



Technology Innovation and Ethics of Business Competition

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Abstract: The paper aims to present and analyze ethical issues related to technological innovations and the impact on business competition. Competition increases perseverance to do better, but can also encourage unethical business practices. Development of technology has opened doors for different ethical issues including privacy issues and the increased potential for corporate espionage. There are different ways through which different organizations are using technology in order to assist them in developing a sustainable competitive advantage. This includes the current development of Internet of Things (IoT) and big data powered by the cloud, and the development of technological tools for analytics and tracking that can be used to monitor the behavior of consumers and understand the preferences of users to automate different back-office functions which will make the workflows cheaper, faster and better. We argue that while research shows that innovative technologies can aid a business to become competitive, lack of efficient internal structure can make an organization fail even when they have invested in the most sophisticated technology. We argue that the impacts of business ethics in an organization's competitive advantage can be demonstrated by considering accountability and trustworthiness, transparency and integrity, honesty, law abiding and privacy protection, human-machine interaction, and sustainability.

Keywords: business ethics, technology innovation, business competition, business innovation

1. INTRODUCTION

In the current global economy, technology development has taken an important role in business growth and economic progress. Innovative technology is constantly used in business innovations and disruptive techniques that can help organizations to achieve a competitive advantage in the local and global markets. However, as technology becomes more integrated into the way organizations conduct business, there is a more apparent potential ethical dilemma posed by the new technologies that could affect the existing relationships between different stakeholders. As new devices and disruptive ideas become essential in running day-to-day business operations that include connecting with the consumers and improving their expectations, there are also new challenges that pose ethical dilemmas that businesses have to constantly deal with.

Business ethics is applied ethics that deals with the accountability of morality within business practices. Morals are the rules of good conduct within the society and good judgment that guides people's actions and determines acceptable and unacceptable behavior. Ethics plays a role in influencing moral judgments, actions, and rules that determine fairness and morality in the way businesses compete with rivals. Business competition poses a challenge where companies must strive to outdo their rivals. Competition can have both positive and negative consequences (Martin *et al.*, 2019). On the positive side, it encourages businesses to be innovative to produce quality products and services, provide customers with more attractive prices, and promote leaner and more efficient management (Distanont and Khongmalai, 2018). Competition helps companies to streamline value chains and increase perseverance to outperform the rivals and this implies utilizing the available resources and setting long-term strategic goals.

However, business competitive actions can also lead to unethical business practices. Numerous cases of companies submitting falsified reports or spreading malicious reports to outdo the rivals have been on the rise, especially after the emergence of social media. Further, the use of corruption to promote businesses has been rampant in the recent past. As (Williams, 2012) notes, some businesses such as

the gaming companies have intentionally used biased rules and regulations that present a conflict of interest by favoring the company while the customer assumes all the risks. The wake of technology that has been used widely by businesses to gain competitive advantage has further raised the ethical dilemma on how organizations should conduct their businesses and still establish positive relationships with the involved stakeholders. This research aims at investigating the interconnection between technological innovation and ethics of business competition. The paper highlights the role of technology in business competition and how ethics acts as driver to achieve competitive advantage.

2. ROLE OF TECHNOLOGY INNOVATION ON BUSINESS COMPETITION

Technological innovation is essential in businesses even when businesses are considered to be competent and adept in carrying out the daily activities. It allows businesses in different industries to develop a competitive edge in the market. It also ensures that processes are faster, better and more personable (Distanont and Khongmalai, 2018). The ability to tackle these challenges will ensure that the business is set apart in the saturated market. Technology assists in reframing the business landscape. It is no longer a case of technology being an esoteric phenomenon that stands out from the different industries and companies. Instead, companies should find ways through which they can develop themselves.

There are different ways through which different organizations are using technology in order to assist them in developing a sustainable competitive advantage. The current development of *Internet of Things* (IoT) and big data powered by the cloud will ensure that early adopters are able to gain advantage that could be developed into a sustainable edge over the competition (Distanont and Khongmalai, 2018). Information technology is essential for businesses. Bringing together and implementing different insights is essential for developing solutions that would assist organizations to forge a path to success.

