The Impact of Production and Operations within Transport Management Supply Chain Industry.

Judith Nkuna
Department of Quality and Operations Management & Department of Engineering Management
University of Johannesburg, South Africa
jnkuna@uj.ac.za

Andre Vermeulen
Post Graduate School Engineering Management
University of Johannesburg, Auckland Park, Johannesburg, Gauteng, South Africa
avermeulen@uj.ac.za

Jan-Harm C. Pretorius
Post Graduate School Engineering Management
University of Johannesburg, Auckland Park, Johannesburg, Gauteng, South Africa
jhcpretorius@uj.ac.za

Abstract

This research is based on the Supply Chain and covers Operations Management Perspective. Discussed below are how choices made at the Primary level of organizations affect operations and production. This study further goes on to describe how Transport Management as one of the key factors in operations, aid in getting a continuous flow in operational processes and in turn an increase in production levels. Factors such as communication, EDI implementations, warehousing and order fulfillment are extensively discussed as constituents of Transport Management. The relevance and consequences of the aforementioned factors are discussed to show the reader why and how they relate to Transport Management and ultimately to operations and production.

This paper has discussed supply chain processes necessary for success, namely: order fulfillment, warehousing, transportation, and EDI Implementations. Our findings blended a list of causes, effects, and solutions to provide insight to organizations as to how production processes can be handled and how a unified system can be achieved. As aforementioned in today's rapidly increasing competitive markets, customers' expectations and demands, as well as an understanding of the organization's current performance, can provide companies with an upper hand in their respective markets. The problem is not doing the wrong things, it is doing the right things the wrong way.

Keywords
Transport Management, EDI Implementation, Communication, Order fulfillment, Operations and Production

1. Introduction
Generally, Organizations are complex as they operate in such a way that processes and activities are numerous some of which are simultaneous. Internal factors are critical and deserve careful attention as they are the core operators of any organization, additionally external factors contain more complex issues as companies are required to adapt to constant changes in the economy, society and environment. Operations and Production are the drivers of success in organizations; however, these are not easily managed, due to our ever-changing world which requires flexible and imperative management techniques.

The Transport sector plays a huge role in getting goods to and from various destinations, the Knowledge-based management of Transport will combat operational and production challenges. Transportation can be defined as the movement of goods from one location to another, and this movement refers to the flow of raw materials in the supply

chain and final products to end consumers. On the other hand, Transport Management is a sub-system of the Supply Chain and is known as the handling of operations of all types, tracking and managing transportation modes, warehousing, communication, EDI implementations, and order fulfillment. (Karrision 2003). Various challenges in Operations and Production will be discussed to provide the viewer with accurate and adequate information about the topic in discussion.

1.2 Purpose of the paper

The Purpose of the paper is to highlight the impact of Production and Operations Within the Transport Management Supply Chain Industry, to evaluate the importance of supply chain management in the business, and to evaluate the role of supply chain management in the business. The transport management supply chain industry is a large and complex sector, comprising many different types of organisations. Each type of organisation has to different characteristics that impact on its relative importance within the sector. This paper provides an overview of the main types of organisations within the sector and their relative importance.

The paper firstly provides an overview of the main types of organisations within the transport management supply chain industry. It then goes on to evaluate the importance of supply chain management within the sector. The paper concludes with a discussion of the role of supply chain management within the sector and its potential impact on the sector.

2. Literature Review

This Literature review shows that the most deployed use of data interpretation is qualitative and quantitative. Past studies have shown that any organization thrives through continuously adjusting their approaches of management. All the components of Transport Management are critical, which brought difficulty in terms of identifying which constituent overruns which.

