DOES INFORMATION TECHNOLOGY COMPETENCIES AND FLEET MANAGEMENT PRACTICES LEAD TO EFFECTIVE SERVICE DELIVERY? EMPIRICAL EVIDENCE FROM E-COMMERCE INDUSTRY

Tariq Mehmood

Mont Rose College, UK, doctortm@gmail.com

Abstract

Competency Model requires knowledge, skills, and abilities needed for fleet and distribution management for ecommerce industry to maintain successful movement of materials between parties within their supply chain to achieve high levels of reliability and cost-efficiency. This research aims to investigate the relationship and impact of information technology competencies and fleet management practices to achieve effective service delivery. A quantitative approach used to examine the model validation. The methodology of this research follow the descriptive correlational design. A real data records used to collect empirical from e-Commerce industry. Results of analysis proved the relationship and impact of information technology competencies and fleet management practices to achieve effective service delivery, as a result of analyzing the data the hypotheses. Some recommendations regarding information technology competencies and its dimensions should be enhanced, also, incorporating the latest innovations to facilitate fleet management.

Keywords: Information Technology, Fleet Management, IT Competencies, e Service Delivery
1. INTRODUCTION

Effective service delivery is at the center of logistics as it reflects the physical movement of materials between points in a supply chain environment. High customer expectations and lesser tolerance for inadequate performance creates a competitive environment for operating a highly effective Market place, which eventually forces organizations to achieve high levels of customer experience and cost-efficiency. (Giaglis et al., 2007). In order to achieve that we have an underlying dependency on the fleet management practices which is basically the function that oversees, coordinates and facilitates various touchpoints within the supply chain right from the period when customer apply for the order till it reaches his delivery location (the last mile journey). (Joerss, M et al.,2016). Effective fleet management practices aim at reducing and minimizing overall costs through maximum, cost effective utilization of resources and better customer satisfaction results. Some of the capabilities that are important to be noted are: customer service, asset management and accurate and timely data reporting.

For this paper, we have taken the online e-commerce website “Boutiqaat.uae” which is an online makeup showroom offering a mix of beauty and fashion items from over 700 international brands, exclusive local brands, where consumers can find personal suggestions from the most famous celebrities in the Middle East and shop their choices on-the-way. “Boutiqaat” (2019). After a successful inception and initial success, Boutiqaat is experiencing increased Customer Complaints, about their orders not delivered on time, returns are increasing, which affects the cost, Sales & Reputation of the organization. In this research we will look at how precisely the influence the independent variables will be having over the dependent variables, as this will help us to iron out the root cause of why it is happening and what can be done by the organization to improve the situation. (Kommi, 2019).
2. THEORETICAL FRAMEWORK

2.1 Information Technology Competencies

The IT Competency Model identifies the knowledge, skills, and abilities needed for workers to perform successfully in the field of information technology (IT). (Employment and Training Administration, 2012)

*Personal Effectiveness Competencies*

Show skills to collaborate with people from different backgrounds. Displaying recognized habits in culture and life and maintain a positive attitude on the job. Also, showing a desire to work and revealing the ability to adjust to recent, different or altering requirements. demonstrating responsible attitude at work and showing a desire to learn and apply new skills and expertise. (Employment and Training Administration, 2012)

*Academic Competencies*

Interpreting written paragraphs in job-related documents and collecting information using standard English, then composing written reports. Often, use mathematics to convey ideas and solve problems, applying logic, reasoning, and evaluating to resolve issues. In addition, pay full attention to what someone says, and communicate very well in English to be understood by everyone. (Employment and Training Administration, 2012)

*Workplace Competencies*

Awareness of the basics of business, patterns and economics. Working with others in partnership to complete job assignments and create innovative solutions. In addition, organizing and prioritizing assignments to efficiently control the time and execute assigned tasks. Moreover, the application of logical thinking skills to solve problems through the development, assessment and implementation of solutions. (Employment and Training Administration, 2012)
Technical Competencies

Using technology to monitor and safeguard data collection, management, configuration, preparation and distribution. The processes, hardware, and software used to improve communication among individuals, computer systems, and devices. The method of writing, checking, troubleshooting, and managing an organization’s computer program source code. (Employment and Training Administration, 2012)

