

Singapore Management University Institute of Service Excellence Essay Competition

1) Essay Topic: 1. Role of technology. Discuss the impact and opportunities of disruptive technologies on the service sector.

2) Essay Title: The Cyborg Service of the 21st Century

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ESSAY

A digital economy in a smart city – this is the word of the town in Singapore’s bid to make it in this technologically-dependent landscape. Our economy has transformed from one subsistent on entrepot trade and labour-intensive low value-added industries, to one that thrives on high value-added knowledge and technology-intensive industries. The service sector has flourished in Singapore and now, it faces an unprecedented series of challenges and opportunities, brought about by the rapid rise of technology in the 21st century.

Technological advancements have disrupted many service industries in recent years: Uber and Grab disrupting the taxi industry, and the F&B industry revolutionised by Deliveroo, Food Panda and the like. Evidently, technology is now becoming the basis for entrepreneurship, rather than simply filling an ancillary role. Opportunities are aplenty with technology filling gaps in the market previously unviable economically and feasibly.

With the Singapore government trying to raise resident labour force participation rates through initiatives such as better work-life balance practices in companies, technology is the silver bullet to such employment opportunities in the service sectors. Flexibility and lower commitment levels are what many favour when deciding whether to return to the workforce. This is especially necessary in Singapore with scarce labour resource. Technology has created new sectors fulfilling the needs of Singaporeans who want a job but are unwilling to commit full-time. For instance, Uber and Grab have employed thousands of private-hire drivers, while Deliveroo and Foodpanda have created opportunities for many others as their transient delivery crew. “On-the-go” jobs are now possible with technology.

Apart from job creation, higher efficiency and productivity would be the greatest opportunity that technology brings to the service sector. Employment has shrunk in service sectors with stricter foreign-labour quotas, where businesses look to fill vacancies in frontline and operational positions, and these can be facilitated by technology. The introduction of money-collecting machines in the Kopitiam hawker chain since 2015 has relieved manpower strain, especially in an industry where Singaporeans nowadays are less willing to venture into. Hawkers need not touch money, improving hygiene standards and are now better able to concentrate on preparing food. Consequently, such initiatives have lowered production costs by reducing manpower requirements. The government is also supporting the move with an emphasis on e-payments, with the latest development being RazerPay, Razer's proposal to the government. Technology has improved the speed of payments and a higher speed of service means more time for firms to churn out higher output.

Consumers are also able to access more convenient service due to technology. Previously inaccessible services outside office hours can now be accessed 24/7, such as through e-banking. Gone are the days of walking to the ATM to conduct a bank transfer. All can be done in seconds through your smartphone, enhanced with features like "PayNow!" where transfers are now possible with the recipient's mobile number. This is especially applicable in specialised services where supply may be limited by accessibility like healthcare where mobility has become an issue for many elderly. Technology now allows them to see their doctor at home through a computer screen for routine reviews and even for allied-health services like physiotherapists to review prescribed exercises. These virtual consultations are rolling out in the initial phase in some local hospitals and perhaps will even be made possible through mobile apps in the future.

Technology has also raised service quality. In the education scene today, traditional textbooks are disappearing. Even the relevance of physical learning spaces is now being questioned with the advent

of the internet replacing physical libraries and the transformation of traditional classrooms into one driven by technology. In the local medical school, Lee Kong Chian School of Medicine, physical lectures are replaced by e-lectures, saving hundreds of hours for professors and students. Higher quality teaching time in the form of team-based learning sessions is now possible, where quality and depth of learning are enhanced as facts have been covered by independent learning in e-lectures. Apart from education services, customisation is a unique service-enhancement that technology has made possible at a lower opportunity cost for consumers and producers. Optometrists can simply use an app to measure focal points more accurately and quickly than traditional manual measurements. In the fashion industry, creative firms like MTailor utilise apps to measure body dimensions for a custom-fit in the comfort of one's home without needing to head to a mortar-and-brick store, and tailor-fit clothes will be mailed to consumers. The technological applications of customisable services are endless, ranging from AI, predictive technology for beauty services like hair-dressing or even plastic surgery where 3D models can predict service outcomes for more informed consumer decisions and expectations. This will also make services more inclusive, via assistive technology for the blind or the hearing-impaired in service lines.

Lastly, resources can be distributed more precisely with technology, reducing allocative inefficiency. Technology has reduced information asymmetry, where supply and demand information is updated live on computer platforms for firms to understand consumer sentiment accurately and respond quickly. The App market is the next consumer revolution, with Alibaba, Qoo10, ezbay bypassing third party costs to deliver goods to consumers. Pricing strategies can also be demand-centric, raising prices during demand-surges for higher profits and more accurate representation of market forces. The converse is also true with firms pricing more competitively for consumers. There is also the comparative advantage of service provision through online platforms. Specialisation of certain services by firms in different countries in accordance to their comparative advantages can integrate nations in one global economy and lower costs for producers and consumers. Previously untenable, technology has allowed services to be exported, like telecommunication and banking services. In the US alone, computer and IT jobs are expected to grow 22% till 2020 (World Economic Forum), creating 758,800 new jobs and we are likely to see similar growth in Singapore too. The IT & communications sector (3% of Singapore's GDP) is expected to benefit as the nation continues to digitalise.

