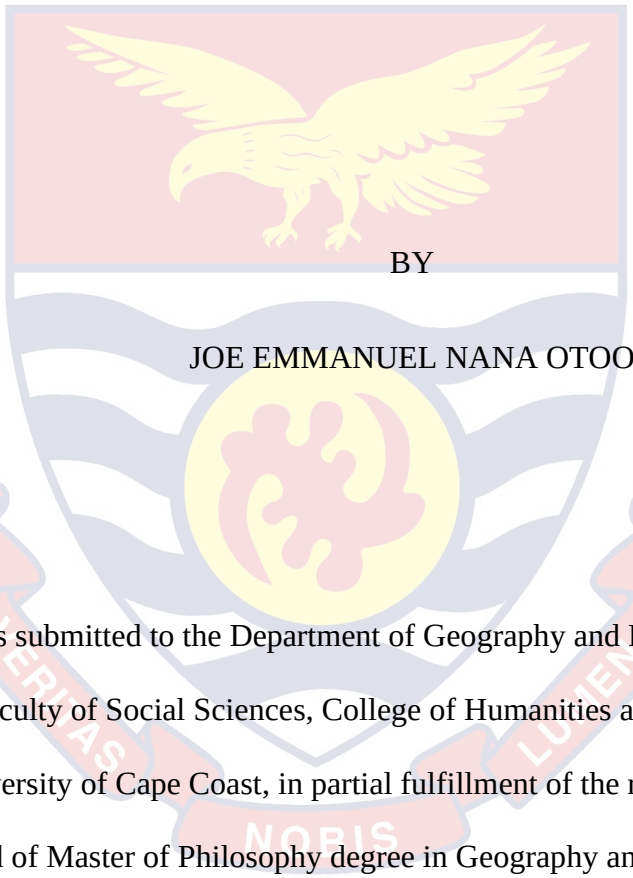
UNIVERSITY OF CAPE COAST

TOURISTS PERCEPTION OF TOURIST MAPS IN THE CAPE COAST AND ELMINA AREA, GHANA.



BY

JOE EMMANUEL NANA OTOO

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OCTOBER 2020

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: ……..……. Date…….

Name: Joe Emmanuel Nana Otoo

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature: …… Date: ……

Supervisor's Name: Dr. Benjamin Kofi Nyarko

ABSTRACT

Tourist maps influence tourists' way finding in unfamiliar areas. Tourists' way finding requires cognitive processes to navigate travel routes of desired destinations. However, despite its importance few studies have been conducted on it in Ghana. It is because of this knowledge gap that this study was conducted to gain more insights on the use of maps to locate attractions in Cape Coast and Elmina areas within the Central Region of Ghana. The study used the concurrent mixed method design for data collection and analysis. Primary data was collected from 207 tourists and 3 facility managers at the study areas. The analyses of the study was done using analytical tools such as frequencies, means, t-test, analysis of variance and factor analysis provided in Statistical Product for Service Solution software. The study found that tourist attractions in Cape Coast and Elmina had inadequate tourist maps because of insufficient funds and map-making skills. Tourists depended on "word of mouth'' and other digital maps to locate attractions. The effort expectancy and performance expectancy of maps was influenced by tourists socio-demographic characteristics. Again, the way finding abilities of tourists was determined by their map reading abilities and geographic knowledge of the destination. The study recommends that Ghana Tourism Authority and the Town and Country Planning Authority now known as Land Use and Spatial Planning Authority, should work together to provide adequate directional signs and maps that link tourist sites. Appropriate websites must be designed to meet the needs of tourists. Much awareness must be created on the use of Ghana post digital addressing system.

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Finally, am grateful for the love and support of my family throughout all these years of studies.

DEDICATION

To my dearest mum and wife, for their selfless commitment to ensuring that I reach the highest academic success

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CHAPTER ONE

INTRODUCTION

Background to the Study

Over the past years, tourism activities have contributed significantly to Gross Domestic Products for many countries in the world. Tourism continues to play a key role in revenue generation for many developing countries in the world. The total contribution of the Travel & Tourism industry to gross domestic product was 12, 573.3 million Ghanaian cedis, representing 6.2% of gross domestic product in 2017. It is forecasted to rise by 4.9% in 2018 and to 5.7% in 2028 (United Nations World Tourism Organisation, 2017). Although European countries have good tourism infrastructures and remain the travel destination for most tourists, tourism has gradually taken on greater importance in other African countries such as Kenya, Zimbabwe, Egypt, Ghana, and other African countries (Gössling, Peeters, Ceron, Dubios, Patterson & Richardson, 2015).

The World Tourism Organization (2013) defines the word “tourism” as "the activities of persons traveling to, and staying in places outside their usual environment for not more than a year for leisure, novelty, visiting family and friends, and for other purposes". Tourist’s attractions like hotels and restaurants, animal sanctuaries, museums, forts and castles, supermarkets and forest reserves are efficiently expanded to attract more tourists. Potential tourists move outside their known areas, and follow unfamiliar routes, to arrive at unfamiliar environment every time. However, getting lost or disoriented in new environments is found among first-time visitors. This is because determining the locations of tourist attractions of new environments involves adequate

knowledge of the environment. Visitors' ability to locate tourist attractions depend on their way finding strategies and the ability to locate the correct paths to desired destinations. Thus, provision of adequate information on maps, signage and good transportation systems would enhance tourist spatial abilities and way finding strategies to locate desired tourist attractions.

Way finding is an activity that occurs when people are touring unfamiliar environments. Yet tourist require complex cognitive processing to find their way in their surroundings. Xia, ArrowSmith, Jackson and Cartwright, (2008) explain way finding as a cognitive process of finding a path from a starting point to a specified destination. This involves relevant tasks such as destination decision-making, route planning, land mark utility and cognitive mapping (Tenbrink & Wiener, 2006). Cognitive mapping involves perceiving and storing geographical information while moving from one place to another (Lloyd, 2013). In each phase of the way finding task, people make use of geographical information of an area to recognize their environment. The stored geographic information represents the mental visualization (cognitive map) of the new place. At times people depend on others for assistance to identify the right direction or routes to desired destinations.

The most important aspect in tourism activity is to navigate freely to various attractions within destination areas. Ishikawa, Fujiwara, Imai, and Okabe (2008) suggests that navigation becomes successful, when people know their location, orientation, and knowledge of the destination, to identify appropriate routes. Sarikanon and Sahachaisaeree (2010) noted that maps are tourist's products designed to improve the capacities of tourists to map their physical environment. Maps provide route access information designed to allow

visitors to move freely in the physical environment (Edwards & Griffin, 2013). The content of a map must provide a great deal of information about a particular area. Maps should provide information on travel routes and the location of specific landmarks of tourist attractions and services (Choi, Letho & Morrison, 2007). The choice of a particular type of map depends on the priorities established for the benefit of the user and their ability to read the map. Tourists may depend on navigational aids such as map guide books, geographic position systems (GPS), mobile mapping apps (digital maps), signage systems, or verbal description to orient themselves to locate desired destinations. These navigational aids provide spatial information for users to scan and make sense of their immediate surroundings. Nevertheless, it is still unclear how individual differences and the use of navigational aids affect tourists way finding and route planning strategies.

Most way finding studies are interested in how people locate their desired destinations in new environments. Cape Coats and Elmina are two tourist centers along the coast of Ghana, which have interesting tourist attractions that compel every visitor who comes to Ghana to visit before leaving the country. The region attracts tourists from all parts of the world. Tourists come around purposely to visit historic forts and castles, posuban shrines, forest reserves and participate in festivals (Ghana Tourism Authority, 2016). The study draws the attention of tourist managers and stakeholders on the relevance of maps in the tourism industry to enhance tourist spatial knowledge and way finding strategies. Tourists overall experience would become enjoyable and memorable after identifying travel routes to attractions. It would further boosts tourism activities and tourism sustainability in most tourism destinations in

Ghana. The types of maps and the factors that affect tourists' way finding abilities to locate attractions were the major concerns of the study. The study adapted the Unified Theory of Acceptance of Technology framework to explain the behavioral intentions of tourists' usage of information systems to locate tourists' attractions.

Statement of the Problem

According to the National Tourism Development Plan reports 2013-2017, Ghana lacks adequate infrastructure and tourism support services that affect accessibility to most of its tourism destinations (National Planning Commission, 2013). The issue of accessibility to tourist destinations can be related to inadequate information systems in the form of travel guides about tourist attractions. Dalton (2003) suggests that if a person has a good knowledge of the environment, he or she can easily find his or her way to a destination with few errors. Unfortunately, tourist attractions such as forts, castles, forest reserves, museums, beaches, hotels and restaurants, and transportation yards in most tourism areas in Ghana are not close to each other and are located in hidden areas. Visitors require adequate geographical knowledge to locate them. Available directional signs are scattered along roadsides, while others are in a poor state or blocked by other advertising boards. Limited spatial information and poor internet network make it difficult to provide accurate information to visitors. Travel guides like maps, with inadequate information may mislead visitors. Tourists with high levels of spatial anxiety encounter navigational errors, which affects their way-finding abilities (Chang, 2013). Tourists would become frustrated and face many inconveniences that limit their traveling experience.

Several tourism studies worldwide looked at tourists travel patterns (Masiero & Zoltan, 2013), tourist way finding behaviors (Chang, 2013) and tourist satisfaction with map at hand (Yan & Lee, 2015). These studies focused on tourist mobility to attractions in countries such as Australia, Indonesia and China. Few studies in this area have been conducted in African countries such as Ghana. Most tourism studies in Ghana focused on motivations and experiences of tourists (Deichmann and Frempong, 2016), their preference for accommodation and restaurant facilities and the quality of service rendered at these facilities (Owusu-Frimpong, Nwankwo, Blankson, & Tarnanidis, 2013). Although these studies provided good information on tourist travel motivations and the importance of rendering quality services at tourist destinations, they failed to address problems relating to tourists' way finding abilities to locate attractions in Ghana. Different way-finding strategies and individual differences among tourists affect tourists' navigation tasks to attractions. Hence, there is an existing knowledge gap on tourist way finding abilities to locate tourist attractions in Ghana. It is against this background that this thesis is being undertaken to investigate tourist's perception of maps and its usage to visit attractions in the Cape Coast and Elmina area, Ghana.

Objectives of the Study

The main objective of the study was to investigate tourists' way finding abilities to attractions in Cape Coast and Elmina. Specifically, the study sought to;

1. Explore the types of maps used to locate tourist attractions at Cape Coast and Elmina area within the Central Region of Ghana

2. Examine effective navigational aids used to locate tourist attractions at Cape Coast and Elmina area within the Central Region of Ghana and to,
3. Analyze factors affecting the abilities of tourist to use maps to locate tourist attractions at Cape Coast and Elmina within the Central Region of Ghana.

Research Questions

This study will be based on the following research questions

1. What are the types of maps available in Cape Coast and Elmina of Central region, Ghana?
2. How effectively do maps support tourists' navigation for their visit to tourist attractions in Cape Coast and Elmina within the Central Region?
3. What are the factors that affect the tourists' way finding abilities to navigate tourist attractions in Cape Coast and Elmina within the Central Region?

Significance of the Study

The results of the study will be of value to policymakers, tourism service providers, scholarship and tourist worldwide. The study sheds light on the inconveniences tourists go through during their visits in unfamiliar places without adequate spatial information about the destination. This will inform tourist managers and stakeholders in the tourism industry to ensure proper maintenance of directional signs, maps and landmarks that links outlying rural destinations to promote international market.

The study is useful to policymakers in the formulation, planning and implementation of tourism marketing strategies. The study will enlighten tourism managers to have a better understanding of how spatial information of

a destination influence tourist way finding abilities. Hence, the provision of maps and other signage to advertise tourist attractions will successfully market tourism destinations and others that are not known. However, the managers with the support from government of Ghana must be committed to finance the construction of good roads with street names, well designed maps and directional signs showing the total distance that takes an individual to reach a destination. Spatial planners and tourist operators must give adequate attention to the design of landmarks, signposts and other tourist way finding devices to guide visitors.

Again, the study focuses on the factors that prevents tourists' ability to locate tourist attractions in Cape Coast and Elmina. The findings on the factors that prevent tourist way finding strategies will provide useful information to develop way finding devices that can assist tourists to locate tourist attractions. Adequate destination information on way finding devices such as Google maps, mobile maps, and tourist guide books will boosts tourist travel experience and desire to revisit attractions in Ghana. The design of appropriate navigational tool would links travel routes of cultural and natural heritage assets in Ghana.

