Vietnam's Development Towards a Digital Economy

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EXECUTIVE SUMMARY

The following document examines Vietnam's current economic positioning and the future of Vietnam's economy as the world shifts towards industry 4.0. Vietnam is a member of the ASEAN nations and APEC. To ensure Vietnam is not forgotten in the technological revolution, Vietnam is working with APEC and ASEAN to bring the country into the digital economy. Vietnam has developed a road map to bring the nation into the digital through the implementation of technology, training and developing individual employees, creating new policies surrounding digital security, regulation and e-commerce, creating the necessary infrastructure and development of innovation to allow for a digital economy to thrive on.

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INTRODUCTION

Industry 4.0 is the latest industrial revolution occurring in the modern business world. With the development of disruptive technology, business operations and model have changed (de Man and Strandhagen, 2017). With the evolution of the internet, a plethora of business Opportunities has presented themselves to Small, medium and large business enterprises. Industry 4.0 has allowed businesses to increase their consumer reach on a global scale but has also managed to improve current business methods through production efficiency (Gillpatrick, Blunck and Boğa, 2019). Businesses are reshaped through the development of artificial intelligence (AI), where industries, including car manufacturing, have been able to implement such technologies to increase product quality and reduce manufacturing times (Ollif and Liu, 2017). Sensor technology has been progressively developing as seen by Phillips (Phillips, 2020) and is implemented in ways to improve workplace efficiency and reduce electricity bills through self-adjusting lights to natural light conditions and employee presence in the room a. The Internet of Things (IoT) (Lee and Lee, 2015) has become a powerful tool where wireless technologies are a necessity for business operation, employee connectedness and communication. The development of 5G technology is one of the latest developments of IoT emerging in the modern world with some of the fastest download speeds and bandwidths than previous generations (Shorgin et al., 2014).

For businesses to sustain their operations, enterprises are required to 'stay connected' with the changing industrial trends to avoid losing to their competitors who are implementing IoT in their workplace (Müller, Kiel, and Voigt, 2018). As technology continues to develop rapidly, there are challenges faced chasing the latest industrial revolution. The financial cost to implement AI, sensor technology, serverless computing is expensive (Qin, Liu and Grosvenor, 2016). With the rapid development of technology, they are purchasing the latest devices results in older technology to redundant and a hindrance in some circumstances based on compatibility. With newer technologies, businesses require the correct infrastructure to support the devices. The burden lies in countries that do not have a high GDP and infrastructure to support the new industrial revolution (Raj, et al., 2020). What will become of countries who are unable to stay in the wake of the new industrial revolution will be impacted severely and left in the rubble as countries with higher GDP will be able to adapt to the changes whilst countries lacking in digital infrastructure and wealth will struggle to support national businesses.

BACKGROUND

Following the revolution of industry 4.0, the Asia Pacific Economic Cooperation (APEC) has been working in conjunction with the 21-national spread across the pacific rim to ensure each nation can sustain its economy. APEC was united in 1989 and included the following nations; Australia, Canada, Japan, China, United States of America and nations located in South East Asia, such as; Indonesia, Thailand and Vietnam (APEC, 2020). APEC meetings consist of the discussion on new trade-agreements, aspirational goals of the nations and more importantly, the transferring of information and research (APEC, 2020). The nation-members of APEC range in economic status and wealth. Each country has its economy and its resources. It is in the best interest of the nations to ensure that each member economy is protected and developing with the changing world to maintain current trade agreements and preserve their countries economy.

Vietnam is one of the 21 current APEC members (APEC, 2020). Based on the IMD world competitiveness scale ranking countries based on their knowledge, technology and future-readiness, Vietnam was not mentioned. However, assuming Vietnam is located in south-east Asia, it could be predicted that Vietnam could compare to that of Vietnam and Indonesia with a score ranging from 58-59 (APEC digital Entrepreneurship Report, 2020). For Vietnam to better their overall competitiveness score, Vietnam will require a boost in the knowledge of technology, technological use and future preparedness. Vietnams GDP contributors include manufacturing contributing to approximately 40% of the GDP, approximately 38% towards tourism and approximately 20% towards mining (Countrystudies.us, n.d). Vietnam is a member of the Association of Southeast Asian Nations (ASEAN) predominately trading with associated members located in south-east Asia and Asia pacific (www.dfat.gov.au, 2020). To maintain competitively and continue healthy economic partnerships, Vietnam must continue to explore industry 4.0 and the application within the nations' enterprises.

