



## INFORMATION SYSTEM, GEOGRAPHY, INFORMATION MANAGEMENT SYSTEM AND TOURISM PLANNING: A GEOGRAPHICAL PERSPECTIVE FROM MALAYSIA

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### ABSTRACT

The study objective is to check the moderating influence of institutional factors on the association of geography (GGY), application of geography information system (AGMS), information management system (IMS), and tourism planning (TP) of Malaysia. For this objective primary data was collected from 367 geographical and tourism management authorities with utilizing a convenient sampling method that shows a 75.4% response rate. The Partial Least Square (PLS)-Structural Equation Modeling (SEM) method effects had revealed that GGY, IMS and GIS had a direct positive as well as significant relationship with the TP. However, the indirect influence also indicated that IF had significant and positive moderating influence among an association of GGY, IMS and AGMS and TP. These findings had shown that IF important moderating variable is, as a result, this association is regarded as a significant addition of the research. Furthermore, this work may add to the existing body of literature, perhaps opening a new avenue of future research. At the conclusion of the study, the study's limitations and prospects were also discussed.

### INTRODUCTION

Tourist planning is an enduring tradition among geographers. Previous determinations to explore systematic space organization and tourist development were undertaken by the geographers who were known for their contributions towards the notion of central places (Hamid et al., 2021). On a broader level, the development and construction of tourist landscapes have a long focus on research, having significances for the identification and

assessment of tourism impacts, including public policy along with more recently economic growth in the tourism sustainability (Goh, 2021). On the other hand, while theories of tourist planning and implementation seem to be subject to a wide variety of philosophical frameworks and are interpreted in different ways and evolve over time, their theoretical and social value inside of this research remain undeniable. Tourism is frequently described as a dynamic and economical issue that needs proactive measures to ensure long-term development. The discrepancy between development and growth has long been noted in tourism study (Camilleri, 2018). This may be summarized using the difference made by the United States Local Government Committee: expansion implies growing; development involves enhancing quality growth and improvement (Aminu et al., 2013).

Keeping in view previous discussion, growth is often regarded as a quantitative indicator, the concept of sustainability places a greater emphasis on qualitative components of socio economic systems like overall happiness and well-being (Buhalis, 1998). In addition, the term formation contains two associated meanings: growth like a functional element technique as well as a discourse, which together influence the direction, consequences, and readiness of tourist difficulties within tourist settings. Strategic plan is a fairly ambiguous and difficult concept to define (Bahaire & Elliott-White, 1999) that could promote to tourism planning (Brookes, 2019).

Throughout from previous discussion, tourism planning is a forward-thinking as well as methodical judgment checking on guiding human behavior along the best mutually agreed-upon course. Tourism management is defined as anticipating and regulating modifications toward a foundation for fostering reasonable basis for the purpose of optimize the societal, economical, and ecofriendly advantages of the project development (Riguccio et al., 2017). Furthermore, tourism planning must also be viewed in place of as a potential tool for directing tourism inside a development path that increases motivation and well-being in its core functions and organization. As previously said, the emphasis on wider social growth of tourism would not be an inevitable assumption or conclusion when communication context activities may have unintended industrial repercussions. This research identify four tourism preparation approaches, notably manufacturing 'boosterish,' it undoubtedly promotes tourism growth. An opposing approach of responsible tourism strategy had also been acknowledged, which clearly tries to support a regional comprehensive economic plan and also the inclusion of fiscal, societal, as well as environment considerations within ecotourism development (Csapo, 2012). Public-private collaborations were expanded in tourist planning because of the current expansion of modern public management and indeed the neoliberalism ideology, and more formalized strategies are evolved that seem to be scarcely distinguishable from private industry strategies. However, tourism looks to be far from sustainable, despite more than 30 years of learning together into range of projects and approaches to address strains among tourism expansion and development (Haigh, 2020; Mosbah & Saleh, 2014; Nepal, 2008; Riguccio et al., 2017).

