Smart Tourism Development in Myanmar Beyond COVID-19 through ICT

Dr. Mya Thett Oo[1] and Thant Thura Zan[2]

[1] Department of Commerce, Yangon University of Economics
[2] Department of Commerce, Yangon University of Economics

Abstract- Many sectors all around the world todays are inevitably influenced by the information and communication technology (ICT). The evolution of ICT had profound implication for economic and social development. ICT plays an important role in tourism, and hospitality industry. Smart tourism is the latest trends in tourism based on smart technologies. Smart tourism has emerged over the past few years as a subset of the smart city concept, aiming to provide tourists' specific travel related needs. In Myanmar, Yangon, Naypyitaw and Mandalay have been trying to implement smart city platform to engage various stakeholders. The main objective of this paper is to explore smart tourism development in Myanmar beyond COVID-19 pandemic by integrating ICT with smart tourism practices that could enhance tourism experience through offering products/services that are more customized to meet each of visitor's needs.

Index Terms- ICT, Integration, Smart city, Smart tourism

I. INTRODUCTION

In the contemporary world, the urbanization is rapidly increasing. There is a predication that 86 percentage of the developed nations and 64 percentage of the emergent nations will be migrated from rural to urban by 2050(World Bank, 2019). Thus, cities in almost all countries have to prepare for weighty pressures such as luck of infrastructures, inadequate power, high housing price, increased crime etc. by reason of massive population. Fortunately, the one and only way to figure out these issues can be managed by Information and Communications Technology (ICT) to be smart city. The word "Smart" can be defined as "technological, economic and social developments enriched by ICT revolutions that bank on sensors, data, new ways of connectively and exchange of information"(Gretzel et al, 2015). Therefore the concept of smart city is technology installed city.

Along with the fourth industrial revolution, ICT introduces technologies such as smartphones, applications, Wi-Fi to ease the burden of social and economic costs. Nowadays, cities have been tried to reach smartness because smart city can serve its people best by integrating high-tech and physical infrastructures enhancing sustainable development, creative commerce and greater quality of life for citizens. ICT allows smart cities to perform in a keen way in many areas including innovation, service quality, and traffic problems. At the same time smart cities rise their citizens and tourists as well with value added and modernized services. Therefore smart tourism becomes one of the core components of smart city concept.

The new chapter of industry 4.0 also opens door for tourism domain. When developing smart city concept, technology embedded environment offers an opportunity to stakeholders to present the smart tourism for tourists who come to city. Tourists change the way they search about transportation, accommodation, culture, activities for desired tourism destinations with the help of end- user devices. The public as well as private sector eventually the whole society started to realize the sudden change in technology and adapted the smartness in converging smart city and smart tourism (Meijer & Bolivar, 2015).Therefore, a smart city should be a smart tourism destination that assurances the sustainable environment.

There are so called three Myanmar smart cities namely Nay Pyi Taw, Yangon and Mandalay which are trying to fulfill the smartness characteristics. It is predicted that additional 7.1 million of Myanmar rural population will move to cities by 2050 (World Bank, 2019). Therefore Myanmar government is implementing the urban policies across the cities. Together with the smart city development, Myanmar tourism industry should aim to engage the smart tourism in the formation of the smart city. In 2018, Myanmar travel and tourism sector contributed 6.8% to GDP (Knoema, n.d.). However, Myanmar tourism industry remains to be developed. Due to COVID – 19 outbreaks worldwide, governments have enforced policies at district, regional and national levels as well that include stay-at-home orders, self- or compulsory-quarantine, travel bans and other business-specific restrictions to extent of the outbreak. As a result, travel and tourism have literally come to a halt, and the economic activities of the airline industry and hospitality sector have been reduced prior to the pandemic.

Technology has become a major factor in building resilience in tourism. On the one hand, IT appears to be highly effective and, in many ways, even essential in confronting these pandemic-related problems (e.g., traveler screening, case and contact tracking, online education, and entertainment during lockdown, to name just a few). On the other hand, there are a spread of broader issues and concerns resulting from society's reaction to the crisis barely rather like the new digital divide, vulnerability, privacy, misinformation and ethics of using technology, which could have profound and long-term effects across all layers of   e-Tourism (Werthner et al., 2015).

Myanmar tourism industry should use the ICT as a tool for compensation COVID – 19 negative impacts and also for smart tourism development. The main objective of this study is to make the best of smart tourism development in Myanmar beyond COVID – 19 pandemic by using ICT with smart tourism practices that could enhance tourism experience through offering products/services that are more customized to meet each of visitor's needs. The paper also tries to fill the research gap by conceptualizing the smart tourism development in accordance with the smart cities formation.

