

University of Hradec Kralove

Faculty of Informatics and Management

Department of management

**Management in the digital age: How technology
commands business strategy, influences customer
perception and loyalty**

Bachelor's Thesis

Author: Samuel Edozie, Akaniro

Branch of study: Information management technology

Advisor: Assoc. Prof. Pavel Bachmann, Ph. D.

Declaration:

I declare I wrote the bachelor's thesis "Management in the digital age: How technology commands business strategy, influences customer perception and loyalty" myself using only listed bibliography.

In Hradec Kralove,

Dated ...29th April 2019...

Signature 

Samuel Edozie, Akaniro.

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Abstract

Technological innovations and its benefits are widely spread across the global community today despite privacy concerns and fears of over reliance on tech products. The direct effect of technological products on business activities is tremendous and mostly positive but not without identified cases of misuse. As the world advances further into the digital age, businesses and customers alike become more and more reliant on technology and information technology, such that in the world today without technology most things halt. For a customer to perceive a product as right for them, they must first translate the sensory impressions they have for the product into a rational state on which they can act upon or choose not to. In the digital age, leveraging analytics and social media to influence customer thought dynamics, emotions, and behaviors towards a product or a company, is vital to the success story of the business. However, caution must be taken when utilizing various technologies to develop software and when using social media to boost brand image or communicate business decisions.

This paper outlines the role technology plays in driving business strategy, influencing customer perception and maintaining customer loyalty.

Abstrakt

Technologické inovace a jejich benefity jsou široce rozšířeny po celém světě navzdory obavám ze soukromí a strachu z přílišné důvěry v technické produkty. Přímý efekt na podnikové aktivity technologických produktů je enormní a většinou pozitivní, obsahuje však prvky nesprávné implementace. Podniky a zákazníci spolu s posunem světa do digitálního věku, mají tendenci stát se odkázanými na technologie a informační technologie, v dnešní době by se většina věcí v tomto světě bez technologie zastavila. Aby zákazník pochopil produkt, musí přeložit získané senzorní dojmy do porozumění schopného stavu, díky kterému může, ale také nemusí jednat. V digitálním věku využití analytik a sociálních medií k ovlivňování zákazníku, aby přemýšleli, cítili emoci a chovali se ve vztahu k určitému produktu nebo firmě, je zásadní pro úspěch podniku. Nicméně je nezbytné být obezřetnými při implementaci různých technologií k vývoji software a při užití sociálních medií ke zlepšení image značky nebo komunikování podnikových rozhodnutí. Tato práce nastiňuje roli technologií při řízení podnikové strategie, ovlivňování dojmů zákazníka a udržování zákaznické loajality.

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1. Introduction

Prior to the industrial revolution a period characterized by transitions in the manufacturing process, about 80% of the global population were employed in Agriculture ("Industrial Revolution", 2019). Farming, and its types were some of the most common occupations around at the time, and these farmers aimed to keep both themselves and the other 20% of the global population fed and prevent starvation.

Manufacturing was another common occupation at the time, however most of the manufacturing done in that period were done in homes and small shops using elementary machinery or hand tools ("Industrial Revolution", 2019). Then came the Industrial revolution, which took place from the 18th to the 19th century and was a major turning point in history. It brought about major changes in agriculture, transportation and mining, it transformed the manufacturing industry from traditional hand production techniques and methods to machines, replaced the putting-out system with the factory system, ensured a shift to powered special machinery, big factories and encouraged mass production ("Industrial Revolution", 2019).

The era of the industrial revolution brought changes in communication, banking, and increased the volume of manufactured goods which in turn led to an unprecedented leap in the global population growth rate. This era influenced the scientific revolution, and the discoveries in this period paved the way for modern tools, inventions, innovations in technology and birthed the world we live in today, the digital age.

The digital age is now. According to internet world stats, the total number of people who used the internet as of June 30th, 2018 was 4,208,571,287 (Four billion, two hundred and eight million, five hundred and seventy-one thousand two hundred and eighty-seven) people. ("World Internet Users Statistics and 2019 World Population Stats", 2019). That is more than half the global population, and in the information age the internet has been a major influencer. Knowledge is paramount, and so long as one has access to the internet, information is limitless. The digital age as many other revolutions, has brought major breakthroughs in practically all areas of life, from banking and finance to medicine and health care, from the education sector to the manufacturing industry, from transportation to tourism, and even local and global politics to name a few. There is hardly any area of life or business that is not influenced by the digital or Information age, that should come as no surprise seeing that half the global population are actively online. These questions must be asked, how does business management work in the digital age and how do businesses operate? How does technology influence customer

perception of a product and customer loyalty to that product? What factors influence the direction of technological development? How does it affect business strategy?

This paper will aim to answer these questions and explore how organizations leverage information technology to improve customer service, enhance communication, and build competitive and strategic advantage.

Technology is change, and businesses that are incapable of adapting to these changes are soon obsolete. The digital age has given businesses global visibility and reach and today businesses have more reach from a remote location than ever before to a global audience. A startup company in the Czech Republic can seek funding from a group of potential investors in Canada through web tools and technologies, sell their product vision and propose value to investors. A firm in the United States can function smoothly with different arms of the organization, located in Australia and another in Nigeria or Kenya. The digital age has given businesses this ability to reach a global audience of both business customers (B2B), partners, and consumers who are the end users of their product, communication and reach made possible through mobile technology devices and social media.

Today a business through extreme customer segmentation can understand what their customers are looking for, and what customers they want to attract through web technologies like google analytics, and more in-depth services that allow businesses to sieve through data and refine their processes. Technology has also transformed data storage, by introducing the more efficient and hassle-free cloud computing and storage, over physical data storage centers and investing in artificial intelligence and virtual reality.

The benefits of technology today are numerous and global reach is perhaps one of the most significant. However, with global reach comes global challenges. According to Reuters, in 2018 Tesla's shares dropped by more than 13% after the United States security and exchange commission sued Tesla and CEO Elon Musk for fraud (Stempel & Sage, 2018). The lawsuit alleged that Musk made "false and misleading" statements to investors for tweeting that he was taking the electric automaker private, and this tweet caused the price of a tesla share to rise by over 6% on that day (SEC, 2018). The specific tweet was posted by Musk on social media platform Twitter on the 7th of August 2018, and a few weeks after the SEC sued Musk and Tesla.

Two months later in October 2018, Musk settled with the SEC, and although Tesla's shares rose by 17% after the settlement, it cost Tesla and Musk 20,000,000 (Twenty million dollars)

each and his position as chairman of tesla for three years (SEC, 2018). This case is one of 3 this research paper will focus on. It is evident in the world today, an ever-shifting market place for businesses that technology through its products and processes of which social media is a part of, has immense effects on businesses, both positively and negatively.

2. Objectives and Methodology

2.1 Objective

This paper addresses 4 (four) main research questions.

Q1: How should management operate in the digital age?

Q2: How does technology command business strategy?

Q3: How does technology influence customer perception and loyalty?

Q4: What measures can be taken to protect customers from the misuse of technology?