Nonetheless, country's geographical location has a substantial influence on its economic prosperity. Geographical changes have also accentuated the disparities between advanced and emerging economies. These industrialized countries place a great deal of emphasis towards geographic growth. Malaysia becoming a developing economy which places a premium amount on geographic development (Giap et al., 2016). The population of a nation is one of the most important variables in its geographical growth. States that neglect to emphasize on spatial improvement while ignoring population density also fail to advance on a global scale. A country's population has an impact on a variety of industries, including tourism. The tourism is a rapidly expanding industry that is considered one of the most essential and crucial elements of socioeconomic growth. Including its vast social, economic, political, and financial implications, tourism makes a significant contribution to the worldwide problem. Tourist investments are on the rise in locations across the world, since tourism is a primary determinant of regional and national wealth and success for a great many people (Bhuiyan et al., 2013; Nawaz & Hassan, 2016). It results in an increase in employment and company productivity, both of which have a significant beneficial impact on the nation's economy. Behind petroleum products, tourism seems to be the third most important export sector, followed by automobiles as well as food (Bukkuri, 2020; Caliskan & Zhu, 2020; Putri, 2020; Rašidagić & Hesova, 2020; Zhanbulatova et al., 2020).

Along with the importance of previous discussion, tourism is such a large part of the world economy, a broad set of places compete for potential tourists through a variety of channels. Tourist businesses may leverage ICT and the diversity of new chances provided by innovative technical tools to better their business, like ICT have revolutionized the tourism sector internationally (Bhuiyan et al., 2013). Online applications are altered the tourism sector in the previous few years, allowing potential travellers to communicate, browse information, and book vacations. Although we live in the digital age, online Internet comes to be an increasingly important tool for intercultural language in the tourist business. There are several factors in a business. The importance of organizational elements in determining the firm's trajectory cannot be overstated. Both factors are considered by the organization. Similarly, a country's tourist industry is controlled by the department of tourism. The tourism agency's organizational elements are crucial in developing the country's tourist strategy. According to the research, all institutional realities of tourism were linked towards the procedure of tourist planning (Giorgadze et al., 2020; Hart & Hill, 2020; Khoram et al., 2020; Kocturk, 2020; Koloba, 2020).

Along with importance of tourism planning which become a big in all over the world, but still previous studies had major focused other developed economies (Aminu et al., 2017; Kantola et al., 2018; Marrocu & Paci, 2011) while had little attention on developing economies like Malaysia. The core economic contribution in the Malaysia is from the tourism industry. For the development of the government of Malaysia reopened its international tourism sector for the Langkawi island pilot project (Suib & Salleh, 2021). Before COVID-19 the Malaysia was grow fastely in the tourism planning but at the time of COVID-19 the geographic tourism of the Malaysia goes down which shows the declining trend of economic growth of Malaysia. The core reason for declining

this tourism in the Malaysia is not having the good planning of the institutions about the development of tourism (Hamid et al., 2021). Moreover, the previous investigations still also had inconsistent findings (Aminu et al., 2017; Guan et al., 2011; Hussain et al., 2019; Kantola et al., 2018; Tomlinson, 2007). These inconsistent findings had shown that there is a need of moderating variable. It has discussed in previous discussion that institutional factors are important for geographical planning. Previous studies also suggested that institutional impacts could be used as a moderating variables (Hassink et al., 2014). Thus, based on previous discussion, the present study objective is to check the moderating influence of institutional factors on the association of geography (GGY), application of geography information system (AGMS), information management system (IMS), and tourism planning (TP) of Malaysia (Heinrich et al., 2020; Kanungo & Chatteraj, 2020; Matthews & Mokoena, 2020; Mohammad Ichsan, 2020; Nalaka & Diunugala, 2020; Sabela, 2020; van der Westhuizen & Ntshingila, 2020).

### **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

The widespread use of current information technology innovation has opened up new opportunities for tourist businesses to expand inside a dynamic as well as competitive industry, and also to identify prospective customers. Among the most important technology aspects enabling reselling things via the Internet is ecommerce. As per the modernization among all tourist activities and value, networks encourage companies to maximize their performance, such as e-marketing, e-commerce, refinancing, e-counting, and e-HRM procedures. ICT can helped firms reach a worldwide audience, export, as well as expand attention to detail of the larger range of goods and services in today's global marketplaces (Garcia-Ayllon, 2016). Furthermore fact, information, and communication technology (ICT) is revolutionized the way people think about marketing, shopping, or retailing. CT seems to have a significant impact on transforming small businesses become global enterprises, boosting their market position, gaining a strategic advantage, increasing competitiveness, and enabling creative management practices. Tourist organizations must devote more attention to such technologies in order to gain long-term international tourism development, encourage less industrialized and distant places, and enhance every region's cultural treasures (Aragonés-Jericó et al., 2020; de Souza et al., 2020; Khoma & Vdovychyn, 2021; Kyurkchiev, 2020; Lavazza, 2012; Salavrakos, 2020).

