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Public Partnership and Performance of Smart Cities in Malaysia

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ABSTRACT

This study was conducted to explore the relationship between the public partnership with the performance of smart cities in Malaysia. About two hundred (200) respondents identified via LinkedIn and a link to the survey were shared via LinkedIn. About eighty-seven (87) responded to the survey. The questionnaires divided into two parts which are part A is on the respondent profiles, and part B is on government institutions (local level) (10 items), government agencies (14 items), and smart city performance (34 items). A reliability analysis was performed using the SPSS software, and the Cronbach's Alpha scores for the three (3) variables are high with a score of more than 0.900. The results of the correlation analysis indicated that there are positive and significant relationships between GIL, GA, and SP. The relationship between GIL with SP is a weak correlation (r=0.290**; p=0.006), GA with SP is a moderate correlation (r=0.517**; p=0.000), and the relationship between GIL and GA is a strong relationship (r=0.695**; p=0.000). Hence, it can be assumed that the residents at smart city in Malaysia agreed that the government at the local level and government agencies have an influence on the performance of the smart city.

Keywords: *Smart City; Government Institution Local Level; Government Agencies; Performance*

RESEARCH HIGHLIGHTS

The results of processing eight-seven (87) survey responses using SPSS software have shown that reliability and the *Cronbach's* Alpha scores for the three (3) variables are high with a score of more than 0.900. Moreover, correlation analysis results have indicated that the relationship between GIL, GA and SP is a positive and significant. However, it is important to mention that relationship between GIL with SP has been identified with a weak correlation *(r=0.290**; p=0.006).* In the other hand, the relationship between GA and SP is characterised by a moderate correlation (*r=0.517**; p=0.000).* In addition to that GIL and GA have been identified to have strong a strong relationship *(r=0.695**; p=0.000),* therefore based on the analysis derived from the responses of smart cities resident in Malaysia. It has been assumed that they agreed on the fact that the government at the local level and government agencies have an influence on the performance of the smart city.

GRAPHICAL ABSTRACT

The figure below shows that the relationship between government institutions at local level (GIL), government agencies (GA) and smart city performance (SP) in Malaysia. The correlation analysis results show that there is a positive and significant relationship between government institution at local level (GIL) with smart city performance (SP) (r=0.290**; p=0.006), government agencies (GA) with smart city performance (SP) (r=0.517**; p=0.000), and government institution at local level (GIL) with government agencies (GA) (r=0.695**; p=0.000), and vice versa.

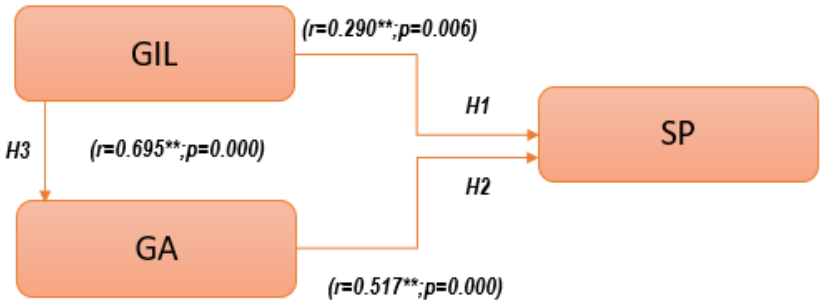

Fig. 1. Relationship between GIL, GA, and SP

Research Objectives

Smart cities are providing a useful landscape allowing the production of economy to occur by using a modern infrastructure. It is extremely important to make efforts to have a developed city. Element of technology is present and plays a crucial role in the functioning of smart cities where everything is connected. The concept of smart cities is mainly founded by the six main pillars: smart mobility, smart government, smart people, smart environment, smart economy, smart living. The application of information and communications technology (ICT) with their effects on human capital or education, social and relational capital, and environmental issues is often indicated by the notion of a smart city (Boubekeur et al., 2021).

The aim of this research is to explore the relationship between the government institutions at local level (GIL), government agencies (GA), and smart city performance (SP). Research Objective: To examine the relationship between government institutions -local level (GIL), government agencies (GA) and smart city performance (SP) in Malaysia. The significance of this study is for government institutions at local level and government agencies to be aware of the most important items to support the performance of smart city in Malaysia.