User experience is essential, and it assists organizations in developing competitive advantage. It illustrates the different ways through which customers interact with a service or product (Cusumano *et al.* 2019). Currently with the development of behavior there will be a change in the way a product makes people feel. Therefore, the user experience and the product design have essential roles in competition.

The development of current capabilities and technological solutions, and technological tools for analytics and tracking can be used to monitor the behavior of consumers and understand the preferences of users and tailor the offering to match the needs of the consumers. Designing products and services in line with user experiences will ensure the development of competitive advantage.

Technological transformation allows for digitization and this ensures the rewiring of internal operations in a business. Technology has the ability to automate different back-office functions which will make the workflows cheaper, faster and better (Cusumano *et al.*, 2019). The power of automation is essential as it allows for improved consumer engagement and follow-ups with specials and orders. Technicians also have the ability to enter the customer information and off site. Reports can also be analyzed easily in different locations which would allow people to make smarter decisions in the organization.

Business data is huge and is created on a daily basis. This information is set to increase with the development of IoT technology (Cusumano *et al.* 2019). Organizations that are able to analyze information have the potential to gain valuable insights and achieve competitive advantage against the organizations that are not able to. Data analytics technology is essential as it assists in tracking the journey of the user, in understanding the needs of the clients, and in optimizing the efforts in the market to develop sustainable competitive advantage over the rivals that are left stabbing in the dark effectively.

Sifting through the large amounts of information will rest heavily on the algorithms of machine learning. Volumes of collected information will mean that nothing can be done in the absence of computer programs that harness the power of artificial intelligence (Armour *et al.*, 2018). Development of this kind of technology will create essential information that would assist in developing sustainable competitive advantages. This kind of accomplishment would provide an edge over rivals for years.

Cloud operations is a technological innovation that would improve the agility of the organization while reducing the costs of doing business. It also allows for easy collaborations between the different teams (Armour *et al.*, 2018). It makes it easier to reach new markets which makes things simple for partners, customers and clients. Competition allows people to look forward to the future and embrace the different ways businesses work.

However, increasing technological integration in the business transforms the way people do business and leads to the development of different ethical issues. There is a need to evolve and develop different ethical practices, hand in hand, with the development of technology (Cusumano *et al.*, 2019). While development and advances in technology allow for easier running of the business, they also create different challenges that must be addressed by the organization.

Privacy is a major concern within business in the current technological era. Ethicists are currently determining the amount of privacy that people are entitled to in the current digital age. Development of technology has opened doors for different privacy issues.

Another major ethical issue from the use of technology in business is the issue of peer-to-peer file sharing (Distanont and Khongmalai, 2018). Currently, people have the ability to obtain free software and the law does not have the ability to keep up. Even with anti-piracy laws, businesses that attempt to cut costs often struggle with ethics in the use of software.

Corporate espionage is a tool used by competitors to find information on the strategic plans, research failures and successes of competitors. In the past, this included bribery, physical spying, and face-to-face communication (Distanont and Khongmalai, 2018). With the development and use of technology in business, the potential for corporate espionage has increased and there is a need for organizations to take wider measures to ensure that employees do not engage in these types of activities. Different technology for communication is emerging and intercepting these messages is essential and there is a need to guard against them.

Technology use allows companies to have better oversight over the ethical practice of their employees. Different companies include clauses in employment contracts that grant these organizations the authority to monitor electronic activity of staff. Through this approach, organizations can identify multiple violations that become clear (Cusumano *et al.*, 2019). It brings up the issue of privacy and the amount of information employees should be entitled to. It is ethical for managers to attempt and prevent different activities. With development, technologies present ways through which violations happen and ways to monitor these offenses.

3. IMPACT OF COMPETITION ON BUSINESS ETHICS

Business ethics is widely present during competition. Competition may be healthy where businesses innovate and develop products that are better than their competitors. However, unhealthy competition often involves different approaches against business ethics where firms find approaches to unfairly compete in the market (Shleifer, 2004). Competition situations in business bring children into the labor. By hiring under age workers, the costs are reduced and this increases competitive advantage. Due to competition, competitors also have to hire children due to their failure to which they would have a reduced profit in the market. This also disrupts the social scene where parents opt to force their children to labor for status and food which is often guided by market competition.

