

Service Quality improvement in Courier Service: Need for lean principles

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Abstract

The consumer behaviour has forced many organizations to progress from traditional ways of doing things. Lean principles has recently assumed a very important position in consideration of procedures that can increase efficiency and effectiveness in a number of operating divisions in organizations. Courier service companies seem to have been left behind in embracing the transformational effects of lean principles, as majority of them are still operating, and based on traditional routine method of servicing clients. This has to change in order to confront the rapidly changing and increasingly competitive nature of modern courier service demands. Applications like Uber, for example; have created a disruption within the market, while responding to the consumer behaviour, of wanting things easier, and wanting them now. The paper examines application of lean principles in the manufacturing, production, services and allied sectors. The absence of research output on courier service sectors is conspicuous in literature. A methodological improvement on how lean principle can be applied in courier service sector is presented. The principle is capable of upgrading the sector in a manner that can respond to the e-commerce market, with better improved processes and better pay-back.

Keywords: Lean Principle, efficiency, improvement, organizations, better pay-back

1. Introduction

The implementation of lean production philosophy has been viewed by many organizations as solution to improve their productivity and quality while reducing cost (Roriza et al., 2017). This philosophy has been beneficiary to manufacturing organizations and health service, amongst others whom have implemented it. Lean philosophy is part of the Total Quality Management, which is mostly about instilling the continuous improvement culture, within the organization. There is a misconception that, lean is all about reducing waste, however, its primary purpose is to instill continuous improvement culture, through tools like 5S methodology (Sort, Set in order, Shine, Standardize and Sustain), Elimination of wasteful activities, to name but a few (Dombrowski and Mielke, 2014). It can be viewed as a spade that digs and levels the ground, in order to build a solid foundation for a building. The challenge that has been phased by majority of service industry is that, Lean principles were designed based on the manufacturing industry, which could produce tangible results; as a result, it became difficult for the service industry to customize those principles, based on their industry. Lean principles are mostly applied in Japanese manufacturing industries, with Toyota being the most dominating one, and their main focus is striving for perfection through continuous improvement to eliminate waste by sorting out value added activity and non-value added (Sundar et al., 2014), and this has worked on their favour, as they are one of the world's preferred brand. Many manufacturing sectors implement the 5 lean thinking within their organization, which are 1) define value from the perspective of the customer 2) determine the value streams 3) achieve flow 4) schedule production using pull systems 5) seek perfection through continuous improvement (Rohani and Zahraee, 2015) and are easy to measure their success or failure rate, unlike within the service industry where it was difficult to achieve issues like scheduling production using pull systems. Kanban system, which is part of the lean manufacturing system, is one of the systems which were initially designed for manufacturing, but could be customized to service industry, including courier. It is a system which assists in controlling inventory and also maintaining quality improvement of output (Deshkar et al, 2018); through the application of methodologies like Just-in-Time, which is required within the ecommerce platform. Lean can be implemented through two ways, which is either by identifying all waste in the production process and elimination the ones which have direct impact or by making production process more streamlined so as to remove unevenness (Dombrowski and Mielke, 2014), which could be causing a delay or reworks. All the aforementioned are an illustration on how Lean has been fruitful within the manufacturing, but also how it could be solution to challenges that service industry has been encountering over decades.

Industries like healthcare followed suit in implementation of Lean principles, and have ripped great rewards from it. In hospitals, lean application has resulted in removing duplicate processes such as recording patient details in multiple places, and uncoordinated variable discharge process which lead to longer length of stay [7], for example, Royal Bolton hospital has developed implemented lean philosophy, under the name Bolton improving care, and were able to improve their systems, like the processing time of categories of blood was reduced from 2 days to 2 hours (Radnor 2012) .This is great achievement, as time in an environment like hospital, is of essential importance, as in this case where the death rate was reduced according to the same report, which illustrate how Lean principles can assist in any organization. The hospital operating rooms are one of the critical areas within the hospital, and as a result, they become focusing point where lean philosophy is implemented. The reason for this is due to the fact that they assist in increasing efficiency within the process with more specific goal of increasing room utilization by decreasing down time and unused time of the rooms. This unused time, included the time taken to prepare the room for the patient, before they are operated (Castaldi et al., 2016). Other healthcare institute have turned their fortune around by learning from the concepts that were implemented within the manufacturing sectors. One of those concepts is the production levelling, which is also known as 'Heijunka', which assisted hospitals in Brazil in dealing with the issue of overcrowded units (Coelho et al., 2013), due to disconnection within their processes.

There has been a great shift over decades on how consumer want to be served, whereby, previously they would be comfortable with what is on the market, compared to now were they demand products based on their personal preferences. This has led to the birth of process called engineer-to-order (Strandhagen and Logan, 2018), which means that things are produced based on the customer's demand. This has become an operational model to organizations like Rolce Royce, which manufacture cars, only based on the customer's specification. This kind of service, as a selling factor, requires a lot of planning, which requires continuous improvement on how to respond to individual demand, without compromising standards. This methodology is been introduce within the transport industry, with the assistance of applications, that let the consumer customize the kind of service they require, be it ordinary Uber or Uber black.

