DIGITAL TRANSFORMATION IN COMMUNITY DEVELOPMENT OF MALAYSIA AND INDONESIA

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ABSTRACT

This paper will discuss the changes in technology, the benefits of technology to the Malaysian and Indonesian communities, the challenges faced in embracing technology and how the two countries overcome the challenges. The rapid proliferation of ICT within the sphere of rural development is evident both locally and globally. In line with national aspirations, the government has proactively addressed the challenges posed by ICT through a comprehensive program. In Malaysia, this initiative involved the establishment of telecentres within rural communities, thereby introducing the digital realm to these settings. This technological advancement provided access to online facilities, a broader global perspective, and improved learning opportunities for the rural population. The ultimate objective was to bridge the digital divide that separates rural and urban communities, promoting inclusivity and equitable access to technology. Meanwhile, in Indonesia, proactive measures have been taken by fostering inclusive digital transformation through promoting universal digital readiness and implementing free Wi-Fi areas in numerous public spaces. Both countries have successfully outlined a roadmap and outcomes of cultivating a "digital society" to face the upcoming challenges of IR5.0.

Keywords: Digital Transformation, IR 5.0, ICT, Digital Society, Development Technology, Benefit of Technology

1. INTRODUCTION

Numerous definitions of digital transformation exist, encompassing various perspectives. For instance, Nguyen (2020) characterises it as the utilisation of technology to reform business models, unlock fresh opportunities, and cultivate novel values, thereby enhancing sales and expediting growth. Microsoft defines digital transformation as a restructuring of the conceptual framework surrounding the interplay among data, processes, and individuals, culminating in the generation of novel value propositions. While not universally standardised, divergent s organisations and enterprises offer distinct definitions, each carrying its own significance. Nonetheless, from a comprehensive point of view, digital transformation can be encapsulated as the infusion of data and digital technology across all dimensions of societal and economic existence. This profound shift reshapes the way we live, labor, and interact with one another. Importantly, digital transformation should not be confused with digitisation. While "digitalisation" pertains to the conversion of tangible values into digital formats, digital transformation transcends this by employing technologies like AI and Big Data to analyse and reconfigure digitised data, ultimately yielding renewed value (Tri & Hau, 2020).

Chambers' vision and message are now materialising, primarily through the concepts of "connectivity" and "changing everything," epitomised by the emergence of the Internet of Things (IoT). The IoT is facilitating the integration of individuals and objects into a seamless network, introducing a new paradigm in human interactions and shifting from vertical to horizontal relationships. This shift holds profound implications for various facets of society, encompassing business operations, societal management, educational methodologies, and personal engagement (Boddu, 2021).

Several sources further underscore the comprehensive and transformative impact of the IoT on the economy, markets, and enterprises. Additionally, there are projections that the ongoing digital transformation will reconfigure human relationships, influencing social dynamics, educational approaches, and active participation in the lives of individuals (Tri et al., 2020; 2021). The IoT represents more than just a technological evolution; it represents a catalyst for reshaping the interconnected fabric of our world, propelling us towards a future where connectivity defines how we operate, interact, and evolve.

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In 2005, YouTube was introduced, rendering a plethora of information, encompassing music, media, daily experiences, and more, in video format. Concurrently, the iPhone made its presence five years ago, setting the stage for the proliferation of smartphones and tablets launched by Apple three years ago. This progression notably amplified information and knowledge mobility. Bolstered by these advancements and the remarkable escalation of wireless speeds, the world underwent a seismic transformation, significantly impacting the domain of learning (Pero Lucin & Mahmutefendic, 2015).

Figure 1 illustrates the distinct stages of the Industrial Revolution (IR), each marked by significant advancements in industrialisation. It all began with IR 1.0, initiated in the 1700s, which primarily revolved around the mechanisation of manufacturing processes. Subsequently, IR 2.0 emerged during the 1800s, introducing the concept of mass production, notably through assembly lines.

The progression continued with IR 3.0 in the mid-1900s, characterised by the increasing implementation of automation in various industries. Then came IR 4.0, which took shape in the mid-2010s and marked the onset of the digital transformation era. In this phase, technologies like the Internet of Things (IoT), artificial intelligence (AI), 3D printing, virtual reality, and improved robotics played pivotal roles, revolutionising manufacturing and beyond.