Preserving in mind that these people generation of travelers and tourist industry employees seems to be very dissimilar, with technology playing a major role, tourist spots should always accept innovations in order to provide high products and services that significantly improve the reputation or rather advertising of their vacation spots (Gobinath et al., 2017). Tourism businesses should adhere to a set of criteria that define today's guests for the purpose of to be long-term successful. Efficiency gains mostly at the micro - economic (tourist corporation) and macroeconomic sectors contributes to greater marketing, sales, transportation, and customer service (tourism destination). Tourism internet companies enable businesses to offer endless variations, interactive product creation, and other services. They also assess competitor locations and visitor complaints, forecast tourist needs, and provide comparative tourism

information. In addition, E-business applications enable suppliers to build, communicate, analyze, offer give benefits to clients while removing historical, geographic, geopolitical, and connection obstacles. Modern technology has transformed travel, reorganized monitoring systems, reservations, contact centers, and platforms like the Internet as well as Booking Engines, among other things (Hussain et al., 2019).

An institution contains a variety of components. Many institutional elements are crucial in determining the institution's course. Those elements merge to produce the institution. Likewise, each country's tourist industry is under the supervision of a tourism sector. Institutional considerations in the tourism sector play an important influence in the country's tourist strategy planning (Kurdoglu et al., 2016). According to the research, there seems to be a link among institutional tourism characteristics and tourism strategic planning. the present research, institutional variables are frequently used in place as a moderator and mediator by a matching number of other things.

Continuous technological improvement seems to have an intangible positive indirect influence on the company's financial outcomes and survivability. This allows them to sell distinctive, skilled, and value-added items in order to stay competitive in the tourism business. Because that is the tool used to manage relationships simply as well as cost-effectively among enterprises, stakeholders, and final consumers, applying ICT has such a positively significant successfulness. Both adoption and use of information technology and its applications has been acknowledged as little more than a driving factor of innovation that contribute to greater market competitiveness. Investment with tourist service suppliers is based on how well the services supplied meet the requirement for diversity and differentiate tourism products to meet a wide range of unique demands, attracting more customers. Technological innovations have consistently evolved and revolutionized global tourist sector in current history, assisting in the replacement of mediators and also the integration of innovative mediation methods (Booyens & Rogerson, 2016). Medium and small tourist businesses' ability to create scalable, investment facilitation and harness innovative ways utilizing communication and information technology seems to be a critical component in their performance and achievement in today's global climate. The continued rise of ICTs has altered the travel business and customer behaviors during the previous few years. Many service providers and visitors to the tourist business embraced online applications.

To increase supply, different methods are being established that will enable the user for buyers to choose once they must have access towards a range of experience and understanding and deals, extremely easy service, and the relation they had with tourists, could also evaluate among several tourist providers, and ultimately select decide to buy the interesting products on the internet, by a local service journal (Tayfun et al., 2018). For companies, the benefits include faster and easier tourism growth, connectivity toward a wider sector, understanding consumer needs, developing tourist facilities, branding, and reputation, creating trust with customers, as increased resource sharing and interchange across enterprises and investors. This also enables places (sites and civilizations) to be highlighted and created internationally without relying on

trip companies. This ICT revolution has opened up a whole range of possibilities in the tourist industry, encompassing tourism, transportation, entertainment, and accommodation, as well as increasing the level of production in tourism economic operations (Barrera Ortiz & Varela Villalba, 2017; Hussain et al., 2019).

Its "Geographic Information System (GIS)" seems to be a remarkable new technology with a wide range of applications in tourism, both inside the tourist industry and in ecotourism development. Numerous companies have included GIS at their customers' websites so that they may plan their trips and keep track of their journeys. Modern paradigm, such as GIS, is being used by Greek tourist industries and travel agencies to acquire, maintain, and record transactions in order to process and deliver knowledge to maintain and enhance the effectiveness and trustworthiness of in every day enterprise resource planning (Yin et al., 2019). A GIS makes it easier for tourism company's access build alliances and partnerships to assist tourist enterprises and locations, obtain efficiencies, and improve the quality and variety of present tourism products and services. This even increases the tourist commodity's visibility, marketing, and worldwide distribution at a cheap cost, reducing firms' reliance on foreign travel agents. GIS is ideal for bringing together tourism methods for analyzing geographic aspects. This offers visitors and tourism official alike opportunity.