Nevertheless, EDI Implementations deemed to be the top runner in Transportation Management techniques as it is a newly discovered approach which can be used throughout Operations Management processes. EDI (Electronic Data Interchange) is simply electronic documents; it is an emerging technology which is replacing physical documents for electronic documents. (Barnes 2013). Secondly, Order fulfilment deserves utmost attention in terms of Transportation, as this is the last step in fulfilling customer requirements. Communication is closely related to EDI Implementations, as both components are channels of information evaluation. From my findings, the argument of how individual organizations communicate depends on the size, type and market in which it operates. (Tranfield 2003). Order fulfilment is a process that begins with receiving orders from customers and ends with delivering the finished goods. That is, making sure the products meet the customer's specifications and are delivered on time. (Croxton 2003: pp. 19-32). The last step before Transportation is Warehousing, which is dated back to ancient Egyptian times. From a thorough analysis of the business environment, Warehousing is catalytic in nature as it speeds the process of production by providing a haven for semi-finished goods and finished goods.

Which allows operations to continue, without an overflow of production. (Kenneth 1983). Finally, Transport, being the key to the business lock, has been useful since the dawn of mankind. Transporting passengers, goods and information from manufacturer to consumer. Without this element of Production, the diversity and variety of goods present in every market today, would be non-existent. This is the determining factor as to whether your business thrives or not. Furthermore, Transport comprises of different systems and modes. It functions with terminals and different types of carriers to suit specific products.

The basis of this study is Operations and Production challenges. These are the segments of an organization which ensures survival. Ever-since businesses became a platform for the retrieval of goods, the world has changed tremendously. Business economies were designed by the constant demands of customers. With the rise of Industry 4.0, there is an increased need for customised goods delivered at the blink of an eye. These changes force a conversion of operating processes. New skills, equipment, and transportation modes must come into play to withstand new requirements. Additionally, it is a tedious task to analyse various research bodies to capture accurate information for your study, and the theme of this research is success in daily operations, which drives organizations to World-Class status.

The debate in most of the sources of my information was whether, the elements of transport listed above are necessary for Transport Management. According to (Carter, 2008), all the listed factors relate to transport, as there is a round-the-clock movement of goods, all of which needs to be carried, transported or moved. This brings us back to the fact that Transport Management is an integral part of Operations Management.

3. Research Methodology

This study comprises of a qualitative approach of research. Consisting of causes and effects. The foundation of the information gathered in this report is secondary. Data was retrieved from Google Scholar, Science Direct and Pup met. These academic platforms provided insufficient information for me to formulate this research. Google Scholar mainly provided sources which included a repetition of the information I had already retrieved. Moreover, Science Direct exerted low levels of information as some journal-based articles were for sale.

The trouble was getting relevant information on the topics which were included. Knowledge from previous experiences with academic textbooks, Articles from informal sources, teachings and business members played a role in the formulation of this paper.

Details were sourced through a skimming and scanning method of reading. Various articles were selected from recent publishing platforms to older articles on journals dating from 1983-2021. A physical computer was used to access Online Scholar libraries, Academic sites and E-books. The rate of response obtained from Scholar Libraries was immeasurable. The E-book 'Business research methods.' authored by A, Bayman provided extensive steps and methods on how to align the document and filter the research. The language which was prominent was English, although some articles were originally from India hence, they were written in Guajarati. Several articles displayed tables and number, (Barnes 213).

The Quantitative method of research would not have been applicable in this study, as there are no numbers to represent. With great effort and dedication to the research, the level at which the topics discussed are highly alert and recent. With no doubt, the already stated method in use is perfect for this topic, as it covers every aspect fully and thoroughly.

4. Findings and Discussion

4.1 Production and Operations Challenges

Despite the increased need for land, energy and variables in implementation of transport, the core changes in industries from the information age to the digital age brings a challenge for organizational survival. (Benwell 2014) The genesis of new requirements of transportation methods should be implemented to keep up with changing times. This change also means that products are changing from traditional brick and mortar stores to online reserves with highly customised products. A high demand of JIT (Just in time) transportation services is on the rise.