2.2 Fleet Management

Fleet management's problems are shifting beyond cost-effectiveness toward superior customer satisfaction, versatility and sensitivity to requirements that differ at an unimaginable time scale even a decade ago. Classical fleet management approaches have struggled extensively with cost efficiency concerns over the past 40 years by creating routing plans in a wide variety of practical problems. (Giaglis et al., 2007)

Scheduling & Tracking

However, the use of an initial schedule, although it is not appropriate to resolve incidents that are likely to occur during the implementation of the schedule and have a substantial effect on the performance of the program. Typical examples are customer orders that arrive in real time and should be served by vehicles already on route as well as disturbances due to traffic delays, Breakdowns. The ability to deal with these cases in a satisfactory manner is essential for the profitability of logistics and transport related operations. (Giaglis et al., 2007)

Operation Management & Route Optimization

In taking advantage of recent developments in satellite and mobile networking technology,
the crucial problems of complex fleet management can be tackled in realistic systems. In particular, satellite location recognition systems using the Global Positioning System (GPS) and mobile terrestrial communication networks, such as Terrestrial Trunked Radio (TETRA). Allow fleet operators to track plan implementation and manage operations in real time, thereby enhancing fleet performance. (Olson)

2.3 Efficient Service Delivery

Good distribution management is the backbone for ecommerce companies to succeed, and those with a successful solution in place are the ones who are likely to prosper.

*Customer Retention*

Loyalty to customers is important for all forms of companies, whether you are selling clothing, furniture or TVs. Keeping the customers you have worked so hard to acquire is crucial to long-term growth. (Payne & Frow, 2015)

*Improve Business Reputation*

Organizations with a reliable and timely delivery process are the ones who would have a number of favorable feedbacks on the website and are likely to be recommended to family and friends. (Payne & Frow, 2015)

*Increase Efficiency*

Getting a clear and organized distribution plan in place helps improve the company's productivity and reduce the time you spend handling packages. (Payne & Frow, 2015)

*Customer Satisfaction*
Many people want to purchase products from ecommerce companies because of the ease provided by the online shopping. Customers are not required to leave their home to purchase items, rather they can remain indoors, purchase it from the comfort of their own sitting room and have it shipped in few days, sometimes even sooner, to their front doors. Moreover, if problems occur and online shopping becomes tougher than visiting the high street, customers do not hesitate to purchase their items from another store. (Payne & Frow, 2015)

2.4. Operational Definitions

2.4.1 Information Technology Competencies

Knowledge of IT (fundamental principles, frameworks, platforms, tools, and technologies), IT (hardware, applications, and services), extensive use of IT in other fields, and specific positions of IT professionals. (Employment and Training Administration, 2012)

Personal Effectiveness Competencies

Set of skills to collaborate with people from different backgrounds and show a willingness to work. Displaying responsible attitude at work and showing a desire to learn and apply new skills and expertise. (Employment and Training Administration, 2012)

Academic Competencies

Understand the details of written documents and write reports using correct language that are easily understandable. Using suitable mathematical equations, methods and apply basic scientific concepts to work-related issues. (Employment and Training Administration, 2012)

Workplace Competencies
Establish constructive relationships with staff and define team goals. Find new ways to coordinate work area or organizing tasks more efficiently and effectively to achieve tasks. (Employment and Training Administration, 2012)

**Technical Competencies**

The employee’s abilities to perform tasks in a specific industry like integration of system and software components. (Employment and Training Administration, 2012)

Technology has a major effect on industrial processes, from physical elements to information and interconnection networks, contributing to extensive industry digitalization. Logistics is actively engaged in the digital transformation that is revolutionizing globalization and transforming the supply chain with creative technologies that facilitate the change to a modern business model that is more effective and sustained. This development evolves into new programs that guarantee production customized to the type of business and customer, with a view to reducing stocks and storage in pursuit of more effective management according to demand, optimizing transport routes and to improve coordination between all involved teams.