II. RATIONALE OF THE STUDY

To respond to and recover from crisis of COVID – 19 outbreaks, technology plays a central role for every sector especially for tourism sector as travelling is restricted in most the country including Myanmar. The complexity of the impact of COVID – 19 requires both a short-term reaction and a long-term readiness so as to know a number of its far-reaching effects at the basic level. As the integration with IT and tourism, the sector of e-Tourism must now take on the two "fronts" of a fast-changing new reality and tremendous prospects for long-term change. Information and Communications Technology (ICT) is critical for providing services the visitors before, during and after visitation. To provide real-time services, all tourism and hospitality organizations must interconnect tactically and strategically.

The development of smart tourism destinations represents an environment where technology is embedded throughout the destination, facilitating its dynamic coordination, empowering its marketing and developing its competitiveness. A destination can be categorized as smart when sustainable economic process and high quality of life and tourism services are achieved through investment in human capital, government participation and infrastructure that support proper dissemination of information throughout the city. A number of critical changes are needed to empower smartness. These include: The Internet of Things (IoT); Machine to Machine collaboration; Big Data; Ubiquitous Networking; Networked Business; Augmented Reality; Wearable computing; Context Based Services.

Myanmar must do its utmost to revive tourism beyond COVID – 19 outbreaks with smart technology assistance. Since smart tourism includes two essential elements: smart technology and smart destination, all stakeholders must coordinate and demonstrate how smartness may be employed more widely. This paper addresses the important of smart tourism development in Myanmar beyond COVID – 19 outbreaks through ICT to be innovative tourist destinations, depend upon an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, increase the quality of the experience at the destination, and improve residents' quality of life.

III. RESEARCH METHOD

This research was conducted by reviewing the numerous previous literatures. It has been a qualitative research, since it presented a theoretical review that sought to grasp the concepts of smart city, smart tourism, tourism and ICT. This understanding was considered the first step towards the conceptualization of the themes of any research. The objective was to subsequently describe the applicability of those concepts in foundation of ICT, cities and tourist destinations across the country.

IV. LITERATURE REVIEW

4.1 Smart City

Today, most of the rural population around the world is moving to urban areas as the population grows exponentially. To serve such people; cities are attempting to be complacent, but dramatic advances in technology have found that cities can do plenty to serve the people. Technological advances have made great strides within the 29th century, and the 21st century, much is being done to help cities. The ability to share knowledge with all stakeholders in cities using technology will provide adequate access to transport and infrastructure for emerging urban needs. It is fundamental to building sustainability as well as sustainable development.

Problems caused by the growing population are proportional to the population and therefore the city, leading to a raise in crime, rising consumption, excessive abandonment, scarcity of housing and then inequality have led to an increase in social problems. Managing these problems is usually not an easy test. The most feasible way to deal with these problems is to use innovative and intelligent urban management. This gives rise to the term smart city as it is used today. The key to being smart is to make mutual values among the stakeholders in the city and to make a customary that benefits everyone. Therefore, the smart cities are managed and built into a modern city by addressing the challenges posed by using smartness.

In addition to economic development and sustainable development, every citizen incorporate a high standard of living, a secure environment and emotional security; this city can be considered a smart city. According to Komninos et al, (2013), this relies on three pillars. These are human capital, infrastructure and information. Human capital is one among the foremost important things. It is a better and smarter city by actively working with other pillars on a daily basis. Infrastructure refers to a tangible fiber network of communications connected throughout the city, serving as a ubiquitous source of sensors for the city. Additionally, the quick and straightforward access of stakeholder to information about the city by using smart devices, anytime, anywhere, greatly enhances their quality of life.

Thus, the essential concept of the smart city is that citizens should make the best use of adequate infrastructures combined with good information to improve their lives. In implementing this concept, there are still some characteristics that separate from the three pillars. They are hard smartness and soft smartness. Hard smartness includes resources, energy, environment, mobility, building and healthcare. Soft smartness consists of entertainment, education, culture, public admin, public safety and economy (Geels, 2008). In formulating policies to implement these, the government should take into consideration not only the population of the city but also the needs of potential tourists. This is because as cities develop, so do tourist destinations.