As of IR 5.0, which began in the 2020s, we are witnessing a seamless co-integration of humans, machines, and technology. This emerging phase of industrialisation transcends manufacturing and builds upon the foundations of Industry 4.0. It harnesses the power of cutting-edge developments in information technology, including artificial intelligence, automation, big data analytics, machine learning, robotics, smart systems, and virtualisation. In IR 5.0, humans work alongside advanced technology and AI-powered robots to enhance workplace processes and drive unprecedented innovation across industries.

Over the past 25 years, a notable emphasis has been placed on synergising physical systems with cyber-controls, employing tools such as artificial intelligence, predictive indicators, and the Internet of Things (IoT) to enhance operational efficiencies. As a result, technological advancement has reached an apex within the industrial domain. Machines are now integral to the production process, computers are pivotal in automating workflow processes, and the entirety of operations is managed from computer screens, signifying a comprehensive level of connectivity (Wade Larson, 2020).

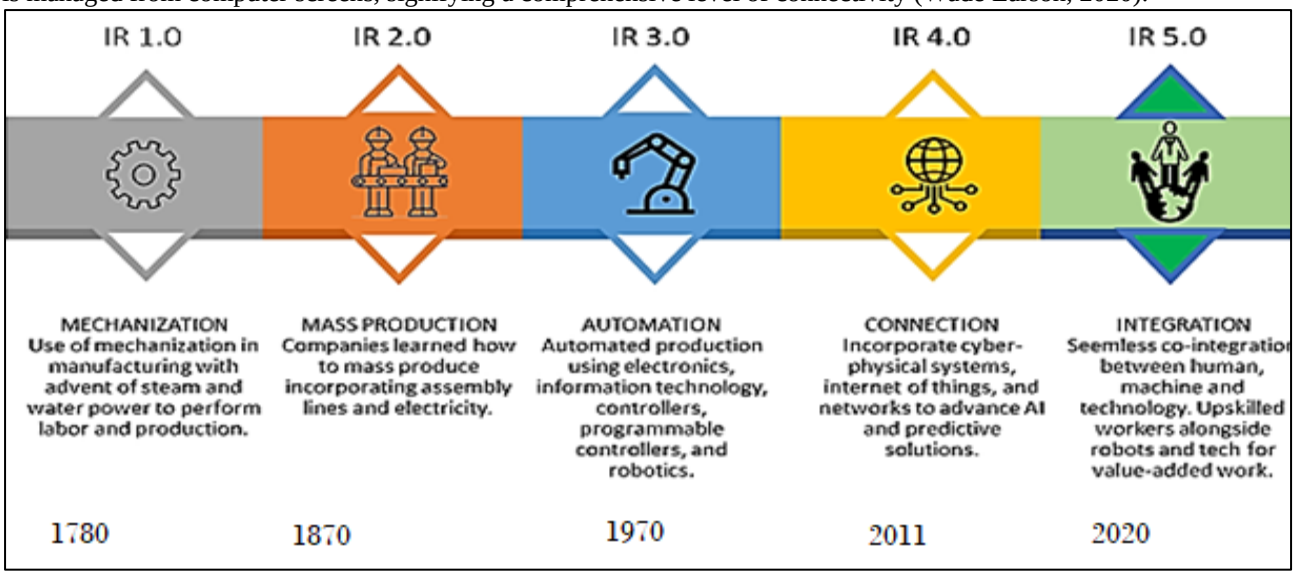

Figure 1: Industrial Progression (Historical Progress of Industrial Revolutions)
Source: Adapted from Wade Larson, 2020.

2. METHOD

The Benefits of Technology for the Malaysian Community

The rapid and extensive growth of Information and Communication Technology (ICT) started in the late 1980s and continued through the 1990s and into the 2000s. The introduction of ICT significantly broadened the villagers' perspective on the world. They gained access to real-time global events via news websites, blogs, and social networks like Facebook. Furthermore, they could engage in live coverage of international sporting events or conferences occurring in locations such as Korea, Japan, or the United States. This was made possible through multiple channels, including the Internet, Astro, smartphones, television, and live video feeds – all thanks to the application of ICT. Those who utilised the Internet and notebook computers could fully leverage the telecentre's capabilities, providing access to Smart ICT (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

