the operations of Aramex Saudi Arabia.

Aramex Saudi Arabia is a branch of the larger International Aramex Logistics and Mail Delivery services Company that has its headquarters in the Dubai, United Arab Emirates. The company was founded in 1982, in Jordan (Aramex.com, 2018). Aramex, being a logistics company, has logistics management as one of its main operations. The company has to offer courier services to a large customer base, and this requires sound systems, from the point of collection of goods to the destination of these goods.

Currently, the organization has invested in technology and digitalization to manage its supply chain process. One of the most notable is the Aramex tracking system. Customers can use this system to track their goods along the logistics channel in real time and be notified once the goods reach their preferred destinations (Aramex.com, 2018). This has increased customer satisfaction. More so, the organization has introduced door-to-door delivery. In this case, customers are not required to visit a common collection point in their locality, but rather, the company has taken an extra step, and it promises to deliver the goods at the customer's door. This strategy has been critical in ensuring customer satisfaction.

However, the organization still faces some challenges in its logistics process, especially given the difference in the destination, the large geographical area in which it operates, and even the competition from other international logistics company such as FedEx and DHL. The presence of other international players in the logistics industries requires that the management of the organization takes care of these challenges.

One of the challenges that the organization faces is the coordination of its delivery services. The company serves a large geographical area and different customers. Aramex must deliver the goods to these customers efficiently, even though the goods vary in time when needed, the destination, the sizes of each shipment and the mode of transport that is appropriate for each good. This calls for a need to solve this problem to ensure that the goods reach the customer at the right time, at the right place, and in the right form. The most persistent issues are the need for the organization to coordinate the different shipments that do not only vary in destination and size but also a time where they are required.

If the organization successfully takes care of these problems, then the performance of the logistics process will have been improved, and the organization will be in a better position to compete with other global and local competitors in the region. This will be achieved through speedy delivery.

This paper seeks to address the some of the above issues facing the logistics process in Aramex-Saudi Arabia. It starts with giving a literature review that is relevant to the problems facing the company, discusses them in depth, and shows how the information gathered from the literature review is helpful in improving the logistics processes of the organization. In the literature review section, the paper also gives an overview of the logistics process in Aramex-Saudi Arabia.

The paper then develops the fundamental problems that it wishes to solve, and continues to provide a recommended action plan that the organization can follow to address the identified issues. The issues addressed in this paper are, ensuring speedy delivery, making sure that goods are not "deformed" during transit, and ensuring that time spent offering door-to-door delivery services is minimized and becomes cost efficient. The paper then provides an action plan on how the organization can manage to address these issues. It recommends the use of International Multimodal Transport (IMT) and use of central logistics monitoring and decision-making support system technology that integrates Global Positioning Systems (GPS), Geography Information System (GIS), Radio Frequency Identification (RFID), and General Packet Radio Systems (GPRS).

Chapter Two: Literature Review

2.0. Introduction

This section summarises Aramex and gives relevant literature review on the problems surrounding the Supply Chain Process of Aramex. The literature review discussed will also help in determining the possible solutions that the company can employ in its supply chain processes under the recommendations section. Where possible, the literature review will also support different assumptions given in the literature review, with personal experiences.

2.1. An Overview on Aramex transport and Logistics Process

Aramex is a mail delivery and courier services provider that is located in Dubai, United Arab Emirates. Aramex being a courier and mail delivery provider, its main processes revolve around ensuring timely delivery of cargo and other parcels and delivering at the right destination. It offers its services to a large customer base and therefore needs to have a robust logistics System from the point of collection to the destination point of parcels. The new company's strategy of promising customers to deliver parcels to their doorstep instead of a common collection point near them has created a few problems. One of the main problems is that the parcels vary in size, the time when the customer needs them delivered, the destination, and the mode of transport that is needed for each type of parcel. The organization needs to coordinate its shipment activities in its outbound logistics process so that they can deliver the parcels at the right time and the right place while keeping per unit costs low.

2.3. Logistics Management Practices

For a long time, firms have understood that an efficient application of logistics is a significant way of giving a firm a competitive advantage over other firms. Stank and Lackey (1997) have explained this view, as they sought to explain how an efficient logistics system can lead to enhanced performance of a logistics company. According to Stank and Lackey (1997), an

efficient logistics systems will ensure security for the goods in transit, improved customer satisfaction, ensure that goods are delivered in time, reduce logistics costs, and create value for the organization.