Globally the concept of smart city in not new, but in Myanmar the concept started recent back in 2014. The mission was started with the vision to market cities that provide core infrastructure and provides an honest quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions. This is often a protracted term initiative by Government with the aim to develop the urban areas of some selected cities (Naypyitaw, Yangon and Mandalay). According to ASEAN Smart Cities network's (2018) smart city guidelines, core infrastructure required in a very smart city would come with the essential requirements in daily life and also the adding there to technological necessities such as; education and health, adequate water and electricity supply, sanitation, involving solid waste management, efficient urban mobility and conveyance, affordable and reasonable housing basically for the hapless people, digitalization, robust IT connectivity , clean and good governance especially e-Governance, sustainability, sound and safety of citizens, particularly women, children and thus the elderly.

In smart city mission, Government of Myanmar initially planned for capital cities through smart city challenge by defining certain criteria and guidelines. Smart solutions were given importance in the guidelines in selection of the cities, such smart solutions categorized such as: e-governance and citizen service, urban mobility, waste, water and energy management etc. (GOI, 2015). Mandalay, Myanmar's second biggest city was received smart city award 2019 from the Asian-Oceania Computing Industry Organization at a Bangkok summit attended by 24 countries including Japan, India, Australia, Singapore, Taiwan and Thailand.

The smart city practices also provide smart tourism development path, model and infrastructure. The components of smart city contains smart community, medical smart, the smart of government, intelligent transportation, smart power, smart banking, smart logistics and smart cultural and creative industry and other industries are associated with smart tourism. These components come together to build support platform for smart tourism.

4.2   Smart Tourism

The meaning of tourism is that people travel from one place to another for leisure or work, where cultural, social and economic processes are intertwined. Later, various types of tourism have emerged, such as food tourism, cultural tourism, etc. When tourists visit an area, they experience the surroundings of the area and create a travel experience. Now with the advancement of technology, it is possible to share experiences faster. Experience is very important for tourism industry. In addition one can access the sharing of the experiences of others through the internet, website available via smart end user devices. The same can be said for becoming in tourism.

The smart tourism is based on the smart city style interior. Thus smart cities are the smart tourism destinations. But the difference is that tourists, unlike locals, need to provide more sophisticated services and needs. Smart tourism is not just ICT or just tourism. It is a combination of these two domains. With the development of technology, mass data can be easily stored, transferred and used to access real-time data. This is called a cloud and can be used effectively and efficiently and used to

provide in decision making. Further, the cloud, the internet, artificial intelligence (AI) and smart devices can now be used in both the supply side (tour companies, agencies and guides, hotels, governmental organizations etc. which have to provide smartness) and the demand side (travelers who needs smartness) in the tourism industry.

4.3   ICT and Tourism

Technologies are one amongst the dominant factors for the evolution of a destination (Buhalis and Amaranggana, 2014). In step with Rossetti and Morales (2007) and Kohn and Moraes (2007), information technologies are utilized in some ways, with the goal of developing processes, supporting administration, and fostering the production of information-based products and services, thus generating knowledge what will be named the "information and digital society" (Thomaz, Biz & Gândara,2013).

For Thomaz, Biz, and Gândara (2013), ICT play a much larger role within a tourist destination. Social networks and other tools employed by tourists during trips generate an outsized amount of knowledge which will be wont to improve the management of a destination (Thomaz, Biz & Gândara, 2013). Such an application has had a differential role when it involves tourism management processes, so a new way of using it's been established. By using social media, big data, augmented reality, sensing, and other processes, ICT have elevated tourism to the extent of digital society compared to traditional means of communication and information. The assembly of content a couple of location has grown exponentially since social networks emerged, and this has enabled the sharing of experiences along the journey (Thomaz, Biz & Gândara, 2013).

The dissemination of information about a location is only limited by the technological tool and tourists have at their disposal. Using ICT for their own dissemination and management, destinations are consolidating and becoming well-known, a fact that follows the evolution of information exchange technology (Buhalis & Law, 2008; Thomaz, Biz & Gândara, 2013). Given the capacity for disseminating knowledge in the technological environment, ICT are tools that have been applied to tourism and its management over the years (Buhalis & Law, 2008). ICT can produce a number of benefits for destination management activities in terms of: reducing costs and times needed for undertaking activities, increasing quality, and increasing effectiveness.

