

**Innovation and technology has provided numerous business and firms can
enhance their growth and development.**

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Abstract: Innovation and technology has provided numerous platforms business and firms can enhance their growth and development. Innovation and technology has acted as contributing factor towards company's capability to adapt to industry competition, change, and the external dynamic business environment. In the past, both innovation and technology didn't pare a lot of business essentials and thus lacked the required business and market yields. Notably, nowadays people and firms have embraced innovation and technology, making it part and parcel of their daily routine and the general operations of the firm. This steps have had an upturn impact of ways services and goods are offered thus the continuity of firm's operations in embracement of innovation and technology.

Keywords: Industry, innovation, technology, business.

1. SCOPE OF THE STUDY

Notably, customization is innovation-driven marketing and manufacturing strategy that allows customers to design end products according to their specifications (Pollard et al. 2016). Huge market players have realized the fact that customers are willing to pay more, even a lot more, to interact with items as they are being made or better still, to personalize their products. It is pertinent to point out the fact that the strategy has been there for several decades. However, its rapid expansion always encountered technological hiccups. Luckily, in the recent past, rapid technological growth such as computer graphic order processing and robots with high versatility levels has seen to it that firms can adopt and utilize the business theme. Particularly, the age of e-commerce has widened the door for customization by eliminating or alleviating differentiation and enabling flexibility. Figure 1 below illustrates the growth of the theme of personalization over the recent past.

2. PURPOSE OF THE STUDY

For a long time, mass customization has been perceived as an innovation-driven business strategy for huge manufacturers. However, the wake of technological advancements has helped to level the field and allow smaller businesses to produce bespoke products. In light of this fact, the research is intent on demonstrating how technology and innovation have enabled the expansion of the theme of

customization at this point in time. Moreover, the report will illustrate some of the technologies that have been critical in nurturing customization as a business innovation theme.

3. OBJECTIVES OF THE STUDY

The central objective of this study is to deconstruct the aspect of management of innovation and technology transfer. However, in order to fully achieve this objective, the research will incorporate the following co-objectives;

To demonstrate how companies are utilizing the theme of customization

To unravel the impacts of customization on large and small businesses

To demonstrate the technologies that have aided the expansion of the theme of customization.

4. INTRODUCTION

In essence, technology has played a significant role in transforming numerous, if not all, industries. The realm of business has not been exempted from the wave of technological transformation. The stiff competition existing in the business world have compelled firms to seek technological loopholes that will give them competitive edges. As a result, innovation-related business themes are continuously emerging. In this context, the discussion is intent on exploring how the aspect of innovation intertwined with technology has reshaped the field of business. Specifically, the discussion will focus on exploring customization as a current business theme.

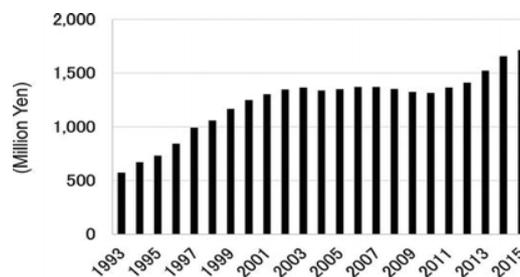


Figure 1: Growth of mass customization; source, Kanama (2017)

5. METHODOLOGY

It is worth mentioning that the discussion focused on Option 1 of the assignment that required conducting research on a business-related theme. Bearing that in mind, the research will utilize content analysis as a research methodology. Notably, not only does the approach suit the research question, but it is also suited for exploring the aforementioned study objectives. Ideally, content analysis entails the systematic evaluation of texts to unravel meaningful findings that support and reflect on the importance of the study. In this context, content analysis will be integral in finding texts that deconstruct the relevance of innovation and technology transfer in the business world. Equally important, the technique will help to identify materials that have concentrated on customization as a growing business theme.

5.1 Data Analysis

In a nutshell, this section of the research seeks to illustrate how the study correlates with existing theories of innovation. Thus, existing secondary data will be analyzed with respect to theories of

innovation to convey the relevance of innovation and technology in business themes. Specifically, the analysis is expected to show a direct association between customization, the business theme guiding this study, and theorized conceptual frameworks.

To begin with, the theory of innovation diffusion asserts that emphasis should be placed at doing something differently because, over time, the new concept gains popularity and diffuses through a particular population (Assenova 2018). Similarly, the concept of customization concentrates on implementing change at every particular product because each customer may individualize his/her product differently. An ideal illustration of the theory can be seen through Levi's Original Spin program, popularly referred to as the personal pair. Levi Strauss launched a program in 1994 that allowed customers to customize their jeans according to their specifications (Howland 2014). The process was embedded in the firm's logistics and distribution network through computer-aided design. As a result, other firms in the fashion industry embraced the concept leading to its diffusion. Despite the fact that the service barely took off, its vast diffusion depicts the correlation between innovation and change, which in this case is customization. That is, the coinage and application of the concept in the early nineties paved the way for its diffusion into other sectors.