The application of Information and Communication Technology (ICT) in administrative processes led to heightened efficiency. Government and commercial transactions were expedited and streamlined through ICT employment. This not only resulted in time and effort savings but also yielded cost reductions for both individuals and governmental entities. As day-to-day administrative responsibilities were managed more effectively, discernible enhancements emerged in the administration of rural areas. Various aspects reaped the benefits of these transformations, including document management as well as permit and license applications. Through ICT integration, transaction-generated data were promptly processed and stored. Furthermore, the combination of the automated teller machine (ATM) and the Internet enabled secure and simplified global monetary transactions (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

One of the initiatives for development technology in Malaysia through the use of ICT is evident through the availability of ICT services for all in Malaysia's rural areas and the internet influences the lives of rural communities in many aspects such as socially, educationally, or economically moving towards digitisation. Thus, Telecentre is the center for ICT excellence in rural areas. An example of how a ministry has managed to promote ICT in rural areas is by providing ICT facilities such as internet and computer training rooms for use by rural communities. The objective of this establishment is to encourage and fortify ICT culture among the communities in all areas. Malaysian Communication and Multimedia Commission (2008) have detected that only 14 percent of the rural community in Malaysia used the internet in 2008. Hassan et al. (2009), on the other hand, highlighted the majority of the rural community is still hesitant to use ICT ((Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

Cyberspace represents the virtual realm accessible via the internet, enabling rapid message transmission without regard for geographical boundaries or time constraints. Consequently, cyberspace serves as a medium of communication that transcends various scenarios, encompassing interactions occurring at the same location and time, the same location but different times, different locations but the same time, as well as distinct locations and times (ESCAP, 2006).

The Telecentre concept, providing online facilities, global exposure, and educational opportunities to rural communities, was developed to bridge the digital divide between rural and urban populations. It's noteworthy that Telecentre projects in Malaysia go by various names, such as Rural Internet Centre (Pusat Internet Desa, PID), Mini RTC, Kedai Com, USP Communication Centre (UCC), Rural Broadband Library, Universal Service Provision (USP), and Bestari.Com in Terengganu (ESCAP 2006).

Concurrently, smart communities leverage ICT to acquire, share information, and conduct daily transactions. Proficiency in ICT empowers individuals to fully harness the benefits of interactive and internet-based applications (George Kuk & Marijn Janssen, 2011). The evolution of multi-purpose telecentres is intricately tied to social, physical, and spiritual development. Beyond their role as ICT hubs, telecentres also serve as agents of social transformation within rural societies. These centres cultivate communication systems and social networks that facilitate internal and external interactions (Jalaluddin, 2012). They represent digital platforms that integrate ICT tools and technologies, enabling intelligent ICT ecosystems' growth and strategic planning (Stratigea et al., 2015).

The development of telecentres in Malaysia began in 2000, with villages included in the exercise. The initiative was pioneered by government agencies such as the Ministry of Rural and Regional Development, Malaysian Communications and Multimedia Commission, Ministry of Energy, Water and Communications and various state governments. In terms of the influence of the telecentre program on the development of rural areas through the implementation of Smart ICT, the

successful telecentre that has brought many benefits to the community is the telecentre operating in Jerangau Village and Pasir Gajah Village in Malaysia through the Mini Rural Transformation Centre (RTC) (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

The telecentre has improved the efficiency and effectiveness of learning for the local residents, particularly among students. This was affirmed by villagers who acknowledged the instrumental role of computer utilisation in the realm of teaching and learning. The presence of computers facilitated the acquisition of diverse forms of information in an engaging and effective manner, particularly when employing tools like videos and PowerPoint presentations. Notably, the courses conducted by the Mini RTC focused on ICT applications were deemed particularly valuable. The introduction of a more interactive learning environment spurred increased student engagement, thereby enriching the overall learning experience. Remarkably, women within the community concurred that the integration of technology into education positively impacted their children's academic performance (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

It was also observed that there was a considerable upsurge in the number of entrepreneurs within these two villages who embraced online platforms to promote their products to a broader audience. This innovative approach to business garnered notable interest, particularly among the younger generation. The emergence of a distinct cohort of Internet users, characterised by a forward-thinking mindset distinct from that of the older generation, holds the potential to transform the Internet into a burgeoning trade channel among villagers in the future. Online business activities are also inclusive of women within the villages. A noteworthy example includes women venturing into e-commerce by offering items like frozen foods, crackers, and cakes, which were traditionally marketed in conventional settings. Often, these endeavours were facilitated with the assistance of tech-savvy family members who were adept in navigating the Internet. The consensus among villagers is that the Internet acted as both a launching pad and a catalyst for unlocking fresh business prospects (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

