

DISRUPTIVE TRANSPORT TECHNOLOGIES – IS SOUTH AND SOUTHERN AFRICA READY?

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ABSTRACT

Disruptive technologies refer to innovations that, at first, may be considered unproven, lacking refinement, relatively unknown, or even impractical, but ultimately, they supplant existing technologies and/or applications. This essay investigates situations of transport innovation decisions and discuss about disruptive technologies. In addition, it investigates the consequences for energy supply and greenhouse gases emissions. It further discusses the solutions that need to be implemented to improve service delivery. The findings show that South and southern Africa is not ready for this transport disruption since it lacks resources for manufacturing electricity.

1. INTRODUCTION

Technology is critical in shaping most economies and, it remains the heaviest external factor in developed and developing countries. Disruptive transport technology has gained more focus as it seeks to change the behaviour of consumer by creating safe and innovative ways in the transport sector. This can be seen in the implementation of UBER, which operates in the taxi industry. Therefore, southern African countries need such technologies in solving traffic congestion issues as well as strikes in the taxi industry. South Africa has been affected significantly by such incidents especially in the highly congested areas, such as Durban, Gauteng and Cape Town including the smaller towns in the Eastern Cape Province. Also, it appears that the taxi industry is dominated by small taxies and, tensions between taxi owners indicate that the industry is not well organised. So, there is an urgent need for implementation of proper interventions to help solve such challenges that are facing southern African countries. Hence, this essay aims to discuss the provision of optimal, effective and efficient transport solutions to improve service delivery for users of transport systems.

2. BACKGROUND OF DISRUPTIVE TECHNOLOGY

Darji et al (2016) defines disruptive transport technologies as new technologies which contribute significantly in the ways of doing business. This hinders competition and can force other firms out of the market system. For example, social networks are now used to do businesses on WhatsApp. In the southern African context, the emergence of UBER taxi threatens the traditional ways of doing business in the taxi industry. It means that many consumers can now request a taxi from home. However, even though it is safe, it can be more expensive for consumers. Hence, the issues of income become critical as this can negatively impact economic development.

Rendering service in case of public transport is now reliable and efficient thus it has become more attractive to many consumers especially in the tourism industry. On the other hand, the entry of such technologies means that owners in the taxi industry are retaliating to blocking competition and are not willing to deviate from traditional ways. Therefore, proper regulations are required as an intervention in the transport sector (Henama, 2017).

2.1 Discussion of disruptive technology

Disruption technology is the process in which new technologies or new kinds of products invalidate their predecessors while creating new enterprises. It changes the way organisations or entire industries operate, (Smith, 2005). Disruption is the procedure whereby a small organization with constrained assets, for example, a start-up, effectively challenges a bigger set up existing/current business or develops totally new markets. Some companies may recognize the potential of disruptive technology and target new markets to try and find ways to incorporate it into their business processes.

Technologies are not only applied to support the business procedures of an organization but to provide a basis for competitive advantage. Kassicieh *et al.* (2002) define disruptive technologies as “scientific discoveries that break through the usual product/technology capabilities and provide a basis for a new competitive paradigm”. Disruptive technologies are very powerful, they make our lives easy, for example, a person doesn’t have to go and wait for a taxi at the bus stop even at night, now it is easy to just call a meter taxi or an UBER to come pick you at your doorstep.

2.2 Advantages of disruptive technology

Disruptive transport technologies will make public transportation more reliable and safer because human errors will be reduced and that will lead to a decrease in accidents. Since all types of transportation will be operating in the air, some in the space and some close to the surface, they will be operating using radar, GPS, computer and other technological devices to sense their surroundings in order to navigate suitable pathways for them to take and avoiding any obstacles along the way. “These transports will be using a digital map, which can be constantly updated according to sensory input. This allows them to easily adapt to changing situations, as well as travel through previously unknown territories,” (McKenzie, 2016).

The main issues faced by the South and southern African citizens are traffic congestion and GHG emissions. Disruptive transport technologies could reduce the traffic congestion because the type of transport will be using the space not the road for example, there will be transit elevated bus, sky train, ultra-pods, etc. These types of transport will also reduce air pollution caused by emission of GHGs as they will be releasing zero carbon dioxide. Disruptive technologies provide a growth opportunity to companies that recognize the opportunities offered (McGinn, 2001).

2.3 Disadvantages of disruptive technology

Implementation of transport technologies could lead to an increase in unemployment because truck drivers, taxi drivers and even delivery people will lose their jobs (Rouse, 2016). Due to unemployment there will be less consumption leading to a fall in economic growth. In addition, since there will be fewer or no accidents, and fewer people violating traffic laws; few people would be needed in the police station some police officers will end

up losing their jobs and those that will be left in the police industry will have less income than they had been getting before.

“A computer malfunction, even just a minor glitch, could cause worse crashes than anything that human error might bring about,” (Harford, 2016). This could be a big challenge because, when this kind of disaster happens a lot of people could be affected. Disruptive technology demands a new way of marketing a product. This could lead to additional problems. In this case, the marketing managers of the transport sector could resist marketing the new product because of their uncertainty regarding the estimation of the value of the new technology.

It is almost every day that people have been talking about hacking attempts on websites, companies, and mobile phones. Since computers will control this new mode of transport, it is highly possible that they can also be hacked. Compromising their security in any way could endanger many lives. Imagine the damage a single hacker could do. One cannot certainly predict how secure this mode of transportation will be until these issues are met. Therefore, one cannot conclude how safe this kind of transport is.

3. TRANSPORT SOLUTIONS TO IMPROVE SERVICE DELIVERY

The main point is to always remember that public transport is fundamental to making and developing aggressive economies. Thus, this is basic for poverty mitigation and furthermore for natural issues in diminishing both carbon emissions and fuel utilization. Litman (2008) stated that due to the increase in the rate of urbanization, large amounts of energy are needed to sustain growth of which the transport industry consumes more of it. A sustainable transport system which is economically, socially and environmentally friendly can be achieved through inventing engines that consumes less fuel.

Technology makes public transport smarter, convenient, safe, affordable and efficient (Department of Transport, 2015). However, adjusting to innovation in the Department of Transport needs attention to customer conduct as far as when, where and how buyers travel and adaptable to changes in environment. The use of Uber and Lyft improves levels of reliability to passengers and therefore it is a vital solution to congestion and time wasted by passenger taking private cars although it is still expensive.

4. IS SOUTH AND SOUTHERN AFRICA READY?

In conclusion, South and southern African countries are not ready for these disruptive transport technologies, simply because of the current situation that is happening in those countries especially in South Africa. Not so long ago, South Africa has been facing a lot of load shedding due to insufficient resources for generating more or enough electricity. These transport technologies will demand electricity for them to operate and there will be a need for innovation of transport infrastructure. With this lack of resources for manufacturing electricity in South Africa, it significantly shows that South Africa is not ready for this disruption.

5. CONCLUSION

From the above findings about disruptive transport technologies, the author can easily conclude that disruptive technology is subject to changes, challenges, uncertainties and constraints. The development procedure of disruptive technology ought to be examined related to risk management or strategic management to empower the executives to settle

on choices that are more informed. It has been shown that public transport execution has been moderate and problematic. The establishment of modes of transport that cater for individuals living in rural areas, so they can access education, health and different administrations is important because of the fact that it improves social and financial activities in rural areas.

6. REFERENCES

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