Scholarly, empirical studies on the use of tourist maps to tourist attractions have received little attention in Ghana and Africa; therefore, the study will serve as source of literature on tourist maps used in tourism activities. Also, it contributes to unified theory of acceptance of technology to predict tourist intentions to use maps to visit tourist attractions in Ghana.

Limitation of the Study

In every research, it is always important to acknowledge the challenges of the study and find the appropriate measures that will avoid any errors in a

future research study. The focus of the study was to assess tourist way finding abilities to locate tourist destinations in Central Region of Ghana (Cape- Coast, Elmina and Kakum-National Park). The study adopted the concurrent mixed method design, where interviews and close-ended questionnaires were used concurrently to collect data, to assess the types of maps available for exploring tourism destinations and the factors that affect the tourists' abilities to visit these destinations. The convenience sampling procedure made it difficult getting more people to respond to the questionnaires. This was because, most of the tourist came back tired from the tour and found it difficult to spend time to answer all the questions. Other tourists moved in groups, so it was difficult for them to wait while a member is engaged in answering a questionnaire. This caused the respondent not to finish answering all the questions leading to a small sample size for the study. In addition, there were many forts, castles, hotels and restaurants located in Ghana, but the selection of the study areas were based on proximity and the most frequently visited attractions. This limited the study to focus on a purposely-selected tourist destination in Cape Coast and Elmina without considering other tourism destinations in Ghana.

Organisation of the Rest of the Study

The study was organized into Five Chapters. Chapter One looked at the background of the study, statement of the problem, objectives, research questions, significance of the study, and limitation of the study. It provided detailed background on socio-economic importance of tourism industry and the stressful nature of tourist way finding in an unfamiliar environment without navigational aids.

Chapter Two reviewed empirical literature on the meaning and concept of maps and further narrowed it to tourist's spatial knowledge of destinations. Literature was reviewed on the meaning of way finding and tourist socio-demographic influence on way finding. It again discusses works of literature on the provision of spatial information and the use of maps to support tourists' spatial abilities. The chapter also presents theoretical reviews on travel behavioral intentions on the use of maps, which serves as a baseline for the study.

Chapter Three also focuses on the choice of research designs and profiles of the study area to provide a basis for understanding the study components. It indicates detail research methods used in the study. This Chapter further describes the research instrument and their application. It concludes by considering some ethical issues and field challenges.

In Chapter Four, the results of the data collected and the findings of the study are analyzed and discussed to reflect the main objectives of the research.

Finally, Chapter Five presents a summary of the study and key findings emanating from the data analysis. The findings of the study suggested recommendations and further research to be undertaking. Pages were devoted for the presentations of the references and the appendices at the end of the thesis. The dedication, content and acknowledgement and the preface occupies the front page of the thesis.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents an overview of current literature concerning the research problem under study. The literature review was based on a systematic review of information from secondary sources, such as articles, journals, and other published pieces of literature. The key areas in this literature review looks at the meaning and concept of maps, the meaning of way finding, tourists socio-demographic influence on way finding, tourist's spatial knowledge of tourist destinations, the availability of spatial information to tourism destinations, the use of maps to support spatial abilities of tourists, and theoretical reviews on tourist travel behavioral intentions.

The Meaning and Concept of Map

Everything on the earth-surface occupies a particular space or area to be able to locate them. Graphical information in the form of maps are drawn to show the positions they occupy. Maps were used during ancient times for explorations. Dodge, Kitchin and Perkins (2011) emphasized that maps are representations of the earth surface drawn on a plane or flat surface. According to the Oxford dictionary (2015), a map is a 'flat representation of the earth's surface or part of it'. Maps generally provide geographical information of an area. The science behind the creation of maps is cartography. For many centuries, maps have served as communication tools for analogical thinking. This has led to the creation of numerous maps such as paper maps and digital maps of different kinds.

In this modern society, promoting tourism and travel activities could best be achieved through provision of accurate information on maps to advertise destinations. Tourists' way finding becomes a problem when tourists do not have adequate available information to locate preferred tourist sites and information on the required travel time to reach destinations. Visiting tourists' attractions involve the use of travel guides that provide information about tourist attractions. The use of travel guides comes with its own challenges, like information not updated and their complicated nature to understand content and designs. However, through advanced development in information technology, information about tourist destinations are now provided on electronic devices such as digital maps, electronic portals and magazines to provide information that would attract tourists. The purpose of these travel guides inform travelers about the location of tourist attractions and other important places in the destination (Tsai, 2010). The travel guides assist tourists to overcome situations associated with visiting new environments.

Types of Tourism Maps

Maps are either designed in a paper form or in a digital format. These include a single folded one sided or two-sided sheet map, atlases, wall maps, travel guides, advertising maps (brochures) and interactive maps (virtual). They display interesting cartographic symbols that represent features in urban areas. This is because many tourists visit cities to engage in different activities for relaxation, fun, business activities and visit friends. The large amount of information presented on paper maps make it difficult to select appropriate scales to design them. Atlases are used to design paper maps but they provide little information concerning street names and the layout of buildings to provide

adequate spatial orientation for visitors. Another important element on paper maps portray icons representing transportation points, hospitality services and tourist attractions. The information of transportation routes allow tourists to navigate smoothly in and out of the cities and to attractions. They easily becomes outdated easily, especially in fast-growing cities.

There is a difference between maps designed for sightseeing and maps used to embark on pilgrimage, city guide maps, and maps designed to promote and advertise tourist attractions. Maps designed for sightseeing are normally used by major tourist groups. They provide adequate information that are useful for exploration and getting to know scenery and cultural landscapes. On the other hand, general maps are those maps that provide detailed information about tourist destinations. The information provided on these maps guide visitors to enjoy all types of tourism activities. These maps have a scale ranging between 1:40,000 and 1: 200,000 that display relief features accurately. Different roads are grouped with different colors representing major roads and minor roads. Conventional signs are used to present pathways and bicycle lanes. Icons are used to represent natural objects such as forest areas, caves, and landforms, religious and historical buildings. Highlights are also made on interesting locations of hotels and restaurants, cafes, shopping malls, transport stations and banks.

The term “tourist map” does not only focus on cartographic representation of relief features and scenic areas for exploration. Digital maps have been designed to present spatial information on automobile devices. They are designed for tourists who use GPS sensors to locate tourist attractions in unknown areas. They contain adequate information of road networks, names of

locations, buildings, which are necessary for tourist way finding. The Internet facilitate the use of digital maps for information (Garcés, Gorgemans, Sánchez, & Pérez, 2004). Travelers are delighted to have absolute information about tourist attractions through online services. Buhalis and Licata (2002) reveal that internet services support the use of mobile devices to provide adequate information. The GPS sensors in mobile devices enable mobile users to obtain travel information about desired places. The satisfaction derived from the use of mobile devices and geographic information system (GIS) has led to the growth of mobile app usage. Appropriate navigational applications have been designed with information about tourist destinations for tourists (Shoval, Isaacson, & Chhetri, 2014)

Navigational devices such as Google maps, mobile mapping apps, GPS devices, and other navigational software enable users to explore their locations. These navigational software are made available on high technological devices with high internet speed. Navigational software installed on mobile devices allow users to critically view and select places. When the traveler reaches a destination, the navigational device provides information concerning the total distance spent, close landmarks and name of the destination (McMahon, Smith, Cihak, Wright, & Gibbons, 2015). Tourists obtain adequate information about total area covered of attractions, historical events and cultural artifacts of interesting places in the destination.

Maps are distinguished on the basis of its content and the kind of information the map users need. Therefore, a proposed definition of tourist map explains that, tourist map constitutes a graphical representation of an area presented on a flat surface, with specific calculations meant to ensure good

orientation of an area and provides accurate distance to destinations (Iacono, Krizek, & El-Geneidy, 2008). Such a map should have eligible contents about types of roads, vegetation types, landforms of the given area and other items of special interest such as museums. Important landmarks should be presented with conventional signs to achieve its intended usage. A comprehensive categorization of tourist maps considers the nature and purpose of tourism, the scale of a map, contents of a map, area of location, and the type of features to be presented with conventional signs. The format of a map is another characteristic to look out for in relation to the practical use of such cartographic material (Jancewicz, & Borowicz, 2017).

The Use of Maps in Ghana

Maps are used to store data in many institutions but its application is limited to few government agencies in some African countries (Koufie, Moller-Jensen, Lettu & Allottey, 2013). This has made it usage to be practiced by interested persons but overlooked by others. This situation is seen common among many Ghanaians (Koufie et al., 2013). The use of maps become important only when there is the need to settle land disputes. During such situations, clients seek for the assistance of surveyors to explain the correct size and ownership of land. Map reading and interpretation is only taught to students that learn geography at the secondary school or tertiary level. Little attention is given to other students to also learn the concept of maps to explain features in the environment. This has contributed to poor interest in making use of maps.

In Ghana, the poor attitude towards designing and storing maps that represent tourist destinations and other landscapes has been minimal since 1954. This problem was as a result of the Public Records and Archives Administration

Department's failure to have adequate funds for production and update of maps. This became a hindrance to make more maps. Again, a fire outbreak at the offices of the Survey and Mapping Division of Lands Commission also led to a major loss of spatial data of most areas in the country (Koufie et al., 2013). Accurate maps were designed from a spatial data acquired in 1972. The Environmental System Research Institute (2013) provided assistance to use these data to develop geospatial data for planning and making important decisions. Useful materials were provided by ESRI on introduction of map designs to guide beginners in applying geographical information systems to design appropriate maps. This served as the basis for introduction of modern maps or cartographic works to design different kinds of maps to be produced for specific purposes (ESRI, 2013).

With the current pace of modernization, there is the need to make use of geographical information systems to explain human activities. According to Krygier and Wood, (2016), poor spatial ability among visitors is due to the lack of well-designed maps, unnamed streets, and poor addressing systems. More awareness must be given to map designs to explain features in the environment. For example, the Ghanaian government in its developmental contributions to ensure digitization of official services has introduced Ghana's national digital and property addressing system. This has come to make use of digital systems that promotes geographic information systems to locate places. The introduction of Ghana Post GPS addressing system is a modern approach of allocating addresses within a defined space with the aid of a geocoding technology (Abebrese, 2019).

The system works irrespective of the changes in borders and the environment of the individual. It has come to formalize the Ghanaian economy and to transform and improve business activities in the country. Over the years, Ghanaians were accustomed to using landmarks as the means of giving directions of the locations of property, for example; behind the blue kiosk and the big tree at the junction. This system has brought a helping hand to the location and addressing problems confronting the tourism industry. It has changed the way visitors become stressed out in finding desired destinations. It has also improved ownership data and unique identification of properties and persons (Ofori-Atta, 2015).

The Use of Maps to Support Tourist Way Finding

Dasgupta (2012) declares that geography explains the relationship between the world and human existence, hence there must be adequate information to inform people about the world. Maps are representative designs on a screen to explain the various features found within the environment and to improve spatial awareness among visitors in a new place. The use of maps have become a necessary activity to improve the capacities of visitors in mapping their environment (Krygier & Wood, 2016). Castaldini, Valdati and Ilies (2005) criticized that tourist maps should be convenient to all tourists irrespective of their educational backgrounds to facilitate way finding in their surroundings. If tourist maps are difficult to understand, it becomes difficult for tourists to access tourist sites. This gives rise to ineffective user satisfaction and spatial inabilities.

Maps are tourism products that directs visitors to move around (Lau and McKercher, 2006). They become useful tools to depend on when making travel plans, transportation routes, and business activities, places to enjoy leisure, or

exploration since they provide the necessary geographical references. However, tourists' ability to orientate a new environment depends on their way finding strategies (Darken & Peterson 2014). The content and design of maps helps to understand the relationship between tourist's spatial abilities and the map they use (Krygier & Wood, 2016). Well-designed maps provide clear pictures of the destination and makes it easy to explain present location as indicated on maps. On the other hand, maps with poor designs make it difficult for tourists to read and relate objects in the physical environment (Kopf, Agrawala, Bargeron, Salesin & Cohen, 2010). Bailey, Smaldone, Elmes, and Burns (2007) noted that effective map reading and interpretation of geographic information is affected when maps suffer from poor designs. Tourists become unhappy to use such maps because of its limited potential.