The telecentre has also made it possible for the local community to communicate with friends, relatives, and acquaintances across distances. Villagers could communicate with anybody they wanted in a borderless globe using tools like email, short message services (SMS), Skype, WhatsApp, and more. The telecenter is, in essence, a facility that provides ICT-related services, particularly to people who don't have access to these amenities at home or lack the knowledge to use ICT. To address the digital divide issue, telecenters were established in the initial phase (2001–2010). The second phase, which ran from 2011 to 2015, focused on closing the digital divide (BDD), while the third phase, which runs from 2016 to 2020, will upgrade telecenters to make them more sophisticated, self-sufficient, and durable so they can withstand the test of time. The explosive growth of ICT in Malaysia that began in the late 80s, continuing to the 90s, and now in the 2000s, puts into practice the principle of ‘urbanising the countryside through cyberspace’, by bringing tangible advancements in development (Zurinah Tahir, Jalaluddin Abdul Malek & Mohd Asruladlyi Ibrahim, 2016).

The Benefits of Technology to the Indonesian Community-

Over the last decade, Indonesia has witnessed an extraordinary surge in Internet usage. According to the Ministry of Communication and Informatics of Indonesia (Kementerian Komunikasi Informasi dan Teknologi Republik Indonesia or Kominfo), there were 82 million Internet users in 2014, positioning Indonesia as the eighth-largest nation globally in terms of Internet users (Kominfo, 2014). Within this demographic, 56% are men, and 44 % are women (Comscore, 2013). Internet penetration now extends to 29 % of the total population (Jakarta Post, 2015).

As the world's fourth most populous country (World Bank, 2011), Indonesia has rapidly emerged as a nation with considerable digital media consumption. Utomo et al. (2013) demonstrate that Indonesia ranks second and third in terms of the number of Facebook and Twitter users, respectively. Moreover, over 70 million Indonesians—accounting for around 30% of the total population—are active Internet users, and a most of them access the Internet through mobile devices (eMarketers, 2013). Internet usage, especially via smartphones, is particularly prominent among the younger and more educated segments of the population (Puspitasari & Ishii, 2013).

Social networks have evolved into a pivotal source of social support. As online social networks proliferate, mastering the art of socialising and nurturing relationships in virtual spaces has become an integral facet of young people's lives. Digital technology's impact transcends online learning; it plays a pivotal role in fostering resource sharing by linking individuals requiring resources with those possessing them, thus engendering mutually beneficial cooperation that leads to resource accumulation. This underscores the significance of the culture of sharing prevalent among today's youth, which has increasingly become an essential component of education.

Numerous activities indispensable to the learning process, including sourcing pertinent information and materials, as well as seeking assistance from peers, have progressively become mediated by technology. This integration enhances learners' efficacy in the pursuit of education. Indonesia's G20 presidency has committed to addressing three priority areas: digital transformation, global health infrastructure, and energy transition. Under the digital transformation purview, the G20 can take proactive measures by fostering inclusive digital transformation through promoting universal digital readiness, aligning global digital governance encompassing regulatory frameworks for innovation, privacy, security, and competition. Additionally, enhancing the quantity and quality of both digital and analogue enablers stands paramount (ISEAS, 2015).

The Indonesian government's initiatives in digitalization have emerged as a prominent catalyst in elevating the quality of public services. This strategic focus on digitalization also stands as a pivotal means to expedite the attainment of national development objectives, with a specific emphasis on enhancing the welfare of the Indonesian citizenry. This perspective is underscored by Abdullah Azwar Anas, the Minister for Administrative Reform and Bureaucratic Reform, who underscores the necessity of immediate and tangible societal outcomes stemming from bureaucratic reform (Eka Santhika, 2023).

Simultaneously, the government is actively engaged in optimising the Electronic-Based Government System (SPBE) to encompass a diverse spectrum of activities. This includes the digitisation of public services, targeted poverty reduction, addressing stunting-related challenges, and catalysing increased investment. Moreover, establishing a Digital Public Service Malls (MPP) necessitates strategic information and communication technology asset management. This comprises a range of processes encompassing hardware and software planning, acquisition, administration, and preparedness. Furthermore, service management is pivotal in this transformative landscape, encompassing user service procedures, service operations, and application administration (Eka Santhika, 2023).

