

THE IMPACT OF TOURIST'S INTENTION TO USE WEB 3.0: A CONCEPTUAL INTEGRATED MODEL BASED ON TAM & DMISM

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ABSTRACT

The rapid revolution of information technology has enhanced the global tourism industry that positively changed the structure of economy in large scale. Today, tourists face difficulties to find information to meet their needs or exceed their expectations due to the huge amount of information in the current Web and tourism portals. This has made the tourists or travelers decision to visit a particular destination very difficult. The main purpose of this research is to propose a conceptual integrated model to determine the factors influencing tourist's intentions to use Web3.0. Therefore, despite the enormous transformative innovation that the Web3.0 will provide, there is still a significant gap between the current applied systems and the new technology at this moment. Besides that, the literature has shown that there are only few publications that used integrated theoretical model of Technology Acceptance Model (TAM) and Delone and Mclean Information System Model (DMISM) to investigate tourist's intention to use new technology particularly Web 3.0. In addition, this research not only defines Web3.0, but also determines the possible challenges, risks, and opportunities that are emerged from Web3.0 technology specifically in the tourism domain. Moreover, while Web3.0 is prominent across businesses, there is surprisingly very limited academic work devoted to study its effect on consumer's intentions to use and the tourism industry is not an exception. Consequently, this study will provide more insights, advance our understanding and contribute to this growing area of research as well as the proposed integrated conceptual model can serve as fundamental framework to be used in different domains.

Keywords: *Web3.0, Technology Acceptance Model, Delone and Mclean Information System Model, Tourists*

1 INTRODUCTION

Tourism is one of the world's largest businesses that lead the service industries and is often regarded as a critical determinant of business growth in the global economy [1]. Authors in [2], [3] shows that tourism is frequently regarded as an information-intensive industry. Plus, knowledge in business is mostly in the form of textual documents, thus managing these documents is among the priority for

business players including the players in the tourism industry [4]. As tourism is part of businesses domain, information plays important role in business decision making and high-quality data is important to support both tourists and tourism agencies [5]. Due to the rapid revolution of information technology, tourists tend to rely on the Internet as powerful source to find information not only about the places they tend to travel but, also about the services provided by tourism

organizations [6]. However, there is a problem, as tourists are facing difficulty in making decisions or choosing the places, they want to visit due to the huge amount of information on the Internet, which is considered random, unclassified, unorganized and almost inaccurate [7]. There are challenges in managing this information especially web information as it has issue in terms of its quality [8]. Also, the current web in the Internet contains a huge amount of information, different online search tasks, the many user profiles looking for information, and the increased use of varied devices made retrieval information finding harder. This has caused an increase in the demand for using search contextual knowledge to enhance the Internet efficiency and its output accuracy [9]. Under those circumstances, data-rich environment in the tourism industry have made a strong foundation need for this creation of robust and efficient information retrieval system [10], [11].

Having these additional shortcomings, tourists are unfamiliar of the reasoning applied to get the results for the query, making it difficult for them to verify the search results, this has showed the weakness and low accuracy performance in the current web search to display the results that tourists need [10]. Once again, the existing tourism portals in the current web display accommodations and tourism facilities that are stored only in their databases, which these portals depend on current web technologies that are inefficient for searches [11]. As a consequence, the information overload on the Internet leads the travelers to face difficulties to choose products which are more relevant to their needs. This is due to the fact that, personalized content and profile information are lacking [9]. For instance, a system that knows the user is Muslim, might display relevant restaurant information that serves Halal food. As result, these defects and shortcomings of the current Web, it is believing that Web 3.0 is promise to solve all the above issues however, while Web3.0 is prominent across businesses, there is surprisingly limited academic work devoted to study Web 3.0. In addition, there have been several calls recommendations for further research to be conducted on the effect of adoption Web 3.0 on consumer's intentions and what could bring in the future [12], [13], [14], [15], [16].

In the current scenario, there is intensive research in the literature about the effect of web 2.0 applications in different contexts, including tourism, and the factors that affect individuals' use of Web 2.0 applications. However, the study of

Web 3.0 application technology in the literature is very limited, specifically in tourism. Not only this, but also the literature in information technology doesn't address the factors affecting tourists' intention to use Web3.0. The single and recent study was identified in the previous research as using the technology acceptance model and integrating other variables to extend and develop the model in order to determine the factors that affect students' intentions to use Web 3.0. This study focuses on online learning during the COVID 19 pandemic. Therefore, it became clear to observe that most of the previous studies did not show much interest in studying the factors affecting individuals' use of Web 3.0 in general and tourism in particular, which has been intensively discussed and mentioned above.

Many questions arise when dealing with studying Web 3.0. 1) What is Web 3.0? 2) What are the possible opportunities, challenges, and risks emerging from Web 3.0 in the tourism domain? 3) What are the factors influencing tourist's intentions to use Web 3.0?