Maps have been emphasized to promote efficient navigation in cities. Maps provide appropriate tools that informed decisions about where spatial phenomena or resources are located and why they occur. Locating attractions takes a lot of time to identify correct paths that link destinations. Dangermond (2012) emphasized that tourists take into consideration a number of consultations to identify the appropriate location of attractions. Dangermond was stressed on the use of information mediums like Geographic Information Systems to discover important places in the world. Unfortunately, Chang (2015) in his study revealed that visitors who use GPS devices get lost easily and commit navigational errors as compared to visitors who use only paper map and signage in during way finding. There is a high possibility for GPS users to use a survey-based way finding strategy, while paper map users may choose route-based strategy (Chang, 2013). Ishikawa, Fujiwara, Imai and Okabe (2008)

explains that visitors who use paper maps to locate their desired destinations complete their way finding task early than visitors who use GPS, or local-signage.

Again, the issue of map reading is different among many tourists which makes tourists rely on verbal description or ‘word of mouth’. This type of way finding strategy is described by Gartner (2012) as "acoustic" or “semantic descriptions”, instead of following directions on a map. Gartner clarifies that people are not able to identify the starting points of a route to where it ends as a result of poor settlement pattern or layout of a destination. Using a well-designed map feeds the individual with clear information and allows the individual to act in space properly. When tourists are well informed about the things to expect in a destination, they would be much prepared on how to adapt to new environments.

According to Sigala, Christou, and Gretzel (2012), the use of new information systems have changed the way tourists search for information about places of interest. This has encouraged some mapmakers to allow public users to provide information about events or features that occurred in their environment. Volunteers provide Information of important places in the world such as festival celebrations, sporting activities, tourism destinations, first-class restaurants and hotels, important roads and travel routes to sceneries in a region that provide information to tourists and visitors (Gray & Ridout, 2012). Google maps are the predominant geographic information platforms that allow people to add information, review and moderate its data system (ESRI, 2012). Google maps also allow user to design their own maps that specifies travel routes and 2D-3D images of the destination (ESRI, 2012).

Tourists Spatial Cognition (Knowledge) of tourist destinations

It cannot be refuted that locating places of interest in a new destination, example; car parks, restaurants, hotels become possible when an individual's ability to locate them depends on adequate knowledge of the area and layout pattern of the environments. Tourists require adequate knowledge to complete their spatial task such as way finding. Spatial knowledge is acquired through an individuals' contact with the immediate environment that equips them to remember and understand the pattern and features, and the linkages between the features found in the destination (Catney, Frost & Vaughn, 2019). The characteristics of the destination are important elements to direct human activities such as temporary visits, rural-urban migration, settlement and business activities. These characteristics of the destination includes location, size of the area, distance of the area, directions to the destination, link between towns and villages, shape, settlement pattern and routes paths. Visitors depend on the created mental image of the destination to remember routes and follow the correct paths to their destinations in an unfamiliar urban environment (Mondschein, Blumenberg, & Taylor, 2013).

Nearly all tourist activities make use of the layout of the environment, causing tourists spatial cognition to be an important navigational skill for tourist activities (De Goede, 2009). The concept of spatial cognition answers questions on individuals' acquisition of spatial knowledge concerning tourist destinations, how people navigate and stay oriented in new environments, the similarities and differences involved in processing spatial knowledge among individuals. Spatial cognition (knowledge) looks at converting, arranging, combining,

collecting and making use of spatial information provided on a two or three dimensional material (Keller, Gerjets, Scheiter, & Garsoffky, 2006).

Tourists' spatial ability to navigate through a new environment, leads to effective way finding in new environments. Tourist's spatial abilities takes into consideration tourist geographic knowledge and their way finding abilities. The geographic knowledge of the tourist consider the skills that equip visitors to gather appropriate information about a destination before visiting (AlKahtani, Xia, Veenendaaland, Caulfield, & Hughes, 2015). The geographic knowledge of visitors involves adequate skills to read tourist maps efficiently, understanding the spatial distribution of touristic features such as roads, transport systems, hospitality services and the distance that exits between them. (Wakabayashi, 2013). Geographic knowledge provides tourists with a special geographic sensation or cognitive ability.

Again, cognitive mapping involves how people recognize features in the environment to find their routes. The knowledge of the spatial environment provides a basic aspect of achieving human spatial information needs (Frank, Bittner & Raubal, 2001). Relevant works of literature contended that environmental forms encourage an understanding of accurate mental image representations of a place to avoid anxiety. An in-depth study by O'Neil, John and Clive (2000) revealed that adequate knowledge of an environmental pattern is associated with an efficient way finding performance. O'Neil et al, further explains that, the structural pattern of a destination contributes to way finding and influences the ability to understand sketch maps. Dalton (2003) argues that people with enough information about their environment find their way to desired places with no burden. In a broader sense, adequate knowledge of the

actual distance and direction of a destination, serves as an advantage to individuals who want to reach their destination early.

The Meaning and Concept of Way-Finding

Way finding involves identifying and using appropriate routes found between places of origin and a desired destination through the use of important signals in the environment (Farr, Kleinschmidt, Yarlagadda, & Mengersen, 2012). The effectiveness of this process depends largely on the interaction between the individual's spatial ability and nature of environment. Spatial ability refers to a person's effort to understand their immediate environment through cognitive abilities (Lawton, 2010). The selection of an interesting destination is based on a number of reasons, such as distance and accessibility to a destination. Another component in the way finding process is adequate orientation of the area. Lynch (1960) established a relationship between an individual's spatial orientation and their physical environment. Spatial orientation considers an individual's ability to create cognitive map (Arthur & Passini, 1992). Vandenberg, Hunter, Anderson, Bryant, Hooker and Satariano (2016) emphasize that cognitive mapping is a union between the mind and the environment, whereby an individual initially internalized features to reflect space in their thought and make use of the information in the future to determine their location. Spatial orientation, cognitive mapping abilities, route strategies, language, culture, gender and other biological factors contributes to effective way finding decisions developed from maps to identify a desired destination (Vandenberg et al., 2016). The decisions made from maps are transformed into actions in order to locate a desired destination.

Way-finding and navigation could be seen as the same activity but there is a difference between them. Way-finding looks at how people locate route paths or walkways in their environments, while navigation refers to the appropriate procedures through which people make use of route navigation, landmark navigation, and map navigation to their destinations. The ability of visitors to identify routes are relevant skills to easily access tourist attractions and other recreational centers (Dogu & Erkip, 2014). Way-finding involves the process of trailing from one place to another. Effective way finding manages time and helps to identify appropriate routes that leads to desired places. Visitors are allowed to make use of appropriate route patterns to enjoy interesting activities at various tourist attractions (Xia, ArrowSmith, Jackson, & Cartwright, 2008).

Jansen- Osmann and Fuchs (2006) clarify three types of knowledge used in way-finding. These are landmark knowledge, route knowledge, and survey knowledge. Landmark knowledge involves making use of an important location that serves as a reference point that is identified easily (Belingard, Péruch, & Thinus-Blanc, 2000). Landmark knowledge confirms the location of a destination and connects routes of desired destinations. Cornell, Sorenson and Mio (2003) explains route knowledge as the process of creating a sensory path linked to a known landmark. A good example of a route knowledge is the use of Google maps that explains when to turn right or left at the traffic light. Many first-time visitors face difficulties in keeping track of their current location and orientating themselves in different environments. It is likely that first time visitors spend time and more effort to figure out spatial information to add up as survey knowledge and environmental information about their surroundings.

Such information could be derived from prominent landmarks. These could be architectural elements, such as buildings, sculptures, and signage. Survey knowledge of a destination is developed through visualization of information to represent features in the environment (Tversky, 2003). All information derived from the survey knowledge could be utilized in route planning (Belingard, Péruch, & Thinus-Blanc, 2000). Tourists' characteristics (age, gender, education) may influence effective spatial knowledge. A good example is tourists' educational level which could affects knowledge of the area, while gender and age affect on way finding (AlKahtani, Xia, Veenendaaland, Caulfield, & Hughes 2015).

However, some visitors may not be familiar with their environments or sometimes may not desire to spend time looking at the details of a destination. Familiarity with the environment also defines the strategy to use during way finding tasks (Holscher, Buchner, Brosamle, Melinger, & Strube, 2007). Xia, ArrowSmith, Jackson and Cartwright (2008) found that the use of landmark is a factor of familiarity with new destinations. Sequential landmarks such as footpaths are commonly used by tourists in unknown areas (Xia et al., 2008). Research by Xia, Packer, and Dong (2009) revealed that tourists who are familiar with an environment do not make use landmarks.

Tourists Socio-demographic Influence on Way finding Ability

The study reviewed a number of literature that considers socio-demographic as possible determinants of different tourist's travel intentions and way finding strategies to tourist attractions. The travel distance variables, spatial pattern characteristics, socio-demographics; safety, convenience, and accessibility as cited by Nutsugbodo, Amenumey, and Mensah (2018), have

been identified as key factors in determining tourist way-finding strategies. These studies have argued that socio-demographic variables have an influence in tourist way finding task and travel intentions. The age groups of tourists are major variables that have a great influence on way finding strategies (Glover & Prideaux, 2009). Consequently, access to information about tourist attraction are changeable from one age group to another (Tham, Croy & Mair, 2013). The level of physical ability (strength and endurance), cognition abilities (knowledge or information acquisition), financial status, experience and the interest for adventure are determined by the age of tourists. Route memory which involves the use of spatial information and layout arrangement is sensitive to age. Older visitors have a limited view of the environment than young and adult visitors.

They only remember the key landmarks of an attraction site but they face challenges with the complex aspects of a layout (Lipman & Caplan, 1992). With regard to age differences, Kirasic (2000) reported that adults perform better than older adults on different spatial tasks such as recalling specific information about the layout of a tourist site. Furthermore, Iaria, Palermo, Committeri, and Barton (2009) found that decreased efficiency information of mental visualization is likely a contributor to poor navigation of older people. Travel patterns changes from the adolescence stage through adulthood to old aged. Simma and Axhausen (2003) reveals that younger and older tourists travel less than do those between 25 and 50 years. Those above 60years enjoy assistance from tour guides, friends and family, since they are very reliable and comfortable to be. These findings are laudable because the aged are usually not physically strong and might not be able to withstand the stress associated with

searching for a destination. Hence, they would prefer to opt for assistance that would ensure their safety, comfort and convenience.

Again, the educational level of tourists influence their travel behaviors. According to Pyo (2005), geographic knowledge enables educated tourists to be well informed about tourist attractions and make use of previous knowledge to access tourist destination during subsequent visits. Tourists' geographic knowledge, such as map reading and appreciating physical conditions of the attraction and human attributes of the destination varies according to their education levels. Tourists who are more educated find their way easily to a destination through their ability to read and understand maps, signpost and route paths. Tourists are prepared to adapt with inconveniencies that do not relate to their expectations. Their knowledge about accessibility remains effective than those who lack adequate geographic knowledge of the destination.

Recent studies have investigated the role of gender in tourism behavior from different viewpoints. Collins and Tisdell (2002) explained the travel patterns of outbound Australian travelers according to both gender and purpose of visit, which revealed that gender was a major determinant of travel demand. The travel patterns between men and women was very wide in accordance to the purpose of travel. Men are eager to travel more often for business and work related activities, whiles women visited more often for leisure and other purposes. The personality of visitors had a significant relationship with gender and the travel intentions to visit tourist attractions (Frew & Shaw, 1999).

Furthermore, the attractiveness of a destination determines the interest of travelers to visit a place. Male and Female tourist are encourage by the attractiveness of a place to visit for pleasure, spend time with friends and engage

in athletics or entertainments. Bigné, Andreu, and Gnoth, (2005) identified a significant difference between female and male tourists in relation to their travel intentions. It was revealed that males enjoy visiting places of interest for entertainment and other recreational activities whilst females visit calm places for relaxation and spend time alone. Over all, Females have stronger intentions to travel than males (Bigne et al, 2005). Different motivational factors, spatial behaviors and social background of male and female tourists make it possible for travelers to encounter challenges with access to information about attractions. In contrast, gender differences significantly determine way finding strategies in tourism activities.

The navigational strategies used for way finding also differ with regards to gender. Men seem to prefer the use close features such as hill lines that give information on orientation and direction in an environment (Barkley & Dye, 2007; Chai & Jacobs, 2009). In comparison, women depend on exact features such as landmarks to identify a visual scene and form spatial orientation (Chai & Jacobs, 2009; Lawton, 2010). Men perform very well accurate in navigating tasks when directional information is given (Chai & Jacobs, 2009; Lawton, 2010). However, women have a better object memory and object-location memory than men (Levy, Astur, & Frick, 2005). Some people find it easier to find or locate specific places than others (Anacta & Schwering, 2010). Additionally, the language used to communicate directions affect a person's ability to successfully form spatial orientation, and hence undertake successful way finding. Different people prefer or respond to one or more of cardinal directions, clear route instructions, exact distances or others prefer approximations based on landmarks (Anacta & Schwering, 2010). Using verbal

directions instead of maps can cause the formation of spatial orientation, but could be coupled with inconveniencies (Montello, Waller, Hegarty, & Richardson, 2004).