This paper is organized as follows:

First the author develops a simple model describing the relationship between technology and management. Following that, the author briefly describes the History of management from the time of the industrial revolution to the digital age. The author then outlines the relationship between technology, business strategy and the customer. The author will in the next section following this, further describe technology and strategic management by outlining 2 (two) case study examples across the aviation and retail industries.

The final part of this paper will then describe how technology through strategic management influences business vision, mission and strategy. This section will primarily focus on Tesla Inc. as a case study.

3. Literature Review

3.1 Management in the digital age

3.1.1 The Digital Age

The information age or the digital age, is characterized by an abundance of knowledge and the different ways that knowledge is received by individuals, businesses, governments and customers alike (OECD, 2019). The digital environment is constantly changing, and organizations, enterprising entities, they are always changing with it, either to increase profitability or just for survival. Adopting new methods and techniques has become an asset in the digital age and if a business entity fails to do so, they run the risk of being obsolete.

The digital age is quite contrast from its predecessor, the industrial age. However, one thing never changes, it is constant and that is Management.

3.1.2 Management

Management has always and will always be a constant factor in all human activities and more so in business activities (Haberberg & Rieple, 2008). In the Industrial age management practices were not so different from what they are today, the factors of production remain the however the evolution of those management practices are visible in the digital age. Lean management activities like production, finance, marketing, human resources management, and marketing which are still very useful today, were some of the driving factors of the factory system. Strategic thinking and Proper management techniques were implemented to align the organizations business goals, motivate the workforce, and provide for the wants and need of the customers and employees.

One major factor that immaculately shows the distinction in management practices between these two ages is the productivity criteria. In the industrial age, management and strategic planning focused on physical capital. Organizations wanted tangible, man-made goods that supported the manufacturing process. Goods like Machines, buildings, vehicles, tools, computers owned by the company were more valuable than human capital. Employees were part of an organized well automated production and manufacturing chain ("Industrial Revolution", 2019). Companies had a rigid structure that was often unmovable and unchangeable, they were set up to stable, consistent, profitable and often predictable,

organizations at the time were not built for change but they thrived regardless, because the world was not as connected and within reach as it is today.

The management techniques in the industrial age however were very successful, in this time which is also seen today, continuous industrial and economic growth was achieved, industries from auto to finance soared with new innovations and processes, communication improved a lot and quality of life was grew ("Industrial Revolution", 2019), however this was mostly down to centralization in management by these organizations and the effective and efficient allocation of their resources and assets. During this time, companies trained workers to carry out their jobs with discipline and precision, a “by the book” mentality and there was less focus on the intangible asset known as human capital. In the digital age however, the world we live in today, things are different. Technologies are introduced very often, not just for the everyday individual but for businesses alike.

3.1.3 Management in the digital age

New technologies are apparent in across industries today, from cryptocurrency in finance, building technologies in engineering, digital oil field technology in the oil and gas sector, pharma tech in pharmaceutical industries, from agriculture to electronics, 4 and now 5G healthcare possibilities, telecommunications, education, retail etc. The digital age has transformed business processes and has helped companies explore areas and ideas that may have previously been thought impossible. As the world delves further into the information age of the 21st century, business organizations increasingly move towards a rapidly changing environment, where human capital is more valuable than physical capital (Llopis, 2018), unlike in the industrial age, where individuals due to the value on physical capital needed the companies more than the companies needed the individual (Voigtlander & Voth, 2006).

Companies created in the industrial age created wealth and were successful, but individuals relied on the companies to flourish (Voigtlander & Voth, 2006). These Companies owned the manufacturing processes, the factories and that means they controlled the means of production. In the digital age, the individual owns the means of production.

3.1.4 Means of production in the digital age

Today however, the most crucial asset is knowledge, and a modern business entity needs knowledgeable skilled workers more than these skilled workers need them. For companies like

Apple, Amazon, Alphabet, Microsoft Netflix to name a few, the major resource is not in production facilities, but in the minds of computer programmers, user researchers, managers, etc. As such individuals capable of delivering such specialties everywhere are in high demand and have the option to freelance if they wish to. These people have the complete freedom to choose to work with and in any organization, they wish or to take their skills and expertise which are a means of production in the information age and move wherever they please, these group of individuals are known as “Generation Flux” (Enterprise & Hill, 2013).

3.1.5 Strategic management in the digital age

In the digital age, management must acknowledge this existing trend and devise ways for leaders and managers of business organizations to motivate their employees with relevant interesting tasks, trainings and overall job benefits or risk losing their means of production. Management must also strategies more, to focus on anticipating and adapting to change rather than building a rigid structure that completely aims to execute plans and processes. Workers should be encouraged to move from project to project, share their expertise and experiences with each other and align these activities flow seamlessly with their role tasks and job description.

3.1.6 Leveraging technology as a strategic technique for business efficiency and growth

Big organizations with history, those that have been around through different stages of evolution such as the scientific revolution, industrial revolution, and today the digital age, may find it difficult to evolve because of traditional ways of operations, engraved into the structure of the business and they may have different perspectives on how a business should operate or fears and reservations about new technologies (Rossi, 2016). Many of these organizations have their structures and management techniques firmly planted to a certain way of doing things and these techniques thwart advancement in a modern world that stipulates technological advancement as a factor for good success. Silos must be removed and replaced with cross functional communication, because in the modern world, ideas rather than physical resources lead to success. Therefore, rather than working solely horizontally, organizations must create management techniques and strategies that shape an environment where professionals work with each other across the organization to achieve the ultimate business goals of the company, firm or organization.

3.1.7 Customer Centric Approach as a strategy in the digital age

Companies that have a huge influence on the digital age and leverage different technologies to define the digital age are the ones that have a customer centric approach to production (Allen, 2012). Companies like Apple, Samsung, Google, Microsoft, Facebook, Twitter, Uber etc., retail giants Amazon, Electric car market leader Tesla and other firms are built to take advantage of change. These companies have unorthodox views of the business environment, rather than building products they think are good for their users, they build products the users want.

They build user centric products that provide the best possible user experience. In the digital age, user experience is just as important or more important than the quality of the product or devices themselves. Their management techniques focus on using analytic tools to derive real time results from their users. Every decision made by these business organizations are based on data, and that eliminates the possibility of making uninformed decisions (Media, 2017).

Amazon founder, chairman and CEO Jeff Bezos, choses to obsess over customers rather than competitors (Lashinsky, 2012). This strategic management technique is a distinct from the orthodox way of waiting to see what competitors introduce to the market and then try to match it or build a better product than the competitors. Bezos decided to introduce a strategy to amazon that focused on listening to amazon customers and building products that will solve whatever problems they may be having. This management strategy was a major factor in the creation and introduction of amazon web services, a cloud computing service that provides on demand computing platforms to individuals and business organizations alike (Mullaney, 2017).

4. Technology and business strategy

Fierce global competition drives businesses to find new ways to increase employee productivity, business mobility, efficiency of operates and reduce costs, all which lead to an increased competitive advantage.

