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Research article

Innovation of Information Technology-Based Tourism Services During the COVID-19 Pandemic

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Abstract.
The Covid-19 pandemic has affected various sectors, including the tourism sector. The province of Yogyakarta has been impacted, particularly its tourism sector. Yogyakarta's tourism sector has therefore had to explore innovations during the Covid-19 pandemic, including the innovation of information technology-based tourism services. The research objectives were to identify the tourism services innovations implemented by the Yogyakarta Government during the Covid-19 pandemic and to determine the obstacles faced in implementing these innovations. The research used descriptive qualitative methods and data were collected through document analysis and observations. The results showed that Yogyakarta made an application named Visiting Jogja as part of its tourism efforts during the Covid-19 pandemic. The obstacles in implementing this Visiting Jogja application were: most people did not understand the application, some people still had limited access to android or IOS smartphones, and there was unstable internet connection in many areas of Yogyakarta. Based on the research, it can be concluded that the implementation of the Visiting Jogja tourism service innovation was not run well, since most people still do not use this application when they travel to Jogja and some Yogyakarta tourism destinations are still not strictly implementing the application.

Keywords: public services innovation, tourism, Covid-19 pandemic

1. Introduction

Yogyakarta is one of the provinces in Indonesia which is famous for its tourism. Quoted from cnnindonesia.com, Yogyakarta is one of the 7 famous tourist cities in Indonesia. Tourism in Yogyakarta also contributes a fairly high local income for Yogyakarta, in 2019, the tourism sub-sector in Yogyakarta contributed 606,468,910,587 to Yogyakarta's local income (PAD). (Based on 2019 DIY tourism statistics).

The tourism sector in Yogyakarta was affected by the COVID-19 pandemic which began to enter Yogyakarta in early 2020. Since the entry of the COVID-19 pandemic, the tourism sector in Yogyakarta has experienced a collapse that can be seen from various aspects. The first aspect is that the number of domestic tourists who use star

and non-star hotels in Yogyakarta has decreased in 2020, the data can be seen in the table:

TABLE 1: The number of domestic tourists who use star and non-star hotels in Yogyakarta.

The number of domestic tourists who use star and non-star hotels in Yogyakarta	Year			
	2017	2018	2019	2020
	4.831.347,00	5.272.719,00	6.116.354,00	1.778.580,00

Source: http://bappeda.jogjaprov.go.id/dataku [1]

Before the COVID-19 pandemic, the number of domestic tourists using star and non-star hotels in Yogyakarta had always increased significantly in 2017-2019, but decreased in 2020, which was the year of Covid-19 pandemic entered Yogyakarta. Visits of foreign tourists who use star and non-star hotels in Yogyakarta have also decreased, the data can be seen in the table.

TABLE 2: The number of foreign tourists who use star and non-star hotels in Yogyakarta.

The number of foreign tourists who use star and non-star hotels in Yogyakarta	Year			
	2017	2018	2019	2020
	397.951,00	416.372,00	433.027,00	69.968,00

Source: http://bappeda.jogjaprov.go.id/dataku [1]

The high drop in the number of foreign tourists in Yogyakarta in 2020 was caused by the Covid-19 pandemic in Yogyakarta which led to a policy of restricting foreign citizens to enter Indonesia. In addition to the decreased in the number of domestic and foreign tourists in Yogyakarta, the number of tourist visits in tourist destinations has also decreased, this can be seen in the table:

TABLE 3: The number of tourist visits in tourist destinations.

The number of tourist visits in tourist destinations	Year			
	2017	2018	2019	2020
	25.952.122,00	25.716.261,00	27.365.291,00	9.961.315,00

Source: http://bappeda.jogjaprov.go.id/dataku [1]

The tourist destination is a tourism destination or geographical area within one or more administrative areas that contain tourist attractions, public facilities, tourism facilities, accessibility and and a mutually-attached and comprehensive society. The drop in the number of tourist visits in the Yogyakarta area in 2020 is the impact of the Covid-19 pandemic.