Lawton (1994) in his study explained that females feel insecure in a new environment unlike men during way finding. Several factors influence tourists' way finding in a new environment. These include; the complex spatial pattern of the destination, unavailable signpost and street names, poor accessibility to attractions, familiarity of the destination, and the rate at which people visit such destinations. For instance, the different spatial abilities and travel intentions between males and females tourists, may affect the choice tourist attraction to visit. Harrell, Bowlby and Hall-Hoffarth (2000) discovered that males possessed adequate knowledge of geographical maps and understand maps than females. Simma and Axhausen (2003) also observed that females prefer having way finding assistance to avoid any inconveniences.

This is because females lookout for comfort, safety, and convenience of a place before they visit. Although males on the other hand would lookout for similar considerations, it would not be as critical as their female counterparts. Females consider easy access and mobility to tourist destinations. Bosco, Longoni and Vecchi (2004) reported that, even though there is no significant difference between males and females in orientation task performance, they use different strategies for way finding. Studies on using verbal descriptions of a route revealed males make use of the settlement structures or patterns to reach their destinations. For instance, they make use of the cardinal positions and the distances that exist between places of interest. Females however depend on landmarks to identify their places of interest. A survey analysis conducted by

Lawton (1994) explain that males make use of the surveying approach to study the environment by making use of spatial properties to identify accessible routes. Females on the other hand use the route survey to explore landmarks. The approaches between males and females explain the different way finding abilities adopted to locate attractions. Males are likely to use survey strategies, which are usually more efficient than landmark strategies (Saucier, Green, Leason, MacFadden, Bell, & Elias, 2002).

The differences between various travel groups also affect the usage of landmarks. It is very rare to identify individuals make use of signpost or directional signs as compared to other travel groups. Couples enjoy making use of signpost than other types of groups to do so (Xia, Packer & Dong, 2009). Also, tourists visit tourist destinations from different continents of origin. Tourists' attractions in Cape Coast and Elmina welcome visitors from various part of the world. Available studies examined different travel motivations and visitors transport choices to a destination. Hough and Hassanien (2010) in their study identified a significant difference on the choice of transport between Chinese and Australian tourists visiting Scotland. There was a significant relationship between the two countries of origin, which support the fact that continent of origin is a determining factor of travel intentions aside other socio-demographic variables. Various studies differentiate tourist behavior by country of origin.

Availability of Spatial Information to Tourism Destination

The introduction of digital maps to aid travelling activities and provision of information about places of interest has led to a gradual shift for paper maps usage in tourist activities Xiang, Wang, O'Leary, & Fesenmaier (2015). As

such, McMahon, Smith, Cihak, Wright, and Gibbons (2015) questions that 'do conventional paper maps and guidebooks contain adequate spatial information for tourists'? Available literature does not aim at analyzing the benefits of paper maps usage against the use of digital maps. Instead, attention is given to tourist attitudes towards the spatial information available on these maps. The issue of spatial information gaps is a problem for both printed maps and digital maps (Cartwright, Crampton, Gartner, Miller, Mitchell, Siekierska, & Wood, 2001).

In an analysis conducted by Sawyer (2007) on available maps on the websites of World Heritage Cities, it was reported that few maps were interactive and user-friendly. Tourists are motivated to travel when the spatial environment of the destinations is very familiar (Lau & McKercher 2006). This occurs when much information about the destination are provided. Present theoretical perspectives in relation with previous studies in psychology and geography, argues that how information is presented symbolically may influence how people think about the destination, (Ramkissoon & Uysal, 2011). Examples of these studies include the age differences between children and adults on the use of maps. Effective map designs provide efficient spatial information to enhance geographic knowledge of a destination.

The ultimate aim of a map is to provide readable information to travelers irrespective of their backgrounds. People may be exposed to different sources of information about a destination but it does not mean that they understand, or have explicit access to the knowledge of the environment (Uttal, 2000). The understanding of spatial environment existing independently of our experience comes about because of exposure to maps. Besides, maps affect how we think about spatial information; maps lead people to think about space in more

abstract and relational ways than they would otherwise. Therefore, when maps and other mediums of spatial information are not available for visitors, their sense of way-finding and orientation of the new environment is limited.

Theoretical Reviews on Unified Theory of Acceptance and Use of Technology

There has been a number of studies examining the factors affecting behavioral intentions and acceptance of computer technology over the past years. Relevant studies have been conducted on the acceptance of technology used by people who are engaged in tourism activities. Different theoretical frameworks have been adapted to explain the acceptance and use of technology. The several ones used are technology acceptance model, theory of planned behavior and theory of reasoned action which are used to investigate traveler acceptance for mobile technologies. The common one mostly used to investigate information technology or systems is the technology acceptance model (Chauhan & Jaiswal, 2016). This type of technology acceptance model makes use of components such as perceive ease of use, perceive usefulness and attitudes to measure acceptance of a behavior. Kim, Park, and Morrison (2008) used the theory of acceptance model to determine the factors influencing tourist acceptance of mobile devices. Their results revealed that travel experience and technology experience significantly influence perceived usefulness and perceived ease of use.

There was a significant relationship between travelers' attitudes towards using mobile devices and their intention to use them for tourism activities. Research studies reveal that information systems that provides accurate output determine the satisfaction level of its users. Visitors become more satisfied with

information systems which have efficient and reliable outputs (Petter & McLean, 2009). Relevant literatures also argue that the efficient outputs from information systems affects their perceived usefulness and perceived ease of use. They also determine the behavioral intentions to use information systems (Chiu, Lin, Sun, & Hsu, 2009). In 2010, J. K. Lee and Mills conducted a survey to evaluate the factors influencing mobile users' satisfaction and purchase intention in the tourism industry. The results of their study explained that the degree of perception and perceived value are key factors affecting mobile travelers' satisfaction with their mobile experiences.

There have been criticisms about the relevance of the technology acceptance model based on its measuring components of behavioral intentions. Sánchez-Prieto, Olmos-Migueláñez, and García-Peñalvo, (2016) argue that the technology of acceptance model is handicapped on adequate insight about individuals' perspectives of novel systems. Thus, it ignores the relationship between usage attitude and usage intention. In their search for a complete acceptance model of information technology to address the weaknesses of the technology acceptance model, a new integrated framework known as the Unified Theory of Acceptance model was proposed by Venkatesh, Morris, Davis, and Davis (2003). This framework could explain 70% variance of users' intentions. The results from the empirical study explained that the unified theory of acceptance of technology (UTAUT) framework plays a significant influence on the use of information technology during navigation. A significant intention determines the individual's acceptance and usage of technology for navigation in an unknown environment (Mafé, Blas, & Tavera-Mesías, 2010). The unified theory of acceptance and usage of technology is made up of four

determining components of behavioral intention and usage such as performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh, & Davis, 1996). Gender, age, experience, and willingness to use are the moderators that affect usage of technology. Chao (2019) clarify that adding more external variables can enhance UTAUT model's ability to predict the acceptance of information technology. Several variables such as self-efficacy, trust, habits, satisfaction and perceived risks are among the recommended variables to complement the original UTAUT model. For example, Kabra, Ramesh, Akhtar, and Dash (2017) incorporated personal innovation specific to information technology and trust into the UTAUT model to evaluate the factors that influence users' behavioral intentions to use Information technology. Khalilzadeh, Ozturk, & Bilgihan, (2017) included self-efficacy, risk, trust, security, and attitude to evaluate the factors that influence users' behavioral intentions to make mobile payments. Chao (2019) posited that perceived enjoyment is a critical factor that explains e-learning adoption.

In this research study, the UTAUT model serves as the underlining theory for the study to evaluate the influence of navigational aids (maps) on tourist spatial abilities and way finding strategies to locate tourist attractions in Cape Coast and Elmina. The variables used in Unified theory of acceptance and use of technology was adapted to assess the effectiveness of maps in tourist way finding to attractions in Cape Coast and Elmina areas in Ghana. The framework does not only explain the acceptance of an Information technology or systems, but also reveals the extent of use of technologies and systems.

The modified extension of the UTAUT model would be tested empirically by adding variables such as perceived satisfaction and value, age,

gender and level of education to predict the tourist behavioral intentions towards using maps (navigational aids) to locate tourist attractions in Cape Coast and Elmina. The use of the UTAUT model to investigate tourists perception of maps (navigational systems), would prove very important since it could serve as a reference point by stake holders in the tourism industries to design appropriate way finding tools to guide tourist who visit Ghana.

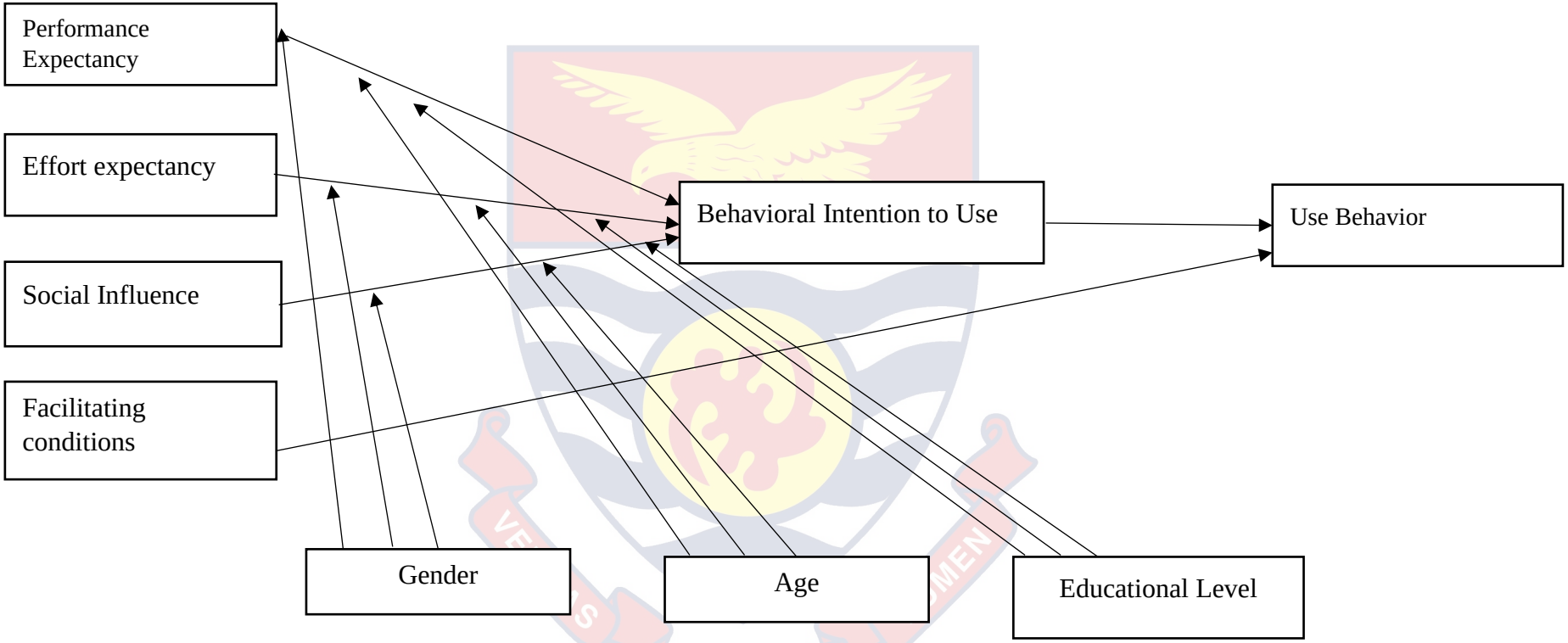

***Figure 1*: A Graphical illustration of Unified Theory of Acceptance and Use of Technology**

Source: Venkatesh, (2003)