Over the years, road transport has been known as the dominant mode of transport within inland, however, in 2011, some authors have reported that it was the largest contributor of consumer of energy consumption, with a staggering 76% compared to others (Bektas and Harilaos, 2018). The world Energy Outlook indicated that 30% of the growth in petroleum consumption between 2006 and 2030 will be contributed by the transportation industry (Cheng and Lu, 2015), with vehicles being the main contributors. Countries like Netherlands, Germany and India have stated that they want to stop selling petrol and diesel vehicles between 2025 and 2030 (Pereirinha et al, 2018), as part of their initiative in responding to the current climate challenges, and the pressure that they are getting from policies and regulations. This type of statistics should have created a sense of urgency on the best way in which road transport can serve clients. However, based on the research, there has not been many presentations which are solely based on application of lean principles, which has tools like the Kotter model, with creation of sense of urgency as one of its steps on raising the need to continuous improvement within the processes.

2 The gap between lean principles and transport service

In the 2018 FIFA world cup, a new process was introduced, called Video Assistant Referee, which was approved by FIFA board (Anonymous 1, 2018), which will be utilized to assist the referee in making or confirming their decision. This technology was viewed as a solution to resolving the many controversial decisions that have been made in previous world cups. This was decided, in the light of trying to bridge the gap between the traditional ways of soccer, whereby the referees call is final, to putting measures that would quantify and verify that decision, while the game is playing, instead of doing so after the game, which becomes pointless as the decisions cannot be changed. The thoughts should be applied within the transport service, whereby, there should be an introduction of tools that can quantify the decision taken or to be taken within the operations. The transport industry plays a vital role within the economy, globally, as organizations rely solely on it to move goods from point A to B, for the purpose of trade. However, there should be constant review on whether the current method of trade, in this case, of moving things, is the best one, or could there be a better way of doing so, at an optimal cost. Previously there was little attention given to the freight transportation by pick-ups (Ruesch and Schmida, 2016), resulting on few data being collected about them as there was no research or policies done on them. This has however changed over the years, especially when attention was given on measuring the number of trips done, which indicated an increase of the past 20 years, especially on the urban freight. What is more interesting is that the size of those vehicles has reduced, resulting in increased frequencies (Sullivan et al., 2018). The reduction of the mass of the vehicles has a positive impact as it reduces transportation costs, with fuel cost being the main one (Sullivan et al., 2018).

The issue of vehicle route optimization also plays a role in cost reduction, as it assist in reducing the number of vehicles and trips taken for collection and delivery (Wang et al., 2018), which also maximize vehicle availability. This type of research has triggered the need to do further studies on how best to also reduce the number of frequencies, without compromising the output. Incorporation of tools like problem-solving methodologies within the process, can assist in resolving 'side-effects' of improved method of working. For example, if reducing the size of vehicle, creates a challenge of increased frequencies, then introducing problem-solving techniques, can empower the team, on how to better plan their processes in endeavour to resolve the challenge of frequency. There are many reasons why people would opt to utilize public transport while having their own vehicles, however the key factor is the type of service quality which public transport can offer. It is for this reason that makes it critical for implementation of continuous improvement within the transportation system (Liou et al., 2014). The same phenomenal apply to the freight industry, whereby consumers choose the company which would render them service, based on its quality of their service. It is vital to ensure that the processes within the organization are optimal and that they can deliver as per the customer's expectation. This means that there should be conscious decision taken almost on daily basis on how best can the organization meet and/or exceed the customer's expectation, and this could be realized if there are guiding principles and tools. Lean manufacturing has been adopted within the production sectors, with Just-In-Time, Kanban (Pull system), Root Cause Analysis and Value Stream Mapping being the most common ones and most of them had made it a requirement for their supplier to also adopt the same philosophy in order to get a successful integration within the entire process, from the supplier until the end product (Gupta et al., 2018), this however, has excluded the transportation sector, which link the supplier and manufacture, exposing the entire process to potential failure or unsuccessful implementation between the two. The study would want to address this challenge, by ensuring that the link between the supplier and manufacture is also following the same philosophy.