The importance of the tourism sector in Yogyakarta is an important reason that the tourism sector in Yogyakarta must run again in the midst of the covid-19 pandemic, tourism in Yogyakarta must make an innovation so that it can continue to provide services to both domestic and foreign tourists. In fact, services, especially the tourism sector in Yogyakarta, is still experiencing various obstacles, based on the strategic plan of the Yogyakarta Tourism Office 2017-2022, the obstacles to these services include: the unoptimized availability and connectivity infrastructure, the stagnation of its tourism product, the low length of stay and the number of tourists, especially foreign tourists, unoptimized competitiveness of tourism products, the unoptimized tourism business partnerships, the limited human resources of tourism, and the limited development of high-education tourism. This then becomes the research objective, to identify tourism service innovations implemented by the Yogyakarta provincial government and to determine the obstacle factors for the implementation of these service innovations.

2. Theoritical Review

2.1. Public Service

The community in carrying out their daily activities requires a government bureaucracy to fulfill various needs of the organization in accordance with the rules and procedures established by the agency. The government as an agency in charge of providing services to the public should provide good public services. Sinambela in Pasolong [2] argued that Public service is a process of fulfilling the needs and desires of the community by the government and a series of activities carried out by the government bureaucracy in meeting the needs of the community.

The government which is a public bureaucracy carries out all series of activities to meet the needs of the community which is then focused on certain agencies, the series of activities with public services. Public services are a series of activities carried out by the public bureaucracy to meet the needs of users. [3]

The form of public service in Indonesia is regulated by law and PERMENPANRB. Public services according to PERMENPANRB Number 14 of 2017 [4] are all series of service activities carried out by public service providers as an effort to fulfill the needs of service recipients and in the context of implementing the provisions of laws and regulations.

Services in Indonesia, both services from agencies and BUMN/BUMD are grouped into 3, namely: (1) administrative services, (2) goods services, (3) services. (Based on Kepmen PAN Number 58 of 2002) [5]

2.2. Public Services Quality

Ibrahim argued that the public service quality is a dynamic condition related to products, services, people, processes and the environment where the quality assessment is determined when the provision of public services occurs. [6]

Service quality has certain dimensions. According to Fitzsimmons in Sedarmayanti [7] the dimensions of service quality are: Reability, the awareness/desire to help and provide services quickly; Assurance, the knowledge, courtesy, confidence from service providers and respect for customers; Empathy, the the willingness of service providers to approach, providing protection, trying to find out the desires and needs of customers; and Tangibles, the appearance of employees and other physical facilities such as equipment that support services.

Public services in Indonesia are regulated in the guidelines for the implementation of public services by KEPMENPAN Number 63 of 2003 [8] which explains that public services must meet various principles, including: simplicity; clarity; time certainty; accuracy; correctly, appropriately, and legally received public service products; security; responsibility; completeness of facilities and infrastructure; ease of access; discipline; courtesy; friendliness; and comfort. In addition to KEPMENPAN Number 63 of 2003 [8], public services in Indonesia are also regulated in the Regulation of the Minister of Administrative Reform Number 38 of 2012 [9] concerning Guidelines for Assessment of Public Service Performance. The best service to the community, as well as implementing the ISO 9001: 2008 Quality Management System in order to provide quality assurance of quality services to the community.

2.3. Public Services Innovation

Innovation is a process and/or result of the development and exploitation of a product or resource that has existed before, so it has more meaningful value in order to increase efficiency and effectiveness. The current public service innovation discourse is a key element in Indonesia's public service service where the conditions for the development of science and technology and global competition are becoming tighter and more open. Service as a process of satisfying needs through the activities of others directly,

is a concept that is always up-to-date in various institutional aspects. Not only in business organizations, but has developed more broadly on the order of government organizations (Sinambela, in Prawira) [10].