To answer all these questions, researchers not only proposed conceptual integrated model but also, introducing inclusive academic definition for Web 3.0, present a novel view of it, identify the possible opportunities, challenges, risks, that are emerged from Web3.0 technology specifically in the tourism domain and provide a recent theoretical review of the applicability of technology acceptance related work. Moreover, this study is based on technology acceptance model (TAM) [17], and information system success model updated [18] which considered the most influential and cited theories in the information system literature which have been extensively tested and validated in many studies. Although there are several studies have used TAM and DMISM however, they used them separately in different single studies. According to a recent study was done by [19] indicated that "very few publications have been found in the literature that use the integration of these two theoretical model in the relative studies". Therefore, this study also aimed to fill the existing theoretical gap by developing and integrating TAM and DMISM models as conceptual framework to determine the factors that influence tourist's intentions to use Web3.0 which to the best of knowledge of researchers, this will be the first single study that develop and extend TAM and DMISM as an integrated conceptual model also, new five variables are added to the original models namely computer self-efficacy, user awareness, social

influence, perceived privacy risk including personal innovativeness as moderator to determine the factors influencing tourist's intentions to use Web 3.0.

The contribution of our paper is presented as follows:

Firstly, we have introduced an inclusive academic definition of Web 3.0. Secondly, due to the limited prior works in the literature, we were able to identify opportunities, challenges, and risks emerging from Web 3.0 in the tourism domain. Thirdly, we developed, extended, and integrated a new conceptual theoretical model to identify the factors influencing tourist's intention to use Web 3.0. Fourthly, from a methodologically perspective, this will be the first

single study that employed a review research method of this research topic.

This paper is organized as follows: Section 1 explains the theoretical and research gap of the current web and the shortage of studies regarding the third generation of the web (Web 3.0). Section 2 covers the related work describing ongoing controversy, arguments and confusion in previous studies about the definition of the concept of the Web 3.0, clarifies the opportunities, challenges and possible risks arising from the Web 3.0 in the tourism domain. Section 3 Identify the research materials and methods, describes and analyzed the proposed research model and presents the aspect of originality, novelty, and uniqueness of the proposed model. Section 4 includes discussion and analysis. Section 4 covers conclusions and future work.

2 BACKGROUND AND RELATED WORKS

2.1 What Is Web 3.0?

The idea of Web 3.0 has come to birth due to the rapid growth and the huge, massive amount of information on the Internet. It is very vital to mention that defining Web 3.0 is not an easy task, since the argument and exchanging different opinions between scholars to come up with a unified definition still continue. Though the concept is still evolving in its late stage, the definitions of it in the literature vary. Most scholars seem not to agree about its definition. Author in [14] mentioned that "Web 3.0 technologies require a clear definition, as at best the definitions known for Web 3.0 are randomized, because limited studies are conducted out in Web 3.0". While, the Independent private organizations did most of the investigation on Web 3.0, and most of it falls into the category which most of it contains whitepapers and articles that are not based on peer-reviewed studies.

However, a recent study was done by [16] tries to come up with the first academic definition of Web 3.0 as they indicated that "Web 3.0, with its generic and quantifiable properties. It is broad as it doesn't focus on any particular apps or supporting infrastructures; it is quantifiable since users can assess an application's Web3.0 era qualification using a core attribute that is extracted from the decentralized infrastructure development". Also, [20] mentioned that "This age, known as Web3.0, is a continuation of the evolution that occurred during the previous Web1.0 and Web2.0 eras". Therefore, despite the clear evidence about the various definitions available in the literature which almost fails to come up with a clear definition. As result, the researchers of this study have come up with one of the first a comprehensive and inclusive academic definition to Web 3.0 based on our understanding from listening to the experts and review the definition of the term Web 3.0 in the literature. Regardless of this, researchers of this study emphasize that this definition is not the only way of understanding Web 3.0, however it can generally provide better understanding by clarifying and simplifying its concept so, it will be easier for wide range of people to understand it better. Giving these points, we define Web 3.0 as a smart web, built in the context of things. It is considered the next generation of the Web2.0, its main function is to extract all the information from different online sources then provide it to the end-user in a more organized, classified, and accurate manner as it will be able not only to act as a personal assistant but also, able to understand the meaning of words, link the data, read and review the content. Besides that, Web 3.0 applies the features of personalized and customized search engines semantically for the user's profiles to provide them more refined results during their online search. Altogether, Web 3.0 is the new innovative and revolutionary technological tool that analyses, integrate, links data which will help individuals as well as organizations to systematize the chaos of unorganized, interconnected, unfiltered, unarchived, unconnected, unclassified information using some different intelligent technological tools to provide meaningful information. This will lead to change the future of the current web.

2.2 Opportunities, Challenges, And Risks Emerging From Web 3.0 In The Tourism Domain

In this technological era, many tourists are tending to use different search engines that are

available in the web to seek for the important information which will help them to plan better and make more successful trip [11]. As a result of the remarkable development that has occurred in the tourism sector recently, the Internet has become of great importance as a source of information for tourists when making decisions and choosing travel destinations or searching for information related to tourism products and services provided by tourism agencies [21].