According to Langley and Holcomb (1992), logistics helps create value for customers by enhancing differentiation, effectiveness, and efficiency. The quality and cost of logistical services provided by any given logistics organization are what will differentiate it from other organizations providing similar logistics services. Similarly, according to Novack, Rinehart, and Wells (1992), logistics will help a company to create four types of value for its customers namely, form, time, place, and possession. This is because, through proper logistics, the organization can ensure that goods reach in the customer in the right form, at the most convenient place, at the right time, and ensure that goods change possession from the company to the customer.

Manrodt and Davis (1992) hold a similar view and assert that logistics management will increase the level of customer service in an organization and proper logistics management can reduce the cost associated with transportation and distribution. Therefore, any operations manager has to ensure that the logistics processes of an organization are managed and controlled in a way that they create value for the customer. More so, organizations that provide logistics services should find a way that will help them transport goods of different sizes and shapes over long distances, using different modes of transport, and at the same time ensuring that they are delivered to the exact destination. This literature review examines the use of International Multimodal Transport and Logistics Management Technologies.

2.3.1. International Multimodal Transport

International Multimodal Transport has been identified as one way that an organization can improve its door-to-door delivery services. According to Islam, Dinwoodie, and Roe (2005),

international Multimodal Transport involves the carriage of goods using two or more modes of transport, and one party is solely responsible over the goods in the entire process. The goods are transported under one contract and one document. According to UNCTAD Secretariat (1995), as cited in Nguyen, Crase, and Durden (2008), transport users can expect financial and economic benefit from the use of International Multimodal Transport since there is enhanced punctuality and cargo security. This advantage can then help improve the quality of door-to-door delivery services and ensure that these services are priced competitively. Therefore, to improve its door-to-door services, an organization should consider applying the principals of International Multimodal Transport in its logistics.

2.3.2. Logistics Management Technologies

Technology is taking over nearly every aspect of business today. In logistics management, logistics technology has improved in the recent past, and logistics companies are appreciating the value of technology in improving customer experiences and adding value for the customer. It is therefore important that we discuss relevant technologies that can be used by logistics companies.

According to Bagchi and Skjoett-Larsen (2003), an organisation should integrate transport-related technologies in its logistics such as the use of containerisation, cargo tracking, and use of Global Positioning Systems (GPS), Radio Frequency Identification (RFID), General Packet Radio Systems, and the Geography Information Systems (GPS) in logistics management and monitoring. This will help the organization to move the goods more efficiently, to locate the position of the cargo in real time, and to determine the real destination of the goods and the time it will take to deliver such goods. Containerisation, for example, will help a logistics company to move goods of different sizes and shapes over different modes of transport easily and saving on time, space and costs in the process. Nguyen, Crase, and Durden (2008), also

supports the use of technology to support and improve door-to-door delivery services in conjunction with international multimodal transport. According to Nguyen, Crase, and Durden (2008), integrating technology in logistics management is unavoidable for any organization.

2.3.2.1. Global Positioning Systems

The impact of GPS in optimizing logistics operations, in particular, has been studied extensively by Michaelides, Michaelides, and Nikolaou (2010). Modern shipping carriers such as Aramex are facing various challenges when transporting cargo from one point to another. Some of these challenges are Congestion in roads, railways, and airways together with their respective terminuses, the need of lower costs for per unit of goods transport, inadequate security in some areas, the need to optimize on scheduled routes, and improvement of customer satisfaction. According to Michaelides, Michaelides, and Nikolaou (2010), the use of GPS technology can help organizations in the logistics industry to overcome these challenges. In their study, Michaelides, Michaelides, and Nikolaou (2010), focus on the development of an integrated GPS portal that can be used by all stakeholders in the logistics process to map the position of cargo. They also focus on the routes the cargo is to take, the level of traffic congestion in potential routes, and to locate where the pick-up person is located in real time.

2.3.2.2. General Packet Radio Service (GPRS)

Another important technology that can help improve the Logistics Process of an organization is the General Packet Radio Service (GPRS). According to Chadil et al. (2008), General Packet Radio Service is a mobile technology that can help an organization to track its on-transit goods. In the case of logistics companies, a customer can also be in a position to track the progress if their goods in real time at any given time. This improves transparency in the logistics process, which helps improve customer satisfaction, and at the same time to create a competitive advantage for the organization (Zhang, 2013). It helps to achieve competitive advantage in that;

customers will be more comfortable with a process that helps them map the exact location of their cargo in real-time, at the comfort of wherever they are using their mobile phones. When GPRS is integrated with GPS, it helps improve cargo tracking and route scheduling.