With existing problems such as on-time delivery, correctly matched transport for appropriate goods at containable quantities is still at large. Transport needs to be executed sustainably to protect the areas in which they operate. Four main problems arise for Production levels and the Operations speed:

- Energy efficiency
- Time consumption
- Less costs
- Environmental aspects

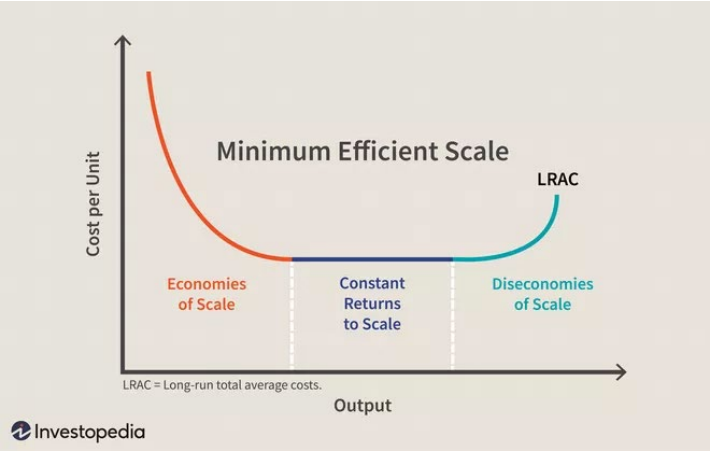

Figure 1. Production levels and the Operations speed: graph

Operations Management faces obstacles like, distribution, network designs, transportation systems and network planning. Discussed below are components of Transport that minimizes challenges in Operations and Production.

4.1.1 EDI Implementations
Moving from a paper-based world to an electronic interchange of data has its pros and cos just like any other topic. The focus is why companies are still developing this technology whilst it has existed for over a decade. This technology has recently been used in the trucking department, but it has been prominent in organizations in Europe, America and Asia. This technology has been used to track the progress of operations, through electronic chips and cameras. It has also been used to track the movement of goods from the hub or terminal to end consumers.

The most common disadvantages of EDI Implementation are audits and legal issues. complex B2B (business to business) networks, the volumes of EDI are growing, and this increases cyber fraud, due to the knowledge and volumes of EDI the price at which it comes is skyrocketing, EDI is not prevalent globally therefore some partners do not understand the format used in EDIs.

4.1.2 Communication
Communication is simply the exchange of information through multiple channels which include speech, writing and other mediums. How individual businesses communicate depends on the size, type and market in which it operates. Communication largely includes the marketing portion of organizations, as marketing deals with communicating an accurate and unique picture of the company's products and dealings to the public.

4.1.3 Order Fulfilment
Inventory is received, organized, and stored in the warehouse. After the order placement, workers of the warehouse will pick the items from the shelves. These items would be ready for shipment. It is critical and beneficial to establish a long-term, stable relationship with a supplier, thus improves order fulfilment. Once the supplier understands the company's needs and expectations, value is added, and loyalty is developed. A good and strong relationship between the supplier and a customer makes reduced order issues and there is an increased efficiency and a strengthened supply chain. If customers are not satisfied with the package, they can request a return or refund. Thus, resulting to order fulfilment challenges, namely, improperly filled goods, stock-outs, time consuming packaging and poor communications. The order fulfilment has different process steps, and they are inventory handling, warehouse management,

-Inventory handling
Inventory handling is a process of preparing, organizing, and managing inventories so that they are not only available for use or consumption, but also so that inventory expenditure is kept to a minimum (Toktay, 2000). Yet the challenge

lies in handling and storage, this means that a greater expenditure in insurance, people and inventory holding costs are incurred.

4.1.4 Warehousing/ Warehouse Management

Warehouse management is a method of organizing, controlling, and optimizing the warehouse operations from the time inventory is received until it is transferred, sold, or consumed. It improves order fulfilment and reduces order lead time (Pyke 2001). Several issues arise, relating to how organizations operate. These are: issues in operations and production.

Table 1. Issues in operations and production.