Furthermore, Indonesia acknowledges the demand for information technology, with its youth spearheading the rapid adoption of this technology. In the context of establishing a well-rounded, knowledge-based society, technology adoption holds paramount importance in enhancing social development within developing countries. It is particularly regarded as an essential tool within the realm of education. The education sector is uniquely poised to harness the potential of Information and Communication Technology (ICT) for the millennial generation within these societies.

In the realm of education, the impact of digital technology goes beyond facilitating online learning; it also assumes a pivotal role in resource sharing. This involves connecting individuals in need of a resource with those who possess it, ultimately accumulating resources. It is crucial to explore the concept of digital learning further, where networked individuals, especially young people, take on dual roles as learners, providers, and sharers of resources. Notably, the adoption of ICT has witnessed substantial growth rates in developing countries in recent years (ITU, 2013). In the context of fostering a well-rounded, knowledge-based society, technology adoption is essential for enhancing social development in developing nations. Here, it is particularly lauded as a powerful educational tool, enabling the population to fully harness the potential of ICT for the millennial generation (Jee Young Lee & Didin Nuruddin Hidayat, 2019).

The widespread adoption of digital technologies, including smartphones and personal computers, along with active participation in various online activities like social networking and entertainment, underscores the escalating utilisation of digital technology among young Indonesians residing in urban and suburban regions. In this context, social networks serve as vital sources of social support. Furthermore, numerous tasks integral to the learning process, such as locating pertinent information, gathering materials, and seeking assistance from peers, have increasingly become mediated by technology. This integration affords learners the opportunity to enhance their learning efficiency (Jee Young Lee & Didin Nuruddin Hidayat, 2019).

Indonesia's national government has initiated measures to expand Internet access to address the challenges associated with digital devices. The Ministry of Information and Communications, Republic of Indonesia, has spearheaded initiatives like the MPLIK (Car for District Internet Service Center) program. At the provincial level, South Sumatra's government has implemented a free Wi-Fi area program in various locations within Palembang, the capital city of South Sumatera Province. Similarly, in Ogan Komering Ulu, particularly in Baturaja, the capital city of the Ogan Komering Ulu region, the local government has launched a program to establish free Wi-Fi areas in numerous public spaces (Mery Yanti & Alamsyah, 2014).

3. RESULTS AND DISCUSSION

Challenges in Embracing Technology in Malaysia

Incorporating technology into small and medium-scale industries (SMIs) has substantially contributed to Malaysia's economy. This infusion of technology has led to the creation of jobs, enhanced income distribution, and provided a launchpad for budding entrepreneurs as they transition into larger-scale enterprises. Nonetheless, despite its considerable advantages, various impediments exist to the widespread adoption of new technologies, especially in the field of Information and Communication Technology (ICT), given the challenging contemporary landscape. Identifying these primary barriers to technology adoption is crucial (M.A. Burhanuddin, Fahmi Arif, V. Azizah, &Anton Satria Prabuwono, 2019). In response to these barriers, SMIs require effective strategies to overcome these challenges. Government agencies such as the Small and Medium Industries Corporation, Federal Agriculture Marketing Authority, and Malaysian Agriculture Research and Development Institute have formulated various strategies that SMIs can adopt (Saleh, A.S., Ndubisi, N.O., 2006).

SMIs need practical solutions to get over these obstacles to succeed. Various tactics that SMIs can use have been developed by government organisations such the Small and Medium Industries Corporation, Federal Agriculture Marketing Authority, and Malaysian Agriculture Research and Development Institute (Saleh, A.S., Ndubisi, N.O., 2006).

The adoption of concepts such as e-wallets and cashless transactions is simplifying cash management for SMEs and small enterprises, leading to reduced costs, risks, and the burdens associated with handling physical cash (Ishak, 2020). The Budget for 2020 was also strategically crafted to accelerate Malaysia's digital economy growth, with the goal of transforming the nation into a high-income country with a digital-first economy (Leng, 2019).