2.3.2.3. Geography Information Systems (GIS)

Geography Information Systems (GIS) have become an important aspect of Logistics Management in the recent past. Geography Information Systems are a combination of computer hardware, computer software, and other geospatial data, that help to manage, analyze and display any form of information that has a geospatial reference to it (Solomon, 1987). A logistics network on the other hand, in the context of companies offering logistics services such as Aramex-Saudi Arabia is composed of warehouse, collection or distribution centres, cargo that flows from one point to another, delivery points, and the various transport facilities connecting all these points and allowing for the efficient flow of cargo from one point to another. All these points need to be given geospatial references regularly and in real-time hence the applicability of Geography Information Systems (GIS) in logistics management. According to Solomon (1987), companies can also use Geography Information Systems (GIS) for vehicle/ship/planes/train routing, to calculate the distance between two points in any given route accurately, to site locations such as delivery points, collection points, and on-transit cargo location, and other miscellaneous applications.

GIS technology has been integrated into various transport decision support systems to determine the best routes for vehicles and to determine distances accurately. One such example is by Campbell, Labelle, and Langevin (2001), where they integrated GIS technology in transport decision systems to help drivers during snow urban snow disposal. This approach can also be used in Logistics Management to help delivery persons, and other stakeholders in making decisions regarding the route vehicles are to take, and the distance between the two

points. GIS technology will also help in providing information about congestion on the said routes, and in determining whether there are alternate routes available.

GIS importance in Logistics Management is also helpful in making decisions regarding locating objects, and sites concerning geospatial positioning. This ability makes it helpful in determining the position of pick up points, delivery points, and cargo location for any interested party. An organization that provides logistics services will use Geography Information Systems to collect data about the geospatial positioning of their cargo relative to delivery points, routes to be taken, and pick-up points. This data can then be shared with the client in real-time hence ensuring transparency. If integrated with GPRS and GPS it can form a robust decision-making system for routing and scheduling deliveries.

2.3.2.4. Radio Frequency Identification (RFID)

Radio Frequency Identification (RFID) is another technology that has been proved as critical in improving the performance of logistics processes in the organization. According to Zhang (2013), use of this technology is essential if organizations are to track cargo in real time. Radio Frequency Identification involves the use of wireless signals that help transfer data from one microchip to another. These Chips are inserted inside a device, a tag, a card and even inside animals or human beings. These chips will then real-time information about their location to devices held by other stakeholders in the logistics process.

One way that Radio Frequency Identification (RFID) can help an organization such as Aramex is by determining how much space is left in a truck or any other mode that the organization is using to deliver the cargo to customers. One such scenario is where every parcel in a delivery truck is fitted with a chip that can be tracked using the RFID technology. When a certain parcel is delivered, the Radio Frequency Identification records this information in real-time of exactly which parcel has been delivered or removed from the truck. This will, in turn, make it easy for

the organization to determine the remaining space in the truck, hence helping to maximize space and optimize their deliveries. The implication and the main advantages of this approach is that it helps the organization to know what is remaining in the truck with ease and without having to do a "head-count" (Zhang, 2013). When the Radio Frequency Technology is used in combination with the GPS/GIS/GPRS technology, the organization can also maximize on routes since they can easily determine the easiest routes to deliver the remaining parcels.

2.3.2.5. Example of Logistics system that integrates Logistics Technologies

Google Maps is an example of GPS/GIS/GPRS integrated technology that can help a logistics company to determine the time it will take to deliver goods to their final destination. Google Maps calculates distance remaining, the shortest possible route to a certain destination, the best mode of transport to get to the required destinations, and the time it will take to reach this destination using either of the available routes and modes of transport. According to Waters et al. (2006) advances in GPS technology in logistics management enables delivery schedules and routes to be re-planned in real time even when the consignment has already been dispatched from the delivery point. This is achievable because, with the Global Positioning System, it is easy to locate the location of the cargo in real time, and to see all the available routes that one can take in order to reach a certain destination, and most important of all, the mode of transport best suited for each of those routes. This means more flexibility in delivery routes and thus enabling the organization to customize the delivery points of these consignments. Therefore, an organization that seeks to improve its door-to-door delivery services can use GPS technology to ensure that the organization uses the best available mode of transport, the shortest route and that the person tasked with delivering the parcels delivers them to the specific destination.

2.4. Chapter Summary

Mobile technologies, which include the General Packet Radio Service (GPRS), the Global Positioning Systems (GPS), the Geography Information Systems (GIS), and the Radio Frequency Identification (RFID), are important in logistics management. These mobile technologies, together with the increased internet connectivity in the region can help provide solutions in the Logistics process of any organization through ensuring transparency, easy sharing of information among the various stakeholders in the logistics process, helping the instant localization and traceability of shipments, and real-time knowledge of delivery status. Various scholars have concluded that the use of these technologies to ensure real-time tracking of goods, proper route scheduling, and locating delivery points and giving feedback on the confirmation of delivery helps improve the performance of logistics processes. It also ensures that there is efficiency and improved customer satisfaction. These scholars include Daugherty et al. (2005), and Tsai (2005).