Issue	Definition
1, Storage space utilisation	Cubic capacity of a warehouse, which managers struggle to forecast.
2. Product Handling	Products go through numerous processes, and they can be mishandled by employees, and this can raise labour costs.
3.Warehousing equipment	Since warehousing equipment is expensive, warehousing tends to be capital intensive.
4.Order processing	Capturing data directly from customers and sending it to a central database which reaches shipments. In accurate Data can be captured through miscommunication. There could be shipping routes disruptions unreasonably high shipping costs.
5.Accept or return	A customer can either accept or return goods based on their specifications. Goods are often mishandling this could lead to damaged goods, returns also result in extra costs and damaged goods.

4.2 Transportation

This is the step that guarantees the arrival of the customer's order from the manufacturer to the warehouse and from the warehouse to the customer or purchase stores. It is detrimental to follow-up on your customer's order until the desired product is received. Not all goods and services are tangible, therefore not all goods and services are transported physically.

"It may seem obvious, but before jumping on a fulfillment strategy bandwagon, you need your monthly order volume as well as how much product you sell." (Lowe, no date). In simple terms organizations need to consider their transportation capacity, and production levels when contracting with clients. Then again location is a vital piece of the puzzle when structuring an order fulfillment strategy. Firms operating on a large-scale face dramatically different problems than a small organization. Furthermore, companies that are in rural areas suffer to a great extent if they are regularly shipping outside their region and may even consider moving locations to increase accessibility of products.

Transportation decisions consider supply chain visibility, this includes tracking product orders and shipments to achieve understanding throughout all operations. Keeping up to date with your orders help to determine the root of operational problems. By way of illustration, shipping vendors or truck drivers could be using a sub-optimal route which delays the arrival of goods.

The types of transportation methods may shock you. However, the purpose of transporting goods is to get the goods at the right place at the right time. To get through crowded, narrow streets in Tokyo, Seven-Eleven Japan delivers products to its retail stores via motorcycle (Khosla 2014), this shows the extent suppliers will go to fulfill customers' demands. Generally tangible products get transported via air, rail, truck, or pipelines.

4.2.1 Trucks
One of the most convenient ways of moving goods is through trucks, as these vehicles can reach most places that are road led. Trucks are fast compared to other modes of transport, namely: trains, ships, and pipelines. While this mode is a little more than affordable, its flexibility, reliability and its easy accessibility allows it to be a resourceful mode. Keeping trucks or any firm vehicle well-maintained and in good shape is one way of ensuring delivery accuracy on a timely level. That way nothing that could be avoided, could cause delays resulting in stock-outs or late delivery.

4.2.2 Water
Ships lead the way in terms of transporting bulky goods such as coal, ore, petroleum and simple household goods like TVs and Toys. This is a cost-effective way of transporting goods, but the challenge lies in the amount of time it takes to reach its various destinations and many markets are not accessible via water. Organizations who utilize this mode of transport could improve delivery through service offerings such as a step-by-step notification system where customers are informed on how far the product is in its supply process. In this way customers can engage with the firm and the firm could offer an enjoyable experience.

4.2.3 Air
This is the fastest way of getting products to the customer and is often used to transport perishables. However, it is very costly and weight weary, meaning that it can only transport a small amount of goods at a time, but it still takes the number one spot as the fastest growing mode of transport.

4.2.4 Railroads
Many of the railroads carry the same products as cargo ships only over land. In terms of speed, it lies between water and trucks and is very affordable. Therefore, supply managers could have a look at the demand volume to use this mode to carry in bulk and to spend less.

4.2.5 Pipelines
These are often used to transport gases and liquids. This is the cheapest way of transporting goods, although the speed of delivery depends on the structure of the pipeline. This mode of transportation works in a dual system as the product needs to be transferred to trucks as soon as they arrive.

In conclusion, keeping your business processes running smoothly is critical to the health of your organization. Think about the things your company needs to succeed and then implement a strategy that works for you.

5. Recommendations
Upon analysing the importance of outbound logistics strategies that encompass transportation, operations and production, it is vital when delivering materials that shortfalls are recognised -and diagnosed. To improve the delivery accuracy on the supply of materials to companies, every activity directly contributing to the movement of materials needs to be managed. Distribution management is a dynamic tool that if executed properly-can greatly influence the supply of materials.