It provides visitors using information and geographical contextual capabilities via interactive visualizations using multimedia technology, including a transportation network, roads, railways, and services (such as restaurants, motels, and healthcare centers, social, beaches, arts center etc.). These geographic systems boost the appeal of locations, with "Tanjung Tinggi Beach and Tanjung Binga" Beaches got the largest popular tourism factor (Astuti et al., 2018). It also assists users in determining the "shortest distance," "quickest route," and providing information on geographic context, humidity, elevation, locally inhabited photos, and company web pages, among other things. By picking a geographical area due to geographical variables like as closeness, distance, and location, it enables people to better your experience or get information regarding their journey. Simultaneously, commercial and public agencies have actual understanding because such structure provides like a database monitoring spaces and information extraction, modern web development, tourist sustainability indicators, and the effects of tourism expansion (Booyens & Rogerson, 2016). The AGMS platform was designed to provide a single-screen view of a large amount of geographical data, allowing users to follow events and activities.

It offers a comprehensive perspective of the information that can be communicated and reviewed, ensures that both workers are working at similar job through displaying and exploiting with similar data, and offers a personalized view of a broader number of variables. This comprises of tables, assessments, graphs, as well as other graphic components which show the state and consequences of humans, programs, materials, and situations in instantaneously, allowing anybody to readily understand and comprehend the effects of system design. Such technologies may be utilized to raise visitor understanding of exposition activities in order to make sure their involvement

(Tayfun et al., 2018). The panel constantly refreshes and provides quick feedback upon that influence on design decisions concerning accidents, occurrences, as well as other procedures as the customer installations, alters, and deletes functionalities. This might be shared with anybody or only employees inside a company (Sjofjan et al., 2021; Zhou & Liu, 2019). Its GIS Study 123 technique seems to be a portable computer technology that is compatible with those other smartphone GIS applications and is incorporated into the GIS network. These apps allow everyone to construct a survey for a customer inside a user-friendly environment that the customer may take while leaving the website on their smartphones and tablets.

Information has been sent straight toward a secured GIS environment for examination and recovery of discoveries. Information gained from customers enables the firm can make significant implications about demographics, satisfaction, motivation, behavior, and projected advantages. The ability of this program to collect geographic information by analysis, as well as the customization of a survey style, direct shipment towards the geo processing, and map display of findings, creates value to decision-making procedures. Smartphones and tablets had a significant impact on tourism (Arslantürk & Özkan, 2018).

With graphic arts of multimedia graphs, the ArcGIS Legend Map engine seems to be a dynamic medium which draws readers throughout history. These software offers connected maps inside a fun, engaging, and natural way, giving users innovative forms to speak about distinct topics where geography is important. Every graphic is shown in phases or images and is accompanied by a brief narrative. Storytelling Map would be a digital map which combines “photographs, videos, narrative text, locations and geographical data names, popups, multimedia illustrations, graphs, analytics, and statistic instruments” to provide the user more information related to the topic or region. It's an easy-to-understand component of public interaction so it delivers geographic information to people who don't have a GIS experience for conveying a location or event. This Story Chart provides a powerful tool for connecting, publicizing, for marketing tourist products and destinations towards the public. To promote client loyalty and fulfil current tourist needs, mappings with a narrative format are designed to be beautiful, straightforward to be using, and available to every prospective customer. In addition, 1.10 Personal Opinion Studies has already contribution to an enormous volume of information that individuals use to make their own judgments, thanks to the growth of online commerce, social media, Wikipedia, and journals.

The analysis collecting huge amounts of information is becoming extremely hard, and large - scale data methods like sentiment classification, which could be a useful tool in tourism, since personal touch is critical to growth and popularity, should be created. Furthermore, Feel-analysis seems to be the retrieval of an individual's ideas, attitudes, beliefs, feelings, intentions, and attributes from various online sources. It specifies if the document is upbeat, downbeat, and neutral. Sentiment classification would be a multi-stage procedure that encompasses data recruitment, storage and retrieval and gathering, information pre-processing, characteristic extraction, topic

authentication, and data gathering. Data mining is the process for analyzing massive amounts of data to uncover patterns. Such apps enable organizations to anticipate future trends, implement an efficient marketing framework to meets customer requirements, enhance the customer experience, and strengthen customer connections (Nepal, 2008; Tukhliev & Muhamadiyev, 2019). The following research hypothesis have been formed based here on research:

**H1:** The relationship between geography and tourism planning is significant.

**H2:** The relationship between information management system and tourism planning is significant.

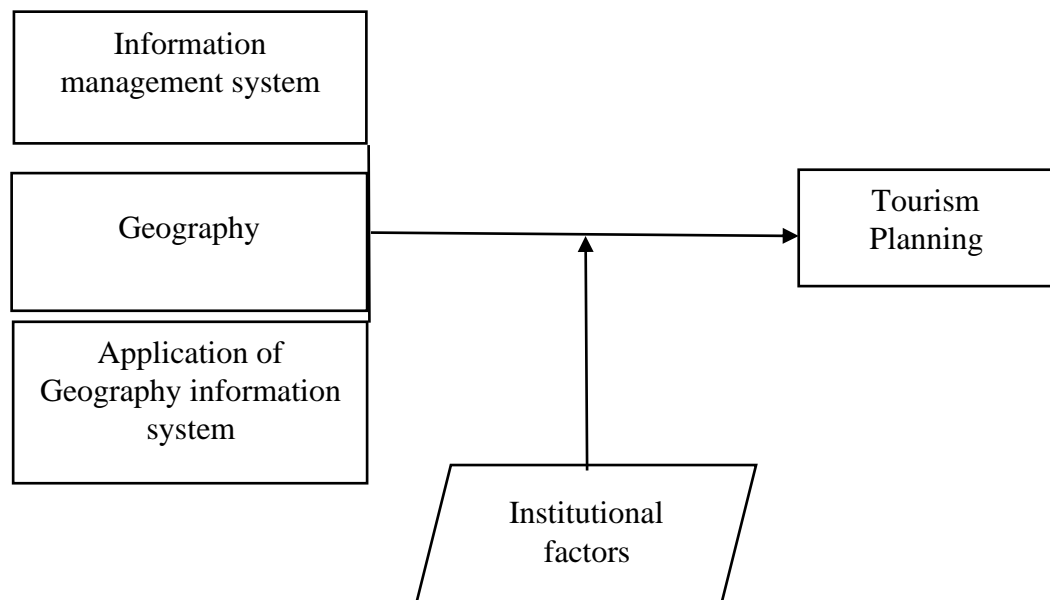
**H3:** The relationship between application of geographic information system and tourism planning is significant.

**H4:** The Institutional factors moderates significantly moderates between geography and tourism planning of Malaysia.

**H5:** The Institutional factors moderates significantly moderates between information management system and tourism planning of Malaysia.

**H6:** The Institutional factors moderates significantly between application of geographic information system and tourism planning of Malaysia.

### Research Framework



**Figure.1:** Research Framework

### RESEARCH METHODOLOGY

The study objective remains to check the moderating influence of institutional factors on the association of “geography (GGY), information management system (IMS), application of geography information system (AGMS) and tourism planning (TP)” of Malaysia. To check this objective, the present study used a cross-sectional research design and used a quantitative research technique. This methodology and design is considered to more significant that had a more reliability and validity (Given, 2008). Therefore, the present study had applied this method. In addition, there are two methods for collection of data namely, primary and secondary. For the current study, the researchers had selected the primary data in the data collection procedure. The data was



collected from the previous adopted self-administered questionnaire. For the data collection, the convenient sampling technique has been deployed to secure primary data from the target respondents based on the age, education, experience and gender. The primary data has been collected from 500 respondents and finally 367 responses have been selected for the analysis and the rest of the responses were left out due to the inadequacy of the data.

The geographical and tourism management authorities were the respondents of the study to whom surveys was delivered on personal visit. The sample size was relatively smaller due to eliciting interest and willingness of the women respondents (aspiring entrepreneurs) towards the selected theme of the study. However, the smaller size was justified by collecting the primary data from the target respondents i.e., aspiring entrepreneurs who have shown intention and contribution towards the selected theme of the study. A data collection tool has been used to obtain responses from the selected target respondents. The instruments were consisting of three predictors such as GGY which is being consist of six items, IMS that consist of 3 items and AGMS which had 7 items. Moreover, IF that had been used as moderating variable which is consist of 4 items and TP was being used as endogenous variable that has 5 items. The questionnaire was measured on five-point Likert Scale that was ranged from 1 strongly disagree to 5 strongly agree.

### ***Demographics***

Respondents were involved in this study are the 367 women entrepreneurial. Majority of respondents were aged between 25 to 35 years old with a percentage of 63.2%. 29.4% respondents were in the age limit of 36-45 years while respondents below 25 years were 6%. A very minimal number of respondents were above 45 years that's a total of 1.4%. In terms of education most of the respondents have the bachelor's degree, and the second highest number of respondent's possessed the master's degree, while the small number of respondents have the diploma and PhD degree. Additionally, most of the respondents have the 2-5-time experience with having a percentage of 45 while 40.9% said they have the experience of 6-10 experience.