Correspondingly, the theory of incremental innovation boldness the impact of innovation in competitive differentiation. In essence, the theory dictates that a series of small upgrades made to a firm's existing products are deemed to improve the products' market position (Li & Huang 2019). As illustrated earlier, customization entails allowing customers to specify the features of the products they want. Therefore, it is a way of performing small improvements to existing products. It is also worth mentioning that technological advancements have played a significant part in enabling low-cost customization. Following this, companies are able to rip more benefits by embracing incremental innovation. Figure 2 below portrays the impact of incremental innovation in stimulating business growth.

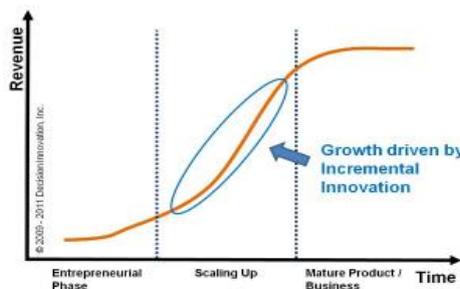


Figure 2. The growth driven by incremental innovation, source: Sorenson et al. (2016)

6. FINDINGS

Statistics concerning the growth of the theme of customization in the business world are intriguing, to say the least. Research has shown that one in every three customers want the ability to customize a product and, more importantly, will look for that particular capability when shopping (Weintraub 2015). Moreover, studies have shown that consumers are willing to pay above twenty percent more for customized products.

Equally important, statistics indicate that over fifty percent of millennials prefer personalized products. Notably, millennials constitute a significant market share, and they will be consumers of goods and services for an extended period. Bearing in mind the fact that we live in a world where

everybody wants their way, pundits have shown that customization is the breakthrough through which companies can explicitly satisfy the needs of their customers. To gain a competitive advantage in the global market, firms ought to integrate technologies that allow customers to customize everything to fit their tastes and preferences.

Finally, more and more customization options are becoming available as the prices of technological tools that once cost thousands of dollars continue to drop (Weintraub 2015). As a result, companies that were initially held back by financial constraints can now venture in the personalization of products at minimal costs. By so doing, not only are businesses able to rip more benefits, but they are also able to build customer loyalty. After all, if consumers can get the exact product or service they desire, they are likely to come back again. Giving them what they want through customization makes loyal to a brand.

6.1 Customization in the Automotive Industry

Basically, diffusion of customization has seen to it that players in the automotive industry have embraced the trend to satisfy their customers. For a long time, customization in the realm of automotive was limited to luxury brands. However, the decline of the costs of technological tools coupled with the increasing desire to satisfy customers has led to the adoption of the strategy by other mainstream manufacturers. In this context, the discussion will use the Rolls-Royce to manifest the power of customization as an innovation-driven business theme.

When releasing the company's 2018 data, the CEO of Rolls-Royce Motor Car Ltd., Torsten Muller-Otvos revealed that over ninety percent of all Rolls-Royce cars that are sold are greatly personalized to the extent that they are literally one-offs (Elliot 2019). More specifically, personalization levels in the Phantom estate car reach ninety nine-percent while the levels are one hundred-percent with the Cullinan SUV. To keep up with these staggering demands of customization, Rolls-Royce Motor Car Ltd. has hired over one hundred employees in the bespoke sector. Notably, most of the other players in the automotive industry are channeling significant impetus in developing hybrid and electric cars. Surprisingly, Rolls-Royce is doubling down on customization. It is evident that consumers are increasingly intrigued by the ability to incorporate their own individual signature on products. Figure 3 below portrays some of the customizable amenities of a Rolls-Royce Phantom such as spots for champagne coolers, cigar humidors, as well as picnic baskets, just but a few.