Chapter Three: Action Plan

3.0. Introduction

This section of the research wishes to propose an action plan that the management of the Aramex-Saudi Arabia can use to improve its logistics process. The section starts with giving a recap of the major problems that are facing the Aramex-Saudi Arabia Logistics process and explains how the organization can tackle these problems. The paper uses relevant literature from the literature review section to provide recommendations for the organization.

3.1. Problems that this Action Plan Proposes to Solve

Given the range of problems facing Aramex Saudi Arabia, the following are the problems that this paper wishes to solve. These problems are in the logistics process of the organization. The objective of this action plan is to achieve the following solutions.

3.1.1. Speedy delivery of parcels originating from a different country

As mentioned in the introduction chapter, one of the main challenges that the organization faces is the large geographical area that it serves. Aramex needs to deliver these goods efficiently and within the required time. The number of times that a good has to “change hands” before reaching the destination and the need to have documentation for the goods when they are entering a given country are some of the causes of this delay. It is important that the organization reduce this delay.

3.1.2. Ensuring that goods reach their destination in their original form

This is another challenge that the action plan wishes to address. Due to goods having to "change hands," and being transported using different modes, they reach their destination in a different form from when they were picked up. The company has had complaints from customers who

were receiving gifts that the packaging of the gift got tattered along the way. Ensuring that the goods reach the destination in their original form is key to improving customer satisfaction.

3.1.3. Connecting delivery persons with Pick-Up Persons

The company has done a lot in ensuring the success of its promise of door-to-door delivery services. However, our delivery persons are spending a lot of time when finding addresses where they are to deliver goods, especially in new neighborhoods. We have recorded some situations where the delivery person failed to find the delivery address completely and had to communicate to the clients to come and pick the parcel themselves. It is important that this problem is solved so that the door-to-door delivery promise can be improved.

Some of the causes of this problem are lack of a robust and well updated digital map that the delivery person can use and the fact that some areas lack proper addresses systems and delivery persons have to use landmarks during delivery. Some cases have been recorded where the persons to pick-up the delivered cargo failed to give clear directions on where they are going to pick up their parcels. It is important that the organization addresses the cause of these problems if it is to achieve the above solution effectively.

3.2. Action Plan to achieve these Solutions

Given the problems discussed above, the following is that action plan that this paper proposes. Each of these actions will help to solve the above problems and hence improve the logistics process in the organization.

3.2.1. Implement International Multimodal Transport

International multimodal transport is an approach, which the organization can use to reduce the time it takes for goods to be delivered especially where the parcels are originating from a different country, and to ensure that goods reach their destination in the original form. In

international intermodal transport, the goods are under one party, although different modes of transport might be used. This means that Aramex will be in charge of the goods from the point of collection to the point of delivery.

According to Nguyen, Crase, and Durden (2008), international multimodal transport ensures enhanced cargo security and increased punctuality. This is because only one party is responsible for the delivery of any one cargo from the point of pick-up to the point of delivery. Since only one party is solely responsible for all the logistics processes, it reduces the need for a lot of documentation as the cargo changes hands, improves the security of the cargo, and at the same time reduces the time taken from one point to another. Therefore, implementing international multimodal transport practices will help reduce the time of delivery of products originating from a different country, and secure goods so that they reach their destination in their original form.

However, this approach means that Aramex will have to work in partnership with transport companies such as airlines, ships, and railways since the company does not own these modes of transport but relies on outsourcing these services. Aramex will also have to work in partnership with companies involved in clearing and forwarding, in different ports and customs offices of different countries. This is in a bid to ensure that the company reduces the "change of hands," and the documentation involved when transferring goods through border points.

3.2.2. Integration of GPS, RFID, GPRS and GIS technologies to create a decision support system

As discussed in the literature review, introducing technology in the logistics process can help improve it. These technologies help improve the logistics process by reducing costs, improving efficiency, ensuring the security of cargo, and ensuring transparency with the customer through

real-time tracking of the cargo. Some of the scholars supporting this assertion are Water and Rinsler (2006) and Michaelides, Michaelides, and Nikolaou (2010).