Historically, there were businesses catering to people within their vicinity. There were various groups of people spread across the globe, different cultures, values, various empires and rulers, people with different languages, beliefs and ways of life. Predictability was central in the business operations and business strategy was structured ("Industrial Revolution", 2019).

4.1 Business Strategy

Business strategy can be described as a set of decisions made by a business entity to achieve a goal, set of goals or objectives. Given the aim of this paper to analyze how technology commands business strategy, we will focus on the relationship between technology and business strategy in the digital age.

In the world today, the business environment has changed drastically. A decade ago, the business environment was not the same as it is today. Exponential improvements in technology have become expected and businesses in order to survive, must strategize to accommodate future advancements in technology.

Strategically planning and investing in new technologies will constantly be a feature of businesses looking to gain and maintain competitive advantage in the future. The digital age is the age of the customer, the age where customer experience is vital to company success and businesses must plan to create the best customer experience for their customers, users and even the business employees.

Technology has moved businesses from local and regional economics to global economics. While Innovations in the industrial revolution and other revolutions before it, were centered around specific times and specific geographical areas, globalization is made smoother in the digital age. For example, the industrial revolution that began in Great Britain in the 18th century, before spreading and establishing in the western parts of Europe and the north east region of the USA in by the mid-19th century ("Industrial Revolution", 2019). Today, technology has brought over 4 billion people together through the internet and that number will only continue to grow as the more people have access to the internet ("World Internet Users Statistics and 2019 World Population Stats", 2019).

4.2 Technology, Business Strategy and Globalization

Huge companies like American owned Apple, Amazon, Microsoft, Ford etc. are competing with other organizations like Samsung, Huawei, Toyota & Chinese retail giant Alibaba to name a few, located in Asia. Apples biggest rival is Samsung, a company based in South Korea, thousands of miles away but not short of intellectual know how, several of the fast-growing global economies are in Africa and Asia (The Economist, 2019). Technology has made this possible, with mobile devices and internet connections ensuring that people all over the world have access to the internet and a world of information just a search engine away. For a business operating in this globally competitive environment, and as information technology penetrates even the most remote areas of the world, businesses have to ask the question “is our strategy sustainable?” (Haberberg & Rieple, 2008). Connectivity breeds new unmet needs, these unmet needs breed new demand, and new demand breeds new opportunities and new markets for businesses. Major companies today face competition from startups, made visible by social media and other technologies. Products developed in emerging markets can become global brands, therefore determining and maintaining the connections between technological resources and business objectives is important.

5. Technology and the customer

Today, technology is everywhere, in every industry across various cultures and catering to a diverse global community business entities, nonprofit organizations, customers and users (Turban et al., 2006). It has provided business with a digital economy based on digital technologies including digital communication networks, computers, satellites, the internet, mobile devices, cryptocurrency, virtual and augmented reality, artificial intelligence to name a few.

From small start-up businesses run by a few people to multinational corporations, technology and Information technology particularly, has become the major facilitator of business activities in the world today. The benefits of technology are not limited to businesses.

5.1 Benefits to the customer

Customers are huge and perhaps the biggest beneficiaries of the digital age's advanced technology. Customer service has been vastly improved across different industries, and technology has given the customer a variety of products, and information regarding those products, to constantly keep the customer informed when making purchasing or selling decisions. Customers through apps, social media and electronic newsletters sent directly to their emails can regularly keep themselves updated with trends and future developments of products they are interested in (Turban et al., 2006).

5.1.1 Technology and Customer Service

Customer service simply put, is the service of making customers happy. Every so often, customer service occurs while performing an action for the customer such as sales or while the customer is returning a product for maintenance or replacement. Continuing revenue is vital to the survival of any business entity, and maintaining relationships with the customers, is the only way to guarantee steady influx of revenue for the business.

In the digital age, providing excellent customer service is critical to business success and businesses have leveraged various technological tools to ensure optimum customer service is provided for their customers. The customer experience network in the digital age is rapidly progressing, and technology has played a critical part in the progress achieved. Companies like amazon are aggressively changing customer experience. Amazon recognizes the importance of providing impeccable customer support.

According to the online retail giant Amazon, customers can purchase a product with Amazon's virtual assistant Alexa (Amazon, 2016). Customers can order a product or service by making a voice purchase request to Alexa and the virtual assistant searches through the Amazon inventory. If an item is available in the inventory, the device will describe the item for the customer in detail, including the name and price and will reconfirm with the customer whether to cancel the purchase or confirm the purchase.

When a purchase is made, and the purchased item is shipped, the customer can track the delivery status by simply asking Alexa "Alexa, where my stuff?" and Alexa will provide details on when the purchased order will arrive (Amazon, 2016). Today, customer service is more seamless than ever and as a company like Amazon delivers innovative and prime customer service, it leads to an overall better customer experience and thus customer satisfaction all influenced and made possible by technology.

According to Bloomberg's analysis of the United Nations population's data, demographically the population of young people in the world is projected to steadily increase over the years with millennials surpassing generation Z (Miller & Lu, 2018). Companies like Amazon, leveraging artificial intelligence to provide pristine customer service to their customers will have a competitive advantage over the companies who choose not to.

Calling companies through telephones is still in play today, especially when the issues facing customers are more complicated than ordering a specific product. However, younger generations will soon be the bulk of the customer base for businesses as the demographics increase. The generation of younger customers is a generation that is more technologically inclined and proficient. Technology and its influence on customer service, is integral to how businesses operate, it has covered every aspect of modern living and enhances customer service. Better customer service influences customer experience, better customer experience breeds customer satisfaction and constant customer satisfaction guarantees customer loyalty (Turban et al., 2006).

5.2 Benefits to the Business

For businesses, digital networking and communication infrastructure provide a global environment through which business entities can strategize and communicate. Investing in technologies like chat box, artificial intelligence, social media, internet of things (IoT), virtual reality, big data to name a few, have allowed constant engagement of their customers, better

data driven decision making, operational efficiency, brand exposure, improved communication, productivity and reduced business costs through automation. Computers have allowed effective collaboration between teams across different geographical locations and cultures.

6. The Digital age: Strategic Management and technology

6.1 Definition

“Management is a general term which can be interpreted in many different ways by the varying stakeholder groups in an organization” (Capon, 2008). Claire capon in her book “understanding strategic management” further describes management in different organizations as *“exercising formal power and control within a defined structure, to shape the behavior and work patterns of staff with the aim of achieving good performance and meeting organizational objectives”*. (Capon, 2008).

Management in any company has the primary objective of driving action, making things happen. It is less of a theoretical activity and more of a practical activity covering all areas of the business from finance to sales, marketing and human resources, working with employees and partners to achieve set targets.

6.2 Organizations in the digital age

The structures of organizations today are increasingly becoming complex. Traditional ways of rigidly setting up organizations have increasingly become out dated because of the need to adapt new technologies. In various business entities today, interdependency has led to cross functioning corporate divisions and this has gradually begun to eliminate the traditional silos that business divisions operated in. Management has evolved to combine business knowledge with innovation and technology. Integrating technologies to business processes creates efficiency in product development, sustainability and management, for a business organization.