### 2.4.2 Fleet Management

The physical movement of materials between points in a supply chain to achieve high levels of reliability and cost-efficiency. A qualified fleet manager has to ensure that there is no interference between different activities on the fleet. (Gitahi & Ogollah, 2014)

**Scheduling & Tracking**

Scheduling is to identify which vehicle is to be allocated to new facilities as well as the new route for the chosen vehicle. In addition, tracking is knowing the vehicle status and location and aid with the implementation of new emergency calling plans for vehicle assignments. (Giaglis et al., 2007)
Operation Management & Route Optimization

Route optimization is an algorithm that runs for the duration of a time period on the current static problem to accommodate as many customers as possible while reducing running costs and allowing dispatchers to direct emergency vehicles to emergency calls. In addition, operation management is the ability to generate a collection of routes that are slack enough to satisfy the immediate demands while the routes are being performed. Also, Determine the number and types of vehicles needed and operate the vehicles at different locations. (Giaglis et al., 2007)

Companies are always aiming for a better way to transfer their products to distribution outlets or consumer delivery points from any manufacturing hubs.

Successful fleet management allows you to maximize customer satisfaction with improved last mile delivery experience, and on-time delivery to your customers. Reduce overhead costs and improve delivery efficiency with automated package sorting and integrated route planning system to increase e-commerce supply chain optimization. Electronic proof of delivery (EPOD) for consumer burden reduction and process digitization. (Locus, 2020)

2.4.3 Effective service delivery

Effective Service delivery refers to the actual delivery of a service and products to the customer or clients. It is therefore concerned with “where, when, and how” a service product is delivered to the customer. The Effective service concept defines the “how” and the “what” of service design, and helps mediate between customer needs and an organization’s strategic intent. (Martins & Ledimo, 2015)

Due to competition in the business, Organizations are forced to find new innovations method which in turn open the organizations to adopt new ideas through the latest technologies, resources, skills & Systems. In other words, Effective service delivery means the overall process of developing new and efficient service offerings to the customers. (Martins & Ledimo, 2015)

Customer Retention
When developing the relationship with a client, there is greater shared understanding and cooperation, creating efficiencies that reduce the operating costs. Pleased consumers are more likely to refer to others, because the cost of attracting these new customers is significantly reduced, which facilitates profit generation. (Payne & Frow, 2015)

*Business Reputation*

Information on the overall brand image and the valuation of the brand which creates an exceptional asset in terms of their customers 'lifetime value. The attitudes of customers towards the brand thus have a major effect on the company. (Payne & Frow, 2015)

*Efficiency*

Efficiency is minimizing the cost of materials and optimizing the use of resources while maintaining the necessary level of service. Eventually, an increase in efficiency generates a dramatic and positive effect on profitability to improve its competitiveness. (Begashaw & Temesgen, 2018)

*Customer Satisfaction*

Customer satisfaction is a measure of how an enterprise's goods and services meet or surpass consumer standards that decide whether the partnership is continuing or not. When consumers are more happy and secure in their partnership with a supplier, they are more likely to give a greater share of their business or wallet to the supplier. (Payne & Frow, 2015)

According to the latest statistics from the United Nations Conference on Trade and Development (UNCTAD, 2020), if there is one thing that is crucial to the fate of the logistics business, it is the growth of e-commerce, an industry whose global revenues grew 13% in the year of 2017 reaching a turnover of around 29 billion dollars. “The illuminating data show the sustained growth of E-commerce and the existence of a supply for digital consumption that it is increasingly varied and innovative, where logistics functions as an enabler and catalyst,” stated García. (Technology Transforms Industrial Mobility, 2019)
E-commerce disruption has forced the logistics industry to reinvent itself, introducing fast resupply solutions, tools that require high productivity in warehouse operating processes, transport management systems (TMS), etc. Along these lines, García appears to believe that the industry's biggest logistical challenge is urban freight delivery (UFD), as the increase in online demand is combined with new, more stringent mobility regulations for the most polluting vehicles in big cities. The quest for creative technological solutions is therefore essential to adapting to this changing environment and to maintaining efficient service is an “asset for business development.” (Technology Transforms Industrial Mobility, 2019)