Figure 3. The customizable interior of a Rolls-Royce Phantom, source: Elliot (2019)

6.2 Customization in the Fashion Industry

Customization in the apparel industry has gained popularity and not only among startups but also among established brands. The reason for the staggering growth of the trend in the fashion industry is the provision of the ability to design fantasy products that customers wished they could buy, but they could never find. As illustrated earlier, the idea of mass customization in the fashion industry

was introduced as early as the 1990s by Levi Strauss. Unfortunately, the concept never really took off due to a number of reasons including, but not limited to, technological hitches, marketing issues, as well as the target population. However, in recent years, technological advancements have made it easier for firms to implement online design tools in their websites that enable consumers to order personalized and customized products in an efficient and timely manner. Furthermore, the heterogeneity of the global market allows companies to maximize profits from mass customization. An ideal example of a startup firm utilizing customization is the Elemental Thread Co., popularly known as eThreads. eThreads' design studio contains design tools that are straightforward and easy to use (Elementary Threads 2019). The portal displays an accurate 3-D visual representation of the handbag a customer is designing, alongside detailed description about the product. Most importantly, the design studio contains innumerable design option to choose from, and hence, customers are able to customize their bags fully beginning from the handles, body, hardware as well as the fabric. As a result. Customers are able to create stylish handbags according to their tastes and preferences. Figure 4 below illustrates eThreads' design studio.



Figure 4. The design studio for eThreads, source: Elementary Threads

One of the world's top firms in the athletic wear, MYSWEAR, has also been swept aboard by the massive wave of mass customization. MYSWEAR has entangled modeling technology in their website allowing customers to see and select every aspect of their shoes ranging from the shape of the sneakers, lining, soles, eyelets, toecaps, and uppers to the appearance of the laces. Despite the fact the site is a little unfriendly for those who are not well conversant with shoe designing, it fosters creativity by allowing consumers to try different things. In fact, MYSWEAR's customization program has gained endorsement from fashion insiders such as Nick Wooster, the ultimate men's streetwear style icon. Figure 5 below shows sample customized sneakers from MYSWEAR shoes.



Figure 5. Customized shoes from MYSWEAR, source: MYSWEAR

6.3 Customization in the Food and Beverage Industry

The diffusion of the theme of customization into the food industry reveals that the trend is gaining popularity at a faster rate than initially thought. Technological progress, coupled with innovation, have enabled the implementation of smart manufacturing and mass customization to address the diversified customer needs. Despite the fact that the food manufacturing industry is not embracing innovation activities as robustly as the other manufacturing industries such as automotive and electronic industries, deployment of customization signifies a critical paradigm shift.

Sekiya Brewery Co., Ltd. In Japan is a typical example of companies deploying innovation activities, in the form of customization, in the food industry. Sekiya has realized that new technology has the potential to boost their sales. Thus, the company has implemented a custom-made manufacturing system that concentrates on transferring implicit knowledge and techniques through digitization, thanks to technology. According to Kanama (2017), digitization alone is not enough to stimulate a major impact on a business. The key lies in understanding a company’s data, which Sekiya has managed to do and hence succeeded where other sake manufacturing companies have failed. Sekiya’s digitization program went hand in hand with the analysis of data from experienced artisans. In so doing, the firm generated high-quality and stable production techniques that address the specific needs of customers. Figure 6 below shows a sample of some of the customized Sekiya products.



Figure 6. Various customized Sekiya products, source: Kanama (2017)

Also, it is impossible to discuss customization and turn a blind eye on the efforts that the world’s leading soft drink producer, Coca Cola, has been placing to achieve customer satisfaction through customization. It is pertinent to note that it is becoming increasingly difficult for large manufacturers to remain unique in contemporary competition-infused consumer packaged goods markets. Following this, consumers often struggle, in one way or the other, to identify real differences in the superfluity of products available in the markets. As a result, there has been a significant paradigm shift in purchasing behavior from brands to the lowest priced option. Coca-cola has realized that mass customization is one of the innovative strategies to address these shortcomings and reinvigorate the complex market.

Pundits have proven that personalization has the potential to connect brands with consumers at the deepest level. In light of this fact, Coca Cola’s freestyle mass customization program utilizes smart beverage dispensing system that allows customers to customize their drinks (). Moreover, the company has been able to create an emotional connection through its “Share a Coke” campaign launched in 2011. The incorporation of customized apparel, cans, bottles, as well as other gifts from the company has seen to it that customers scour through stores and vending machines looking for products with their names. Therefore, it is blatant that the rapid advances in technology will propagate the customization theme even more and propel it to unprecedented levels. Figure 7 below portrays coca cola’s customization.



Figure 7. Coca-Cola customization, source: Unbottled Staff (2017)

7. KEY IMPLICATIONS

According to Martin and Leurent (2017), innovation and technology transfer are the keys to unlocking value and avoiding perils. That is, considering the fact that technologies interact with every end-to-end production system and universal value chains, they contain the power pave the way for new opportunities that will maximize value in contemporary high-cost environments and competitive markets. Equally important, Martin and Leurent (2017) postulate that advances in technology will negatively impact workers on the factories if societies do not enact strategies to prepare their workforce for the new skill sets. If that happens, a whole new level of industrial and geospatial competition will be unleashed. Thus, embracing innovation and technology transfer through emerging business themes such as customization is the only strategy to abate the expected negative impacts.