To better analyze and understand market demands, it is paramount that businesses leverage technological tools to acquire real time accurate information on a market segment they are interested. A notable mention is Airbnb, who leveraged big data to scale growth and reshape their strategy, adopting big data in decision making (Newman, 2015). Such is the relationship between management and technology, it is almost unheard of in the digital age that a company is not leveraging technological innovations.

The changes brought by the digital age to business operations is vast and hugely important. Various fields have been impacted by technology including education, retail, aviation, transportation, health care, to name a few, and as the world advances, existing technology will

birth new technologies that will be more efficient and more powerful than those existing today (Tegmark, 2017).

The few examples outlined below will illustrate the difference between business activities in the traditional economy and business activities in the digital age and show how businesses and customers alike have responded to the change. The examples will focus on 2 (two) areas, the retail sector, and airports and aviation.

6.2.1 Example 1: Paying for goods in the retail sector: Case Study – Tesco Self Service, Amazon Go

Various technologies are seen in the retail industry and the impact of technology in the retail sector is huge, disrupting the traditional way of buying goods and introducing digital technologies like Tesco's self-service checkout counter or Amazon Go.

6.2.1.1 Tesco Self Service

Traditionally when shopping at retail stores, after selecting what you want and are ready to leave you may sometimes find yourself waiting in long queues before checking out of the store and that can be very frustrating for customers. When a customer eventually gets to the checkout counter, they are required to stand in line and wait while the store employee adds up all the items that have been purchased, receive a bill and make payment in cash. For the customer this is a lengthy process and sometimes quite frustrating, for the business customer experience and satisfaction is not achieved and no information is gathered about the item itself other than the price. In recent years however, using next generation technology, customers take their items to a clerk, who then swipes or scans the barcode of the purchased item over a reader connected to a database containing the store's inventory, this reader captures the necessary information for the product and records it into the database. At the end of this process a receipt is issued to the customer with a detailed account of the purchase and the total price. Another technological advancement introduced to retail to enhance the checkout experience is self-service. In big retail stores such as Tesco, customers need only walk to a self-service checkout counter and fill in details of their purchase (Tesco, 2015). The machine equipped with a visual aid and audio cues, guide the customer through the checkout process, faster and more efficiently than a store clerk would. At the self-service counter, the customer swipes the bar code of the purchased product over an installed reader, after all the purchased items are swiped, the machine gives the customer payment options, cash, and credit card or debit card. The customer selects his

preferred mode of payment and the counter issues a receipt. There may be delays for the customer in getting to the self-service counter if there are other customers already there, however the customer checkout time is so much faster than traditional ways. For the customer, the self-service checkouts are convenient and improve customer experience, and for the business that is good news. The business aims to provide the best customer service while also keeping track of inventory digitally.

6.2.1.2 Amazon Go

Companies like retail giants Amazon have introduced a next generation check out service they call Amazon Go. Cashier-less purchases have become a norm in retail today and in an effort to capitalize on the opportunity to attract customers.

Amazon Go, the retail and tech giant's convenience store looks to establish the concept and gain an early market share. Amazon defines their new stores as *"a new kind of store with no checkout required. We created the world's most advanced shopping technology, so you never have to wait in line. With our Just Walk out Shopping experience, simply use the Amazon Go app to enter the store, take the products you want, and go! No lines, no checkout"* (Amazon, 2018).

This shopping experience according to the company, leverages the same type of technologies used in self-driving cars: computer vision, sensor fusion, and deep learning. The technologies like in self-driving cars use computer vision to automatically detect when products are taken or returned to the store shelves and keeps track of them in a cart similar to the one's customers use on websites but this time with virtual reality, and when a customer is done shopping, they simply walk out of the store, all in a few seconds.

After the transaction is completed at the store, Amazon then sends them a receipt and a charge on the customers Amazon account (Amazon, 2018). Amazon is not the only company using this service. According to Forbes contributor Andria Cheng, companies like Seven Eleven, Walmart and Kroger have introduced their own mobile scan and pay services (Cheng, 2018). This clearly illustrates how much evolution the digital age has brought to the retail sector and how companies are adopting new management strategies aimed at leveraging technological innovations to provide the best customer service and gain competitive advantage.

6.2.2 Example 2: Airports and Aviation - Case Study Dubai Airports

Airports today are leveraging technology to maximize hospitality. Across airports all over the world, there has been a strategic shift in management techniques, aimed at also leveraging technology to maximize hospitality for travelling passengers.

6.2.2.1 Dubai Airports

Waiting in line after arrival at an airport is becoming a thing of the past. Traditionally, when a passenger arrives in another country, they must wait in line to be processed by immigration officers. Most times the immigration officers are slow and take several minutes to process people. During these lengthy processes it is not unusual for customers to wait for half an hour at immigrations to be processed. Today however, airports around the world have adopted technology to better manage immigration processes. Dubai airports as a case study, have implemented smart gates at the Dubai airports arrival and departure terminals.

6.2.2.2 Dubai Airports and the customer experience

Smart Gates, a self-service terminal integrated with the U.A.E identity authority that allows residents to scan their residency cards, fingerprints and eyes also known as biometrics in a matter of seconds and exit passport control. The Dubai airports authority estimates that the average time spent by a passenger at the smart gate is 22 seconds (Dubai Airports, 2014). For the customer, this method is travel friendly, faster and more convenient. For the airport's authority and immigrations, the smart gates are more secure, require less operational power and are more efficient.

Furthermore, in 2016 The International Air Transport Association (IATA) conducted their annual global survey to give references and suggestions to airports (IATA, 2016). The results from the conducted survey showed that 64% of the respondents preferred to use electronic passes otherwise known as e-boarding passes to board aircrafts, 39% prefer electronic luggage tags, and 61% of the passengers want to track their baggage for the entirety of their journey.

Additionally, 47% of the respondents wish the time for baggage drop-off can be cut down to one to three minutes, and 52% of the respondents stated acceptable immigration queuing time is between 5 to 10 minutes (IATA, 2016).

6.2.2.3 Dubai Airports Strategic Approach

According to Forbes, Dubai Airports always puts customer experience first. From firsthand experience, I find it difficult to disagree with this statement. Dubai airports aims to optimize customer experience with a strategic approach comprised of 3 things:

1. Products
2. Operations
3. And Airport infrastructure (Forbes, 2018).

This strategy is in accordance with Dubai's plan for the years until 2021 (*Dubai Plan 2021*, 2015). Dubai airports outlined that for their products, based on a deep research into future trends, behaviors, and expectations of customers, "*Dubai Airports integrates products and services to deliver a consistent customer experience, and lead the innovation of future products and services that enhance hospitality and meaning full connections*" (Forbes, 2018).

6.2.2.4 Dubai Airports Business Strategy and Technology

Dubai Airports operations strategy is to further improve airport operations, ensure good cost-effective solutions to assets that already exist, provide a dependable, strong and smooth process for every customer point of contact, guaranteeing stress free journeys for the various customer groups (Huawei, 2017). Lastly, "*Dubai Airports aims to conduct customer-centric design and development of infrastructure and ecosystem, providing sufficient capacity to accommodate sustained airline and operator growth while maintaining the integrity of existing infrastructure*" (Dubai Airports, 2010).