While the Internet is being an important factor for destination management, the accuracy of the available approaches for forecasting visitor arrivals is not powerful enough [6], [15]. As the data availability is a key concern for predicting on the one hand, the range of data types available for tourist attraction choosing is limited on other hand [22]. However, a major issue with the current Web application it is fully controlled by different Search Engines that is still operated based on the keywords to search for information, which this process required professional skills to use the search engine to find the most relative information, also it will lead to waste the tourists valuable time which will make the searching for information not easier task [11], [23]. Besides that, semantic networks that are considered an example of the application of Web 3.0 have become self-promoting in the Internet, so tourism companies will not be able to market themselves and their tourism destinations unless they exploit semantic networks to offer their services and products via these intelligent networks, and this will put the tourism organizations to sustain in a highly competitive advantage. The semantic networks based on Web 3.0 provide specialized and personalized services for tourism as it will help tourism industries to target the exact market segmentation more accurately and precisely [24], [25]. Furthermore, the social media business model is based on advertising. For instance, Google Ads which the most used widely service in the advertising business however, the advertisements in the case of Web 3.0 will only display the ads regarding to the customer's needs based on personalization and customization process which are considered some of the Web 3.0 features [26], [27].

Moreover, according to author [28] the challenges and risks that will emerge from the implementation of Web 3.0 will primarily concern o unsecured data in the Web, which is regarded as a major issue due to the ability of cyber attackers to create legitimate accounts on social networking sites, as the reliability of data on the online platforms is still open to question since, Web 3.0 is

in progress at the next stage of web evolution. Web 3.0 involves a comprehensive web experience in which the computer can analyze, organize, classify, and link the data in a similar way as human beings. This makes it easier for every device to communicate and understand any data format through a global unified network system. New opportunities and challenges will arise from the development of the Web. The identified prospects can be defined mainly by the autonomously incorporation of information and services that expand the existing capacity of Web services and the establishment of innovative functions [14], [23].

2.3 Related Works

From the above discussion, the tourism has been widely recognized by scholars in describing its ambiguity, richness, dynamicity, and reflexivity in determining the phenomenological substance of travel experience [29]. Despite the importance of Web 3.0, and its promise to bring a real transformation on e- tourism business model however, the upcoming Web 3.0 is not well investigated theoretically in the literature [12], [30], [13], [14], [15],[16].

Therefore, it is very essential for scholars to critically reflect and investigate on the upcoming Web 3.0 either theoretically or methodologically and identify of what could be brought with it such as risks, challenges and opportunities. Generally, there are many studies found in the literature that investigated the evolution of the Web however, the majority of previous studies do not provide a comprehensive analysis of the upcoming Web 3.0 in business specifically in the tourism domain, taking into account the theoretical part of technology acceptance adoption by tourists and how they come to accept and use the technology. As such, theories of technology acceptance need to be implemented constantly to explore the key determinants of its influence on intention to use a new particular technology. With this intention, users 'refusal or acceptance of new technology has become one of the challenges facing researchers in the field of information systems studies. It has also become irritating to technology producers and making them wonder to what extent this technology will be competitive in the market, and to what extent the target group will accept the use of this technology [31]. For this, many theories and models have emerged that explain how users accept a particular technology, but the TAM and DMISM models remains one of the most widespread models

that was widely used to explain and predict the factors influencing users to accept new technology [32]. Hence, the main objective of the TAM model is to explain, predict, and identify the factors that play a role in the acceptance or non-acceptance of a particular information system [33]. It is considered one of the best reliable models ever in the field of information systems, which explains the acceptance of the use of technology [34]. This model is not only used to explain user behavior towards new technology, but also is very powerful enough to predict the intentions to use of new technology. The technology acceptance model was developed by [17], based on the grounded theory (theory of reasoned action) that also developed by [35] in which this theory aims to explore the relationship between human behavior and his/her attitudes. This theory was widely used and tested in many studies in different contexts to predict the individual's behaviors based on their intention. Theory of Reasoned Action (TRA) assumes that the user's personal factors determine the user's appearance and attitudes toward adopting a particular behavior. Both TAM and TRA share their assumption that "intention" is the main determinant of adopting a specific behavior, where the user's adoption of a specific behavior is predicted by knowing his intention, which is affected by a set of external variables, either directly or indirectly [17]. According to [36] suggested that TAM needed to be extended and modified to have more explanatory power not only depending on its key determinant's factors perceive usefulness and perceive ease of use, but it needs to have some typical extension that include social factors or intended to use also the behavioral control which can used as explanatory

concepts. Besides that, TAM and DMISM do not consider self-efficacy, in their model [37]. Similarly, the study in [38] is one of the most important studies that provided a model for measuring the success of information systems which later became the most reliable model in the field of information system that has earned its recognition worldwide and was widely used by scholars. Identically, this model included six indicators: system quality, information quality, system use, system users' satisfaction, the system's impact on its users, and the system's impact on the organization's performance. The study in [39] also sought to clarify the relationships between the six dimensions that were used in the [38] model (where the study classified these dimensions into three groups, which are the measurements of both information and system quality, general remedial measures of benefits resulting from the use of the system, and its measure. Also, the study [40] aimed to build a model for measuring the success where they implement their study to test the model on electronic commerce systems, where the two researchers developed the model they presented in 1992 to become more suitable for measuring the success of e-commerce systems, by adding other measures to it, namely the indicator of the quality of service provided by the system to clients and the indicator of the benefits of the system, the two indicators of which are the system's impact on its users. In this section, Table. 1. summarized the previous works that applied TAM and DMISM in seeking the research and theoretical gap and the definitions of the main factors for the proposed conceptual integrated model tabulated in Table. 2

Table 1 The Summary Of Previous Studies On Related Work That Applied TAM And DMISM