Moreover, research indicates that if companies fail to develop at a pace that allows them to keep up with current and emerging business trends and themes, they will be left behind quickly. As a matter of fact, experts have analyzed facts and coined a future production radar and technology, and innovation are at the nucleus of all processes. Interestingly, the technology radar illustrates that five critical technologies stand out from the rest and are expected to have a more reaching impact. The five technologies are 3-D printing, wearable, artificial intelligence (AI), the Internet of Things (IoT), as well as advanced robotics (Martin & Leurent 2017). Notably, as illustrated earlier, 3-D printing has played a significant role in enabling mass customization across myriad fields. Therefore, arguably, its inclusion in the top five technologies expected to shape future production shows that customization will have a greater impact on the future of production and marketing.

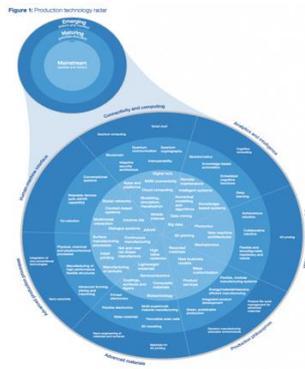


Figure 8. The future of production, source: Martin and Leurent (2017)

Correspondingly, social media analyses illustrate that we are living in an era where self-expression matters, almost more than anything else. In light of this fact, it is evident that the need for personalized products that helps individuals to express themselves is expected to escalate to unprecedented levels. In fact, Pollard et al. (2016) agree that mass customization enables individuals, as well as organizations to create products that serve as an extension of themselves. That is, customization enables expression of individuality in a tangible manner. Thanks to innovation and technological advancements, companies can be able to deliver breakthrough customer value through customization, especially in contemporary and future markets in which uniqueness sets the benchmark of a physical product.

Finally, studies indicate that the continuous paradigm shift in the business world has finally moved from agility to customer satisfaction. Companies are channeling more and more impetus in devising

strategies that will ensure maximum satisfaction of their customers. Experts have identified product customization as an effective means to meet customer needs. Thus, companies should utilize this innovative strategy to build loyalty with consumers if real success is to be attained in achieving customer satisfaction.

8. CONCLUSION

To wrap up the discussion, it is evident that innovation and technology transfer has a great potential to reconfigure existing markets as well as open up new markets. In light of this fact, it is paramount for businesses to be technologically savvy of current and emerging innovation-driven business themes. In this context, the discussion focused on exploring customization as a current business theme. As illustrated earlier, myriad industries including, but not limited to, the food industry, the automotive industry, and the fashion industry, have been at the forefront of deploying customization and harnessing its numerous benefits. It is also pertinent to point out the fact that customization is future proof because advances in technologies are serving to help the realization of its full potential. Therefore, companies should strive to implement product customization, not only to rip more profits but also to attain customer satisfaction.

REFERENCES

- [1] Assenova, V.A., 2018. Modeling the diffusion of complex innovations as a process of opinion formation through social networks. *PloS one*, 13(5), p.e0196699.
- [2] Elementary Threads, 2019. Mass customization. [Accessed 20 August 2019]
- [3] Elliot, H., 2019. For Rolls-Royce, the future is customization, not electric. *Bloomberg*. [Accessed 20 August 2019]
- [4] Howland, D., 2014. Just for you: The promise of retail mass customization is finally here. [Accessed 20 August 2019]
- [5] Kanama, D., 2017. Manufacturing Transformation toward Mass Customization and Personalization in the Traditional Food Industry. *Digital Transformation in Smart Manufacturing*.
- [6] Li, B. and Huang, L., 2019.
- [7] Technology and Innovation for the Future of Production: Accelerating Value Creation. In *World Economic Forum*, Geneva Switzerland.
- [8] MYSWEAR, 2019. Men's MYSWEAR shoes. [Accessed 20 August 2019]
- [9] Pollard, D., Chuo, S. and Lee, B., 2016. Strategies for mass customization. *Journal of Business & Economics Research (JBER)*, 14(3), pp.101-110.
- [10] Sorenson, O., Assenova, V., Li, G.C., Boada, J. and Fleming, L., 2016. Expand innovation finance via crowd funding. *Science*, 354(6319), pp.1526-1528.
- [11] Unbottled Staff, 2017. Is your name on a coke bottle? *Coca Cola Company*. [Accessed 20 August 2019]
- [12] Weintraub, A., 2015. Is mass customization the future of retail? *The Entrepreneur*. [Accessed 20 August 2019].