

CONCEPTUALIZING TOURIST TYPOLOGIES: TRADITIONAL APPROACHES VERSUS ADVANCED TRACKING TECHNOLOGIES

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Abstract

Essentially, there is an attempt to categorize populations into broad behavioral groupings derived mainly from quantitative data which highlighted the causes and effects specifically factors encouraging one to take a trip. These causes and effects are the predictions of expressed tourist behavior such as 'what' and 'why'. Why people choose to visit a certain tourism attraction and what impact result from this visit. Recently, there is an increasing recognition amongst both academics and marketers that an understanding of tourism as a social phenomenon requires the construction of tourist typologies. These typologies are important in order to represent an attempt to increase the knowledge of tourist behavior. Thus, it is essential to analyze the role of tourist behavior and tourist typologies in order to optimize the effectiveness and efficiency of the marketing activities especially in the urban area which seems to be more complex to be defined and understood. However, tourist typologies have also been claimed as too simplified in details about how the tourist actually behave (Hall, 2005). Thus, there is a need to develop the tourist typologies in a more complex manner in order to understand more clearly how the tourist behave and how they incline to use the space in an urban destination. This including moving beyond simplistic typologies from traditional methodology towards a more analytically flexible conceptualization that allows exploration of the assumptions implicit in the 'tourist gaze', the tourist 'destination', the marketing 'image', the 'visit' (Wearing and Wearing, 2001). Therefore, a suggested new model in terms of new methodological approached may provide better account for the significant range and diversity of tourist experiences. At this point of view, tourism is mainly a geographic activity. Most of the information needed in tourism planning is spatial, indicating where and how extensive the tourism resources are, how intensively the resources are used and so on. Hence, the advancement of tracking technologies development offers an opportunity to further and expand the nature of understanding the tourist particularly in urban destination. Apart from that, deeper understanding of tourists' behavior may also help the researcher the ability to create typologies of tourists based on their spatial behavior and enhance non-spatial typologies by characterizing types of tourists' spatial activity.

Keywords: Tourist Typologies, Spatial Behavior of Tourist and Advanced Tracking Technologies

1.0 INTRODUCTION

There is a growing demand for knowledge about how the cities function specifically on the understanding of people's actual behavior. Tourist behavior often regarded as related to tourist expectation, tourist satisfaction, tourist motivation and tourist typology. By understanding tourist behavior on setting such as urban tourism, it will able those are concern in tourism development to forecast potential activities, and therefore the chains of potential impacts. Traditionally, data on tourist behavior were gathered through the extensive counting surveys on people, travel or trip diaries and observation. Although these approaches were seen as a conventional way in obtaining data on spatial tourist behavior, it may lead to delaying of time, conflicts in data accuracy and difficulties in attaining labors. In the era of

increasing demand on tourism in most developing cities, an urgent need is required for them to give more consideration towards understanding the tourist behavior in the urban setting, including the new approach rather than the conventional in making instant decision.

This could help in managing the urban destination particularly in forecasting the potential activities in a specified tourism area within urban area. Consequently, the need of a more practical and systematic methods should be further applied in order to acquire a better form of database. The application of Global Positioning System (GPS) technology helps to consistently update the changes in activities offered and changes in tourist spending pattern. Database on tourist behavior such as spatial movement, spending pattern and choices of activities in the form of digital record may help in accomplishing the future need specifically in providing greater understanding of the socio-spatial behavior of tourists. The Global Positioning System (GPS) is a new digitally based method that could be used to gather information on the spatial behavior of tourists. The spatial data collected will be further analyzed through a specific process involving the consideration of Geographic Information System (GIS) as a fundamental research tool to improve destination management

1.1 The Importance Of Understanding Tourist Typologies

Basically, the development of tourist typologies were designed to classify and categorize tourists into types based on certain tourism characteristics and travel motivations, activities and experiences (for example, Cohen, 1972, 1974, 1979; Crompton, 1979; Dann, 1977; Hamilton-Smith, 1987; Krippendorf, 1987; Pearce, 1982; Plog, 1987; Sharpley, 1994; Smith 1989). These studies ought to identify the types of tourist that exist, the types of experiences that they seek and to categorize the experience of a tourist. However, McCabe (2005) argued that tourism was conceived as a reversal of everyday activities but in itself is devoid of meaning and perhaps recognizing the theoretical limitations inherent in an overly simplified typology of tourists (Cohen, 2004). Indeed, the tourist experience is presented as a form of activity which is converted to a typology, where the individual tourist is presented as electing to pursue – in their free time – a particular type of tourism (Lyons, 2003; Weaver, 1998, 2000; Wickens, 2002).