Strategically, Dubai airports have adopted technology to boost customer experience and deliver quality service to the airport customers.

In October 2018, Dubai's General Directorate of Residency and Foreigners Affairs (GDRFA) ran the testing phase of the new 'Smart Tunnel' at Terminal 3 of Dubai airports (Dubai Gov, 2018). According to the Dubai media office, passengers who utilize the system will simply walk through without the need to stamp their passports (Dubai Gov, 2018). The technology using facial recognition, will allow passengers walk through the tunnel and complete the passport control procedure within a few seconds, with no need for human intervention.

6.2.2.5 Emirates Airlines

Emirates airlines, an airline owned and operated by the Dubai government announced the emirates biometric path in October 2018. The airline outlined that the biometric path “*will utilize biometric technology- a mix of facial and iris recognition across multiple points from check-in to boarding*” to provide a seamless check in experience for emirates passengers. Emirates bio path will aim to help passengers “*complete immigration formalities, enter the Emirates Lounge, and board their flights, simply by strolling through the airport*” (Emirates Airline, 2018) aim to at strengthening emirates business strategy and “*continued investment to offer an industry-leading customer experience*” (Emirates Airline, 2018). This shows that in today’s rapidly advancing aviation environment, Emirates and the Dubai Government have integrated technology into their business planning process.

In each of the examples listed above, we can see the advantages of technological integrations into business processes. Technology gives businesses strategic competitive advantage, speed in delivery, quality and customer service. Companies are increasingly becoming aware of the strategic importance of integrating technology into the business process and the value and profitability it brings. For a company to be successful in the digital age, they must decide which technologies support their strategic business goals and objectives, which technologies can help the company leverage data to identify areas of competitive strengths and weaknesses and then decide which strategic management decisions and business models to implement.

7. Method

This section provides an in-depth outline into the research methods used by the author to answer the three main questions first described in the thesis objectives.

7.1 Method description

The method employed in this thesis paper is the secondary research method. The author utilized published external secondary data from various sources to address the needs of this research paper. The author combined the secondary data from these various external data sources.

7.1.1 External Data Sources

The external data sources utilized for this research include

- Government institutions
- International news institutions
- Business organizations
- Professional organizations
- Scholarly articles
- Commercial research organizations
- Technical Journals and books
- Public Records

7.1.2 Data Collection Criteria

The data was collected on 4 (four) primary criteria

- Reliability
- Appropriateness
- Period of publishing
- Relevance to the research area of this paper

7.1.3 The Sample

To answer the key questions of this case study, the author utilized a simple sampling strategy. The author collected news articles from various sources in a non-random method and built a criterion based on expert sampling. Articles such as The Wall Street journal, The Financial

Times, British Broadcasting Corporation, Cable News Network, Consumer News and Business Channel, Forbes, Bloomberg, The Business Insider, to name a few were the primary resources used in this research. All news sources utilized for the research in this thesis paper were published between the year 2018 and 2019.

7.1.4 Data Processing

7.1.4.1 Content analysis in this research

To avoid recall error in this paper, the main themes of the research were identified and optimized into to the three primary research questions this paper aims to address. The sample sources were then selected based on content capable of providing answers and context to the research questions of this thesis paper.

7.1.5 Objective of Tesla Case Study

This paper focuses on Tesla as a primary case study to

1. Describe the relationship between business strategy and technology in Tesla
2. Outline cases where social media technology was misused in the company
3. Show the implications of the misuse of social media technology to the business and the customer
4. Conclusions and recommendations on what measures must be implemented to protect customers and minimize or completely eliminate abuse of technology by companies.

8. Results: Tesla Case Study:

8.1 Presentation of the case:

Tesla Inc. is an American based automotive and energy company headquartered in Palo Alto, California. It is one of the world's most famous electric vehicle brands. Tesla's mission and vision statement show the company's diversified areas electric manufacturing and the automobile company is well known for its definitive bold stance on the future of the automotive industry. Tesla has a vision "to create the most compelling car company of the 21st century by driving the world's transition to electric vehicles" (Tesla, 2019.)

Tesla has a vision statement, a mission statement and a business strategy that boldly support the company's stance and strategy.

In this case study the author will describe Tesla's business strategy and how technology plays a major role in it. I will further describe the benefits of technology in giving Tesla a competitive advantage and the recent legal proceedings file against Tesla CEO and then Chairman, Elon Musk for misuse of social media technology.

8.1.1 Point of view

The automotive industry in the digital is one dominated by various technologies. Information and communication technology, artificial intelligence, big data etc. are employed in car manufacturing today. What sets Tesla apart from other car manufacturers is the company's vision and mission, and perhaps most importantly, the business strategy envisioned by CEO and co-founder Elon Musk. Musk's vision for the company will be further discussed in this case study.

8.1.2 Time Context

This research was conducted from January 1st, 2019 – April 20th, 2019 using secondary research from various verified digital news articles.

8.1.3 Statement of the problem

In this case study, the author aims to understand the Tesla way of car manufacturing, the role of technology in Tesla's production of electric solutions and the vision of Tesla CEO Elon Musk for the company.

Specifically, I try to answer these two questions:

1. How does Technology command Tesla's long-term business strategy?
2. What are the effects of misuse of social media technology by Elon Musk on Tesla as a company and on its customers?

8.1.4 Statement of the objective

This thesis paper aims to determine the role of technology in the present and future role of technology in the automobile industry. Additionally, this paper aims to show how misuse of any technology can have huge effects on the business and on customer perception and loyalty towards a product and the company.

8.2 Tesla Mission Statement

“Tesla’s mission is to accelerate the world’s transition to sustainable energy”

Three constituents are notable from Tesla’s Mission

1. Accelerate
2. The worlds transition
3. To sustainable energy

8.2.1.1 Mission Statement Part 1 – Accelerate

The first part of Tesla’s mission “Accelerate” firmly establishes the company’s part in driving the automobile industry toward new automotive technology that manufacturing processes that primarily depend on sustainable energy, one that meets the global demand of energy without being harmful to the environment.

8.2.1.2 Mission Statement Part 2 – The world’s transition

The second part of the Tesla mission is “The world’s transition”. This piece of Tesla’s mission shows the company’s forward-thinking mentality and a part of their strategy which we will further discuss in the next section of this paper. Tesla expects to dominate the global market for electric vehicles, electric automotive parts and beyond. This constituent of the mission statement directly relates to the significance of the company’s vision statement.

8.2.1.3 Mission Statement Part 3 – To sustainable energy

Finally, the third part of Tesla’s mission is “to sustainable energy”, a component that clearly shows Tesla’s intention. The company and founder Elon Musk predict that the world will slowly move away from fossil fuels, and they want to be at the forefront of that move. Tesla strategically aligns their mission statement with strategic business objectives and aim to leverage advanced technology to satisfy a growing demand for renewable energy. The company’s business scope is not limited to manufacturing electric automobiles but also electric parts such as batteries, roof panels, electric charging stations and other developing and profitable future renewable energy solutions (Rowland, 2018).