Methodology

The respondents either living or working in smart cities in Malaysia. About two hundred (200) questionnaires were distributed via LinkedIn, and a Google Survey Form link was sent to the sample who were willing to participate in the survey. About eighty-seven (87) respondents responded to the survey Highly important to understand the role of the public sector which is represented by the government institution at local level, and the government agencies in the performance of smart cities in Malaysia.

The reliability test was conducted on the 5 Likert- scale items and analysed using Cronbach's Alpha which is based on the internal consistency of each item included in the scale. From the data collected, a reliability analysis was performed using the SPSS software, and the results showed that the Cronbach's Alpha scores for the three (3) variables are high with a score of more than 0.900. For government – local level (GIL) with α=0.923 (10 items), government agencies (GA) with α=0.930 (14 items), and smart city performance (SP) with α=0.976 (34 items).

Results

The profiles of the respondents are as follows: Out of 87 respondents, about 18.3% were under 30 years old, 28.7% were aged 31-40 years, 32% were 41–50 years of age, and 21% were above 50 years of age. As for gender, about 44.8% were females, and 55.2% were males. About 44.8% of the respondents had a Master, 29.9% with PhD, 17.3% with bachelor's degree, and 8% with SPM/Matriculation/Diploma. 78.2% of the respondents earned less than RM10K per month, and about 21.8% were earning more than RM10K per month. In terms of location of smart city, 41.3% were from Greater KL, 39.1% were from Smart Selangor, 10.3% were from Kulim, 6.2% from Putrajaya, 2.0% from Kuching, and 1.1% from Georgetown.

Out of 10 items for GIL, there were 9 items with mean scores of more than 4.00 and only one with mean scores of less than 4.00. The mean scores of 4.00 and above includes physical development system, quality of life, social development, economic development, management of issues and challenge related to projects, economic development system, power and administration of city, key governance, management and goals, and establishment of strategic planning and managing programs related to smart city development.

Out of 14 items for GA, about 13 items have a mean score of more than 4.00, and only one with mean score of less than 4.00. These items which exceed the mean of 4.00 include the roles played by the state government, housing and the local government and other government agencies that support the development of smart cities in Malaysia.

Out of 34 items for SP, about 15 items with mean scores of more than 4.00, and about 19 items with mean less than 4.00. The 15 items with mean scores of more than 4.00 for smart city performance are dependent on education providers, internet access, employability rate, administration of government, public transport, etc. (Girard et al, 2011).

The results of the correlation analysis indicated that there are positive and significant relationships between GIL, GA, and SP. The relationship between GIL and SP shows a weak or low correlation ($r=0.290^{**}$; $p=0.006$). The relationship between GA with SP shows a moderate correlation ($r=0.517^{**}$; $p=0.000$). The relationship between GIL and GA shows that there is a strong correlation or strong relationship ($r=0.695^{**}$; $p=0.000$). It can be assumed that the residents in the smart cities in Malaysia agreed that the government at the local level and government agencies have an influence on the performance of the smart city.

However, the municipalities or government at the local level has a weak influence on smart city performance, as compared to the government agencies which have more influence as compared to the local government (Clement et al., 2022).

Findings

This study focuses on examining the relationship between the government institutions at the local level (GIL), government agencies (GA) and smart cities' performance (SP) in Malaysia. The results of processing eighty-seven (87) survey responses using SPSS software

show that the reliability and the *Cronbach's* Alpha values for the three (3) variables are high, which is more than 0.900.

Moreover, correlation analysis results indicate that the relationship between GIL, GA and the SP is positive and significant. However, it is important to mention that the relationship between GIL with SP is weak *(r=0.290**; p=0.006)*. On the other hand, the relationship between GA and SP shows a moderate correlation (*r=0.517**; p=0.000)*. In addition, GIL and GA have a strong relationship *(r=0.695**; p=0.000)*.

Based on the analysis derived from the responses of smart city residents in Malaysia, they agreed that the government at the local level and government agencies have an influence on the performance of the smart city. This is also supported by Vroom's Expectancy Theory of Motivation (expectancy, instrumentality, and valence) (Baumhof et al, 2017).

Based on the above results, this theory can be applied to explain the relationship between government support with the smart city performance. If the reward given is highly meaningful, more effort will be focused by government institutions especially at the local level (low to weak correlation) and government agencies (moderate correlation) towards smart city development (Boubekeur et al., 2021; Rani, & Boubekeur, 2020) and this will enhance the overall performance of smart cities in Malaysia.

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