Corruption may also develop due to increased competition. There are two forms of corruption; one which includes theft and another which is void of theft. In the first kind of corruption, officials in the government take money in exchange for the reduction of payments of tariffs and taxes owed to the government (Shleifer, 2004). The second kind of corruption allows officials to take additional money in exchange for goods which the business is entitled to anyway. Corruption with theft leads to a reduction of costs and this is a more common kind of corruption in competitive markets. A reduction of costs through corruption such as tax evasion or a reduction in tariffs often leads to a reduced product price. In a competitive market, firms often have to pay bribes to avoid going out of business (Schwieren and Weichselbaumer, 2010). Presence of reservation in paying bribes through a reduction in the willingness to pay often leads to a reduction in profits which often forces business men to bribe. Increased competition escalates the pressure to reduce costs for competitive advantage and this leads to increased cases of corruption (Schwieren and Weichselbaumer, 2010). Corruption with theft has an additional competitive advantage where both the briber and the official benefit in which there is no incentive to report the corrupt practices.

Growth and development in the executive pay often illustrate that there is an increased range in the corporate practices which ensures that there are unsavory practices such as earnings manipulations as reported to shareholders (Cai *et al.*, 2009). Organizations often compute organization earnings that are not computed using principles of accounting. Technologically developed organizations often present higher earnings compared to the ones computed in standard fashion. Companies have also smoothed the growth in earnings and used accruals to increase their earnings (Cai *et al.*, 2009). The illegal practices of reporting exaggerated earnings are developed as a way to change the beliefs of the shareholders. Organizations often use these approaches to show good numbers before these organizations are able to make acquisitions just before executives are able to exercise options in stock.

With the accumulation of evidence, people often illustrate the degradation of ethical corporate standards. Manipulations often show that there is diversion against the right approach for funding competition (Shleifer, 2004). In the development process, firms often faced improved incentives to improve their share prices which involve reporting the increased growth in earnings. Through the manipulations of earnings, a high valuation is sustained where there is a reduction in the capital costs, which enables companies to make stock acquisitions, therefore attracts better workers and executives with stock options and even issue new shares.

This creates a survival issue for competitors where there is a need for funding to ensure success. For such firms the absence of creative accounting would mean increased cost of capital which would be too high for their survival (Shleifer, 2004). Mature firms often work towards increased valuation since there is often a need to survive in the market as opposed to being acquired by a company with a high valuation. Markets often present the choice of being acquired or acquiring and to acquire. These approaches and competitive pressures contribute to the increased rise in the aggressive corporate accounting practices.

Competition in firms and in education such as in universities brings different unethical factors. Universities are involved in commercial athletic programs that allow the generation of profits which undermine admission standards. This approach would make universities to pursue commercial research efforts but also undermine the standards in admission (Schwieren and Weichselbaumer, 2010). These educational facilities focus on increased commercial efforts which affect time in the faculties, the selection of priorities and the development of openness and full results disclosure. Educational businesses have increased the pursuance of commercial efforts in education through online education which affects the mission of teaching students and research. However, despite the ethical issues that develop due to competition and commercialization of universities (Marcinkowski and Gawin, 2021), competition allows for the accumulation of resources for their core missions. This includes possibilities to attract the best students and professors, ensuring that the faculty is able to teach students and build research. Universities compete fiercely for students and faculties to the extent that profits from commercial activities give them an advantage.

4. BUSINESS ETHICS AS A DRIVER TO COMPETITIVE ADVANTAGE

Businesses are constantly looking for better and unique ways to gain market share and become more competitive in the constantly changing market. The concept of competitive advantage encompasses the ability of an organization to produce and distribute products and services more efficiently and at a lower cost compared to the competitors. It also includes access to skilled labor and other factors of production compared to the competitors, ability to gain brand recognition, and the ability to manage and meet the needs of the customers better than the rivals (Martin *et al.*, 2019). The modern market is however characterized by the constantly changing consumer needs and expectations, scarcity of resources, and complex supply chains. As a result, organizations have taken advantage of the innovative technology that is used in the research, development and innovation of new products and processes (Mujtaba, 2005). Technology has enabled companies to produce products and services more effectively by using modern processes to identify bottlenecks and come up with new innovative methods of production.