Muluk [11] suggests that there are at least 5 (five) types of innovation in public sector organizations, namely as follows:

1. Product Innovation. This innovation stems from a change in the design and product of a service which distinguishes it from previous service products.

2. Process Innovation. This innovation refers to the existence of continuous quality renewal and the combination of changes, procedures, policies, and organization needed by organizations to innovate.

3. Service Method Innovation. This innovation is a new change in the aspect of customer interactions or a new way of providing or delivering a service.

4. Strategy or Policy Innovation. This innovation refers to aspects of the new vision, mission, goals, and strategies and also concerns the actual reality that appears so that a new strategy and policy is needed.

5. System Innovation. This type of innovation is a novelty in the context of interactions or relationships carried out with other actors in the context of a change in organizational management.

3. Research Methods

This research was a qualitative descriptive research with document studies and observation as data collection techniques. Document studies were carried out by looking for reliable sources such as online news media, BPS data, data published by the Yogyakarta Tourism Office and supporting articles. Creswell [12] argued that Qualitative research is a research technique that observes and finds out about the behavior of groups or individuals as a description of social or human problems. More specifically, qualitative research will be carried out using documentation analysis techniques. Bowen [13] describes that documentation analysis is a systematic research technique to acquire the meaning of documentation. Wood et al [14] argued that Literature analysis is a research technique dedicated to finding the basic meaning, form and theme of all documents. The data analysis technique used was data triangulation technique.

4. Results and Discussion

4.1. Innovation of tourism services in Yogyakarta

Innovation according to Sinambela in Prawira [10] is a process and/or result of the development and exploitation of a product or resource that has existed before, so it has more meaningful value in order to increase efficiency and effectiveness. Service as a process of satisfying needs through the activities of others directly, is a an ever-present concept in various institutional aspects. Muluk [11] argued that innovation consist of innovation of product, process, service method, strategy and system innovation. In 2020, the governance of Yogyakarta applied various innovation specifically in tourism sector therefore the tourism sector could keep exist during the covid-19 pandemic. According to LKJIIP Yogyakarta Department of Tourism 2020 [15], The Innovation of Tourism in Yogyakarta includes into the public services are:

TABLE 4: The Innovation of Tourism Sector Services in Yogyakarta.

No	Innovation	Description
1	"Visiting Jogja" Application	"Visiting Jogja" was an application used for online ticket reservation of tourism destination in Yogyakarta which was also expected to avoid accumulation in the entrance of the tourism destination. Therefore, the health protocol could be applied. Moreover, "Visiting Jogja" was also allowed to monitor the number of visitors in a tourism destination so that it would prevent the crowded in each destination.
2	QRIS Payment	Payment through QRIS, a non-cash payment which was a payment method used in the entrance fee of Yogyakarta's tourism destination, payment through QRIS aimed for reducing the physical contact or virus transfer through money.
3	Innovation of Standard Operating Procedure Tourism Destination	Standard Operating Procedure of Tourism Destination in Yogyakarta applied various innovation, started from the parking area, tourism places up to the culinary trip in Yogyakarta which was also adjusted with the Covid-19 health protocol.

Sources: LKJIIP Yogyakarta Department of Tourism 2020 [15]

"Visiting Jogja" application was a tourism service innovation which proposed as the superior innovation by the governance of Yogyakarta since this application was a Yogyakarta's tourism application which only several regions had their own tourism application.

`Visiting Jogja' application as the tourism services innovation in Yogyakarta

"Visiting Jogja" application as a tourism services innovation in Yogyakarta. According to Yogyakarta Department of Tourism on jogja.tribunnews.com [16] explained that Visiting Jogja application aimed for recognizing the capacity and as a tracking and tracing in

Yogyakarta tourism destination. Claimed as the innovation since several attributes were attached to the application. According to Rogers, there were several attributes attached to an innovation, those were: relative benefit, compatibility, complexity, trial possibility, and observe facility (Suwarno) [17]. Any improvement could be done to overcome the lack of the innovation itself. The analysis of attributes on "Visiting Jogja" application were:

TABLE 5: Analysis of attributes on the innovation "Visiting Jogja" application.