However, the transition to new technology also requires people to adapt. Challenges arise particularly for the elderly with limited education and rural residents with low literacy levels. Accessibility to new technology poses a significant hurdle for these demographics (E-commerce for the elderly, 2016). In the present Malaysian context, several online payment accounts have gained popularity, such as GrabPay, TNG eWallet, Boost eWallet, and WeChat Pay (Ishak, 2020). Nonetheless, a considerable portion of the older generation and individuals with limited capabilities have yet to fully embrace or use these platforms regularly (Soh et al., 2020). For Malaysia's complete digitalisation, substantial efforts from the government and companies are essential to onboard these new users. Beyond employee awareness of the digital economy, understanding concepts like password security, two-factor authentication, and e-wallets is crucial (Rahmana & Senusia, 2019).

Challenges in Embracing Technology in Indonesia

Indonesia has the potential to become a great nation and country. Indonesia's natural resource potential, geographical location and other potential can be a threat or an advantage for the nation. This potential must be managed properly to become an advantage for the Indonesian nation. Indonesia must maintain its resources and develop its economy properly to survive the global economic competition in this Industry 4.0 era. This era demands digitalisation in all fields. Digitalisation is one of the characteristics of environmental changes in the globalisation era characterised by advances in technology and information, dependence, and borderless countries (S. Whitelaw, M. A. Mamas, E. Topol, & H. G. C. Van Spall, 2020 & 2022).

In the new normal era, all activities, both social and economic, must be limited. Countries around the world are constantly changing to adapt to unpredictable conditions. One of the levers that has become a breakthrough currently is digital transformation. Old habits have now shifted with digital transformation. The global economy has adapted and digitised. The growth of various digital platforms makes it easier for business transactions, such as buying and selling transactions through e-commerce (Majeed & Ayub, 2018).

However, digital developments create threats in the form of cybercrime and cyber war, which threaten individual security in the form of access to assets and personal data such as identity and data theft, account hijacking, the virus spread through websites and important codes, slander, and defamation. It is not only dangerous for individuals but also for the country with industrial espionage and theft of important information data, and the spread of hoaxes with the aim of provocation. Then, the defence economy aims to create defence and security in digital economic activities and the role of the defence economy in presenting economic security in society. Therefore, the Ministry of Defense of the Republic of Indonesia launched the Sisfohanneg Program (State Defense Information System). Sisfohanneg has a role as a provider of data and

information in a fast, accurate and real-time manner to provide security guarantees in the process of establishing policy decisions (Amitkumar Dudhat, Vertika Agarwal, 2023)

Another strategy carried out by the Ministry of Defense refers to Presidential Regulation Number 133 of 2017 concerning the establishment of the BSSN (National Cyber and Crypto Agency) whose task is to ensure cyber security effectively and efficiently by utilising, developing and consolidating all elements related to national cyber security. The important role of the defence economy sector is to ensure access to information for everyone, creating sensitivity and awareness of cyberspace resilience and security, guaranteeing the security of the personal data of Indonesian citizens and residents, achieving increased national capacity and competitiveness for economic growth and development (L. Yang, Y. Li, J. Wang, and R. S. Sherratt, 2020).

Digital growth of ASEAN countries is as shown in Figure 2.