Automotive innovation through technology is a major driver of Tesla’s mission. Electric cars, batteries charging stations, roof solar panels, and solar panels among others are Tesla’s

portfolio and by using technology to discover the best ways to build and smoothly integrate all these products together, Tesla will achieve its mission statement.

8.3 Tesla's Vision Statement

Tesla's vision statement is "to create the most compelling Car Company of the 21st century by driving the world's transition to electric vehicles" (Tesla, 2019.)

As earlier shown in Tesla's mission statement, the company's vision also emphasizes on sustainable energy. Tesla's Vision statement however, specifically focuses on tackling the electric vehicle market as a primary route to growing the global demand for renewable energy. Creating the most compelling car company in the 21st century requires advanced technology and that is how technology will command Tesla's business strategy, this paper will further show this when discussing Tesla's business strategy.

For Tesla, the vision statement consists of 4 (four) significant parts.

1. Most Compelling
2. Car company
3. Of the 21st Century
4. World's transition to electric vehicles

8.3.1.1 Vision Statement Part 1: Most Compelling

In the vision statement the company aims to be the most compelling in the automobile industry. This piece of the vision statement shows the leadership and excellence level Tesla aims to reach in the business (Rowland, 2018). Tesla aims to approach this aim by leveraging advanced technology and integrating this technology into its entire company portfolio.

8.3.1.2 Vision Statement Part 2: Car Company

The second part of the vision statement "Car Company" shows the company's focus on designing and manufacturing cars. (Rowland, 2018)

8.3.1.3 Vision Statement Part 3: Of the 21st Century

The third part of the vision statement shows the company's aim of using advanced technology to satisfy global climate concern. This part of the vision statement further emphasizes the

mission statement of using renewable energy to build, design and deliver vehicles that are not harmful to the environment. (Rowland, 2018)

8.3.1.4 Vision Statement Part 4: Worlds Transition to electric vehicles

The fourth part of the vision statement further emphasizes the company's global goals. "World's transition" means the global market, and tesla has an objective to expand its operations to a global market and deliver electric cars and other electric solutions to all corners of the globe.

The company according to the South China Morning Post, in October 2018 built the biggest electric charging stall in Asia, a 50-stall charging station in Hong Kong (Yau, 2018), and more recently in January 2019, broke ground for the first production factory outside of the United States in Shanghai, China (Ohnsman, 2019).

Such an expansion by Tesla tackles major competitors and brands like Toyota, Tata, General Motors, Mercedes, BMW, etc. This indicates Tesla's vision to become a dominant force in the electric car market (Rowland, 2018).

8.4 Elon Musk, technology and Tesla's Business Strategy

8.4.1 Elon Musk and Tesla

"The competitive strength of Tesla long term is not going to be the car, it's going to be the factory. We are going to productize the factory... The Model T wasn't the product. It was the River Rouge. We will have a great product. But the factory is going to be the product that has the long-term sustained competitive advantage" – Tesla founder and CEO Elon Musk. (Liker, 2019).

Elon Musk, the tesla founder and CEO, in a call to Wall Street investors in 2018, made the above statement to show which long-term strategy he envisions for the electric car manufacturer.

8.4.2 Elon Musk and Tesla's Business Strategy

Tesla aims to productize the auto mobile factory, so that they can revolutionize car assembly and gain competitive advantage. Just like Automotive giant Toyota revolutionized the car

manufacturing industry in 1998 with the Toyota production systems (Gutowksi, 2017), Tesla aims to change the way vehicles are produced by leveraging technology to speed up car assembly of electric vehicles faster than ever before.

According to the business insider article in 2016 titled *“Elon Musk: Tesla's factory will be an 'alien dreadnought' by 2018”*, during Tesla’s third quarter earning calls of 2016 Musk said, *“Our internal code name for the factory, the machine that builds the machine, is the alien dreadnought,” Musk said on the call. “[When] our factory looks like an alien dreadnought, then we know it's probably right.”* (Muoio, 2016). Musk aims to bring in rigorous technological advancements to the Tesla production factory to boost production. Currently, Tesla utilizes over 500 (five hundred) huge robotic arms to assemble various electric vehicle models but Elon Musk is looking towards even more automation.

8.5 Tesla and Technology

In other words, Tesla and Musk want the “machine that builds the machine” to reach its optimum operating potential. The company’s long-term strategy to ensure competitive advantage is to utilize these factories in mass production of electric vehicles, assembled at a pace never experienced before in the automotive industry. Tesla and Musk aim to change the world and technology is a major influencer and part of their strategy to do so (Desjardins, 2018).

Along with Tesla’s strategy, the company initiated a move to complete what is now known as the Gigafactory to aid their goal of revolutionizing the car industry and their strategy of productizing the factory to gain competitive advantage. The company aims to complete their giant Gigafactory in Nevada by the end of 2020 and plans to increase production to about 500,000 (five hundred thousand) vehicles a year when the factory is completed (Tesla, 2019).

Tesla according to its vision aims to accelerate the world's transition to sustainable energy, but they are not going to achieve this goal by simply building electric vehicles such as sedans, sports cars, and sports utility vehicles (SUV’s), Tesla aims to be much bigger than that. The company recently unveiled its plans to build the Tesla Semi truck. A fully electric vehicle that will replace medium and heavy trucks, and mass public transit vehicles to reduce emissions and dependence on conventional diesel-powered buses (Ohnsman, 2017).

The company also aims to provide power to homeowners to create a self-serving ecosystem of electric products. Tesla and Musk have already set up these battery farms as they are called, in Australia and South Korea. (Thornhill, 2018)

8.6 Communication Channels: Elon Musk and Twitter

Twitter is one of the most popular social networking platforms in the world today. It is an American digital and internet based social networking, blogging service where users can post short messages to interact with their followers or a global audience. I am a user of twitter myself and so is Elon Musk, a much more active user than I am, and perhaps one of the most active users on twitter today.

Elon Musk, the tesla CEO and Cofounder is a habitual tweeter. According to statistics retrieved from the Wall Street Journal, Elon Musk has tweeted more each year since 2015 (WSJ Graphics, 2018). Musk leverages twitter to communicate business ideas to a global audience and his followers, all 25.6 million of them (Twitter, 2019).

According to recent Elon Musk's twitter statistics, as of April 10th, 2019 Musk has 25.6 Million (Twenty-Five Million, Six hundred thousand) followers on twitter, and 7,192 (Seven thousand one hundred and ninety-two) "tweets". Musk usually uses twitter to share his life views, send rebuttals to critics and tease business ideas for his various companies, however, it is his most recent communication technique, one of his most recent tweets that has got him into a legal battle with the United States Securities and Exchanges Commission.