Ref. No.	Year	Purpose	Theory/ Model/ Framework	Findings
[41]	2020	This paper was aimed to examine the trust as mediating in the relationship between tourism IS qualities on employee's satisfaction and their intention to use a system through three categories of trust (management-based, provider-based, and system-based trust).	DMISM	The findings of this study shows that trust has entirely mediate the influence IS characteristics within employee's satisfaction on intention to use the system and also trust has a direct effect on employee's satisfaction
[42]	2013	To proposes a conceptual model of information quality for Islamic e-tourism websites nMalaysia	DMISM	Based on the proposed framework, it is positing that information quality would positively relate to websiteusefulness and informationsatisfaction and these two variables are expected willhighly influence site commitment.
[43]	2020	This study sought to determine which innovative technologies are	DMISM	According to the results of this study, live-stream promotion and live-stream conferences are used to

		being deployed to lessen the pandemic's impact on the hotel industry in China.		enhance information quality, while 5G technology and Wi-Fi 6 are employed to enhance system quality. Also, these innovative technological tools such as robots, artificial intelligence and Facial recognition which are used to help provide better service.
[44]	2019	To determine if the functionalities of mobile tour information services are critical and how mobile tour information services influence visitors' intention to travel have not been well addressed.	DMISM and TAM	The findings of this investigation revealed that among the several factors that affect the ability of visitors to maintain their interest in travelling to a location, a system's quality, history, and cultural knowledge quality, and an interface's design quality had the most impact.
[45]	2020	The purpose of this study is to examine the key determinates that influence users' intention to book a hotel room via social media platforms.	TAM	The study revealed that perceived usefulness has a direct effect on the intention to book online, also four constructs that influence consumers' inclination to book hotel rooms using social media, either directly or indirectly were identified.
[46]	2020	“To develop a model of the relationships between structure factors that affect intentions to use social media for travel planning”.	TAM	“Perceived ease of use, perceived usefulness, and subjective norms had a positively significant indirect effect on intentions of use”.
[47]	2019	“To explore the applicability of technology acceptance model (TAM) to explain the widespread acceptance and usage of social media (SM) for travel purposes by Indian outbound leisure travellers during their travel cycle”.	TAM	“Findings of the study are used to develop a conceptual model which upholds the validity of the TAM with perceived usefulness (PU) and perceived ease of use (PEU) as determinants of SM usage”.
[48]	2017	“To understand the factors influencing Iranian tourists' behavioral intention to use Consumer Generated Contents (CGC) websites whilst browsing the web when it comes to travel planning, based upon the Technology Acceptance Model (TAM) extension”.	TAM	“The study's findings indicate that business tourists' intention to use online technology was explained when the interaction between business tourists' perceived usefulness of online technology and business tourists' perceived ease of use of online technology are entered into the equation”.
[49]	2016	“To examine the relationship between several variables that influence consumer's intention to use self-service technologies in tourism and hospitality industry”.	TAM	“The findings of this study show consumer's intention plays a huge factor in benefitting the tourism and hospitality industry in terms of profitability and technology inventions”.
[50]	2021	To systematically review the studies that empirically had evaluated the acceptance of technology in healthcare through the technology acceptance model (TAM), how these technologies can be utilized to provide the health services, as a respond to the on-going pandemic.	TAM	It was found that the reviewed studies were mostly performed in Taiwan, and the United States. Arab and African countries as part of developing regions, are still lagging behind in terms of the technology acceptance research.
[51]	2021	“To examines how mobile technology adoption influences customers' intention to book hotel rooms via smartphone”.	TAM	“This study confirms that TAM can be extended and employed to predict and explain the acceptance of the new technologies in service industries”.
[52]	2020	“To examine how perceived usefulness of Instagram, perceived ease of use of Instagram and perceived credibility of Instagram influence attitude towards the use of Instagram, intent on using Instagram	TAM	“The results indicate that all the hypotheses suggested have been positive and significant. It is worth noting that there was the strongest connection between attitude towards Instagram for identifying travel destinations and intention to use Instagram for identifying travel destinations”.

		and actual use of Instagram to identify tourist destinations amongst young consumers”.		
[53]	2015	“To examine the new technology acceptance model that is appropriate to predict users’ intention to use mobile tourist guide”.	TAM	“The findings in this study reveal that the proposed model is more appropriate than original technology acceptance model to predict and explain users’ acceptance technology in the context of mobile tourist guide”.
[54]	2018	“To investigate a comprehensive model of international tourists’ intentions to use mobile food information (MFI)”.	TAM	“The results revealed that the proposed model based on TAM is more efficiently predicted intention in groups of independent tourists than in groups of package tour”.
[55]	2015	“To investigate factors influencing Hong Kong online users’ intention to book tourism products”.	TAM	“Perceived usefulness is found to be more influential than ease of use in predicting intention to book for tourism products”.