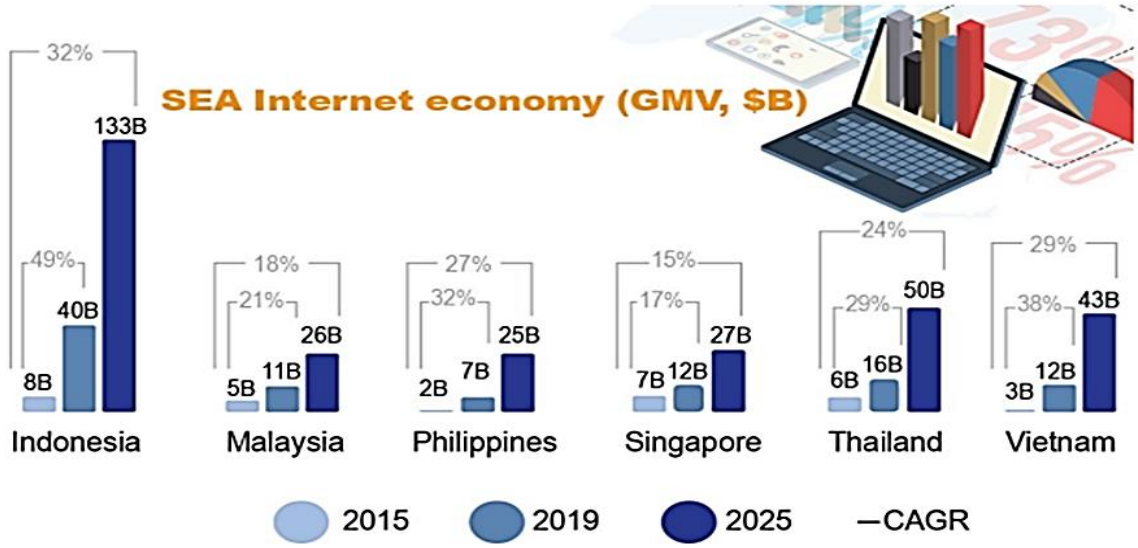

Figure 2 shows that Indonesia, the world's fourth largest country by population, is forecast to hit $133B billion by 2025, ahead of Thailand ($50 billion) and Vietnam ($43 billion), with strong growth forecast across the board. Indonesia and Vietnam have seen their respective digital economies more than triple since 2015, according to the data. It may sit in the shade of China and India, but tech has real growth potential in Southeast Asia. Home to a cumulative 650 million people, the region's digital economy is forecast to triple in size and reach $240 billion over the next seven years, according to Google's third "e-Economy SEA" report (Jon Rusell, 2018).

This is good information in Indonesia's digital economy, meaning that the target of digital transformation in Indonesia has begun to be felt. The growth of Indonesia's digital economy will certainly affect the increase in Indonesia's GDP. Previous research conducted explained that digital factors have a positive effect on GDP, meaning that digital consumption can increase GDP growth in ASEAN countries, but this consumption should be increased so that the increase is not only in consumption, but also as digital business actors (Amitkumar Dudhat, Vertika Agarwal, 2023).

Figure 3: Indonesian Economic Crisis
Source: https://se2016.bps.go.id/umkumb/

Based on Figure 3, it can be seen that economic growth in Indonesia in 2022 will reach 5.72 percent. This shows that various economic sectors are trying to increase the use of technology in today's digital economy. The growth of the digital economy in various sectors certainly also affects the workforce aspect. The use of technology does not mean that jobs that used to require labor have disappeared, in fact the data obtained in this study shows that digital economic growth has also increased in the workforce aspect, which is explained in the following figure (Amitkumar Dudhat, Vertika Agarwal, 2023).

Indonesia's digital economy is experiencing good development, and even has startups with unicorn criteria. The development of the digital economy must cover all economic sectors. Developments made on the results of various strategies and efforts carried out in synergy between ministries, institutions, and stakeholders. The impact of the development of the digital economy is increasing Indonesia's GDP, increasing productivity, the flow of production, consumption and distribution is developing more rapidly, economic growth in the transportation and warehousing sector, as well as the information and communication sector and the survival of the economy even during the Covid-19 pandemic. The digital economy also poses a major threat to the country with the potential use of big data, the threat of cybercrime and cyber war, and the occurrence of many frauds, malware-based cyber-attacks, fraudulent transactions and hacking by hackers. The defence economy takes a role in providing anticipation of threats that occur with strategies developed by the BSSN, Ministry of Defence (Amitkumar Dudhat, Vertika Agarwal, 2023).

Overcoming the Challenges in Embracing Technology

Artificial intelligence (AI) stands as the cutting-edge technology driving innovation within the economy and the ongoing industrial revolution. The realisation and implementation of AI transformation are contingent upon individuals who trust and comprehend the technology. AI's potential is readily demonstrated through its presence in various sectors, including banking and manufacturing industries, as well as in everyday tasks, such as automated correction features and commonly encountered chatbots, which, though seemingly trivial, offer significant utility. Malaysia, renowned for its prominence in global manufacturing supply chains, currently faces challenges in terms of employee productivity, research, and development (R&D) initiatives, and cultivating a high-skilled labor force. It's imperative for the nation to foster a conducive environment that encourages AI adoption and expertise to bolster its competitive edge on the global stage.