### ***Measurement Model***

This research used the PLS-SEM methodology using Smart-PLS 3.0 software to analyze the model of present study as suggested through the preceding researchers (N. Ahmad et al., 2019; Ahmad et al., 2020a; Ahmad et al., 2020b; R. Ahmad et al., 2019; Bhatti et al., 2019; Riaz et al., 2020; Shaikh et al., 2020; Zakaria et al., 2020). The PLS-SEM method requires a two-stage (1) measurement model estimation and (2) structural model estimation. Measurement model assesses the internal consistency reliability, Cronbach alpha (CA), composite reliability (CR) and average variance extracted AVE. It also obtained insight to the discriminating validity of the constructs. Entry to the proposed hypothesized relationships including theories and predictive relevance of the proposed model of this study. As seen in Table 2, all outer loads of individual items are greater than the value of 0.70. The minimum threshold of 0.70 is also reached by composite reliability and Cronbach alpha values,

which indicates that all the tests are stable in terms of their individual item reliability and composite reliability (Wong, 2013). In addition, the Average Variance Extracted (AVE) values above the threshold value of 0.50 for each construct indicated statistical correctness for all objects in the measurement model.

**Table 1.** Demographics of respondents

Demographic variables	Category	Frequency	Percentage
<b>Gender</b>	Female	150	40.9%
	Male	217	59.1%
<b>Age</b>	less than 25 years	22	6.0%
	25-35	232	63.2%
	36-45	108	29.4%
	more than 45	5	1.4%
<b>Education</b>	Diploma	41	11.2%
	Bachelor's degree	127	34.6%
	Master's degree	126	34.3%
	Others	73	19.9%
<b>Experience</b>	less than 2 times	18	4.9%
	2-5 times	165	45.0%
	6-10 times	150	40.9%
	more than 10 times	34	9.3%

Additionally, for the evaluation of the measurement model, the discriminant validity of a latent constructs remained also evaluated through put on the Fornell and Larcker (1981) criteria, and that is also specifies that all latent constructs differ from the other constructs by suggesting that the square root of the AVE of all the constructs is greater than their correlations (Roldán & Sánchez-Franco, 2012). The latent constructs are therefore discriminatingly true. Table 3 presented the square roots of AVE of all the constructs, which shows that the discriminant validity of all the constructs were achieved. In addition, another method (HTMT) was used to determine the discriminant validity. The values of the HTMT were calculated using the PLS algorithm. The findings obtained were significantly lower than 1, meaning that all latent structures achieved discriminant validity (Henseler, Ringle, & Sarstedt, 2015). The findings indicated that the discriminant validity was defined at HTMT 0.90, which implies that the values for the inter-construction ratio were below 0.90 and that the confidence intervals did not include a value of 1.0 (Henseler et al., 2015). The values for HTMT are shown in Table 4 below.

**Table 2:** Convergent Validity

Construct Name	Items	Loading	C-Alpha	CR	AVE
Geography	GGY1	0.784	0.847	0.895	0.682
	GGY2	0.772			
	GGY3	0.848			
	GGY4	0.872			
	GGY5	0.781			

	GGY6	0.808			
Information management	IMS1	0.784	0.888	0.922	0.748
	IMS2	0.823			
	IMS3	0.878			
Application of geographic management system	AGMS1	0.894	0.808	0.872	0.631
	AGMS2	0.814			
	AGMS4	0.863			
	AGMS5	0.710			
Institutional factors	IF1	0.891	0.826	0.884	0.657
	IF2	0.766			
	IF3	0.822			
	IF	0.86			
Tourism Planning	TP1	0.783	0.9	0.921	0.625
	TP2	0.826			
	TP3	0.826			
	TP4	0.775			
	TP5	0.786			

**Table 3:** Discriminant validity: Fornell and Larcker (1981)

	<b>GGY</b>	<b>IMS</b>	<b>AGMS</b>	<b>IF</b>	<b>TP</b>
<b>GGY</b>	0.826				
<b>IMY</b>	0.336	0.865			
<b>AGMS</b>	0.119	0.475	0.795		
<b>IF</b>	0.292	0.619	0.443	0.811	
<b>TP</b>	0.087	0.415	0.303	0.441	0.791

**Table 4. HTMT**

	<b>GGY</b>	<b>IMS</b>	<b>AGMS</b>	<b>IF</b>	<b>TP</b>
<b>GGY</b>					
<b>IMY</b>	0.389				
<b>AGMS</b>	0.147	0.562			
<b>IF</b>	0.339	0.701	0.519		
<b>TP</b>	0.117	0.456	0.348	0.509	