No	Attributes	Description
1	Relative Advantage	More effective and efficient services provided to the tourist, reduced the possibilities of crowd since the number of tourist in a destination could be monitored, easier the tourist to choose the destination as they wish, gained the image of the target destination, possible to conduct an online reservation and reduced the crowd in the counter of destination, provided a detailed explanation upon Yogyakarta's tourism.
2	Compability	"Visiting Jogja" application was really compatible specifically after the covid-19 pandemic, since it could reduce the crowd in the counter ticket of the destination. Moreover, the application was also compatible due to the rapid technological development, this application was the technological innovation in the tourism sector.
3	Complexity	The complexity of this application was not all tourist could understand how to use this "Visiting Jogja" application.
4	Triability	The trial was conducted to identify whether this application was effective or not
5	Observability	The simplicity observed through this innovation was that Yogyakarta's tourism destination could be viewed through the application, it could also show the number of tourists in any destination.

Sources: processed from secondary data

"Visiting Jogja" application could be installed from Playstore for Android or Appstore for Iphone. Besides, this application was also supported by a non-cash payment or through e-payment, involved Code Indonesian Standard (QRIS) supported by Bank Indonesia (BI) and Bank BPD DIY.

Obstacle factor of the innovation implementation through ``Visiting Jogja'' application

The implementation of Visiting Jogja application which was expected to be the innovation for supporting Yogyakarta's tourism encountered several obstacles, the implementation of Visiting Jogja application's obstacle could be viewed through the following table: Table 6. Obstacle factor of the implementation of Visiting Jogja application

TABLE 6

No	Obstacle	Sources
1	Bantul Department of Tourism reluctant of the application. Bantul Department of Tourism which was also part of Yogyakarta Tourism felt reluctant by the existence of the application since the use of Visiting Jogja application claimed overlap with Peduli Lindungi application which also should be applied. Besides, not all tourists in Bantul bring their mobile phone.	https://jogjapolitan.harianjogja.com.2020 [18]
2	Field observation result showed most of tourism destination in Yogyakarta did not implemented Visiting Jogja application.	Researcher's observation
3	Visiting Jogja application had not been integrated with Pedulilindungi application. Pedulilindungi application as the central government's innovation should be applied in Yogyakarta's tourism, unintegrated of Visiting Jogja and peduli lindungi application would interrupt the use of both application and caused ineffective since they had an almost similar function, as the requirements to enter the tourism destination. Moreover, both of the application could detect the number of tourists in a destination as well.	Researcher's observation

Sources: Processed data

5. Conclusion

Based on the result of this research, various innovation in Yogyakarta's tourism services involve the development of Visiting Jogja application, e-payment method and the innovation of operational standard. The primary innovation of tourism services in Yogyakarta is the development of "Visiting Jogja" application since not all region in Indonesia owned the application. "Visiting Jogja" application is also can be installed through Appstore or Playstore. It aimed for observing the capacity as a tracking and tracing tool in the Yogyakarta's tourism destination. The implementation of this application in tourism sector encounter various obstacles such as: the reluctant of Bantul Department of Tourism which is also part of Yogyakarta's tourism, many Yogyakarta's tourism destinations do not use the application, the application is not integrated with Pedulilindungi application (the central government's application). Based on the research, the researcher suggest to carry out the integration between Visiting Jogja and Pedulilindungi application, strengthen the tourism actor network in Yogyakarta specifically on the implementation of Pedulilindungi application and provide a solution for the tourists who do not bring their smartphone or even those who can't use the application when they visit the tourism destination.

6. Acknowledgement

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