8.6.1 Elon Musk Tesla Tweet

In August 7th, 2018 at around 6:48 pm (EU Prague Time), Elon musk sent the tweeted that he was considering taking tesla private at the cost of \$420 (four hundred and twenty) per share, and further implied that he had secured the necessary funding. Musk followed that tweet with another that advised shareholders to either sell each share at \$420 (four hundred and twenty dollars) or hold the shares and go private. Furthermore, Musk also tweeted that the investor support was confirmed and the only blockage to taking tesla private was that the decision is contingent on a shareholder vote. An image of the tweet is shown in figure 1, in page 35 below:

Figure 1



Tweet from Elon Musk twitter account

Source: Twitter.com

Musk's tweet was sent moments after and it caused a stir in the business community. The Financial times had earlier reported that the Saudi Arabian foreign wealth fund has acquired a \$2,000,000,000(Two-billion-dollar stake) in Tesla Company (Massoudi & Walters, 2018). The financial times had earlier reported that the Saudi foreign investment fund bought a 3 to 5 percent stake in tesla. According to CNBC news, the Saudi fund had approached Tesla CEO Elon musk with a proposal to acquire newly issued shares in the company, but tesla declined, so instead the Saudis purchased the shares in secondary markets (Kim, 2018).

8.6.2 Consequences of the tweet on the business

8.6.2.1 Share Prices

Tesla's shares rose after the news surfaced and surged even further, more than 10 percent after Musk's tweet mentioned taking the company private. The price Musk had tweeted was significantly higher than the stock market price of Tesla (TSLA) which was listed at slightly above \$340 per share (Three hundred and forty). According to CNBC article published on Tuesday August 7th, 2018 Tesla shares rose by 11% (11 percent) after the tweet meaning that short sellers – sellers who make a gain if the price of a stock declines, lost \$1.3 Billion (One billion, three hundred million dollars) in mark to market losses (Kim & Picker, 2018).

8.6.2.2 SEC Lawsuit

A few weeks after Musk's tweet, on the 27th of September 2018 the United States Securities and Exchanges commission filed a Lawsuit against then CEO and Chairman of Tesla, Elon Musk charging him with securities fraud for false and misleading tweets about a possible transaction to take the electric automaker private (SEC, 2018). The SEC's complaint against Musk alleged that, contrary to what Musk had tweeted, the Tesla chairman had not discussed any specific deal terms with any potential financing partners. The lawsuit alleges that Musk knew that any potential transactions were far from certain and had a lot of contingencies. The SEC in the subpoena stated that, the tweets from the Tesla chairman caused the company's stock price to jump by over 6% six percent on the day of the tweet and led to significant market disruptions (SEC, 2018).

A few days later, on the 29th of September 2018, United States Securities and exchanges commission announced that Musk and Tesla have agreed to a settlement deal (SEC, 2018). On the same day, Tesla the was charged by the SEC for failing to demand disclosure procedures concerning Musk's tweets, to determine if the tweets the then Chairman and CEO made contained any information that the company should have disclosed to the SEC. Additionally, SEC charged Tesla alleging the company had no adequate processes put together to make sure that the tweets of their Chairman and CEO concerning the company were complete or accurate. The company agreed to a settlement deal on the charges against them without admitting or denying the allegations made by the commission (SEC, 2018).

As part of the settlement agreement Tesla and Musk were required to pay \$20,000,000 (Twenty million dollars) each to the SEC and the fines will be distributed to investors who were harmed by Musk's tweets. As part of the settlement, Chairman Elon Musk must step down from his position as Tesla's Chairman for a period of three years. The SEC also required Tesla appoint two independent directors to put adequate measures in place to oversee communications of Elon Musk (SEC, 2018).

8.6.2.3 Investor Lawsuits

On the Monday after the weekend settlement with the SEC, Tesla stocks (TSLA) surged up to 17% (seventeen percent) according to CNN business (Jordan Valinsky, 2018). However, prior to that Tesla shares were down by as much as 12% after the SEC sued Musk. Fears from investors grew and as they doubted if Musk and Tesla Inc. could live up to their ambitious production goals and promises.

The company was also sued by shareholders seeking class action for investors who purchased or sold Tesla stock between August 7th and 10th (Wattles, 2018). The lawsuits filed accused Musk or Tesla of using false and misleading information to harm short sellers. Musk according to CNN has frequently spoke out about short sellers, accusing them of manipulating the press, by feeding them stories to publish that negatively reflect Tesla (Wattles, 2018).

8.6.3 Impact on Investors

From this single tweet, the company opened itself up to lawsuits from investors and the SEC. After the SEC announced they were charging Musk with fraud, Tesla Inc. shares dropped by 13% meaning investors lost money through lost share value as the stock fell from \$307.52 as of close to \$268 according to CNBC (Imbert, 2018). Although the case was settled, there is still an ongoing battle between Elon Musk and the SEC concerning a breach in the settlement agreement. Customers and investors were affected by the case and the lawsuits and though there is still belief in Musk's ability to lead the company forward, there is also concern about his behavior and those concerns were validated by the tweets.

Some investors consider the tweets as nothing more than a vile attempt to raise stock prices and mislead the public (Wattles, 2018). If that becomes or remains the narrative it will be highly detrimental to the growth of Tesla and may slow or entirely scupper the company's vision and goals. These cases are bad for the company and will only harm customer perception and loyalty

even further. The on-going case from the SEC may even oust Musk entirely from the company, and that may just be the last straw for Tesla, but until the case is settled the questions about the company's future and Elon Musk's role in it will linger. In addition to the cases, Tesla shares fell by 8.2% on the 4th of April according to the BBC due to poor vehicle deliveries (BBC News, 2019). The BBC reported that the company encountered some problems in shipping their lowest priced car, the Tesla model 3 and a sharp fall in deliveries of the model S and model X.

8.6.4 Impact on customer perception

Investors and customers of Tesla may not see the company in the same light if the company loses law suits against the SEC and other shareholders. Elon musk continues to tweet and that is the basis of new charges levelled against him by the SEC (CBS News, 2019).

The SEC this time allege that musk broke the terms of the initial settlement deal by tweeting in February 19th, 2019 that tesla will make 500,000 cars this year. Musk altered his statement, saying that he meant that Tesla had begun manufacturing electric vehicles at a rate that will translate to 500,000 (five hundred thousand) during a calendar year not the actual year of 2019 (CBS News, 2019).

These statements portray a CEO that is not in alignment with his company's projections and this is a good enough reason to discourage potential investors in the company. Tesla has objectives of fully autonomous vehicles, aided by artificial intelligence and big data. The company has many ambitious goals, but these goals can be achieved by the completion of their high-tech factories and active involvement of co-founder Elon Musk. However, the cases against him may alter the company's goals, particularly if he is removed from the running of the company because of his tweeting habits

For customers, perception is key, and it is hard to imagine customers buying Tesla products when the company does not operate with Elon musk at the helm. He is the reason tesla has survived this long and have built a reputable brand, but his social media activities lately have been more detrimental than helpful to the company and has opened a possibility that was not existent or fathomable in previous years, a Tesla company without Elon Musk.

9. Discussion

9.1 Main Findings

Tesla is a great example of a company leveraging technology to not only profit as a business but to positively change the world through its electric vehicles and revolutionize the auto industry.

Tesla Inc. has changed and will likely continue to the car industry by leveraging technology to drive automotive transformation.