LITERATURE STUDY

Vietnam is evolving into a digital economy based on 'Vietnam's Future Digital Economy' (2019) which is aiming to bring Vietnam into Industry 4.0 with a road map targeting the implementation in the year 2030 and 2045. Vietnam has illustrated that they have the potential to become a digital economy. The key focuses for Vietnam to shift towards digital economy requires the nation to develop ICT and Energy infrastructure (Vietnam's Future Digital Economy, 2019). Following the development of infrastructure, they require cybersecurity, digital skills, a modernised government and national innovation and tax regulation. Vietnam has identified its critical sectors for development and improvement to become a digital economy (Vietnam's Future Digital Economy, 2019). Vietnam has identified its critical regulators for the digital economy. The government is the paramount entity monitoring the development of a digital economy (Chatfield and Reddick, 2019). Working in line with the state banks for regulating activities and cash/non-cash payments, the ministry of science and technology and the ministry of industry trade, including other investment and financial bodies the government is looking to regulating e-commerce and the application of IoT in sectors including agriculture to maximise crop harvest and automating manufacturing processes (Chen et al, 2014). Vietnam does not only plan to become a digital economy regarding business but socially as well. Plans to implement smart tourism and smart health are also on the agenda of the Vietnamese government (Vietnam's Future Digital Economy, 2019).

Vietnamese government is planning on increasing the accessibility of IoT to not only businesses but the citizens as well (Vietnam's Future Digital Economy, 2019). Despite Vietnam's best efforts to keep up with other digital economies in the ASEAN, they are still behind other major entities, including Vietnam and Indonesia (Vietnam Future Digital Economy, 2019, p21). For Vietnam to shift towards a digital economy, more money needs to be invested in research and design as well as the application of IoT. Table 1, Benchmarking Vietnam's Digital Economy, (Vietnam Future Digital Economy, 2019, p21), illustrates ASEAN countries such as Indonesia and Thailand surpass Vietnam in most areas ranging from business and innovation, human resources, digital infrastructure. Despite the index indicators, there are some areas where Vietnam outperforms the other ASEAN nations. Their English Language proficiency is greater than the other listed nations ranking 41st; They have a significantly higher average download speed compared to Indonesia and have a high ranking for E-government. Major concerns for Vietnam do include their e-commerce market

size ($0.8) and their % risks of workers losing their jobs to automation well (Vietnam's Future Digital Economy, 2019, p.20).

Vietnam is adopting strategies, policies and technologies to allow for the rapid evolution of the digital economy. Vietnam has already devised a roll-out plan of a digital economy, intending to be completed from 2030 to 2045 well (Vietnam's Future Digital Economy, 2019). The strategies implemented by the nation target 4 critical areas for digital innovation. The first is the business sector well (Vietnam's Future Digital Economy, 2019). The government needs to invest in Research and Design and adopt digital more products. Investment in the individuals is also a vital aspect of the strategy by engaging participants, employees and customers to use e-services and technology well (Vietnam's Future Digital Economy, 2019). Vietnam is also looking for innovative support from the business start-ups and universities to boost the digital economy. Lastly, policymakers and influencers are working in cohesion with the government and unions to ensure the digital economy is regulated correctly, data is collected on the development and changes of the digital economy and develop the necessary infrastructure to become a digital economy. Key policies targeting the digital economy are the laws predominately surrounding e-transactions and regulations, laws on telecommunications and cybersecurity, ensuring ICT development and international competitiveness (Vietnam's Future digital economy, 2019, p.23). Vietnam is planning on using technology throughout the country with the key focus being on accessibility to the people. 5G will be rolled out across the country, keeping up with the technological advancements of other modern countries well (Vietnam's Future Digital Economy, 2019). Vietnam is also looking to implement cheaper and more accessible wireless networks across the country. Technological advancements such as automation and increase renewable energy sources, including solar systems well (Vietnam's Future Digital Economy, 2019).

Based on the data put forward by APEC, 'Digital Entrepreneurship Across APEC' highlights the trend across south-east Asia (APEC, 2020). Vietnam connected to the internet in 1997. Internet was the beginning of Vietnam and their endeavours for the development of the digital economy. With technology movement rapidly growing in Vietnam, innovation and entrepreneurship was not a key focus. The key focus was the development and implementation of technology in the country. Vietnam's current strategies, as highlighted in 'Vietnam's future Digital Economy' (2019) highlight an emphasis on working with universities to improve digital innovation within the country. There is also a clear emphasis on the teaching of digital innovation at the universities. Other entities focused on innovation and entrepreneurship is with a focus on start-up businesses. The government is investing more money into the development of innovation with a focus on e-commerce. Smartphones and their accessibility made a push for the majority of Vietnamese start-ups being predominately application and e-commerce based (Digital Entrepreneurship Across Apec, 2019). Vietnam was initially trying to keep up with countries and their implementation of IoT; now Vietnam is in a position to focus on innovation and entrepreneurship with the correct infrastructure and strategies.