However, as businesses strive to become more competitive at the local and global markets, the need to build strong and lasting relationships with different stakeholders, including the manufacturers, suppliers, consumers, employees, competitors, shareholders, and the communities, becomes more demanding. Thus, ethical practices have become a vital part of businesses as they strive to achieve

competitive advantage. The concept and implications of ethics holds different meanings in the world of business. Business ethics revolves around the concept of human behavior and the interpretation of what is regarded as acceptable and unacceptable to other people. The current global business that is characterized by innovation and globalization makes it easy to expand operations and share information with the businesses and consumers around the globe. However, there are more ethical questions on what should be done and how to do it to effectively manage operations and uphold ethical behavior in the business arena (Cai *et al.*, 2009).

The impacts of business ethics in an organization's competitive advantage can be demonstrated by considering: accountability and trustworthiness, transparency and integrity, honesty, law abiding and privacy protection, human-machine interaction, and sustainability.

Accountability and trustworthiness determine the value of trust that stakeholders have towards the business, depending on their ability to keep promises. Being accountable means the ability of a company to stand by its decision and assume responsibility for their actions. For instance, a dropshipping company can only gain competitive advantage if it is accountable and trustworthy in taking orders, and liaising with the manufacturer to ensure that the right item is delivered to the customer within the agreed time, quality, and quantity. In the wake of mass media and social media marketing, businesses are also expected to provide information that is trustworthy and does not mislead the customers. According to (Shleifer, 2004), businesses that are accountable and trustworthy easily win the trust of the stakeholders thus achieving a competitive advantage.

Transparency also determines the ability of businesses to gain competitive advantage. Corporate transparency is the sure way to keep all the stakeholders informed on the success and/or failures of the business. Providing factual information in an open and honest manner helps organizations gain people's loyalty and trust. Similarly, honesty and integrity surpass all the ethical values of conducting business. Conducting business with integrity means that the business observes all the moral and ethical values.

In a perfect competitive environment, businesses are expected to be law abiding and strive to protect the privacy of all the stakeholders. Legal obligation means adhering to all the laws, regulations, and code of conduct for specific industries. This includes ensuring that various operations such as adverts, data protection and sharing, and competitive strategies adhere to the set business laws. Law abiding practices also ensure that business operations observe safety and protection of everyone involved in the supply chain.

In the wake of technology, human machine interaction has become common, further raising the issue of ethics in business. Generally, AI has improved efficiency and productivity for some tasks. Through AI machines, doctors have been able to perform less invasive live-saving operations. The innovation of human machine interaction has enabled businesses to improve their operations such as responding to queries, dispensing products through dispensing machines, order placement, remote control access and monitoring, and improving efficiency in handling customer queries (Marcinkowski and Gawin, 2021). While human machine interaction (HMI) is an innovative concept that has improved efficiency of tasks, thus increasing productivity, the software/device has replaced human-to-human interactions especially in handling queries. Designing HMI machines in a way that guarantees customer safety and satisfaction can help a business gain competitive advantage, as its use improves efficiency and productivity.

Furthermore, reports indicate that a business that promotes the concept of sustainability is linked to the business success and competitive advantage. Sustainable development of a business means that companies should implement development strategies that satisfy the current needs without compromising the needs of the future generation. Sustainability goes beyond the need for businesses to improve efficiency and minimize pollution.

Sustainable business operations involve a proactive change where organizations are aware of direct and indirect impact of their operations to the environment and working to come up with innovative methods that holistically reduce the adverse impacts of the activities. To achieve sustainable goals, automobile companies, for instance, are using innovative technologies to minimize harmful gas emission and improve fuel efficiency. This way, such companies are able to incorporate the concept of ethics in their holistic manufacturing and brand awareness processes. Similarly, companies that are able to incorporate ethical principles in their value chains are at a better market positioning compared to companies that have ignored the concept of sustainability.