The first objective of the tesla case study was to describe the relationship between business strategy and technology at tesla. This goal was realized in the Elon musk and Tesla vision strategy part of this thesis. Using the results from this section, the business strategy of tesla is clearly stated. It is therefore valid to say that technology significantly boosts competitive advantage for Tesla and any company that chooses to adopt and utilize technology will have a strong ally in driving business growth, efficiency and sustaining competitive advantage.

Elon Musk is a brilliant mind and most investors believe in him at the helm of tesla rather than the company itself without Musk.

The Tesla CEO redefined the auto industry, an industry with century old traditions and processes. The automotive industry is not alien to innovations seeing how advanced, luxurious and all-round performance upgrades cars have gone through over the years, however Tesla, a company cofounded by Musk in 2003, has pushed the limits beyond what most automotive titans thought possible.

Musk and Tesla unapologetic approach to technology and innovations is evident in the product the electric car manufacturer delivers to consumers. Every tesla product is loaded with ground breaking technological innovations.

The next objective of this Tesla Case Study was to outline cases where social media technology was misused by the company. This objective was achieved in the “Communication Channels: Twitter and Elon Musk” section of this thesis.

The third objective of this thesis paper was to show the implications of the misuse of social media technology to the business and the customer. This objective was also achieved in the “Communication Channels: Twitter and Elon Musk” chapter of this paper. The results from

this analysis further showed the impact and consequences of Elon Musk's misuse of social media on Tesla Inc. and Musk.

9.2 Interpretations from other studies

Rassweiler & Brinley (2014) noted that Tesla Inc. has changed the automotive industry through disruptive innovations. Noting technical, manufacturing, development, service, and power train transformations the study shows how Tesla Inc. pursues competitive advantage through these 5 (five) characteristics of Tesla Inc. and the company's flagship model S.

Patrick (2018) in his case study of Tesla Inc. transformation of the automotive industry, also outlined how the company consciously invited more criticism than most new companies because they are bold enough to set ambitious goals and, most even more adamantly insist that its vision of producing electric vehicles with no emissions is one that the auto mobile industry will arrive to. The company envisions an auto industry with no fossil fuels and insist that is the future of the automotive industry. This thesis paper supports the findings from the two case studies but also outlines the most recent challenge Tesla Inc. is facing, the use of social media as a communication channel by CEO and then Chairman Elon Musk and the impact that has had on the company.

9.3 Limitations of research

This research paper is limited in its scope in relation to other companies mentioned in the. The findings of this research are obtained through secondary sources. There is little insight into how other major firms with history dating back decades of operation, are leveraging technology to advance growth and gain competitive advantage, therefore the findings are limited in context.

10. Conclusions and Recommendations

10.1 Conclusions

The objective of this final part of the thesis paper is to provide conclusions and recommendations drawn from the main findings chapter of this paper. After outlining the most important limitations of this research, a set of recommendations as to how companies can strategically position management techniques to leverage technology and develop customer facing products that grow market share and maintain competitive advantage is articulated.

This paper fulfils the thesis objective by answering the four questions.

How should management operate in the digital age? This paper answers this question in the “Management in the digital age” chapter. Further analysis of the chapter shows that if management can be can align the means of production in the digital age with technology, business strategy and a customer centric approach, value will be maximized for the business.

The second question of How does technology command business strategy is further explained using tesla as a case study, and other noted examples of Tesco Self Service, Amazon Go, and Dubai Airports, this thesis paper shows how technology commands business strategy by showing businesses that when technology is utilized, it has a direct impact on customer perception, experience, and loyalty. If a business entity wishes to provide the best customer service and experience to its global customer base, technology must be utilized.

In the case study examples shown in “The digital age: Strategic Management and Technology” part of this thesis paper, the question of “how does technology influence customer perception and loyalty” is explained. Additional this chapter describes the advancement of technology in the retail and aviation sector, and its influence on the customer. Furthermore, in the Tesla case study, in this paper clearly shows the influence social media technology has on customer perception.

10.2 Recommendations

The fourth and final objective of this thesis paper was to identify and develop measures that can be implemented to protect customers from the misuse of technology by companies. This objective will be achieved through the recommendations of this thesis paper.

It can be recommended that governments put measures in form of legislations to enforce governmental compliance and regulate use of technology by companies. By adding legislations to criminalize misuse of technology, governments will eliminate or curtail how companies leverage technologies to boost profits. This recommendation will apply to any and every company utilizing technological processes and customer data.

It is also recommended that companies enhance their business ethics to curtail misuse of technology and be held accountable by global legislative organizations and non-governmental organizations when they break business ethics. One of the clauses in the settlement agreement between Elon Musk, Tesla and the SEC was that the company set up additional measures to supervise communications of Elon Musk (SEC, 2018). This shows that if the company had employed stricter measures to monitor their then Chairman and Current CEO's tweets, they would have advised him better on tweeting sensitive unvalidated information on behalf of the company, information that turned out to be false.

While businesses are encouraged to maximize profits, they must do so within the constraints of the law and must protect their stakeholders while doing so. In the case of Tesla, the stakeholders lost because the shares of the company fell after the SEC announced they were suing Tesla (Imbert, 2018). Ideally this should not happen, and companies must enact better corporate policies that ensure such events do not occur.

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Univerzita Hradec Králové
Faculty of Informatics and Management
Academic Year: 2018/2019
Thesis field of study: Information Systems Management

Study Programme: Systems Engineering and Informatics
Form: Full-time
Branch/comb.: Informační management (im3-p-an)

Document for registration BACHELOR STUDENT'S THESIS

Submits:	ADDRESS	PERSONAL NUMBER
Akaniro Samuel Edozie	Trinity College Road, Faith Chapel INTL., Umuahia	11500974

TOPIC IN CZECH:

MANAGEMENT V DIGITALNÍ ÉŘE: JAK TECHNOLOGIE URČUJE PODNIKOVOU STRATEGII A OVLIVŇUJE VNÍMÁNÍ A LOAJALITU ZÁKAZNÍKŮ.

TOPIC IN ENGLISH:

MANAGEMENT IN THE DIGITAL AGE: HOW TECHNOLOGY COMMANDS BUSINESS STRATEGY, INFLUENCES CUSTOMER PERCEPTION AND LOYALTY.

SUPERVISOR:

doc. Ing. Pavel Bachmann, Ph.D. - KM

RESEARCH PLAN:

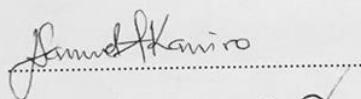
List of recommended literature:

Turban, E., Leidner, D., McLean, E., Wetherbe, J., Cheung, C., Tse, D. and Lew, M. (2006). Information technology for management. Hoboken, N. J: John Wiley & Sons.

Haberberg, A. and Rieple, A. (2008). Strategic management. New York: Oxford University Press.

Capon, C. (2008). Understanding strategic management. Harlow, England: Pearson Education Limited.

Student's signature:



Date: 12/11/2018

Supervisor's signature:



Date: 12/11/2018