Malaysia has reported a slow adoption rate of Industry 4.0, with only 15% to 20% of businesses fully embracing this transformative shift. A global management consulting firm, McKinsey & Co., has revealed that approximately 50% of tasks in Malaysia are repetitive and ripe for automation. To address these issues, the government has established frameworks to facilitate the integration of AI across various sectors of the economy. These initiatives include the Malaysia Artificial Intelligence Roadmap 2021-2025 (AI-Rmap) and the Malaysian Digital Economy Blueprint (MDEB), led by the MyDIGITAL Corporation and the Economic Planning Unit. AI is poised to trigger a twofold acceleration in the rate

of innovation and elevate workers' productivity by an impressive 60% in Malaysia (Digital News Asia, 2019). Moreover, AI's implementation is forecasted to play a pivotal role in propelling Malaysia's economic growth by fostering international investments. The National Industrial Revolution 4.0 (4IR) Policy is projected to yield a 30% surge in the country's output across all sectors by 2030's culmination, with AI emerging as a linchpin in achieving this target. Government-led endeavors like MyDIGITAL within the ambit of MDEB serve as platforms for digital upskilling that traverse various societal strata in Malaysia. The success of these initiatives hinges on the collective commitment of the populace, as the government's endeavours can only bear fruition through active public participation (The Star, 2022).

Former Minister of Communications and Multimedia, Tan Sri Annuar Musa, recently disclosed that Malaysia and Indonesia have engaged in fruitful discussions concerning broadband services and infrastructure enhancements for remote rural areas' internet connectivity. This dialogue brought together representatives from both nations, including Adlan Mohd Shaffieq from the Malaysian Embassy, Tan Sri Mohamad Salim Fateh, the interim chairman of the Malaysian Communications and Multimedia Commission (SKMM), and Anang, the president of Indonesia's Telecommunications and Information Accessibility Agency (BAKTI). These discussions took place over a three-day period at the Malaysian Embassy in Indonesia.

During these talks, representatives from SKMM and BAKTI delved into the intricacies of their respective countries' efforts to develop internet networks. BAKTI, shared valuable insights into Indonesia's experiences, including network development approaches, system implementations, and the utilisation of satellite technology. Minister Annuar expressed confidence in the potential for this exchange of knowledge to enhance the digital infrastructure development practices among ASEAN countries.

Overall, the dialogue signifies a collaborative effort between Malaysia and Indonesia to drive technological progress and bridge the digital divide in remote regions. As both nations tap into each other's experiences, they lay the groundwork for a more connected and technologically advanced future (TheStar, 2022).

According to a study by Khairul Hisyam Kamarudin, Rustina Untari, and Mohamad Fadhli Rashid (2020), integrating technology into rural development has led to enhanced economic productivity within communities in Malaysia and Indonesia. The study focused on two specific areas: the village of Gemawang in Indonesia and the village of Sayong in Malaysia. These regions have witnessed a growing inclination towards the utilisation of Information and Communication Technology (ICT) to bolster rural development.

The symbiotic relationship between ICT and society lays the foundation for prospective rural communities, enabled by contemporary technology to amplify the productivity of small and medium-sized enterprises (SMEs) in rural settings. The establishment of the vocational village in Gemawang, Indonesia, and the creative village under Malaysia's ODOI initiative in Sayong has spurred local entrepreneurs to recognise the imperative of integrating ICT tools, notably smartphones, email/SMS, and social media platforms, to catalyse promotional activities and expand their business networks.

To streamline local business operations within these locales, the business community is taking proactive measures, appointing ICT personnel to oversee the management of blogs and websites for individual activity units. This approach fosters efficient business activities and paves the way for sustained economic growth and development within these rural communities.

4. CONCLUSION

The process of digital transformation in Malaysia and Indonesia encompasses a comprehensive overhaul that spans the key dimensions of economics, politics, culture, and society. This transformation has resulted in the advancement of their respective communities. Presently, a significant portion of daily life revolves around the bedrock of digital technology, illustrating the successful realisation of the IR4.0. However, moving forward, both countries should be moving toward IR5.0 where humans should work seamlessly with technology. While referred to as the construction of a "digital society," it's vital not to construe the social domain in a restricted manner. This comprehensive perspective is essential, as it furnishes leaders, managers, and social researchers with a lucid and intricate model that aligns with gradually defined and initiated criteria. It serves as a touchstone for evaluating and overseeing the holistic implementation trajectory, encompassing both the National Digital Transformation Projects of respective countries. Additionally, it aids in discerning the roadmap and outcomes of cultivating a "digital society" or digitalised social existence.

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