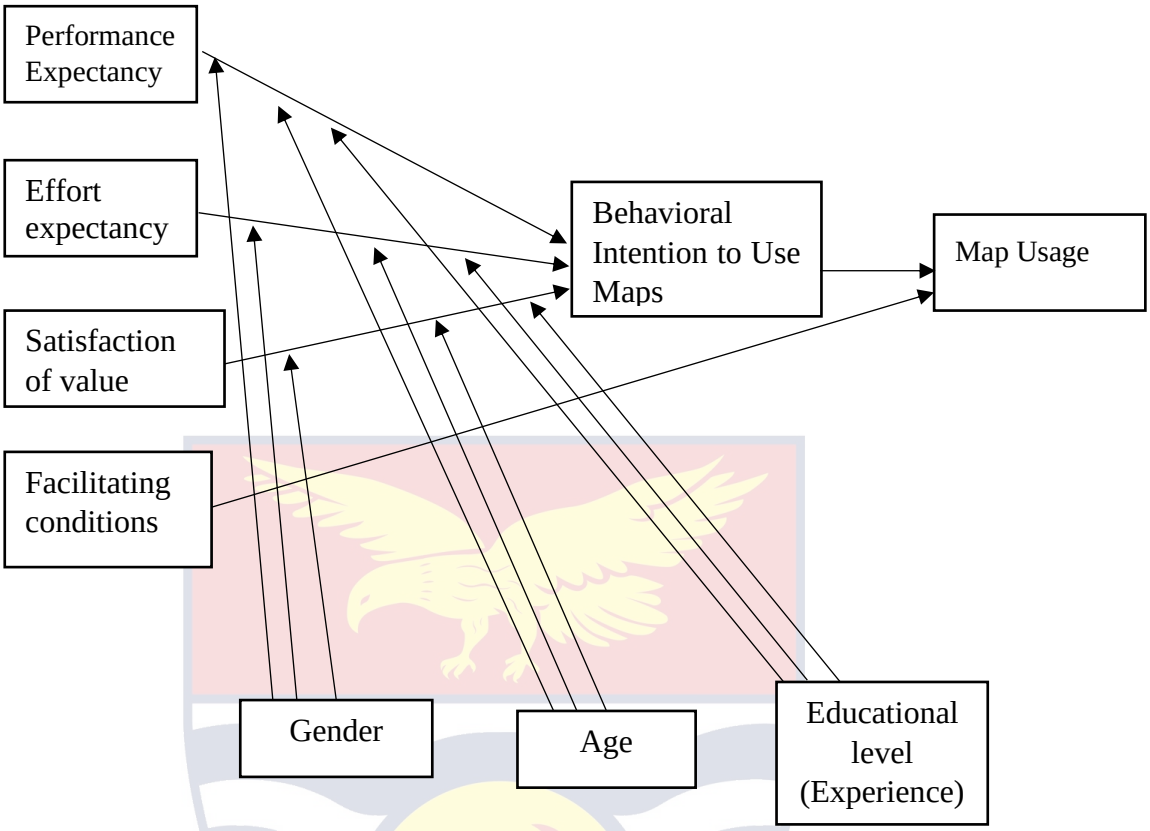

***Figure 2*: An Adapted Unified Theory of Acceptance and Use of Technology Framework**

Source: Adapted from Venkatesh (2003)

The components used in the conceptual framework for the study are explained as follows;

Effort expectancy

Effort expectancy is a variable used in the UTAUT model which plays an important indicator of technology acceptance. According to Venkatesh and Davis (1996), Effort Expectancy is "the degree of ease associated with the use of the system." According to Cimperman, Brenčič, and Trkman, (2016), the determinants of effort expectancy are ease of use, complexity, and perceived ease of use. In the present study, perceived effort expectancy represents tourists' beliefs regarding the ease of use (effectiveness) of navigational aids. Effort

expectancy denotes tourist beliefs regarding whether the use of navigational tools will bring about significant difference of tourists way finding abilities

Performance Expectancy

Performance Expectancy as introduced in the UTAUT model refers to the degree to which an individual believes that the system helps to improve job performance." Venkatesh, and Davis (1996) revealed that performance expectancy is the strongest determinant of a user's behavioral intention to adopt a technology. Khalilzadeh, Ozturk, and Bilgihan (2017) clarifies that performance expectancy and expected effort are direct determinants of behavior intention. The present study measures how the performance expectancy and effort expectancy affects tourist behaviorial intentions to use maps.

Behavior intentions

The degree to which a person has formulated conscious plans regarding the decision to perform a specified future behavior, is termed as behavior intentions. Intentions often predicts a behavior. An individual's intention to participate in a type of activity is determined by their intended benefits (Kwok & Gao, 2005).

Attitude of use vs. intention of use

The entertaining aspect of mobile devices and their effectiveness contribute to positive intentions towards their use (Kim et al., 2008). Findings from the study of Kim et al., (2008) revealed that the significant relationship between technology and travel experience affect perceived ease of using mobile devices. Daugherty, Eastin and Bright (2008) believed that attitude is important when participating in activities, because it brings about the intention of use with regard to its users.

Perceived behavior control vs. intention of use

Perceived behavior control explains an individual's limitation in performing a particular behavior. Ramayah, Rouibah, Gopi, and Rangel (2009) observed that in using technology information products, an individual's degree of control can affect the intention of use for them along the line of service. San Martín and Herrero (2012) noted that the degree of behavior control of managers can directly affect behavior intention of consumers or users.

Value of satisfaction

Value of satisfaction are important factors that determine individuals' behavioral intentions to use information systems or information technology (DeLone & McLean, 2016; Kabra et al., 2017). DeLone and McLean (2016) defines satisfaction as "users' level of satisfaction with reports, web sites, and support services." Maillet, Mathieu, and Sicotte, (2015) indicated that effort expectancy and performance expectant have significant relations on satisfaction. In addition, Shiau and Luo (2013) suggested that perceived enjoyment of an information system is significantly influenced by satisfaction. Therefore, tourists' satisfaction with maps (navigational aids) may not be only influenced by cognitive abilities of understanding maps but also by emotional experience (e.g., perceived enjoyment, reliable). This study investigates whether tourists' value of satisfaction is affected by age gender and level of education to use navigational aids to locate tourist attraction.

Chapter Summary

In conclusion, the literature gives a clear definition of maps, as a two-dimensional representation of spatial objects or features of the earth's surface supported by cartographic science. The chapter indicates how technological

advancement has introduced digital maps that easily provide information to tourists. Bailey, Smaldone, Elmes, and Burns (2007) noted that some maps are not reliable and effective in communicating geographic information due to poor content and designs. If maps that serve as sources of information to visitors in unknown areas are difficult to read and understand, then it fails to advertise an interesting place to the world. The study adapted the unified theory of acceptance of technology to measure tourists' behavioral intentions to use navigational aids such as maps, landmarks, route path and digital maps to locate tourist destinations. Familiarity with the environment and the provision of information on maps with good content and design encourages tourist to visit a destination.

CHAPTER THREE

METHODOLOGY

This chapter deals with the methodology employed, from data collection to data analysis. The chapter starts with the research design adopted and the

philosophy guiding the work. The chapter also discusses the study area which gives a detailed account of the areas studied and the reasons for choosing them. In addition, the chapter discusses the target population and the techniques for deriving an appropriate sample size and techniques for sampling. Also, different data collection techniques used in gathering data from sampled respondents are discussed with the various data analysis methods explained. Lastly, the chapter explains the ethical issues considered in conducting this research.

Study Area

Central Region is one of the sixteen administrative regions of Ghana. It is bordered by Ashanti and Eastern region to the north, Western region to the west, Greater Accra region to the east, and to the south by the Gulf of Guinea. It is located at latitude 5.5608° N, and longitude 1.0586° W and covers an area of 9,826 km². The region's economy is dominated by services followed by mining and fishing. The region is renowned for its many elite higher education institutions such as University of Cape Coast, Mfantsipim School, and Cape Coast Technical University. Central region has many tourism assets such as castles, forts, beaches, hotels and restaurants that attract a lot of people. The people of this region are 'Fantes' with Cape Coast as it Capital town. The people of Cape Coast celebrate 'Oguaa Fetu Afahye' every second Tuesday in the month of September each year. Interesting entertainment centers such as ''Becky Kay" restaurant, Hutch Land City, Solace Spot, Oasis Restaurant host a lot of visitors during this period. The region also have transport stations that allow bus drivers to move their vehicles in and out of the region and to other parts of the country. Visitors who visit Cape Coast are sent to the transport yards before leaving to their desired destinations. Tourists come each year to visit

ecotourism and heritage sites. These include; Cape Coast and Elmina Castles, Fort Williams, St. Jago forts, Fort Amsterdam, Kakum National Park, International Stingless Bee Center and Boabeng-Fiema Monkey Sanctuary.

The European merchants built the Forts and Castles when they first arrived in Gold Coast (Ghana). Cape Coast Castle and Elmina Castle have been designated as prominent World Heritage Sites by the World Heritage Foundation (World Heritage Sites, 2015). They are well-preserved sites that must be visited by anyone visiting Ghana. For the purpose of this study, the purposive sampling procedure was used to sample tourist sites that are frequently visited within the Central Region. These specific areas were Cape Coast and Elmina. The tourist sites were Cape Coast Castle, Elmina Castle, and Kakum National Park. This was because previous studies suggest that, there have been situations of high or less tourist's arrivals at several destinations. This is as a result of some tourist sites receiving more visitors than others (Amanquandoh, 2017). The Cape Coast Castle is located at the southern part of Cape Coast whilst Elmina Castle is found 10 km west of Cape Coast. Kakum National Park is one of the popular forest reserves in Ghana characterized by its moist evergreen rainforest. The 375 sq.km National Park is situated about 30km north of Cape Coast, and about 170km from Accra.

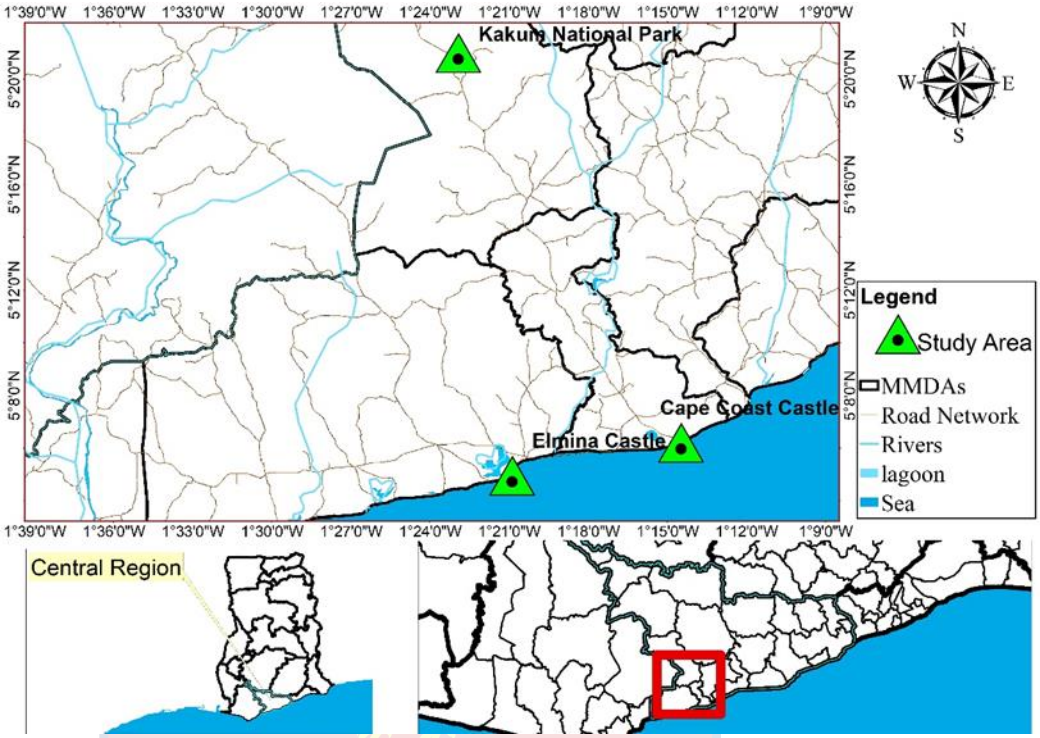

***Figure 3*: A Map showing the Study Areas for the Study**

Source: GIS and Cartographic Unit, Department of Geography and Regional Planning (2019).

Research Design

According to Sarantakos (2005), research design helps to introduce systematic approach that enables a researcher to assess all aspects of the study in a logical process. The research design for the study was based on the premise that an exploration is needed to have in depth knowledge or explanation of a phenomenon (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Specifically, the study adopted the concurrent mixed method design. Concurrent mixed method is a type of research design that combines quantitative and qualitative methods to explain a phenomena understudy. The study combined quantitative and qualitative approaches to explain tourists' perception of tourist maps in tourism activities in Cape Coast and Elmina area. Priority was given to both

methodological approaches, to effectively cross validate information on the use of maps as a travel guide to tourism destinations.