Table 2: Definitions Of The Main Factors For The Proposed Conceptual Integrated Model

Ref. No.	Variable	Definition
[17]	Perceive Usefulness	“The degree to which a person believes that using a particular system would enhance his or her job performance”.
[17]	Perceive Ease of Use	“The degree to which a person believes that using a particular system would be free of effort”.
[18]	Information Quality	“Information quality which refers to the desirable characteristics of information as the output of an IS. It includes measures such as information accuracy, completeness, consistency, precision, or relevance”.
[56]	System Quality	“The degree to which system users believe that a system is easy to use, user-friendly, easy to learn, easy to connect and enjoyable to use”.
[18],[57]	Service Quality	“Service quality represents the quality of the support the users receive from the IS department and IT support personnel in using the IS, such as training, a hotline, or a helpdesk”.
[58]	Computer Self Efficacy	“Computer self efficacy refers to a judgment of one's capability to use a computer”.
[59]	User Awareness	“User's knowledge about the capabilities of a technology, its features, potential use, cost and benefits”.
[60]	Social Influence	“The extent to which an individual perceives those important others believe he or she should apply the new system”.
[61]	Perceive Privacy Risk	“Privacy risk is the risk of losing personal control where users are concerned that their personal information may be manipulated or misused without their knowledge”.
[62]	Personal Innovativeness	“The willingness of an individual to try out any new information technology”.
[35]	Intention to use	“The strength of one’s intention to perform a specified behavior”.

3 MATERIALS AND METHODS

This study uses review of prior work on web 3.0 and its application in tourism. Additionally, the authors conducted a review of previous research on the application of underlying theories such as TAM and DMISM, which lead them to identify a theoretical gap in the current body of knowledge and propose a conceptual integrated model. The researchers used theory adaptation as one of the approaches of conceptual papers, with the goal of enhancing and developing current theories through the usage of other theories. In this study, the Technology Acceptance Model and the Delone and Mclean Information System Model were integrated and proposed to determine the factors influencing tourist's intentions to use Web3.0. Since, all of the additional constructs chosen for this study to extend the proposed integrated model are oriented around the characteristics of users in general and tourists in particular, whereas the integrated model of TAM and DMISM is focus on system features only. As such, adaptation theory was chosen as the approach for this study, which attempt to build on a range of concepts, literature sources, and theories, each of which serves a unique role.

3.1 Proposed Conceptual Integrated Model

This proposed conceptual integrated model is based on TAM and DMISM theories and pervious research, the selected factors that have been used to develop and extend the proposed conceptual integrated model are namely (computer self-efficacy, user awareness, social influence, perceive privacy risk and personal innovativeness) were employed to investigate factors influence tourist's intention to use web 3.0. In the original model of DMISM there is one construct that has been excluded in order to achieve the prime purpose of this study which is the user satisfaction. According to author [63] there was a gap found in the previous research of the information technology studies between the acceptance of technology and personal characteristics namely personal innovativeness, user awareness and social influence. Most of the

studies employed these constructs separately and studying it altogether, therefore this study has employed these factors to fill the gap existing in the literature for this matter and to discover the link between technology acceptance and personal characteristics. Not only this but also according to a recent study conducted by [19] mentioned that "relatively few articles in the literature have been identified that integrate these two theoretical models in relative investigations". Thus, this study aimed to close a theoretical gap by developing and integrating TAM and DMISM models as conceptual frameworks for determining the factors that influence tourist intentions to use Web3.0. As mentioned above, the TAM model is most often used in the information system literature, however TAM and DMISM have been subjected to be criticized for not including the personal innovativeness as moderator as it has been suggested by author [64] who mentioned that personal innovativeness was expected to moderate the level of acceptance that individuals have for a new technology. Author [62] also defined the personal innovation in information technology (PIIT) as a type of global innovation where individuals in different parts of the world use information technology in innovative ways. Besides that, the DMISM [38] and the updated version of the model in [18] have made a huge impression on the study of information systems, especially with regard to the technology uses and its effects, as their model is still well recognized by widely scholars due to its validity, applicability and fit for many studies in different context [65]. The researchers argue that this theory is more capable to assist academics to have a full knowledge of how well information systems perform in numerous domains by identifying and illustrating its relationships among the IS's several essential characteristics of success. Most of the well-recognized scientific papers has been cited the theoretical model of author [18] in thousands of times as it has gained trust and acknowledgement of widely scholars which has been described as one of the most significant models in present research on information systems. In this section, the proposed integrated conceptual model to determine the factors influencing tourist intention to use Web 3.0 depicted in Figure.1 derived from the previous studies.