It is essential to outline the contribution of typologies in understanding tourist experience in relation to the interactions of tourist with places, peoples and cultures. Typologies are developed by identifying the types of tourist exist, types of experience that they seek and to categorize these experience and tourist types. As had been mentioned by Urry (2002), “there is no single tourist as such but a variety of tourist types or modes of tourist experience”. Thus, recognizing the theoretical limitations is essential in an overly simplified typology of tourists. Apart from that, the typology suggests that tourists’ spatial patterns would be influenced by a wide range of variables, including motivations, interests, comfort, mood, personal circumstances, previous experience of a place and ability to read the environment. The typology reflects how tourists choose to experience an urban destination at a particular point in time, depending on the prevailing circumstances, rather than being a categorization attached to the person. For all intents and purposes, the typology describes different forms of behavior, which the same person could exhibit in different circumstances.

1.2 Problems Associate With The Existing Typologies

Nevertheless, there are critics and argument of tourist typologies which purposely highlighted that there is no typology can ever effectively provide the basis for the analysis of

tourism experiences since the tourist themselves will move in and out of being a certain type of tourist as they progress through a trip (Lyons, 2005; Steiner and Reisinger, 2006; Uriely et al., 2002). Plus, tourist 'types' do not simply fall into one of several clearly defined and conceptually discrete categories but, rather, take up a position along a continuum dependent on their actual lived experiences, which are themselves a product of the interaction of their desires with the possibilities of the destination (Wearing, Stevenson & Young, 2010). Other than that, Swarbrooke & Horner (1999) also stated that the initial typologies are overly simplistic which are based on stereotypes that 'cannot hope to encompass the complex patterns of behavior we see in the real world'. Thus, there is need to develop the tourist typologies in a more complex manner in order to understand more clearly the tourist behavior specifically in the context of urban destination.

At this point of view, the diversity and plurality of tourist experiences need to be understood within the complex and dynamic phenomenon of tourism. The tour group, the host community and the natural environment is the main component in determining the tourist experience. Thus, there is a need to move beyond simplistic typologies towards a more analytically flexible conceptualization that allows for the exploration of the assumptions implicit in the 'tourist gaze', the tourist 'destination', the marketing 'image', the 'visit', in suggesting other modes of analysis that may better account for the significant range and diversity of tourist experiences (Wearing and Wearing, 2001). Apart from that, it is also important to establish how and why an activity was chosen in the first place and to understand how the tourist actually experienced the activity and made sense of it. Many typologies are mostly descriptive and do not greatly help us in increase our understanding of tourist behavior which is very essential (Swarbrooke and Horner, 1999). However, according to Hose and Wickens (2004), despite these critical comments and remarks may sound towards the available tourist typologies, this definitely does not mean that it is useless to pay research attention to the questions of how and why people differ in their tourist behavior.

1.3 Alternative Offered By Advanced Tracking Technology

Tourism is mainly a geographic activity. Most of the information needed in tourism planning is spatial, indicating where and how extensive the tourism resources are, how intensively the resources are used and so on. This suggests that Geographical Information Systems (GIS) could be a useful addition to the planner's or decision maker's tool-kit (Bahaire et al 1999) as they can give them the ability to explore the geographical dimension of data available (Grimshaw 1993). The advancement of tracking technologies development offers an opportunity to further and expand the nature of understanding the tourist particularly in urban destination. Plus, it also helps the planners and tourism managers to make informed decisions regarding policy and to address tourism development in a more informed manner (Edwards & Griffin, 2013). Furthermore, deeper understanding of tourists' behavior may also help the researcher the ability to create typologies of tourists based on their spatial behavior and enhance non-spatial typologies by characterizing types of tourists' spatial activity (Refer **Table 1.1**).