The goal of the mixed method design, was to adequately gather much information from tourists and operating managers on the perception of tourist maps in tourism activities, by comparing and contrasting qualitative and quantitative results. Tashakkori and Creswell (2007) explains that data triangulation promotes validity and compliment findings, which formed part of the relevance of the study. Data was collected concurrently and was followed with an analysis. This was done to overcome the weakness associated with using only one method. The concurrent approach would provide detailed explanations on the factors that affect tourist way finding abilities and the types of maps available to effectively support tourists' navigation to destinations in Cape Coast and Elmina. Findings from this study, would comprehensively explain and provide a clear understanding of why much attention is not given to the design of tourists maps to promote marketing tourism activities

Research Paradigm/ Philosophy

The adoption of the mixed method approach in the study combined two research philosophies (positivism and interpretivism). For this reason the study was guided by the Pragmatic research philosophy. The pragmatist considers words and thoughts as tools and instruments for prediction, actions and problem solving. Pragmatists recognize that there are many different ways of interpreting the world and undertaking research, hence no single point of view can never give the entire picture of a problem. Therefore, the pragmatist use proper combination of research approaches to answers research questions within a single study in the best possible time.

The research questions and objectives of the study, compelled the researcher to use both the positivist and interpretivism approach to investigate factors affecting tourists' spatial abilities and way finding strategies to locate tourist attractions in Cape Coast and Elmina area. Sometimes the positivist approach is referred to as quantitative whilst the interpretivist approach is also known as the qualitative method (Sogunro, 2002). The qualitative approach relates to the interpretivist paradigm which deals with interpretation and understanding of reality. Reality is subjective as peoples view of reality can differ. The first objective of the study was tackled with an interpretivist approach (qualitative) whereby tourist managers were interviewed on the types of maps available to guide tourist to locate an attraction. The interpretivist approach allows posing of questions designed to elicit answers that quantitative research cannot pursue easily.

The positivist approach (quantitative) was used to investigate the types of maps used by tourist and its effectiveness for navigating tourist attractions. Also, it was used to gain more knowledge on the factors that affect tourist abilities to locate tourist attractions in Cape Coast and Elmina area, Ghana. This approach is more objective than the interpretivist approach. If the study had been restricted to the interpretivist approach only, an in-depth knowledge would not have been available to explain the factors that affect tourist way finding abilities. Priority was given to the qualitative part of the study, and the findings were integrated during the phase of quantitative analysis.

Population

The population of the study consist of leisure tourists and adventure tourists' presents at Elmina Castle, Cape Coast Castle and Kakum National park

within the months of March and May 2019 during the data collection phase. The population also included managing directors at Cape Coast Castle, Elmina Castle, Kakum national park and Ghana Tourism Authority. Tourists' arrivals in previous years recorded a total of 140,506 in 2018, against 111,297 in 2017 of foreign and local tourists. Tourist who visited Cape Coast castle were 74,988 whilst tourists who visited Elmina castle were 65,518 in 2018. Foreign students mostly visit attractions in Cape Coast and Elmina area. The facilities in the study area records not less than 11000 foreign and 4000 local visitors per month. In this study, all foreign tourists and local tourist were engaged in the study. Tourists who came with tourism agencies and tour guides were excluded from the study.

Sources of Data

Data was obtained from both primary and secondary sources of information, because the use of these multiple data sources support a more conclusive and accurate conclusion, unlike when a single source of evidence is used (Yin, 2003). The primary data includes interviews of managers of tourist sites and tourism agencies. Information from secondary sources were obtained from existing documents such as articles, journals, surveys and other studies conducted on maps used by tourists and destination attractiveness through tourism perspectives.

Sample Size and Sampling Procedure

Sample Size

The selection of a sample size is determined by a number of factors such as time, available money to use as transportation to study areas and the statistical analysis that the researcher intends to use to achieve objectives. In this study,

since all elements in the target population cannot be questioned. Amuquandoh and Dei (2007) suggests that a sampling procedure that will be able to reproduce the characteristics of the entire population should be adopted for a study. The sample size for the study was determined from the formula postulated by Yamane (1967). According to him, the sample size for any study can be determined using the equation;

$$n = \frac{N}{1 + Ne^2}$$

Where the parameters are

'n' represents the sample size

'N' represents the total population where in this case the researcher to represents tourist arrival to study areas 11400

'e' is the margin of error which usually set at 0.05

Substituting these values into the formula yields a sample size

$$n = \frac{11400}{1 + 11400(0.05)^2}$$

$$n = 380$$

Therefore, the sample size for the study was 380

Sampling Procedure

The population of the study focused on two groups in the tourism industry. These were tourist operating managers and tourists. The researcher made use of the non-probability sampling (convenience and purposive) to sample tourist managers and tourist respectively in the study areas. The researcher used the non-probability sampling procedure in the study because it was less expensive and could be implemented more quickly than the probability

sampling procedure. The population of the study was not well defined, hence it was appropriate to use the non-probability sampling method.

The purposive sampling procedure was used to sample tourist attractions in Cape Coast and Elmina that was visited frequently. These attractions were Cape Coast Castle, Elmina castle and Kakum National park. The operating managers of the selected tourists' attractions were also purposively selected for an interview section. This was because the study took place at three tourism destinations that were regularly visited. This resulted in a small number of tourist operating managers to be interviewed. Silverman (2000) recommended that small sample sizes for qualitative studies enhance the collection of in-depth information.

The convenience sampling was used to sample tourists which were close at hand and readily available at Cape Coast Castle, Elmina Castle and Kakum National park. This non-probability sampling assisted the researcher to save time and cost. For the purpose of the study, only departing tourists were surveyed because they were in a better position to express their experience of how they located the tourist destination.

Data Collection Instruments

The instruments for the collection of data were interview guides and questionnaires. An interview guide was designed to conduct an interview section with tourist operating managers and the director of Ghana Tourism Authority during the data collection process in Cape Coast and Elmina. Issues concerning inadequate landmarks of tourist destination, the types of maps available to guide and inform tourists about attractions, available online services to inform tourists about location and activities of a tourist's destination were the

major areas of discussion during the interview section. The objective of the interview sought to know more about the reasons why landmarks or directional signs were inadequate to improve tourist accessibility to destinations, and the measures set in place to improve the travel experience of tourist in Central Region. The interview schedule consisted of eight questions and was done within 30minutes.

The next data collection instrument used for the study was a well-structured questionnaire designed to collect primary data from the tourists at the study areas. The questionnaire was used because tourists could easily share their concerns without taking much time on issues regarding their visit. It was designed into three sections. The first sections contain questions asking for the socio-demographic details of respondents such as age, gender, marital status, nationality, occupation, the purpose of visit, level of education and travel companions. The second section measured the effectiveness of navigational aids. Respondents were asked to rate their agreement to statements given on a 5-point Likert scale ranging from ‘effective’ to ‘not at all effective’. Thus, in order to determine how maps are convenient to use and its user-friendliness, respondents were asked on 5-point Likert scale with a series of statements regarding how maps effectively support tourists in their search for tourist attractions. The Likert Scale was used because it was found to be appropriate for measuring peoples ‘views, opinions and perceptions on way finding abilities. An advantage of the Likert scale is that a higher response rate from the questionnaires are obtained because they can be completed in a short time.

The third section analyzed factors affecting tourist ability to use maps to navigate tourist destinations in Cape Coast and Elmina on a 5 point likert scale

(Strongly Agree, Agree, Neutral, Disagree and strongly disagree). Items from the Santa Barbara Sense of direction scale (Hegarty & Waller, 2005) were used to measure tourist spatial ability. For instance, "I am very good at giving directions" were one of the items to measure spatial ability. For map interactivity measurements, four items from the perceived interactivity (PI) questionnaire and the User Control (UC) questionnaire in the study of Go and Gretzel (2016) were adopted. "While I read the map, I was always aware where I was" and "I was in control over the information display format when using this map" are examples of items included to measure map interactivity. There were open ended items that allowed respondents to provide a wide range of responses which offered useful information for the study. Respondents were asked to share some challenges they encountered during their visit and make some recommendations.

Pilot Study

A pilot study was done before conducting the interview section and administering the questionnaires. The pilot study was to determine the appropriate questions to ask tourist managers on tourists travel needs to access tourist attractions. The pilot study determined the suitability of questions and instructions, comprehensiveness of questions and respondents understanding of the questions. The pilot study was done at St. Fort Armsterdam a month before the actual data collection. In all, 10 tourists were selected to complete a draft structured questionnaire and offer their comments afterwards. After the pilot study, comments made by the respondents were incorporated into the final draft questionnaire and interview guide. For example, a problem raised by a tourist on inadequate tour guide books and directional signs showing the distance to

get to a destination, were good points raised to develop related questions in the interview guide.

After the pilot study, the number of questionnaire items was reduced to make it less consuming. The format of the questionnaire was also redesigned to enhance its appeal and simple words were used to ensure ease of reading and comprehension. Modifications were made to the content of the main questionnaire by abandoning some of the questions. For example, travel companions was changed to travel parties and the 'number of visit' was also added. Specific questions were design to measure and determine factors that may influence tourist way finding. For example, map reading abilities of tourist. Lessons learnt on the pilot study helped the researcher to know the appropriate time to visit and know how to approach the respondents. A sample of the questions asked are listed below

Pilot study questions

1. Did you find it difficult locating tourist attractions?
2. Where was your source of information about this tourist site?
3. Who assisted you to find the tourist attraction?
4. Do you prefer using maps to locate attractions?
5. Does available maps provide adequate information on routes and landmarks to tourist attractions?
6. Are you familiar with landmarks when locating tourist attractions?
7. Are you familiar with location of other tourist attractions aside the one you have visited?
8. What would you recommend to help make this attraction easier to locate?

Data Collection Procedure

An initial visit was made during the pilot study to request a permission from facility managers for the study. An introductory letter from the Department of Geography and Regional Planning in University of Cape Coast was sent to major tourist sites and tourism agencies sampled for the study. The introductory letter permitted the researcher to visit the study areas to retrieve data from respondents. Results from the pilot study helped in the design of appropriate interview guide and questionnaires for data collection. The interview guide and questionnaires were the main instruments used to collect data collection.

The data collection process started with an interview section with the tourist operating managers. A recorded interview section was conducted by the researcher with operating managers two weeks earlier in the month of March before engaging tourists to administer questionnaires. The recorded interview section with the operating mangers lasted for 30 minutes and it was held in their office. The interview section was conducted for managers at Cape Coast castle, Elmina Castle and with the director at Ghana Tourism Authority (Cape Coast). The interview section was conducted to explore types of maps provided to guide tourists in their way finding tasks to attractions in Cape Coast and Elmina area.

Again, a self-administered questionnaire was used to gather Information about factors affecting tourist way finding abilities and effective navigational aids that support tourist wayfinding. On the first day of questionnaire administration, potential respondents who had completed their tour at Cape coast castle were approached and all courtesies they deserved were extended to them in line with research ethics. The same process was done for all tourists the researcher met at other study areas. After conceding to the request to participate,

respondents were handed the structured self-administered questionnaires to respond to the questionnaire items. The administration of the structured self-administered questionnaires started in the morning from 8:00am to 1:00 pm during weekdays but during weekends and holidays the researcher hung around from 10:00am to 5:00pm. Sometimes depending on circumstances like late entry of tourists, the administration went beyond 5:00pm to 6:00/6:0pm. Respondents were provided with pens to be used to answer questions. Respondents were entreated to hand in the completed questionnaires back to the administrators before leaving the cape coast castle or send them to the receptionist at the castes front desk. The minimum number of questionnaires administered and collected per day during the period of data collection was six and the maximum was eighteen.

Although a total of 380 questionnaires were administered, 300 questionnaires were actually received. Out of the 300, the total valid responses were 207. A total of 93 questionnaires were discarded since they did not provide usable data for the study. The explanation for this situation was that these respondents ended the response process mid-way seemingly because they were in a hurry to leave for other personal issues or the group of which they were part of was leaving to visit another place so they had to leave.