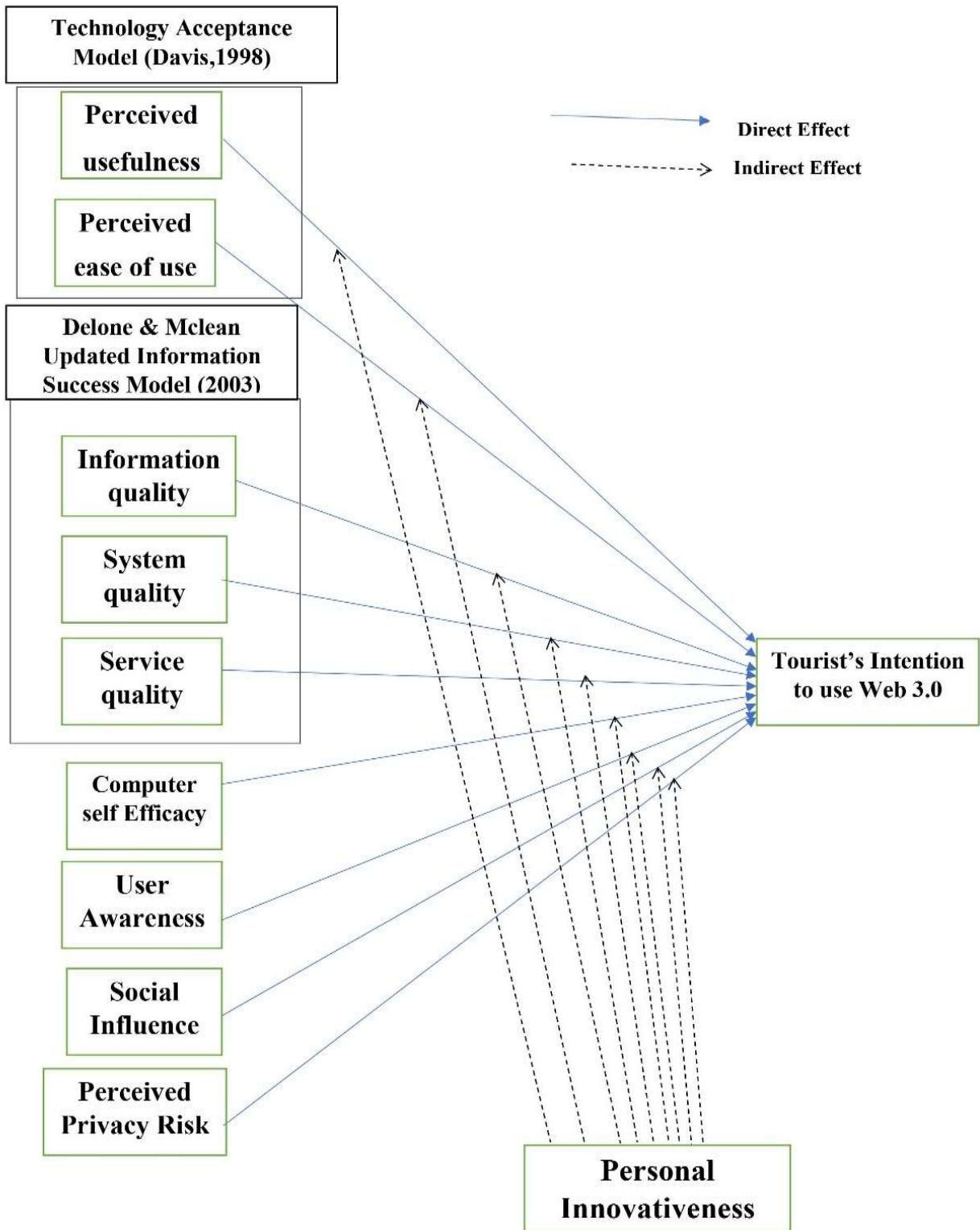


Figure 1 The Proposed Conceptual Integrated Model Of Factors Influencing Tourist's Intention To Use Web 3.0

4.DISCUSSION AND ANALYSIS

Since the information revolution has changed the paradigm of the traditional methods and techniques of searching for information, it has become imperative for smart search engines to adopt new semantics network technology and keep pace with the continuous development in order to provide users with accurate search results where there is a vast ocean of information available in the current Internet Web platform. The chaos, randomness, and the sheer amount of information on the current web have made it difficult for users to find useful information. This is why the idea of the third generation of the worldwide web (Web3.0) was born, which works on linking data, organizing, classifying, indexing, structuring, analyzing, processing, and the possibility of sharing and reusing this data through different technological applications. This data can be read by machines and thus smart search engines work on the adoption of semantic network features to provide accurate results for the users throughout employing personalization, customization, and recommendation search systems. Despite the importance of what Web 3.0 could achieve in the future and its applications in different business domains, most of the previous studies available in the literature have studied Web3.0 and its evolution from a technical perspective rather than theoretically. [14], [15], [16]. In terms of Web 3.0 definition, there is a constant debate and confusion among scholars about a clear definition particularly when Web 3.0 is applied in different business domains then its definition may have differed. Also, the risks, challenges, and opportunities that are arising through the application of Web 3.0 in different business contexts are not extensively found in previous studies. Since the tourism industry depends entirely on information however, studying Web 3.0 applications in the tourism domain theoretically is very limited mainly investigating the factors that could influence tourist's intention to use Web 3.0 [2], [3]. Authors in [66] indicated that in light of the huge information revolution, tourists have become in need of a technological tool that directs and guides them to the target destinations they want to visit today more than ever.

At the moment, extensive study is being conducted in the literature on the effect of web 2.0 applications in various contexts, including tourism, and on the factors that influence

individuals' use of web 2.0 applications. However, there is a lack of research on Web 3.0 application technologies in the literature, particularly in tourism. Not only that, but the information technology literature also ignores the variables influencing tourists' intention to use Web3.0. The single and current study conducted by author [67] was identified in earlier research as extending and developing the technology acceptance model by incorporating additional variables in order to determine the factors affecting students' intentions to use Web 3.0. The purpose of this study is to examine online learning during the COVID 19 epidemic. As a result, it became evident that the majority of previous research were uninterested in studying the factors affecting individuals' usage of Web 3.0 in general, and tourism in particular, as discussed in detail in the introduction section of this study.