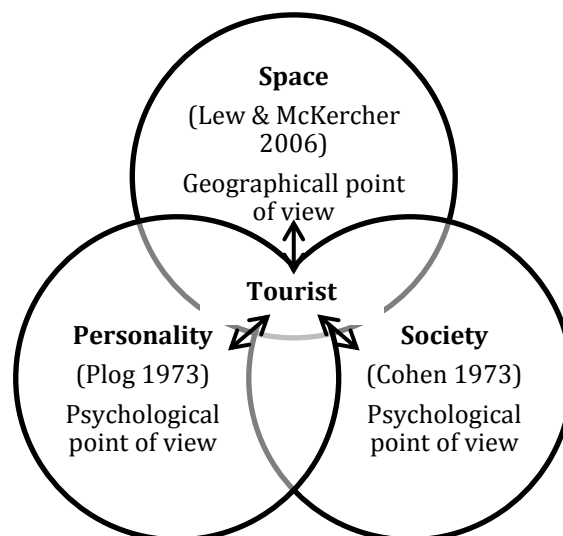
Table 1.1: Main Approaches to Typologies of Tourist

Typologies	Non-Spatial Typologies	Spatial Typologies
Definition	<ul style="list-style-type: none"> • Use non spatial data such as demographic characteristics, personality traits, and data that describe the trip to seek a common trait that might be the reason for the different visitors; similar behavior 	<ul style="list-style-type: none"> • Use spatial data to add depth and richness to their divisions by asking whether the different types of tourists are connected to each other not only by their characteristics but by their spatial activity as well.
Theoretical Approaches	<ul style="list-style-type: none"> • Interaction typologies which emphasize the nature of interaction between the tourist and the tourist's destination (Cohen, 1972) • Typologies based on the analysis of the personally structure of the tourist (Plog 1973; 1987) 	<ul style="list-style-type: none"> • Modeling of patterns of spatial activity of visitors within destination (Lew & McKercher, 2006)
Methods	<ul style="list-style-type: none"> • Qualitative Technique (In-depth Interview) 	<ul style="list-style-type: none"> • Quantitative (GPS Data) & Qualitative (In-depth Interview)

Source: Adapted from Shoval & Isaacson (2010)

Based on non-spatial typologies, Cohen (1972) stated that typologies are created by two main characteristics which are interaction between tourist and tourist destination society whereas Plog (1973) mentioned that typologies are based on the analysis of the tourist personality. However, these two approaches only explained a small portion of tourism industry without acknowledging the significant of urban tourism which apply mainly to the urban space such as business tourism and visiting family and relatives. This had shown some gap that these approaches adopt only social definition of tourism which does not include the segment of urban space. Similarly, the typologies that were created in the universe of sociology and psychology focus naturally on tourist connection with the host society (Shoval & Isaacson, 2010). In conclusion, there is a clear lack of theoretical framework dealing with the spatial activities of tourists at tourist destination (Shoval & Isaacson, 2010). Therefore, there is need in order to fill the gap which therefore combine the data on tourist spatial activity with non-spatial typologies that will create spatial typologies. (Refer **Figure 1.1**)

Figure 1.1: Typologies of Tourists



Source: Adapted from Shoval & Isaacson (2010)

1.4 Issues Behind The Approach

Nevertheless, there are issues arises in obtaining the tourist spatial data activity. Recently, the current methods used to collect data on spatial activities are limited in accuracy and validity and there is a difficulty of collecting data on the spatial behavior of tourists (Meng et al, 2005). These manual research techniques on tourist mobility proved to be hardly cost effective and difficulties in developing tourist profiles. Plus, simple observation does not allow the gathering of qualitative data on tourist and problems of privacy breach. Designing the urban form to meet the needs of tourists requires collection and evaluation of data on tourists spatial behavior which until recently has been difficult because of the labor intensive nature of methods such as large surveys, traffic and people counts, travel or trip diaries, and observation (Edwards et al., 2009). While some commentators argue that semi structured interviews allow for a fuller understanding of tourist’s motivations and perceptions (Maitland, 2006), others have concerns regarding the potential for recall bias to influence travel reporting and have shown that people’s ability to reproduce a walking route on a map is inadequate (Edwards et al., 2009). Thus, using advanced tracking technologies such as GPS were seen as a new solution for this issue. GPS has the ability to accurately track the paths of tourists, to provide greater understanding of the socio-spatial behavior of tourists (Asakura and Iryo, 2007), to boost the interest of its potential in giving more comprehensive understanding of tourist behavior and typology and to accurately mapping tourist expectation, satisfaction and motivation using development of a new generation of technologies. Therefore, more solid typologies can be created based on the data collected using the advanced technologies.