Distribution management can include inventory, transportation, and warehousing management (Kalakota & Ricker 1999). Accuracy can make efficiency through planning, scheduling, and monitoring. Planning demands a combination of cycles of organising and collecting information and data about supply chains and strategies for product distribution (Astafieva et al. 2019). Assessing internal systems with a consumer's perspective in mind is what creates a distinct variation in delivery offerings. Suppliers need to carefully investigate what methods send the materials send and deliver goods on time and at the right place-this encompasses planning your distribution channels.

Price, quality, speed, safety, users' budgets, and regular practices influence the decision of transport mode (Islam 2013). When it comes to delivering goods and improving this process, it is essential that suppliers consider all factors when selecting a transport mode or route. The transport mode chosen must be appropriate for not only the material/product type, but also the delivery specifications and customer's expectations and standard.
Scheduling looks at resource management and alignment (Simeunovic 2017). Optimising all the supplier's resources to reach the customer and fulfil the order by sending the right product, at the right time and at the right place for right the price. Certain resources could include the improvement of information technology systems and software. Not only

does technology aid the consumer in making an order and keeping contact with the supplier but it ensures goods can be tracked on how far they are in the movement process. This is where monitoring comes in. Information technology is a tool that can monitor customer satisfaction & build a continuous quality system (Tigu 2017)

6. Conclusion

This paper has discussed supply chain processes necessary for success, namely: order fulfilment, warehousing, transportation and EDI Implementations. Our findings blended a list of causes, effects, and solutions to provide insight to organizations as to how production processes can be handled and how a unified system can be achieved. As aforementioned in today's rapidly increasing competitive markets, customers' expectations and demands as well as an understanding of the organizations current performance can provide companies with an upper hand in in their respective markets. The problem is not doing the wrong things, it is doing the right things the wrong way.

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Biographies

Judith Nkuna is currently a fulltime Lecturer and a prospective PhD student under the Department of Engineering Management at the University of Johannesburg, South Africa. she received Masters in Operations Management from University of Johannesburg, her research interests include Production Engineering, Production Planning, Lean Manufacturing, Production Management, Inventory Management, Scheduling, Linear Programming, Simulation, Process Improvement and Sustainable Management.

Andre Vermeulen is a Senior Research Associate at the Post-Graduate School of Engineering Management in the Faculty Built and Engineering Management at the University Johannesburg, South Africa. He earned DPhil Engineering Management from University Johannesburg and presently supervise numerous doctoral and master's students. Dr. Vermeulen completed research project in An Analytical Instrument to Measure the Status of An Organisation Business Process Capability. His research interests include manufacturing, simulation, optimization, reliability, scheduling, manufacturing, lean, Lean-Six Sigma, and Business Process Capability. He has presented numerous papers and articles over the years at IEOM, IAMOT, PICMET and IEEE.

Jan-Harm Pretorius obtained his BSc Hons (Electrotechnics) (1980), MIng (1982) and DIng (1997) degrees in Electrical and Electronic Engineering at the Rand Afrikaans University and an MSc (Laser Engineering and Pulse Power) at the University of St Andrews in Scotland (1989), the latter cum laude. He is a trained Baldrige (USA) and South African Excellence Foundation (SAEF) assessor. He worked at the South African Atomic Energy Corporation (AEC) as a Senior Consulting Engineer for 15 years. He also worked as the Technology Manager at the Satellite Applications Centre (SAC) of the Council for Scientific and Industrial Research (CSIR). He is currently a Professor and Head of School: Postgraduate School of Engineering Management in the Faculty of Engineering and the Built Environment. He has co-authored over 240 research papers and supervised 50 PhD and over 260 Master's students. He is a registered professional engineer, professional Measurement and Verification (M&V) practitioner, senior member of the Institute of Electrical and Electronic Engineering (IEEE), fellow of the South African Institute of Electrical Engineers (SAIEE) and a fellow of the South African Academy of Engineering.