Data Analysis

Three main statistical analysis were employed for this study. Namely, an analysis of variance (ANOVA), T-test and Factor analysis. The Statistical Product for Service Solutions (SPSS) version 23, was used for the analysis. The analysis of variance was used to measure the differences in variance between both dependent and independent variables. The purpose of the T- Test analysis

was to determine the significant values of dependent and independent variables of the effectiveness of maps across socio-demographics of tourists. Factor analysis was also used to group variables with similar characteristics to explain to explain tourists' way finding abilities. The data gathered from the field were analyzed concurrently with qualitatively and quantitatively data collection procedures.

First Phase of Analysis

Qualitative analysis was the first phase of analysis, which transcribed information from the recorded interview section and arranged them into themes for proper analysis. The qualitative analysis resulted in four themes which explained all the information discussed during the interview section. The provided themes answered as an aspect of the research objectives. It explains the types of maps available to guide tourists and their reasons why they are inadequate.

Second Phase of Analysis

The quantitative data analysis was the second phase of the analysis of the study. 350 questionnaires were sent to the study areas and 207 questionnaires were brought back for data analysis. 150 set of questions were sent to Cape Coast Castle because that was the first heritage or historical site most tourists visit before visiting other attractions in Cape Coast and Elmina. 100 set of questions were sent to Elmina Castle and Kakum National Park respectively. Questionnaires were carefully sorted out to identify valid responses before data entry, using Statistical Product for Service Solutions (SPSS) version 23. Questionnaires that had incomplete information or duplicate answers were not added during data entry process. Coding of statements used

in the questionnaire were checked and edited to avoid any grammatical errors. Data was disaggregated and presented using Statistical Product for the Service Solutions, version 23.0. Appropriate statistical tools such as descriptive frequencies, analysis of variance (ANOVA) and T-test analysis were used to process the raw data for interpretation. Relevant inferences were made from the output of the Statistical Package for the Social Science software. Tables were used to represent the data for interpretation.

An analysis was conducted for items on a construct in the questionnaire to obtain information to answer objective two (how effective tourist maps support tourist navigation to tourist destinations). An independent sample t-test and analysis of variance (ANOVA) was used to analyze dependent variables of items of a construct on a likert scale of 1-5 (Not at all effective, not effective, Neutral, effective, very effective) with independent variables such as age, level of education and gender. Results from the analysis was used to determine the significant values, means and standard deviations that exist between independent variables and dependent variables of interactive maps that support the tourist way finding process. A cross-tabulation analysis was also performed for age groups and the types of maps they depend on for the purpose of their visit. Frequencies were compared to identify the highest type of map used by a particular age group.

An exploratory factor analysis was also conducted to examine the factors that affect tourist's spatial abilities to use maps to locate tourist destinations. Factor analysis is used to study the patterns of relationships among dependent variables, with the goal of identifying the nature of independent variables that affect them even though they are not measured directly. Factor

analysis provides a true explanation of specific variables. The identity of the variable changes when there are differences in the sign of the factor loading but does not change the nature of factor output. The principal component analysis is applied to provide maximum differences among the observations, which explains that the first component is a linear function of the original variables with a maximum variance. The second component also has its axis oriented othogonally to the first component and explains the maximum amount of the total variance of the sample. The principal component analysis for the data resulted in five factor component. It was accepted because of its theoretical support with the leveling off of the Eigen values on the scree plot, which were greater than one. An extraction was done for all items using the varimax rotation to determine the strong significant correlations among the items.

Field Challenges

A major field challenge during data collection was during the interview section. Meeting the operating managers and the director of Ghana Tourism Authority was a bit challenging. The director of Ghana Tourism Authority was always engaged in a meeting whenever the researcher visits. However, a set date was made for the meeting. The facility manager at Kakum national park was not available for the interview section because he was out of town. The questionnaire was administered with the help of some members of staff at the tourist destination. Unfortunately, they were not able to complete the sharing of questionnaires in situations where there was high turnout of tourists during a tour. The staff of the tourist destination found it difficult to perform a multiple task by explaining historical events and administering questionnaires at the same time.

Data collection of the questionnaires was challenging because of time constraints and the flow of visitation. The researcher decided to visit the study areas on specified days to meet a high turnout of tourists to administer the questionnaires. There were situations where tourists' visitations were low, especially during the week-days. This affected the rate at which questionnaires were administered to tourists. It was appropriate to visit tourist attractions during weekends since more tourists will be available to engage in the data collection. The tourists spent less time answering all questions in a questionnaire, since they were left behind by group members and had to prepare for the next tour. Another problem was communication among some tourists since some of them did not speak English or any of the local languages, hence had it difficult to articulate their problems. Despite all the problems encountered on the field, a lot of effort were made to ensure validity and reliability the data collected from the field.

Ethical Considerations

Any research that involves human subjects must take ethical issues into considerations since the welfare of all human participants must be properly considered and protected. With respect to the nature of the study, participants were informed throughout the data collection process of the nature of data being collected and the reasons for collecting the data. Consents were sought and respondents were asked if they were willing to participate in the study. Also, the confidentiality of the respondents were assured. Names were not recorded. The only socio-demographic information that was gathered included purpose of visit, gender, age, educational level, occupation, marital status, and country of origin. The rights of religious and cultural groups were also respected. If

reference to certain religious or cultural variables prevent a person from participating in the study, they were given the choice of withdrawing from the study. All requirements pertaining to ethics were complied with in this study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the results and discussion which were in line with the objectives of the study. The first section presents the findings of the socio-demographic characteristics of the respondents. Followed with a statistical report on the types of maps used by tourists and a report from an in-depth interview with tourist managers, concerning the types of maps available to assist tourists. The subsequent section focuses on the presentation of quantitative results that addresses how maps effectively support tourists' navigation and the factors that prevents tourists' abilities to use maps to navigate tourism destinations in the Cape Coast and Elmina area, Ghana.

Socio-Demographic Information of the Respondents

In this study, tourist socio-demographics such as age, gender, marital status, continent of origin, travel parties, number of visit, level of education and purpose of visit were used to explain the background of tourists who visited attractions at Cape Coast and Elmina area. The socio-demographic results of the respondents are displayed in Table 1.

Table 1: Socio-Demographic Characteristics of Respondents

Socio-demographics characteristics	Frequency (N=207)	Percentage (N=100%)
Gender		
Females	125	60.4
Males	82	39.6
Age		
15-25	23	11
25-35	95	46
35-45	54	26
45yrs and over	35	17
Marital Status		
Married	52	25.1
Single	145	70.0
Separated	2	1.0
Divorced	8	3.9
Purpose of Visit		
Sightseeing	71	34.3
Fun, Rest and Relaxation	49	23.7
Visiting Friends and	26	12.6
Family		
Culture	38	18.4
Conference	22	10.6
Continent of Origin		
Africans	91	44
Europeans	48	23
Americans	62	30
Australians	6	3
Travel Parties		
Alone	33	15.9
Family	18	8.7
Friends	89	43.0
Associates	67	32.4

Table 1 continued

Occupation	126	60.9
Students	32	15.5
Self-employed	29	14.0
Teachers	11	5.3
Unemployed	9	4.3
Civil-servants		
Number of Visit		
First Time	116	56.0
Second Time	43	19.3
Third Time	40	16.4
More than three times	17	8.2
Level of Education		
Junior High School	22	10.6
Senior High School	31	15.0
Tertiary	138	66.7
Post Graduate	16	7.7

Source: Field Data (2019)

The impression of a destination plays an important role in the decision making process of potential tourists. Different motivational factors such as relaxation, meeting friends and engaging in sports activities are all part of the decision making process for female and male tourists. Bigne et al, (2005) explain that Females have stronger motivations to travel than males. Bigne found significant differences regarding travel motivations, where males preferred more recreational activities in a destination, and females had a stronger relaxation and escape based motives. The results in Table 1 reveal that out of 207 respondents, majority 60.4% of the tourists who visited Cape Coast castle, Elmina Castle and Kakum National park were females while the minority 39.6% were males. Clearly, the results indicate that females participated in the

study more than the males. This supports the findings of Bigne et al., (2005) which highlighted that females travel more than males.

Travel patterns changes with age, from the adolescence through adulthood to old age. Evidence suggests that younger and older tourists travel less than those between 25 and 50 years (Simma & Axhausen, 2003). Tourists with different age groups affects their way finding tasks to locate tourist attractions (Glover & Prideaux, 2008). With regards to tourist age groups that participated in the study, 46% of the tourists were within the age bracket of 25-35years and was followed by 26% of those aged between 35-45years. This indicates that tourists who were presents at Cape Coast Castle, Elmina Castle and Kakum National park during the period of data collection were mostly adults. This finding adds up to the evidence revealed by Simma and Axhausen (2003), that tourists between 25-50years enjoy travelling more than younger and older tourists. The results reveals that tourists between 15-25years were 11% whilst those above 45years were 17%. This implies that few tourists were young adolescents and old aged. The different age groups of tourist affect their way finding tasks. The rigorous nature of activities, long distance and the stress associated with searching for a destination could be the reasons why old age tourists do not enjoy visiting attractions regularly. Tourists above 45years prefer assistance from tour guides, friends and family, since they are very reliable and comfortable to be with.

The desire to travel may also be influenced by the marital status of the individual. People travel to search for their life partners or to visit new places with their love ones. The results in Table 1 declares that 70% of the tourists were in single relationships whilst 52% of the tourists were married. Again 3.9%

of the tourist were divorced and 1% were separated. The presence of tourists who were divorced or separated was very low at Cape Coast Castle, Kakum National Park and Elmina castle Cape Coast and Elmina. Tourist who were single had greater opportunities to travel and enjoy scenery more than those who were married, divorced and separated.

An individual's level of education determines their travel preferences and decisions to visit specific tourist attractions. Well educated tourists follow safety precautions before visiting tourist sites. The result in Table 1 reveals that majority (66.7%) of the respondents who visited tourist attractions in Cape Coast and Elmina were those with tertiary level of education. This was followed by 15% of the respondents with senior high school education. Respondents with junior high education were 10.6% whilst respondents with post graduate education were 7.7%. Clearly, the results reveal that majority of the tourists who visited Cape Coast Castle, Elmina Castle and Kakum national park were students with tertiary education backgrounds. Tourist with high level of education make use of information system that explains the image of the destination.

People travel to destinations for several reasons. According to Ghana Tourism Authority (2016), tourists visit Central Region purposely to visit historic Forts and Castles, Posuban Shrines, Forest Reserves and participate in festivals. In order to satisfy the desires of tourists, stakeholders in the tourism industry must provide interesting activities that will motivate tourists to visit attractions. The results in Table 1, indicates that 34.3% of the respondents visit purposely for sightseeing. It was followed by 23.7% of the respondents visiting for fun, rest and relaxation whilst 18.4% visited purposely for cultural activities.

Clearly, the results indicates that sightseeing, culture, fun, rest and relaxation recorded the highest percentages, which explains why Cape Coast Castles, Kakum national park and Elmina Castle remains the most frequently visited attractions in Cape Coast and Elmina area. 12.6% of the respondents came to visit family and friends whilst 10.6% came for conferences. Visiting family and friends, and participating in conferences were other pull-factors that motivated tourists to visit tourist attractions in Cape Coast and Elmina area. The result reveal the major tourism activities such as sightseeing, fun, rest and relaxation, visiting family and friends, and participating in the rich cultural activities of the people served as tourists purpose of visit to attractions in Cape Coast and Elmina.

The occupation of the respondents were sought with the view that people enjoy their leisure when they are on break from work and have more time to visit tourist sites. The occupation of respondents from Table 1 reveals that, majority 60% of the tourists were students whilst 15.5% were self-employed. The only working groups were teachers 14% and Civil servants 4.3%. The least respondents were unemployed 5.3%. Clearly, majority of the population of the study were students whilst others were teachers and civil servants. This implies that students always had more time to visit tourist sites during their leisure periods than the working group. From the data, it can be said that students were the major tourist group that visit purposely for sightseeing, fun, and relaxation.

Holscher, Buchner, Brosamle, Meilinger, and Strube (2007) posits that the environment influence the choice of strategy in way finding tasks. Tourists' familiarity of a tourist destination depends on the number of times they visit. The results in Table 1, reveals that 56% of the respondents were first time

visitors whilst 19.3% were second time visitors. Third time visitors were 16.4% whilst 8.2% visited more than three times. This implies that majority of the respondents were first time visitors and were likely to depend on landmarks, maps and word of mouth to locate tourist attractions. Even though they might have heard or read about tourist attractions in books and online, they might face difficulty identifying travel routes and locations of tourists' attractions. First time visitors prefer to have visible sign post along roads that leads to their destination, but unfortunately they are inadequate which causing poor spatial orientation.