3 Transportation Industry

The successful introduction of lean manufacturing relies on 8 factors which are top management, training and education, thinking development, employees, working culture, communication, resources and business planning. However, top management is the key factor, regardless of the size of the organization (Alefari et al., 2017). Top management play vital role as they are the ones that need to drive change within the organization, by creating vision and sense of urgency in turning things around, to name but a few. A number of organization in both manufacturing [1, 2, 10] and service industries [3, 6, 7, 15] have improved their competitiveness though the implementation and application of lean principle philosophy (Hicks and Smith, 2015). This has created a need to undertake a research on whether can the lean principle be implemented successfully within the transportation industry, specifically focusing on the courier business. This is the endeavour on responding to the growing ecommerce market, which require courier to be tenacious in responding to the demands. There exist significant works focused on how top management should include lean principles within strategic planning of the organization, in order to be competitive and relevant within the market, while applying cost effective tools. The literatures have however been more on healthcare, manufacturing, production and processing industries. The transportation industry; specifically courier service sector, has been somewhat side-lined as there are paucity of research in the area. For the implementation of lean principles in courier services, there would be a need for culture change, from that of push system, whereby the organization would dispatch all their resources in trying to serve their clients, to the pull system, whereby clients would be served, at an optimal cost.

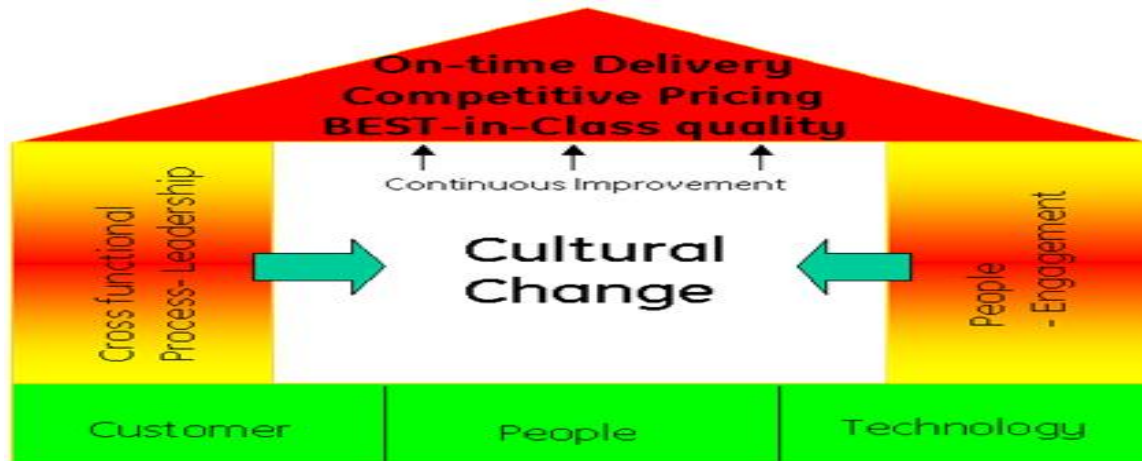


Figure 1: Culture change, Source: Anonymous 2, 2018

The above structure, illustrate the process which is part of the lean philosophy on how the organisation can be competitive, without running itself under, due to increasing operational cost. On time delivery is key factor of the courier business, however, the focus over the years has not been on how to design processes that will meet it, without increased cost. The top three cost drivers in many transport organisations are fleet (with fuel being the most contributing factor), buildings (overheads and softwares being the most contributing) and staff. Now, it is critical for all organisations to try and reduce any of those cost. However, when most companies ' bottom line get negatively affected, the first point they consider is reducing the staff, with little consideration on how factors like inventory and ineffective fleet can be reduced, without affecting the performance.

4 Improvement opportunities in Courier Service sector

Lean principles are designed to improve quality performance, lower levels of inventory, less space required, improved employee morale and involvement, higher profit and most importantly greate customer satisfaction (Kadarova and Demeck, 2016). It is also desgigned to reduce inventory through techniques such as Just-In-Time inventory management, with this method being widely applied in retails (Ugarte and Golden, 2016). Lean is adopted by many organisation in endeavouing to satisfy market needs and gain edge over competitors (Bortolotti et al, 2014). This are elements which are missing in one or the other courier business, and as a result, derived a need to follow the principles of Lean, which are used in many organisations. If we were to take the issue of lower levels of inventory and less space

required can be the basis of research in courier service. There has to be a debate on whether a courier company require a huge warehouse, whereas their service is to deliver within a certain period, which should ultimately resolve their inventory nightmare. There are organisations which are still building massive warehouse, which offer variety of service (Anonymous 2, 2018), however, there is a need to investigate whether courier organisations, should follow suit. This will also assist on how the courier sectors should respond to the ecommerce market, which is growing rapidly world wide (Anonymous 3, 2018) and courier playing one of the critical part in ensuring that things are delivered within the expected time, it has become vital for the implementation of Lean principles which will be responding to the pull system used by ecommerce platform.

Conclusion

The above illustrates that there is a need for further research on building a relationship between Lean principles and transportation industry, especially on the courier sector, which plays a key role within the ecommerce platform. This will ensure that, organisation seize the opportunity of growing, by responding to the market demand in a well structured, cost effective way, applying world-class principles.

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Biography:

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