Author [24] discovered that Web3.0 has become an absolutely vital application in the tourism sector as clients may engage directly with tourism suppliers, identifying and satisfying their constantly changing desires for tourism products. On the other hand, suppliers can better respond to ever-changing consumer needs. Tourism businesses use the internet to communicate with, promote, and advertise their services to global customers. As a result, tourism businesses who have adopted Web2.0 applications and are on the possibility of adopting Web3.0 technologies will be able to successfully contribute to their business's competitive edge.

A study conducted by [68] indicated that “the Web Internet also led to the advancement of Web 3.0, a highly intelligent network merging human time, due to its intelligence and individuation, this new style of self-help touring will be a new wave”. This is an important finding in the understanding of the impact of Web 3.0 on hotel businesses however, this study has not dealt with the impact of Web 3.0 on consumers who are considered the key players in this regard. Although significant progress has been made over the last decade to modernized the tourism using the technology advancement this recent study only demonstrates the continuing and increasing significance of semantics and categorizations in tourism. Additionally, the authors note that academic study in these fields is still in its fancy stage. Besides that, this study found that the tourism

sector is eager to embrace Web 3.0 tools. However, social network communities have a larger presence. A website's visibility demonstrates its importance to users. Providing a competitive advantage and a steady stream of new visitors. However, the hotel industry appears to be unaware of these advantages. So, further efforts to use Web 3.0 from a security standpoint are required. A future usage of Web 2.0 apps in tourism to provide information and services to the general public and promote bookings is also required owing to the impact of the global crisis. A tourism organization's website is a critical communication medium, and it should respond to current best practices. In this perspective, it has been acknowledged that applications that enable interconnectivity via semantics are vital for the tourism industry's continued innovation.

According to author [69] who examined "Viral marketing impact on tourism and hospitality industry". mentioned that "Web 3.0 may solve search engine flaws including broad information search results, invalidating huge and time-consuming information, low information quality, and a lack of authenticity and reliability in the information". Tourists looking for hotel information will be automatically classified and grouped by an intelligent network. The Web 3.0, on the other hand, can help hotels target their network marketing efforts based on the input of tourists. A reliable network marketing platform will have a competitive advantage. So, it's a shortcut to network marketing success. Although this study is up-to-date, it is one of the very few studies that dealt with linking the Web 3.0, application technology and tourism, specifically explaining to what extent the viral marketing tourism organizations could be successful if they have a strategy to adopt Web 3.0, for their services. However, this study did not focus on what are the determinants that drive tourist's intention to use Web 3.0 technology, as it has been neglected and ignored evaluating the factors of tourist's intention to use Web 3.0

Similarly, the study conducted by author [70] mentioned that "The technology has existed for a long time and has a great deal of potential for the sector, according to a literature review". Several studies have found that semantic web technologies may provide a challenge to the tourism industry. In Austrian tourism organizations, semantic technologies are used largely in the hotel sector or by individual tourism businesses. All of Austria's regional

tourism bodies are using semantic web technology, although there is no current study on the topic. According to the study's findings, digital technologies are vital in the present era and have a considerable impact on tourists' behavior intentions. The tourists' behavior has a direct impact on the destinations they visit and the decisions they make while on vacation. Searching for information about tourist attractions has an impact on a person's behavior, but this does not transfer into actual actions. Social media marketing has a significant impact on tourism, demonstrating that companies cannot grow and gain a fair segment of the market without an online presence and advertising. In order to prevent real behavior from being impacted by these control variables, gender preferences and the needs of tourists with various educational levels must be considered.

These findings of this study further support the idea of the importance of implementing Web 3.0 in the tourism sector however, to the best of our knowledge there is no single study in the literature that attempt to study the factors that influencing tourist's intention to use Web 3.0, specifically from theoretical perspective.

In the same essence, many recent studies in the literature still discuss the Web 2.0 and its applications in the tourism domain whether at individual or organizational level. For instance, a recent study done by author [71] that discuss the role of social media and "Determinant Factors Influencing Thai Tourists' Intentions to Use Social Media for Travel Planning". In this study the authors found that tourism entrepreneurs to gain a more accurate understanding of the factors that influence tourists' intention to use social media for travel planning, which will facilitate the growth of tourism promotional activities and the development of sustainable competition. Another aspect of this study's importance is in explaining why people accept and want to use social media by incorporating individual motivational factors, which express unique actions, and other confounding variables. The results can be used to gain a better understanding of the tourists who use Thailand's social media.

Despite the qualitative leap brought about by the current era's technological revolution, particularly in relation to the Internet, the massive amount of information on the web, and the new trend toward the Internet of things, machine learning, and artificial intelligence,

there is still a significant gap in the theoretical study of this future technology where most of these recent studies such as the study done by [71] that concentrate on examining the current technology applications and neglect to focus on the Web technology particularly Web 3.0, and the factors influencing consumers to use Web 3.0.