2.4.4 e-Commerce Companies

Ecommerce refers to commercial transactions conducted online which means we can buy and sell commodities or Services using the Internet. There are various types of E-Commerce: B2B (Business to Business), B2C (Business to Consumer), C2C (Consumer to Consumer), C2B (Consumer to Business), B2A (Business to Administration), C2A (Consumer to Administration). E-Commerce are used extensively in Business transactions such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. (Qin, 2009). In 2017, e-commerce deals in Kuwait come to a total of US$ 670 million and e-commerce entrance was 53%. In spite of the fact there can be a tremendous retail showcase, it is still behind in terms of e-commerce. Mall culture is still predominant and there's a common need of believe in online shopping as a entire. The tall rate of smartphone entrance within the nation —240%— is one of the most reasons for e-commerce development in Kuwait. The versatile administrators in Kuwait offer one of the foremost progressed portable systems within the Center East and 100% of arrive range and population is secured by versatile organize. In show disdain toward of that, e-commerce remains predominately restricted to online managing an account and budgetary brokerage administrations, as most Kuwaiti companies don't conduct online B2B and B2C exchanges. Paying bills online is the foremost common action and in 2017, 53% of e-commerce clients in Kuwait made cash exchanges over the Web. Indeed, although 97% of Kuwaitis utilize credit and charge cards, many of the consumers prefer to pay through cash over other payment means. (Commerce in Kuwait)
Boutiqaat – An E-Commerce Business Giant in Gulf

Boutiqaat is an online makeup showroom offering a mix of beauty and fashion items from over 700 international brands, exclusive local brands, where consumers can find personal suggestions from the most famous celebrities in the Middle East and shop their choices on-the-way. (Boutiqaat, 2019). Designed by a young Kuwaiti entrepreneur in 2015, Boutiqaat distinguishes itself from its peer e-commerce sites by adding a social element: it features Gulf and Arab celebrities and social media influencers who recommend goods, enabling customers to shop directly from the virtual shops of these influencers within Boutiqaat. (Boutiqaat, 2019)

3. LITERATURE REVIEW

In order to analyze the importance of the application of information systems to the management of the fleet used by the Kuwait based E-Commerce company, this study presents a theoretical view on Technology impact on Services offered, Technology impact on Fleet Management and Monitoring systems by which the customer satisfaction was increased.

In today’s world, every single thing that happens in human life is made easier, thanks to technology, from ordering groceries or furniture in a single click right from your living room to travelling between two continents for a nice meal! An important point in the supply chain is how logistics services are managed, whether made through internal management or even by logistics service providers. Whether one or the other managerial model is adopted, transportation management stands out, not only because of the operating cost it represents, but also because it directly affects the level of service intended to maintain with suppliers and customers. In this line of digital evolution, Information and Communication Technology (ICT) has introduced several tools that help in the management of transportation, such as routing systems, freight and fleet management, cargo and vehicle tracking. The existing systems were too basic for Operations, Call Center and the business itself to understand the underlying issues that were affecting the customers
despite of the business growing at multiple folds. The business believed that most of the customers were getting served within the promised time but as complaints grew the business had to do a Root Cause Analysis (RCA) which suggested the lack of system help. (Vivaldini et al., 2012)

The logistics management system (LMS) helped the fleet management with proper utilization of the fleet and ensuring maximum capacity. The customers are also informed via trackable links where they could not only track their orders but also set an expectation as to when the orders will be delivered to them. (Vivaldini et al., 2012)

Technology continues to remain one of the most important aspects in supply chain organization. It acts as a driving force and helps in fulfilling orders efficiently and speedily. Organizations that manage fleets or a mobile sales force as well as field service organizations are facing many challenges. These challenges include improving compliance and organizational communications, reducing costs, and improving customer satisfaction. As a result, fleet management systems are perceived in terms of how they are able to benefit companies by realizing efficiency and profitability. (Begashaw & Temesgen, 2018)

In the knowledge-based economy of today, the rapidly changing and uncertain environment means that transport firms are facing their biggest challenge in how to address the current situation and capture a competitive advantage. Customers had no information as to when the driver would be there to deliver their orders. This not only lead the drivers to come back with high number of orders as reschedule but giving the customers time to change their mind to cancel their orders. With the help of the system the customer could manage his/her expectations and also reschedule their delivery time which helps the fleet management to plan their deliveries accordingly. (Begashaw & Temesgen, 2018)

Transportation continues to be a key element as it represents the physical movement of materials between different points in a supply chain. Higher expectations and lower tolerance from consumers force the supply chain organizations to maximize reliability and cost efficiency. The drivers had a challenge with the route planning and had to do it manually. This lead not only lead to drivers delaying the orders but also with commitments to the customers. The orders were getting
delayed and, in many cases, this led to cancellation and returns. The increasing competence in the market is an important factor that drives the adoption of new technologies and innovation, as companies tend to search for new opportunities to cut costs by improving process efficiency or by developing new products. It also prevents any sort of thefts, which gives a peace of mind to both suppliers and consumers. (Gitahi & Ogollah, 2014) (Wilson et al., 2015)