Table 1.2: Summary of issues in the development of typologies

Terms	Main Issues	Author	Year
Basis of Theoretical	<ul style="list-style-type: none"> • The initial typologies are overly simplistic 	Swarbrooke & Horner	1999
	<ul style="list-style-type: none"> • The current typology is too simplified in explaining the tourist behavior 	Cohen	2004
	<ul style="list-style-type: none"> • Tourist ‘types’ do not simply fall into one of several clearly defined and conceptually discrete categories 	Wearing, Stevenson & Young,	2010
Basis of Methodology	<ul style="list-style-type: none"> • Designing the urban form to meet the needs of tourists requires collection and evaluation of data on tourists’ spatial behavior 	Edwards & Griffin	2009

Source: Author

2.0 ALTERNATIVE METHODOLOGICAL APPROACHES

2.1 Traditional Approaches vs. Advanced Tracking Technologies: Demand for new tracking methods

Understanding processes in the city is a pre-requisite for good urban design (Schaick, 2008). Traditional urban planning and analysis methods only offer partial insight into these processes. The existing data collection methods implemented in tourism research is low in accuracy where labor intensive were used through extensive counting surveys on traffic and people, trip diaries and also observation. There are two types of methods that are currently

employed by the researchers to gather information on the spatial behavior of tourists which are direct observation techniques and non-observational techniques.

Table 2.1: Methodological Aspects of Measurement of Tourists’ Spatial Behavior

	Techniques	Methods	Implementation
Traditional Approaches	Direct observation techniques	Participant Observer Method	The observer accompanying the individual under inspection in person
		Non-Participatory Observation	The observer follow the subject at a distance recording the pattern of their activities over time and space
		Remote Observation	Non participatory technique which is used to record and analyze aggregate tourist flows.
		Aggregative Video Tracking	The observer used the data obtained by video cameras or closed circuit television (CCTV) cameras arranged in public places to analyze behavioral patterns of users.
	Non observation techniques	Time-space budgets	A systematic record of a person’s use of time over a given period. It describes the sequence, timing and duration of the person’s activities typically for a short period ranging from single day to a week.
New Approaches	Tracking Technologies	GPS Tracking	A local tracking system consists of a series of satellites that orbit the earth broadcasting signals that are picked up by a system of receivers.
		Land-based Tracking	A local tracking system featuring a series of antenna stations which also known as radio frequency (RF) detectors distributed throughout a specific area.

Source: Adapted from Shoval & Isaacson (2010)

In this context of study, advanced tracking technologies were seen as the most suitable tool that have the abilities to resolve some of the problems that occur in the current methods used in tourism research to collect time space data about tourists. However, there are also limitations and challenges with these new technologies. The adoption of new technologies however does not mean that traditional tools such as interviews, questionnaires and time space diaries must be abandoned in tourism research. Conversely, the new technologies will complement, add to, and enrich the findings of these more traditional research tools.

Referring to the new methodological approaches, both technologies have the potential to be used as an effective tool in analyzing the spatial and temporal behavior of the tourists. However, it can only be useful if the tracking units does not restrict or alter the subject behavior in any way. These tracking units must be fairly lights, easy to carry and able to track the subject reflexively without forcing his or her into taking any kind of special action. Both

technologies have their own advantages which makes them different from one and another and thus easy to determine which tracking unit is more suitable for collecting data on spatial tourist behavior. Land-based techniques have an advantage over the GPS which the end units do not need a direct line of sight to the sky and hence could obtain location in buildings. As for GPS tracking, it has the advantage over the Land-based tracking when it comes to obtaining accurate data. This makes them a suitable means to be used in micro-level investigations, such as studies which record the number and density of tourist visiting historic cities, tourist attractions, theme parks and similar locations where all of which require high-resolution data (Shoval & Isaacson , 2010).