V.   IMPLICATIONS AND RECOMMENDATIONS

Smart tourism is becoming an enormous contributor to and benefactor of the society that's characterized by ubiquitous, always-on data capture. The current assumption is that information is extremely valuable to businesses and can be freely provided by the smart tourists who seek enriched tourism experiences. It is essential that the present information and communications technologies should be updated, upgraded and seamless integration both internally and externally should be done to enhance the tourism business operations. The governments and enterprises should encourage and train the industry regard. Enterprises should integrate all departments through ICT. High-speed internet facilities should be provided by

the government, and power failures should be avoided. The government should encourage the event of mobile commerce (e.g., promotion, payments, etc.,) and will be integrated within tourism industry.

Smart tourism is an incredibly promising scenario that leads to more convenient, safe, exciting, and sustainable living spaces for both residents and tourists, more personalized and thus more relevant tourism experiences, and even greater opportunities for brand spanking new services, business models and markets to emerge as a result of more flexible structures and different perspectives on value creation. Research in reference to design science is further needed to explore the new value creation opportunities supplied by smart tourism and translate them into working ICT. It also becomes very clear that advances in semantic technologies and AI are needed to actually exploit the varied data layers.

VI. CONCLUSION

This paper attempted to provide an overview of the smart tourism concept. It also highlighted the theoretical grounding in smart city related conceptualizations and comprehensive and systematic exploration of its business opportunities and implications. The selection of right information technology tool is crucial to match the customer requirements with service dimensions. The proliferation of technology throughout tourism distribution channels and professionals use the new tools so as to retrieve information, identify suitable products and perform reservations. ICT integration will provide a powerful tool that brings advantage in promoting and strengthening Myanmar tourism industry beyond COVID – 19 outbreaks. Nevertheless, further empirical research is needed to enrich and certificate the set of tools for practitioners and decision makers engaged in this field. In particular, the generalizability of the considerations made as well as the impact of different factors mentioned in this work for effective introduction implementation of ICT in smart tourism destinations should be enriched.

REFERENCES

[1] Asean Smart Cities Network. (2018), Smart City Action Plans. Singapore.

[2] Buhalis, D., & Amaranggana, A. (2014). Smart Tourism Destinations. In Z Xing & L. Tussyadiah (Eds.), Information and Communication Technologies in Tourism 2014, Dublin: Springer, 553 – 564.

[3] Buhalis, D., & Law, R. (2008). Progress in tourism management: Twenty years on and 10 years after the internet: The state of eTourism research. Tourism Management, 29(4), 609 – 663.

[4] Geels, F. W. (2002). Technological transitions as evoluationary reconfiguration processes: a multi-level perspective and a case study. Research Policy, 31, 1257 – 1274.

[5] GOI. (2015). Retrieved from https://www.grantforoncology innovation.org/ en/home. html

[6] Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and Developments. Electr Mark, 25, 179 – 188.

[7] Knoema. (n.d.). Myanmar Contribution of travel and tourism to GDP (% of GDP), 1995 – 2018.

[8] Kohn, K. & Moraes, C. H. de. (2007) O impacto das novas technologias na sociedade: concettos e characteristicas da Sociedade da informacqo e da Sociedade Digital. Anais Cogresso Brasileiro de Ciencias da Comunicacao – INTERCOM, Santos.

[9] Komninos, N., Pallot, M., & Schaffers, H. (2013). Special issue on smart cities and the future Internet in Europe. Journal of the Knowledge Economy, 4(2), 119 – 134.

[10] Meijer, A., & Bolivar, M. P. R. (2015). Governing the Smart City: a review of the literature on smart urban governance. International Review of Administrative Science.

[11] Rossetti, A. G., & Morales, A. B. (2007). The role of the information technology in the knowledge management. Ciencia da Informacao, Brasilia, 6(1), 124 – 134.

[12] Thomaz, G., Biz, A., & Gândara, J. M. G. (2013). Innovacion en la promocion turistica en medios y redes sociales. Estudios y Perspectivas En Turismo, 22(1), 102.

[13] Werthner, H., & Klein, S. (1999). Information technology and tourism: a challenging relationship. Vienna: Austria: Springer-Verlag Wien

[14] World Bank. (2019). Myanmar's Urbanization: Creating Opportunities for All.

[15] World Bank. (2019). Migration and Remittances. [Available at: https://www.worldbank.org/en/topic/labormarkets/brief/migration-and-remittances

AUTHORS

First Author – Dr. Mya Thett Oo, Department of Commerce, Yangon University of Economics, myathet7@gmail.com, myathett@yueco.edu.mm

Second Author – That Thura Zan, Department of Commerce, Yangon University of Economics, thantthurazan@yueco.edu.mm