3.1 Research Problem Statement

We have collected the data about the ecommerce website directly through the company and one of the main reasons is that we are going to understand whether the deliveries of the order are happening to the consumers/customers within the expected period or not. We found the following obstacles in organization of supply chain management and are working as soon as possible to fix these challenges and streamline our operations. Such as customer complaints are increasing, delivery behind schedule, returns are increasing, decreasing costs, non-availability of real-time tracking of shipment, capacity of vehicle to maximize order deliveries in a single shot, very poor performance in last mile delivery, inefficient delivery provider, sales & reputation is at stake. These challenges were taken as motivation and made us realize that faster responses to these challenges could maximize our sales and rake up profits. From the other hand, revenues are impacted by 20% in the past 6 months and should this continue in next 12 months then company will have to raise the capital. Inventory hold is high. Loss of customers & Reputational loss is major impact.

3.2 Research Model
3.3 Research Hypothesis

H₀₁: Information Technology Competencies and Fleet Management Practices have no impact to Received Orders on Effective e-Delivery Lead-time at e-Commerce Industry.

H₀₂: Information Technology Competencies and Fleet Management Practices have no impact to Invoiced Orders on Effective e-Delivery Lead-time at e-Commerce Industry.

H₀₃: Information Technology Competencies and Fleet Management Practices have no impact to Shipped Orders on Effective e-Delivery Lead-time at e-Commerce Industry.

3.4 Research Methodology

Descriptive research methodology was followed. An empirical method of data was applied. The data is collected from Boutiqaat – an E-Commerce Company for Ladies apparels, Cosmetics & Perfumes. We are using Regression analysis for this study, which helps us to examine and analyze the relationship between the dependent variable and one or more independent variables. Reason for selecting the independent variables. Received Orders – Customers Placed the orders in the online portal however yet to be reconfirm by the Call center agents. Invoiced – Orders are forwarded to the warehouse for picking the item, Passed QC test, packed in order and ready for shipping after generating the Invoice. Shipped – This Stage is called Last Mile delivery (LMD) where the Orders are picked up by the shipping company along with the Invoice in order to deliver at the customer premises

3.5 Population and Sample

The research collected the empirical data from the Kuwait E-Commerce Industry. In 2020, e-commerce deals in Kuwait come to an assess of US$ 670 million and e-commerce entrance was
53%. In spite of the fact there can be a tremendous retail showcase, it is still behind in terms of e-commerce. Mall culture is still predominant and there's a common need of believe in online shopping as an entire. The tall rate of smartphone entrance within the nation — 240% — is one of the most reasons for e-commerce development in Kuwait. The versatile administrators in Kuwait offer one of the foremost progressed portable systems within the Center East and 100% of arrive range and population is secured by versatile organize. In show disdain toward of that, e-commerce remains predominately restricted to online managing an account and budgetary brokerage administrations, as most Kuwaiti companies don't conduct online B2B and B2C exchanges. Paying bills online is the foremost common action and in 2017, 53% of e-commerce clients in Kuwait made cash exchanges over the Web. Indeed, although 97% of Kuwaitis utilize credit and charge cards, many of the consumers prefer to pay through cash over other payment means. (Commerce in Kuwait)

The sample was taken from a leading ecommerce company based out of Kuwait serving the GCC market. The sample is taken for a single country in which they operate (Kuwait) where they do the last mile delivery themselves as well as have other third-party delivery and shipping partners working with them. Which is known as “Boutiqaat – An e-Commerce Business Giant in Kuwait”

A total of 28,569 orders were taken as sample set which constitute to around 10% of the total orders from the operating country. This sample set was further used for RCA and to move the average closer to the target promised to the customer. (Kommi, 2019)

Received to Confirmed – From the total number of orders placed in a day by customers, how many orders have the Call Center team able to confirm with the customers over a call since 80% of the orders are COD and may require some details that are missing.

Confirmed to Invoiced – The process in warehouse where warehouse would take for picking, QC and Invoicing.

Confirmed to Shipped – The time taken by the Logistics team to ship out an order since the time of confirmation received from the customer.
The commitment to the customer within Kuwait was Same Day delivery and Next Day Delivery. The impact on revenue due to the complaints received from the customers were increasing and hence an RCA had to be done on the ASIS process.