3.0 GPS AS A SUITABLE TRACKING TECHNOLOGY IN COLLECTING DATA ON SPATIAL TOURIST BEHAVIOR

3.1 Testing GPS Tracking Technologies in Malacca World Heritage Site

Cultural, including heritage, tourism has been growing rapidly in recent years (Alzua, O’leary, and Morrison 1998). It has been recognized in the literature that visitors to cultural tourism sites are often motivated to travel for different reasons than other types of tourists (DKS 1999; Formica and Uysal 1998; Hannabus 1999). Formerly, Malacca is listed as one of the world heritage site under UNESCO. Malacca was seen as the most suitable site in testing the GPS due to its uniqueness of the heritage trail, the development of tourism in Malacca and also the increasing number of tourist arrival every year. Plus, Malacca was also listed as one of the World Heritage Site which is formerly renowned for its historical background. Basically, A World Heritage Site is a place that is listed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as of special cultural or physical significance. Malacca history city have three trails which are Malacca Heritage Trail, Dutch Heritage Trail and American Heritage Trail where each of the trails has their own history and attractions. Advantageously, all of the trails are walking distance and are highly accessible that could assist the tourists to walk around easily and enjoying the attractions within appropriate time.

At this point of view, GPS technology would be the most suitable tool for this type of research due to the small size of this type of destination (Shoval & Isaacson, 2010). Desirably, Ashworth and Page (2010) had discussed the paradoxes in urban tourism research and observe that “it is curious that very little attention has been given to the questions about how tourists actually use cities”. However, the narrow paths that are typical to historic cities could create a challenge for obtaining GPS signals through the intense data collection by the devices (ranging from once per second to lower resolutions) means that the GPS signal will be found again by the device once a line of sight to the satellites is restored. Based on the research project that had been experimental by several authors, the results validated good reception of the GPS receivers’ in those dense environments. Plus, a relatively small size of the tourism destination area ranging approximately ten acres to several hundred acres makes GPS the most attractive option for tracking due to its high resolution. Nevertheless, the mapping and modeling of tourist spatial activity is viewed by many researchers as an under-researched field in which much progress is still needed (Prideaux 2000 and Modsching et al. 2008).

3.2 Possibility Of Applying This Methods In Solving The Issues Of Typologies

The term spatial analysis is basically referring to a ‘quantitative study of phenomena that are located in space’ (Bailey & Gatrell, 1995). In this context, tourism tends to be superimposed on a spatial system and infrastructure network that was not designed specifically to cater for it and tourism activity can be unevenly distributed (Gladstone & Fainstein, 2001). Understanding where tourist go within a city and how they negotiate their way from one point of interest to the next is something discovered through subjective observation (Edwards, Dickson, Griffin, & Hayllar, 2010). The current methods used to collect data on spatial activities are limited in accuracy and validity and there is a difficulty of collecting data on the spatial behavior of tourists (Meng et al, 2005). Manual research techniques on tourist mobility proved to be hardly cost effective and difficulties in developing tourist profiles. Plus, simple observation does not allow the gathering of qualitative data on tourist and problems of privacy breach. In addition, the development of spatial analysis as a field of study has been given much impetus by the growing demands for spatial data accuracy and quality given the increased amount of spatially referenced data held by the public and private sectors as well as the use of GIS as an interactive decision-making and planning tool (Hall, 2011)

In terms of urban tourism setting, understanding of tourist behaviors will able those who concern in tourism to forecast the potential activities and the chains of potential impacts. In terms of methodology, it will help to systematically adapt a better form of database using latest technology that can consistently update with changes in activities offered and changes in tourist trends of spending and appreciation. Changes in future may require a form of digital record on collection and evaluation of data on tourists’ behavior. There are growing attempts to applied technology such as Global Positioning System (Shoval, 2008) in order to provide greater understanding of the socio-spatial behavior of tourists. GPS technology is foremost a development of new generation of advanced tracking technologies which has been detailed through various paper (Shoval & Isaacson 2006, 2007; Shoval, 2008; Spek, 2008) and in recently published books (Schaick & Spek, 2008; Shoval & Isaacson, 2010). Recently, there is an attempt to apply the advanced tracking technologies in determining the spatial data of tourist behavior in an urban destination. Several questions can be addressed using data collected by tracking technologies which further detail the spatial behavior of a tourist in a destination. This includes (1) where has the tourist been? (2) How long did he or she stay at each site and (3) what mode of transportation was used in order to get to the site? This paper mainly highlighted the possibilities that tracking technologies offer in deepening the understanding of spatial behavior of tourist within a destination and used the spatial data in order to create tourist typologies.