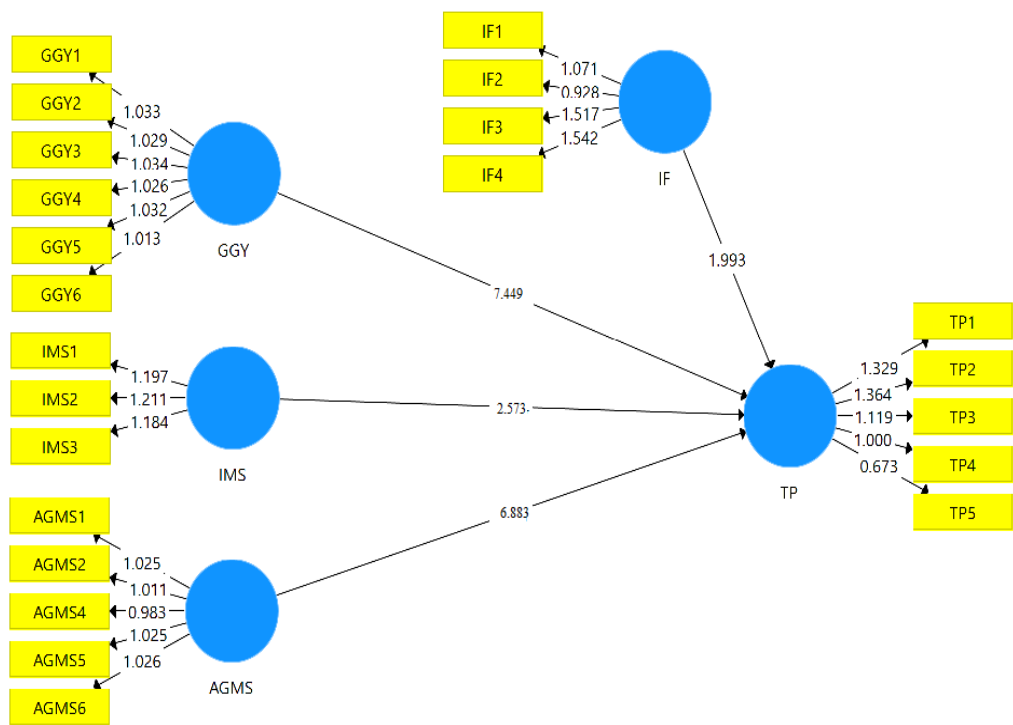
**Structural Model**

The next steps in evaluating the structural model are to analyze the hypothesized relation in the structural model between the constructs. By analyzing how well the observed information matches the hypothesized association between the theories, the model's explanatory power was utilized as recommended by Chin (1998). Subsequently used the bootstrap re-sampling technique to test each significant coefficient. Five thousand duplications, as suggested by Hair et al. (2014), were performed to test all the hypothesized relationships using randomly selected subsamples. In the path model, the hypothesis had been tested that shows that independent variables namely, GGY, AGMS, and IMS have significant and positive relationship along with TP in Malaysia, and thus

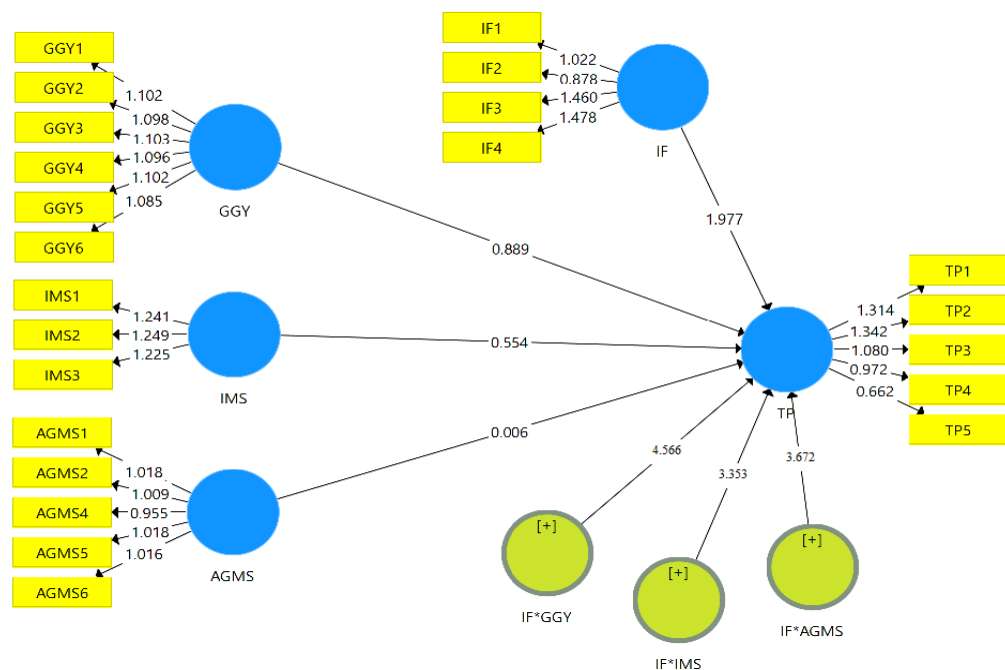
hypothesis (1, 2, 3) are supported. In addition, the findings also shown that IF are also significantly and positively moderated on the relationship of GGY, IMS, AGMS, and TP in Malaysia and hence hypothesis (4, 5, 6) also supported. These figures are predicted in the following Table 5.