The target respondents are

1-the Call Center (Total Orders – Numbers Vs Time taken),

2-the Warehouse (Total Orders – Numbers Vs Time Taken for processing), and

3-the Logistics (Total Orders – Numbers Vs Time Taken)

4. DATA ANALYSIS AND DISCUSSION OF RESULTS

The shown data were collected from (Boutiqaat – E-Commerce Company) from 01-Aug 2020 to 11-Aug 2020 as a sample data.

<table>
<thead>
<tr>
<th>Days</th>
<th>Received Orders</th>
<th>Invoiced</th>
<th>Shipped</th>
<th>&lt; 12 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-Aug</td>
<td>2621</td>
<td>1139</td>
<td>1131</td>
<td>193</td>
</tr>
<tr>
<td>02-Aug</td>
<td>3008</td>
<td>1084</td>
<td>1081</td>
<td>180</td>
</tr>
<tr>
<td>03-Aug</td>
<td>1301</td>
<td>852</td>
<td>846</td>
<td>142</td>
</tr>
<tr>
<td>04-Aug</td>
<td>2946</td>
<td>1813</td>
<td>1803</td>
<td>303</td>
</tr>
<tr>
<td>05-Aug</td>
<td>3821</td>
<td>1720</td>
<td>1712</td>
<td>93</td>
</tr>
<tr>
<td>06-Aug</td>
<td>3128</td>
<td>1716</td>
<td>1708</td>
<td>154</td>
</tr>
<tr>
<td>07-Aug</td>
<td>2912</td>
<td>3193</td>
<td>3163</td>
<td>280</td>
</tr>
<tr>
<td>08-Aug</td>
<td>2991</td>
<td>1586</td>
<td>1487</td>
<td>61</td>
</tr>
<tr>
<td>09-Aug</td>
<td>2934</td>
<td>1365</td>
<td>1256</td>
<td>64</td>
</tr>
<tr>
<td>10-Aug</td>
<td>1420</td>
<td>1221</td>
<td>968</td>
<td>28</td>
</tr>
<tr>
<td>11-Aug</td>
<td>1487</td>
<td>872</td>
<td>288</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>28569</td>
<td>16561</td>
<td>15443</td>
<td>1515</td>
</tr>
</tbody>
</table>
4.1 Impact of (Received Orders) on (delivery Time)

The regression analysis was done on (time) and (Received Orders) to observe the performance of the model and get the important information to build up the model equation. Based on the results, we infer the following

\[ \text{time} = (30.739) + (0.04119) \text{Received Orders} + U, \quad R^2 = 0.12 \]

\[ \text{t-test : } (0.31) \quad \text{P-value: } (0.76) \]

The intercept coefficient is 30.7 is the starting point of the model. The hypothesis for regression is
Null Hypothesis: More Than 50% of Orders are delivered in 12 Hours

Alternate: Actual Delivery Happens More Than 12 Hours

The t-test value for (Received Orders) is 1.13 and the probability value is 0.29, this value is higher than the level of significance value of 5%, therefore we do not reject the Null Hypothesis, and this has insignificant impact on (time).

The coefficient of determination ($R^2$) is equal to 0.12 which shows that the model is not suitable and 12% of the variations in (time) is explained by (Received Orders).

4.2 Impact of (Invoiced Orders) on (Delivery Time)

The regression analysis was done on (time) and (Invoiced) to observe the performance of the model and get the important information to build up the model equation. Based on the results, we infer the following
\[ time = (0.0016) + (0.0120) \text{Invoiced} + U, \quad R^2 = 0.33 \]

t-test: \ (0.0001) \quad (2.09)

P-value: \ (0.9998) \quad (0.066)

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Calculated P-value</th>
<th>Action</th>
<th>Cause &amp; Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoiced</td>
<td>0.066</td>
<td>Do-not Reject Null Hypothesis</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

The intercept coefficient is 0.0016 is the model starting point. The hypothesis for regression is

Null Hypothesis: Manage the Capacity Planning and Fulfillment Achieve at 100%

Alternate: Capacity Planning is Not 100%

The t-test value for (Invoiced) is 2.09 and the probability value is 0.066, this value is higher than the level of significance value of 5%, therefore we do not reject the Null Hypothesis, and this has insignificant impact on (time).