4.0 THE NEED FOR FURTHER RESEARCH

4.1 Conclusion Of The Methods In Portraying The Better Picture Of Typologies

Based on the literature that had been discussed above, it is crucial to apprehend whether the advanced tracking systems are able to portray a better picture of typologies or otherwise. Essentially, the application of advanced tracking technologies had demonstrated several innovative research directions. Methodologically, it illustrated the benefits of using advanced tracking technologies to generate a deeper understanding of tourist behavior. This is somehow illustrated how the use of GPS devices can provide valuable temporal information that can better inform tourism studies.

Apart from that, there are many different possibilities that time-space data presented for the analysis and study of tourist spatial activity. These data have the potential of playing a central role in understanding tourists' mobility preferences and practices as well as movement patterns (Shoval & Isaacson, 2010). Instead of its limitation, data that are collected using the advanced tracking technologies can contribute to the creation of typologies based on spatial behavior and the enhancement and the deepening of the understanding of non-spatial typologies. As mentioned by Shoval & Isaacson (2010);

“Research in this area has just begun to emerge and we foresee that as tracking data become more widely available these theories will reach new level of understanding and will be able to validate and strengthen existing theories. Plus, this kind of research, which is very technical and mathematical in nature, is in its first stages and can serve as a strong tool in assisting planners and policy makers to examine different scenarios before deciding on a chosen plan”.

Furthermore, tourism, especially activities located within urban areas, which comprise a large percentage of the tourism industry could greatly benefit from the kind of digital tracking methods that are able to trace pedestrian routes over long period of time and additionally, can do so both accurately and consistently (Shoval & Isaacson, 2010). Based on the literature that had been discussed above, there is a need to further research towards the development of typologies. Referring to the issues that had been highlighted earlier, there are two argumentation related to typologies in terms of theoretical and methodology. In terms of theoretical, there is a need of more solid typologies in order to define the tourist behavior in an urban destination. In order to develop solid knowledge on typologies which further help to explain the tourist behavior more clearly specifically in the context of urban destination, there a need for spatial typologies that integrated a solid spatial data from the advanced tracking system with the non-spatial typologies. At this point of view, a firm spatial data can only be obtained through the application of advanced tracking technologies such as GPS. GPS tracking makes data visually appealing and animates the urban space – the viewer can ‘walk in the shoes’ of the tourist (Deborah Edwards, 2009). In spite of that, the typologies can be a better form of database and can consistently update with changes activities offered and tourist trends of spending (Shoval, 2010).

5.0 CONCLUSION

Discussion on the use of GPS tracking system in collecting and obtaining data on spatial tourist behavior have shown an emerging trend of technologies that have resolved both data collection and analysis problems. The development of this technology has potentially revolutionized research into tourist behavior in urban destinations. This technique of accurately tracking the temporal and spatial behavior of visitors carrying the global positioning system units had slowly overcomes the well-known limitations of traditional data collection methods. However, as with any emerging technology, tourism researchers are still experimenting to determine the limits of its application. Currently, most of the research that used tracking technologies tends to be descriptive and small scale. Although the studies conducted are more sophisticated, but then again they have been tightly spatially bound for example, focusing on small historic cities (Modsching, Kramer, Ten Hagen, & Gretzel, 2008; Shoval, 2008; van der Spek, 2008; Tchetchik, Fleischer, & Shoval, 2009), confined attractions like theme parks and zoos (Russo, Clave, & Shoval, 2010; Zillinger, 2010) and natural parks (Arrowsmith and Chhetri, 2003; Harder, Bro, Tradisaukas, & Nielsen, 2008;

Hovgesen, Bro, Tradisauskas, & Nielsen, 2008). Even though this paper had underlined the challenges and problems that occur when implementing the advanced tracking technologies, there are also potentials highlighted the effectiveness of this tool in gathering data on the spatial tourist behavior. Taking everything into account, these technologies will not replace questionnaires, diaries, or interviews, which will, of necessity, remain important sources of information on behavior and especially motives underlying it. But they will complement, add to, and enrich the findings of more traditional research tools.

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