Vietnam is providing APEC with essential lessons for their economies and strategies towards developing a digital economy. The lessons that are seen are that a country that does not register for a competitiveness score for their digital economy can illustrate that a nation as small as Vietnam with a comparatively smaller GDP compared to other significant nations including China, Japan and the United States of America that they can still develop strategies for the industry 4.0 (Vietnam's Future digital economy, 2019). Vietnam has shown APEC

with the correct planning and organisation as well as a desire to explore the digital economy; some steps can be implemented to get there. The process of creating a digital economy in Vietnam may require more time compared to other nations whom of which have more financial freedom allowing them to develop their economy quicker (Dlodo and Kalezhi, 2015). Vietnam's implementation of a digital economy can be translated to a micro-scale within more developed countries. Rural areas of some countries can implement Vietnam's plans in a localised way. Ensuring underdeveloped areas of certain countries have access to Wi-Fi and 5G through planning and policy can be beneficial aiding countries develop their digital economy on a nationwide scale rather than only in the central business districts (Dlodo and Kalezhi, 2015).

FINDINGS

The results of the literature review have identified that Vietnam is an emerging country in becoming a digital economy. With the introduction of the internet in 1997, Vietnam made leaps and bounds towards implementing IoT in the business world and the social world. The introduction of smartphones behaved as a launchpad for IoT. The accessibility of smartphones has provided the basis for start-ups to focus their business ideas as well as the e-commerce world. Innovation and entrepreneurship are thriving with government directing funding towards innovation at the tertiary education level. With long term strategies being implemented to bring Vietnam into the digital age, focused on business, social, policy and innovation level. Vietnam is already implementing IoT technology in the agricultural and manufacturing sectors. Despite the advancements of digital technology within the nation, the country has a 70% chance of losing their workforce to automation and ranked the lowest concerning digital innovation and infrastructure. Based on the findings, Vietnam is taking the correct steps to become a digital economy to maintain its foothold amongst the ASEAN nations and APEC. The analysis has highlighted there an area for improvement to aide Vietnam in their transition towards a digital economy. There is no reference to Vietnam collaborating with other nations in their development towards a digital economy. There needs to be more money being invested towards digital innovation as well as drawing focus on implanting IoT in their current business sectors and avoiding putting their citizens out of work.

RECOMMENDATIONS

The following recommendations are advised for Vietnam to continue with the development of a digital economy.

Collaboration

Vietnam should focus collaborating with entities that are heavily emerged in the digital economy and IoT. Vietnam already has affiliations with organisations such as ASEAN and APEC (ASEAN, 2019) (APEC, 2020). Currently, ASEAN and APEC hold regular summit which provides all nations affiliated with these organisations with ideas, discussions of the future project. These organisations include 1st world and 3rd world countries, ranging from

Australia to Vietnam, Westerner civilisation and Pacific Asia (APEC, 2020). The transparency of nations IoT and strategies can be shared to determine what is working for one nation and what is not for another to avoid poor investment decisions for a country such as Vietnam which has a relatively smaller GDP compared to western civilisations (Leidner, 2010). Vietnam should also look to become affiliates with otherworldly groups focused on IoT development. Other groups Vietnam should focus on working with include G20, on maintaining sustainability and growth, OECD (Organisation for Economic Co-operation and Development) aimed at social well-being and innovation (Oecd.org, 2020). Reaching out to the independent organisation and collaborating with a greater collective will help further develop the countries innovation and the digital economy.

Investing in people

A large portion of Vietnam's GDP growth is predominately based around manufacturing, agriculture and mining. Aforementioned, there is a 70% risk of workers have their jobs becoming automated (Vietnam's Future Digital Economy, 2019). To avoid the possibility of high rates of redundancy across the country in these sectors, Vietnam needs to be careful of the repercussions of IoT (Ristiandy, 2020). Vietnam needs to focus on the development and further the education of its citizens in these sectors. A focus on education is paramount for the development of their digital economy. Retraining and reskilling current employees are necessary for digital entrepreneurship to thrive in the country (Bowles and Bowles, 2004). To maintain a level of innovation and encourage innovation, the government needs to emphasise the importance through televised events, competitions and placing a level of significance not only at universities but through school-based programs (He, et al, 2016). Retraining current employees, seminars should be funded by the government which are available for current business owners and their employees. Retraining will provide business owners, and their employees with skills required to help adopt IoT within their workplaces and ensuring current employees have the necessary skills to do so. The government needs to continue to support the business through the infrastructure required for the nation to build the digital economy (Jehangir, Dominic and Khan, 2011). Maintain a level of access for all citizens to access Wi-Fi and information is paramount for the transition.

CONCLUDING STATEMENT

Vietnam is taking the necessary steps toward becoming a digital economy. They are maintaining a level of progress which is in line with the ASEAN countries and APEC. Despite being ranked in a lower position compared their other ASEAN counterparts, Vietnam has a comprehensive strategy in place to become a digital economy by 2030. The country began implementing and transitioning towards a digital economy through the use of IoT in industries such as agriculture and manufacturing. With these developments, Vietnam needs to be careful of the precautions of IoT and should invest heavily in the education and development of current employees and businesses. Vietnam needs also consider collaborations without national entities to maintain a level of innovation and ensure they are investing the correct technological developments to further their digital economy.

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