The coefficient of determination ($R^2$) is equal to 0.33 which shows that the model is not suitable and 33% of the variations in (time) is explained by (Invoiced).
4.3 Impact of (Shipped) on (Time)

The regression analysis was done on (time) and (Shipped) to observe the performance of the model and get the important information to build up the model equation. Based on the results, we infer the following

\[ \text{time} = (17.153) + (0.0858) \text{Shipped} + U, \quad R^2 = 0.42 \]

\[ \begin{align*}
    \text{t-test} & : \quad (0.33) \quad (2.60) \\
    \text{P-value} & : \quad (0.75) \quad (0.029)
\end{align*} \]

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Calculated P-value</th>
<th>Action</th>
<th>Cause &amp; Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipped</td>
<td>0.029</td>
<td>Reject-Null Hypothesis</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The intercept coefficient is 17.1 is the starting point of the model. The hypothesis for regression is
Null Hypothesis: Ontime Delivery and Effective Services

Alternate: Negative Customer Experience and Loss of Customers, High returns, Loss of opportunity

The t-test value for (Shipped) is 2.60 and the probability value is 0.029, this value is less than the level of significance value of 5%, therefore we reject the Null Hypothesis because (Shipped) has a significant impact on (Time). This means one unit increase in (Shipped) will increase the (time) by 0.0858

The coefficient of determination ($R^2$) is equal to 0.42 which shows that the model is fairly suitable and 42% of the variations in (time) is explained by (Shipped).

11.4 Impact of (Received Orders) & (Shipped) on (Time)
The regression analysis was done on (time) and both (Received Orders) & (Shipped) to observe the performance of the model and get the important information to build up the model equation. Based on the results, we infer the following

\[ time = (27.575) - (0.0062) \times Received \text{ Orders} + (0.0899) \times Shipped + U, \quad R^2 = 0.44 \]

```
t-test : (0.33) (-0.16) (2.08)
P-value: (0.75) (0.88) (0.07)
```

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Calculated P-value</th>
<th>Action</th>
<th>Cause &amp; Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received Orders</td>
<td>0.88</td>
<td>Do-not Reject Null Hypothesis</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Shipped</td>
<td>0.07</td>
<td>Do-not Reject Null Hypothesis</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

The intercept coefficient is 27.5 is the starting point of the model. The hypothesis for regression is

**Null Hypothesis:** Customer Expectations are Poor

**Alternate:** Customer Experiences are Good

The t-test value for (Received Orders) is -0.16 and the probability value is 0.88, this value is higher than the level of significance value of 5%, therefore we do not reject the Null Hypothesis, and this has insignificant impact on (time).
The t-test value for (Shipped) is 2.08 and the probability value is 0.07, this value is higher than the level of significance value of 5%, therefore we do not reject the Null Hypothesis, and this has insignificant impact on (time).

The coefficient of determination ($R^2$) is equal to 0.44 which shows that the model is fairly suitable and 44% of the variations in (time) is explained by (Received Orders) & (Shipped).

5. CONCLUSION AND RECOMMENDATIONS

The introduction of new technological measure can improve supply chain agility, make it efficient and probably even reduce operating costs! It tries to integrate new technology with the help of existing technology and processes and can be a key element in increasing customer service, reducing operation costs and make the business model streamlined and more efficient. With the help of LMS the customers were now well informed as to when their orders will be at their doorstep. The fleet management could set the right expectations with the customers and also that the customers would plan their deliveries for a different time if they had inconvenience with their current schedule. This was a win-win situation for both the fleet and the customers. This reduced the total number of cancellations. For returning/replacing an item, the customers could schedule through a link and the information would be send to the fleet management.

The cause of increasing Customer Complaints in Boutiqaat is verified statistically through regression analysis. The examination shows that the lack of effective services and delayed deliveries is generating customer dissatisfaction and a substantial number of returns. As a result, a huge potential of losing both customers and opportunities. Moreover, by analyzing all three variables, which are Information Technology Competencies, Fleet Management Practices, and Effective Service Delivery, that include all hypotheses linked to customer expectations were proven as proposed.

Some recommendations could be useful in this regard, information technology competencies and its dimensions should be enhanced, also, incorporating the latest innovations to facilitate fleet
management. Moreover, strategic customer management plan should be developed. These recommendations should be taken seriously to improve the sales and maintain the organization’s reputation in the Middle East.

REFERENCES