Therefore, this paper has attempted to provide an extensive study on the possibility of identifying the factors that influencing tourist's intention to use Web 3.0 applications. By integrating the most two reliable existing models TAM and DMISM that have been studied, tested, verified, and validated in different business domains. These two models are the most cited and recognized by widely scholars in the literature of information system which this confirms their prediction power of user's intention to use new technology. However, the integration of these two technology models TAM and DMISM in the literature is very limited, as most studies have used them separately [19]. These two models were not only chosen because of their validity but, also because of their applicability and fit to the research problem. Since the tourism industry is considered an information-based and the Web 3.0 technology application which still under ongoing development process is considered the third generation of web that provides a more intelligent search engine that is characterized as "semantic web", which is able to understand the meaning of words as its main function to extract all the information from different sources on the Internet and provide it to the consumers in a more accurate, classified and organized manner. The proposed integrated model was developed and extended by including the following variables, namely (computer self efficacy, user awareness, social influence, perceived privacy risk, and personal innovativeness as moderator) which have been defined see Table. 2. It is important to indicate that these variables have been extensively studied in the literature in different contexts, but those factors were not collectively studied in the proposed integrated model to study the factors influencing tourist's intention to use Web 3.0. In addition, TAM or DMISM models have not been studied in the literature separately or integrated to study the factors influencing tourist's intention to use Web 3.0. Therefore, this study was not only to fill the existing gap in the literature but also to contribute to the body of knowledge by coming up with an inclusive academic definition of Web

3.0, presenting new originality and novelty view of what Web 3.0 is all about and identify its challenges, opportunities, and challenges arising from it, specifically in the tourism area.

5. CONCLUSION

The Internet has given us a modern era of digitalization and revolution of the new generation of intelligent web technology to seek the right information at the right time such as Web 3.0. Its influence on individuals (tourists) as well as on organizations (tourism industries) is extensive and profound. Tourists and tourism-based businesses should leverage Web 3.0 capabilities and build a network of promotional activities. In this paper, the proposed model was to determine the factors influencing tourist's intentions to use WEB 3.0. Besides that, previous studies show the integrated model of technology acceptance model and Information system success model need to be tested, validated, and extended in different contexts particularly in tourism domain where there is a shortage in the previous research to study the effect of Web 3.0 on tourist's intentions.

As a result, when it comes to having an online presence, stakeholders and clients, especially those in the tourism industry, prefer to focus solely on the benefits and disregard the potential risks. Tourism businesses should examine operational risks and implement mitigation strategies when evaluating the possible impact of new technology. According to the findings, understanding the impact of integrating new technologies like Web3.0 technological tools involves identifying the tourism industry's fundamental infrastructure and services should be evaluated and identified.

For tourism firms, the findings of this study show how important it is to understand the underlying technology and the potential it provides that will help to meet the tourist's needs or exceed their expectations

Web 3.0 technologies must be thoroughly understood before organizations can evaluate the risks associated with their implementation. The study's findings of this research also found that the arrival of Web 3.0 technologies will open up new possibilities for tourism businesses to achieve their goals.'

As can be observed, contemporary tourism companies function in a highly technical environment where technology plays a critical role in achieving organizational management's objectives. Additionally, the mechanisms by which underlying technology supports

organizational objectives evolve swiftly and continuously and this can provide tourist's a huge benefit to ease their way of finding information related tourism.

Additionally, the factors that were used and evaluated to extend the integrated model in this study will aid not only researchers in using it in future studies, but will also help us better understand new technology such as Web 3.0, as all of the factors selected in this study focus on the characteristics of users in general and tourists in particular, whereas the integrated mode of TAM and DMISM focuses exclusively on system characteristics.

The overall research shows that adopting new technologies like Web3.0 technology tools is essential for tourism businesses to maintain a competitive advantage and take advantage of the opportunities given by these innovative technology platforms that provide a reliable solution.

As mentioned above, internet users and travelers now have the freedom to create and distribute material in their own unique way, as well as to select the distribution channels via which they prefer to release it. It is also possible for Internet users to participate in the design and distribution of new ecommerce models and tourism experiences with Web 3.0 technology.

Tourism and hospitality businesses face huge risks and opportunities as a result. If tourism organizations don't take advantage of the Web 3.0's potential, it will be doomed to failure.

The possible challenges, risks, and opportunities that are emerged from Web3.0 technology have been discussed. To the best of the researchers' knowledge, this will be the first study to develop and extend TAM and DMISM as an integrated conceptual model to study the factors influencing tourist's intentions to use Web 3.0. Additionally, five new variables are added to the existing models to determine the factors influencing tourists' intents to use Web 3.0, including computer self-efficacy, user awareness, social impact, and perceived privacy risk, as well as personal innovativeness as a moderator. Moreover, this research can be a great benefit to be utilized by governments, policymakers, tourism industries, agencies, tourists and other individuals. As well as the proposed integrated conceptual model in this study can serve as fundamental framework to be used in different domains since there is only few publications about this research topic. In the final analysis, this study has provided a clear direction

and a critical review of the importance of Web 3.0 in the tourism domain as well as a unique and original definition of Web 3.0 which can improve our basic understanding of the new term. The next stage of our research and future work, the hypothesis will be developed and will be empirically tested based on the quantitative approach to confirm the integrated model. In our future research we intend to expand this study through developing and testing the research hypothesis in one hand and employ the quantitative approach method to study the effect of the selected factors of the proposed conceptual integrated model on tourist's intention to use Web 3.0 on another hand and questionnaire will be used as a technique to collect the data from the target respondents. Finally, in order to provide more insights and a broader vision of this study our future work will be empirically tested which involve data analysis and findings.

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