However, technology does bring some negative implications for the service industries.

Some occupations may be rendered obsolete as technology threatens the relevance of traditional service roles. Retail services in brick-and-mortar stores may be deemed less relevant, where retail trade (1.4% of Singapore GDP) continues to suffer from online disruption by e-commerce and weak consumer sentiment. Jobs like taxi drivers are at risk of being wiped off the market by private-hire drivers because of e-transport services. Even occupations traditionally thought of as iron rice bowls are now coming under pressure from technologically-enhanced processes. SMU chairman Ho Kwon Ping said at SMU's commencement ceremony this year, "Just as fintech is starting to affect the work of thousands of financial analysts, legal research will be conducted by sophisticated search engines and artificial intelligence algorithms," which could render many lawyers irrelevant. Structural unemployment is the result of these technological disruptions, creating a mismatch of available skill sets to available jobs on the market.

But, isn't this the natural course of progress? Just as few would head to Chinatown for fresh chestnuts from traditional street hawkers with pre-prepared chestnuts on supermarket shelves, would Singaporeans prefer laborious transport modalities in the form of the anachronistic trishaw over a comfortable ride in an Uber? In an economy driven by efficiency and productivity, consumers will pick the service that brings the most bang for their buck. The answer to this dilemma, is creativity and

going with the flow. Embracing innovation while ensuring nobody is left behind is central to maintaining our economic vigour. When technology closes the doors on some, it opens many others. Snapask, an app where tutors get paid for every question answered from the comfort of their homes, allow tutors to access tutees conveniently, in a world where education services become increasingly self-directed with the advent of the internet. Popular reality TV show, Shark Tank, showcases products and inventions centred around innovative use of technologies to create multi-million dollars' worth of businesses. These initiatives are essential because a robust, inclusive and diversified economy is needed to support the large variety of aspirations in Singapore, and is less susceptible to external economic shocks. Only then, can more Singaporeans achieve self-fulfilment, and prosperity for our nation.

With unprecedented access to digitalised files, technology has also created the controversy of intellectual property that usual copyright laws may be insufficient to protect. It has become incredibly easy to download software, music, and even large conglomerates are not invulnerable to this. Transport services by Google's Waymo had their software code for self-driving cars allegedly stolen by the founder of Otto, Uber's self-driving truck brand. With tech-businesses growing, the ownership over code is now under contention. Can copied code be detected? Will this erode the drive for innovation that is the centrepiece for technological advancement?

Instead of treating this as a problem, forward-thinking entrepreneurs have maximised the potential presented to them. Firms have created economically viable alternatives to physical albums, allowing consumers to purchase music off iTunes or stream music in Spotify, enjoying their favourite tunes for free, with the occasional advertisement. This is a win-win situation where the artistes can profit and consumers can get their free music. The Singapore government has also developed one of the strongest intellectual property safeguards worldwide to ensure the nation will always be a notch above the rest in credibility and enforcing intellectual property rights for firms to engage in R&D to improve service standards.

There is also a rapidly rising occurrence of digital scams and hacking incidents around the world. Phishing sites for credit and banking details are rampant and digital criminals are continually improving their techniques. Financial transactions dominated by contactless payment services are now at risk of 'digital skimming', where radio-frequency identification (RFID) readers are used by thieves to harvest credit card details. Ransomware attacks are also making the headlines, disrupting businesses and individuals worldwide, like the infamous WannaCry attack this year. Technologically-enhanced criminals now have capabilities to disrupt e-services and the digital security scene.

It is thus necessary to guard against these cyberthreats, even as our world becomes more interconnected with the advent of such services to improve our lives. Consumers can avoid phishing sites by examining digital certificates, especially for financial service websites. There is a strong financial and moral incentive for firms to engage in consumer education on site-verification for a more informed consumer base. The Singapore government initiative to separate internal servers from the internet is also an apt move in anticipation of digital crime. Opportunities for security firms providing digital security services have also been unveiled, to aid other firms build safeguards against hackers to protect their e-services.

At the heart of it all, the ever-pertinent question with technology and its disruption of service sectors lies in the question, "What is the role of humans?". With drones revolutionising postage services, self-driving vehicles disrupting transport industries and machines taking over the roles of humans, it seems clear that in the long-run, many more service industries will be disrupted.

Success in the service industry boils down to the creativity of the human mind, to be forward-looking and accepting of better ideas, amidst tech-disruptions. Instead of dwelling on the shake-up of service industries like the Luddites, we should embrace radical new ways of service augmented by technology. Perhaps, the service industry of the 21st century will be that of a cyborg, incorporating technological advancement into service and keeping the human condition enshrined as the fundamental tenet of this innately human endeavour. Indeed, our greatest asset lies in our people and investment in human capital to upgrade skills and capabilities will create a relevant and adaptable workforce. Focus on the human condition and its relevance in the service industry, and less on the things that machines can do – this is the opportunity that technology presents to us, to continually improve services with human expert input: for hawkers to invent new dishes for machines to prepare, for engineers to guide and refine machinery and for service staff to have the time to build rapport with customers and to deliver a wholesome service experience.