In logistics, technology can be applied in the form of cargo tracking technology, scheduling of routes and deliveries, etc. One of the problems discussed is the difficulty in finding addresses where goods are to be delivered. The organization should ensure that their customers have GPS technology in their mobile or computer devices, from where the organization can track their real-time location. This will make it easy for the delivery person to know the real-time location of the person to pick up the goods. The customers should be advised to stay fixed at the address of delivery so that the delivery person can easily track them and deliver the goods.

The integration of these technologies in the logistics processes can also help in ensuring that the organization delivers the goods in time. As mentioned, sometimes, the delivery person spends a lot of time searching for addresses especially when they are in new neighborhoods. More so, sometimes they may find that some roots have been changed. According to Waters and Rinsler (2006), Logistics companies can use GPS technology to re-plan delivery routes and schedules in real time, even after they have already dispatched the goods. Furthermore, the integration of these technologies can help a person to find routes and places in new neighborhoods.

Therefore, using these technologies will help the delivery persons to locate where they are to deliver cargo more easily, help them in determining the best routes to take in order to reach their destinations, and at the same time help them re-route due to any eventualities in the routes they have already taken such as bridges being swept away by rain..

3.3. Challenges of Implementing this Action Plan

Although this action plan will help improve the organization's logistics process, there are some challenges that the organization might face. These challenges can be grouped into four categories, External challenges, Financial Challenges and Technical Challenges and Lack of Alignment of the new recommended systems with the existing business processes.

External challenges are the challenges that the organization might face from external stakeholders and the external environment. These challenges include, customers not willing to adapt to the new organisation's policy of them having GPS/GPRS/GIS technology on their end, and the difficultness in implementing the International Multimodal transport system due to the unwillingness of companies providing air transport and sea transport services to let the company control the goods in transit. Poor network coverage in some areas making the GPS/GPRS/GIS/RFID technology difficult is another challenge that the organization cannot control.

Financial challenges relate to the challenges associated with finding resources to implement the action plan. The company needs resources to develop a strong GPS technology and to develop a strong International Multimodal Transport. Technical challenges are challenges that the organization is likely to face when implementing the technical aspect of this action plan. The company might not have enough technical expertise to implement a robust International Multimodal transport and to develop a strong GPS technology.

Lack of alignment between the existing business processes and the proposed changes is one of the crucial challenges that the organization is likely to face. The proposed decision making systems that integrated GPRS, RFID, GIS and GPS technologies will have to be aligned with the existing business processes if it is to deliver its objectives. Therefore, the organization might have to make several changes to other sectors to achieve this alignment. One sector that

needs changing is customer support. The customer support sector will change how it interacts with customers, the problems it has to solve for customers, etc. once the proposed systems are rolled out.

Chapter Four: Conclusion

The use of International Multimodal Transport, which is integrated with innovative technology, is one way that logistics companies such as Aramex-Saudi Arabia can improve their door-to-door delivery services, at the same time reduce per unit costs, and ensure customer satisfaction. International Multimodal Transport also ensures cargo security and punctuality in the delivery of goods. Therefore, Aramex can implement this model in its logistics processes.

GPS, GPRS, RFID, and GIS are logistics technologies that Aramex can use to track vehicles. These technologies, if fully implemented in the Logistics Process of Aramex, will help improve its logistics processes. This is because these technologies will help the organization while determining the least time it will take to deliver a specific consignment to a certain point, the best route to take, and the most appropriate mode of transport. More so, from the customer end, a customer can give their exact position using either of these mobile technologies as long as they have access to the internet and have already installed the appropriate software in their devices.

Although Aramex-Saudi Arabia is already using car-tracking technologies in order to determine the real-time location of cargo, the company is yet to appreciate the importance of a digital logistics management system that integrates all the relevant technologies i.e Geography Information Systems (GIS), Radio Frequency Identification (RFID), Global Positioning System (GPS) and the General Packet Radio Systems (GPRS). The unique abilities of each of these technologies will help the organisation to not only get real-time location of cargo, but also give Aramex-Saudi Arabia the ability to get the exact position of the customer, help in determining the best route to use to a certain point, help in making decisions concerning the best mode of transport to use in order to reach a certain destination, and to reschedule delivery routes in case of any eventualities.

This action plan is expected to solve the problems facing the logistics process of the organization by reducing the delay in delivery of goods originating from a different country, goods not arriving in their destinations in their original form, and helping our delivery persons to find their delivery persons more easily. The company will achieve these through implementing and improving an International Multimodal Transport, and developing digital logistics management system that integrates GIS, GPRS, GPS, and RFID. The company is expected to face certain external, financial and technical challenges while implementing this action plan.

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