5. ALIGNING BUSINESS ETHICS WITH TECHNOLOGICAL INNOVATION AND DEVELOPMENT

Technological innovation is currently the major component that enhances innovation for a business to remain competitive. However, there are multiple intersections that exist between innovation technology and business ethics. This means that for companies to stay competitive in expanding their current market share, they must strive to overcome the legal, sociocultural, and operational challenges associated with technology. As (Von Dyck, 2015) notes, businesses are constantly encouraging ideas from outside as they strive to become innovative and create new products more efficiently. The idea of 'open innovation' enables businesses to acquire diverse ideas from individuals and businesses at a minimal R&D costs. However, before reaping the benefits of such innovation, companies must learn to overcome various obstacles and align technological innovation to sustainable business development.

One of the obstacles that organizations must overcome to ensure productivity and adherence to business ethics is the issue of intellectual property risks and legal implications (Von Dyck, 2015). Companies such as those dealing with pharmaceuticals and consumer products must ensure that the information collected through open innovation does not infringe patent rights to prevent potential litigations, especially if they present intellectual property similar to an already submitted IP.

Second, businesses must learn to process and apply ideas efficiently. Open innovation techniques such as collecting data through CRM software can help businesses improve customer service and maximize sales through targeted marketing and lead sales. However, the process can become a challenge when the quantity ideas collected hinders ethical decision-making process or affect the ability of a company to adhere to the ethical principles. Ethical dilemma can result when deciding whether to implement a plan to maximize shareholders returns or put into considerations the implications of the plan to the public interest (such as safety and efficacy) (Nathan, 2015). In such case, businesses can utilize the cost-benefit analysis of utilitarianism to solve ethical dilemmas. The cost-benefit analysis enables businesses to weigh the positive and negative consequences of an economic activity to the stakeholders, and convert them into a monetary flow to determine which decision yields more benefits.

Third, organizations should be able to factor in all the people that are likely to be affected by the innovative ideas and decisions. (Martin *et al.*, 2019) recommends that businesses should involve all the stakeholders in decision-making that involve incorporation of technology as a strategy to gain competitive advantage. This is because different stakeholders may be affected differently by the innovative technology in which conflict of interest between stakeholders could result to ethical dilemma (Wessel and Welmer, 2020). Engaging stakeholders in the decision-making and innovative technology implementation process enables businesses gain insights on the stakeholders' concerns, duties and responsibilities, rights, expectations, and interests. Organizations also need to avoid descriptive questions that determine how they do things and instead on normative questions that helps businesses understand how they should operate while considering the interests and wellbeing of the stakeholders.

Finally, organizations should be able to overcome the obstacle of a poor internal structure. While research shows that innovative technologies can aid a business to become competitive, lack of efficient internal structure can make an organization fail even when they have invested in the most sophisticated technology. According to (Von Dyck, 2015), having an efficient internal structure that incorporate people and technology enables companies to push the best ideas and prevent litigations associated with IP infringement. An effective internal structure with designated teams helps in evaluating the interests of the stakeholders and aligning the innovative ideas with these interests to gain competitive advantage.

6. CONCLUSION

This paper has analyzed essential implication for both companies and business communities that have embraced data-driven business models to gain competitive advantage. While the emergence of innovative technologies that has enhanced operations through algorithms and internet of things, incorporating technology has, in several cases, sparked questions concerning moral and ethical concerns. Thus, in a world where innovation drives competitive advantage (improved productivity and low pricing), businesses must learn to balance the concept of technology and business ethics.

Developers should incorporate value judgments during technology design to prevent ethical implications that may hinder successful utilization of technology in business development and competitiveness. Such judgments involve factors such as the ability of technology to address the ethical concerns related to trust, data protection and autonomy, privacy, and legal implications. As new devices and disruptive ideas become essential in running day-to-day business operations, there are also new challenges that pose ethical dilemmas that businesses must constantly deal with. This paper fulfills the need to analyze pros and cons related to ethics of technological innovations and business competition.

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