**Table.5:** Direct and Indirect Hypothesis Results

Relationships	B	SD	T Statistics	P values
AGMS -> TP	0.283	0.042	6.883	0.000
GGY -> TP	0.319	0.044	7.449	0.000
IMS -> TP	0.157	0.061	2.573	0.019
IF* AGMS -> TP	0.068	0.017	3.672	0.000
IF*GGY -> TP	0.124	0.028	4.566	0.000
IF*IMS -> TP	0.045	0.015	3.353	0.001



**Figure.2:** Direct effect



**Figure.3:** Indirect effect

## DISCUSSION AND FUTURE DIRECTIONS

The study objective to check the moderating influence of institutional factors on the association of geography (GGY), application of geography information system (AGMS), information management system (IMS), and tourism planning (TP) of Malaysia. According to the results of this research, geography does have a good link to geographical tourist planning in Malaysia. These findings are consistent with previous researches by (Brouder & Gomez-Macpherson, 2014)), which demonstrate the significant involvement of earth knowledge, human association in society, and the characteristics of their surroundings to GTP. The current research's findings also demonstrated that an effective IMS has a good relationship with geographical TP of Malaysia.

These findings are consistent with prior research by (Navío-Marco et al., 2018), which found that a good and functioning IMS had a positive impact on TP. Furthermore, the current article's findings show that the use of a GIS is favorably associated with TP within the Malaysian context. These findings are consistent with (Fong, 2018) prior research, which found that if the AGMS is used effectively and efficiently, geographic TP may be improved. Furthermore, the findings suggest that institutional components comprise a moderating function amongst geography and geographical TP of Malaysia. These findings are consistent with previous research by (Fong, 2018), which found that geography has a favorable impact on institutional elements, which then in turn improves Geographical TP. The findings also show that institutional elements serve as an effective intermediary within both the IMS and TP. The investigations support the findings of which show that proper information system improves institutional aspects, resulting in better TP (Fong, 2018). Furthermore, the findings suggest that institutional elements can operate as a bridge within the use of AGMS and TP.

The current investigation has theoretical as well as empirical consequences. From a theoretical standpoint, it adds significantly in the extant literature on geographical management because the present research focuses on the three components of effective, IMS, GGY, and AGMS.

Additionally, the research extends the literature by describing the moderating factors on the relationship amongst GGY, IMS, AGMS, and TP. Based on the findings it had proved that it could provide guidelines for the management of tourism how to plan and administer tourists by using a geography, effective implementation of IMS techniques, and use of AGMS. These findings are appropriate for policymakers that establish geographical planning tourism policies in the country, since they should increase their focus on AGMS, which effect increase tourism within the country. This is also means that with a good moderator of IF involving geography, IMS, and AGMS and TP, the tourism industry could grow rapidly.

According to the previous discussion, it is determined that the current research finds that the relationship among geography and geographical tourism management is promising subsequently knowledge of spaces, connections among people, and their environment aids management in TP. The research investigates the relationship within IMS and TP. The better the IMS them more efficient the TP. Furthermore, the results show that the proper use of IMS make TP convenient and successful, resulting in the growth of the tourism business. Furthermore, the research shows that IF play a significant moderating function among GGY, IMS, AGMS, and TP.

The current research has only shed light on geography's contribution, IMS, and the use of geography information to TP and management. Whereas many additional aspects show to be beneficial in this regard, they must be identified by future scholars to broaden the breadth of the research on the proper management of tourism. Furthermore, only the researchers of the present study employed a specific source for data gathering, whereas future researchers are encouraged to use different sources for data accomplishment for their research. Furthermore, this research is on TP of Malaysia, and it is recommended that forthcoming researchers could comprise more economies in their analysis.

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