Tourists enjoy traveling with travel parties. The results in Table 1, indicates that majority 43% of the respondents visited with friends. This was followed by 32% of the respondents who visited with associates (in groups) whilst 15.9% of the respondents visited alone. 8.7% of tourists were the least respondents who visited with their family. It can be deduce that majority of the respondents who participated in the study, visited attractions in Cape Coast and Elmina through their friends and associates (in groups) whilst few of them came with families and alone. This could be that most of the tourists were not familiar with the area and the only way they could visit their desired destination was through their friends. This process of advertisement does support adequate information of the tourist destination to attract tourist who want to visit alone.

Attractions in Cape Coast and Elmina does not only attract local visitors but tourists' from different continents. The results indicate that 44% of the respondents were Africans whilst 30% were Americans. 23% were Europeans and 3% were Australians. This indicates that attractions in Cape Coast and Elmina receive visitors from all parts of the world. Majority of the tourists were

Africans, followed by tourists from America, Europe and Australia. Some of the Americans who visited were black Americans who came to trace their history and visit important places that contributed to the Trans-Atlantic Slave trade.

Types of Maps Available at Tourist Attractions in Cape Coast and Elmina Area

To determine the types of map made available for tourist attractions in Cape Coast and Elmina, an interview section was conducted with tourist operating managers which led to the formulation of themes. The recorded information were transcribed and putting into four themes. These were existing types of maps, challenges of producing tourists' maps, and the measures to ensure adequate maps that meet the needs of tourists. Table 2 presents the findings from the interview section.

Table 2:Themes from In-Depth Interview

THEMES	FINDINGS
Existing tourist maps/travel guides	• Brochures and Tour guide books • Signage that shows in and out of the Castles • Word of mouth to tourism destinations • Google maps and internet assistance to locate to tourist sites • Digital Addressing Systems

Table 2 Continued

Challenges of producing maps	• Inadequate funds • Inadequate skilled personnel to update websites and design maps • unfavorable bureaucratic conditions • Maps are designed by private individuals
Sources of fund to design maps	• Inadequate fund because all revenue collected were sent to headquarters for accountability • Less percentage is provided for local development
Measures to ensure provision of travel guides	• Improve the use of digital maps because advertising billboards and signposts of tourist sites make the environment unattractive • Collaboration among tourism destination managers to design a web page to guide tourist • Update of websites with interesting activities such as night touring in Castles, drama nights during emancipation and the Panafest celebration.

Source: Field data (2019)

Existing Tourists' Maps or Travel Guides

Way finding involves decision making and the use of landmarks. This occurs when people move into places with little knowledge of the spatial environment. Tourists are compelled to rely on maps, navigational systems (digital maps and automobile GPS) or verbal descriptions to find their way to desired destinations. Locating the appropriate routes in an unknown area is seen as a cognitive process to identify the right path from its starting point to a specified destination. In the interview conducted with the facility managers, the managing director at Elmina castle explained that,

> *''The only travel guide made available were tourist guide books in the form of brochures, which were available and sold at attraction* sites''…. [Operating Manager at Elmina Castle, 22nd March, 2019]

The information in these guide books or brochures show the destination and history of various tourist sites found in Central region and elsewhere in Ghana. A critical look at the available brochures shows that they provide little information on landmarks, distances and route paths to locate attractions from one place to another. The managing director emphasized that little attention was giving to making of maps because they were left in the hands of private individuals who sell artistic materials at tourist sites to design them. This has caused tourism mangers to overlook the cost of spending money on navigational aids. It was explained that proposals have been made on the need to ensure adequate signage and map designs, but due to unfavorable bureaucratic regulations and lack of interest they keep delaying them.

The interview also revealed that. *''Most tourists depend on word of mouth to get to tourism destinations''*. This was explained by the managing director at Elmina Castle, who explained that for the past years most of the tourists locate the site through ‘*'word of mouth''*. This supports the findings of Gartner (2012) which indicates some tourists rely on verbal description or word of mouth to locate their destinations. Tourists who visit new places look around to identify landmarks which would serve as a guide to locate desired places. If such a thing is not found, visitors prefer to ask people to provide direction through word of mouth. Yavas (2005) considers word of mouth as more effective and establishes a strong influence on creating positive attitudes towards the brand of an attraction than a formal advertisements. Verbal description or word of mouth becomes an alternative approach for first time visitors to identify an attraction, since they are not familiar with the area. Language communication barriers could also make the whole process stressful.

Moreover, the director at Ghana tourism authority was questioned on his solution to this unbearable situation of way finding to tourist attractions. His response was that;

> *Most of the tourists depend on the services of the internet and use Google Maps to pinpoint all the locations of tourist destinations. As such the Tourism Authority had admonished all tourism and hospitality agencies to get the digital GPS addressing system, which was introduced in 2017 to aid all tourists easily identify the routes and landmarks to various recreational centers, restaurants, hotels and rest*

stops...[Ghana Tourism Authority Director, Cape Coast, 16th March, 2019]

The response from the director at Ghana Tourism Authority (GTA) declares the use of digital maps such as Google maps by tourists to locate tourist attractions in Cape Coast and Elmina. The culture of using digital maps must be adopted by facility operators to have digital systems. The director at GTA support the use of GPS devices to locate attractions. Unfortunately, not everyone understands the use of this device. In situations where the visitor is a first time visitor in the area, following instructions and the pattern of the environment will be quiet difficult. This is because the GPS digital addressing system is new in the tourism industry and will take time for visitors to get accustomed to this form of addressing systems.

Challenges of Producing Maps/Signpost

In the interview, the managing director at Elmina Castle revealed that ''*the scattered settlement pattern and landscape makes it difficult to have adequate signpost to guide tourists to locate tourist attractions*''. This is because the travel routes or road networks are widely apart from each attraction sites. Wakabayashi (2013) highlighted that tourists' geographic knowledge is the ability to determine patterns of spatial distribution of an attraction. On the contrary, individuals require adequate geographical knowledge to follow routes to attraction sites. In situations like this Xia, ArrowSmith, Jackson and Cartwright. (2008) asserts that the use of a particular landmark or route depends on the familiarity of the area. People who are not familiar with the area may use verbal descriptions and maps to locate their destination than those who are familiar with the area. Visitors may easily miss the appropriate route along their

way since the travel routes are far away from the destination. Tourists may follow linear landmarks such as pathways. This situation affect tourists' spatial ability to locate desired locations.

The manager (Elmina) added that,

> *''They have mild intentions of designing digital maps and updating websites because of inadequate skilled personnel to ensure update of new information. Little funding is made available to cater for the cost involved in printing maps and making signpost. Signposts designed along roadsides easily get broken down due to bad weather conditions and poor maintenance. Monitoring is very challenging since there is poor management and update of information on the internet''...* [Managing director, Elmina Castle, 22nd March, 2019]

The words shared by the managing director at Elmina castle explains why the provision of signpost and designing of maps for tourists have been inadequate and overlooked. They lack personals with map making skills and inadequate funds to print new maps or update websites. Poor monitoring and maintenance has cause most of their broken down signpost unattended.

Source of Fund to Design Maps and other Travel Guides

The interview revealed that,

> *''Internally generated funds were sent to the headquarters of Ghana's Monument board for accountability which makes it difficult to use a percentage of the funds raised for local development at tourist sites. People are*

> *threatened if they attempt to complain of inadequate funds to fix broken structures. They would be dismissed or transferred to another station…* [Managing Director, Cape Coast Castle, 20th March, 2019]

The little money is left in the coffers of the management department are used to fund minor projects. Staffs are threatened and scared to make use of the revenue generated because they will be easily dismissed or transferred. This supports the reasons behind inadequate fund to repair broken down signposts and payments of skilled personnel who design maps and update their websites.

Measures to Ensure Provision of Travel Guides

The managing director at Ghana Tourism Authority accepted the claims that there were inadequate signposts and other travel guides to assist tourists. He exclaimed that,

> *''Signposts and billboards along roads have become many and sometimes make the roadsides overcrowded with signposts and billboards. Therefore, all tourist agencies should adopt to the use of digital maps and major landmarks since the tourism authority has moved from the use of paper maps to the use of digital addressing systems…* [Managing Director, Ghana Tourism Authority, Cape Coast, 16th March, 2019]

The managing director at Ghana Tourism Authority (GTA) suggested once again that,

> *''It will be better to provide an awareness on the use of the GPS digital addressing system to serve as an assistance to*

> *locate tourist attractions in Cape Coast and Elmina. To maintain an integrated approach to market tourists' attractions in Cape Coast and Elmina area, it will be advisable for tour agencies to collaborate with Ghana Tourism Authority to develop an information database to serve as a guide to improve destination management*....[Managing Director Ghana Tourism Authority, Cape Coast, 16th March, 2019]

The suggestions by the director at GTA declares that developing a destination guide individually would be expensive hence doing it together with other organizations would minimize cost. This will boost the tourism industry; since it will provide an information guide to attractions, restaurants, educational institutions, shopping malls, hotels and other interesting places.

In conclusion, the interview clearly indicates that there are limited maps available to guide tourist in Cape Coast and Elmina. The only map in used was in a form of brochure that showed all attractions in the area. A number of reasons attributed to inadequate maps such as; financial problems, poor leadership and managerial skill, and lack of skilled personals to design maps and websites. The terrain of the destination also makes it difficult to follow directional signs. This affects tourists' geographical knowledge and spatial ability. Tourists use word of mouth to locate attractions, since travel routes to attractions are widely apart.

Types of Maps used by Tourists

According to Tsai (2010), travel guides assist tourists to overcome situations associated with way finding in new environments. To properly identify the types of maps used by tourists to visit attractions in Cape Coast and

Elmina, the researcher used items in section B of the questionnaire to ask tourists to identify the types of maps they depend on for the purpose of their visits. The results retrieved from the data are displayed in Table 3.

Table 3: Types of maps used by tourists

Types of Maps	Frequency (N=207)	Percentages (N=100)
Google maps	144	70%
Cartographic paper maps	10	5%
GPS devices	6	3%
Map guide book	30	14%
Mobile Map Apps	17	8%

Source: Fieldwork. (2019)

Lau and McKercher (2006) define maps as navigational tools used in our daily lives that guide people to move around conveniently. Kwok and Gao (2005) stated that individuals tend to engage in a particular behavior if their intention towards that behavior is valuable and effective. Tourist behavioral intentions towards the use of maps are achieved when conscious efforts are made to use them in their way finding tasks. Maps become useful tools to depend on when making travelling plans, attending business meetings or conferences, visiting places to enjoy leisure, and exploration since they provide the necessary geographical references.

The reviewed literature identified theoretical frameworks that supports behavioral intentions to use information systems. Kim, Park and Morrison (2008) used the Theory of Acceptance model to determine the factors influencing tourist acceptance of mobile devices. Their results revealed that experience and technology experience significantly influence perceived usefulness and perceive ease of use. Tourists had a strong intention to use

mobile devices. Peter and MacLean (2009) asserts that visitors become more satisfied with information systems which have efficient and reliable outputs. Travelers make use of the internet and other navigational devices to explore places of interest in new environments. Effective feedbacks influences the individual's acceptance and usage of technology for navigation in unknown spatial environments. This was supported by Venkatesh, Morris, Davis, and Davis (2003) in the Unified Theory of acceptance and use of technology (UTAUT) model, that behavioral intentions have a strong influence on the use of technology during navigation.

Sigala, Christou, and Gretzel (2012) highlights that the introduction of new technologies has created a new type of consumer behavior which has changed the way tourists search and find information about tourist destinations. The results in Table 3 shows the type of maps tourists depend on during their visit to tourists attractions in Cape Coast and Elmina. The results revealed that majority 70% of the tourists used Google maps to locate tourists' attractions in Cape Coast and Elmina, followed by 14% of the respondents depending on map guide books whilst 8% depend on mobile map apps. 5% of the respondents used cartographic paper maps to locate tourists' attractions whilst the least 3% of the respondents used GPS devices. The results from the table indicates that tourists enjoy using Google maps, Map Guide Books and Mobile Map Apps to locate attractions more than using cartographic paper maps and GPS devices. Khalizadeh et al, 2017 revealed that performance expectancy and expected effort are the strongest determinant of a user's behavioral intention to use technology. Performance expectancy is the degree to which users believe that a technology improves their performance whilst expected effort is the degree at

which the individual is capable of using the technology (Venkatesh & Davis, 1996). The different percentage values in the results indicates that the degree of performance for Google maps, map guide books, and mobile map apps were higher than GPS devices and paper maps. This supports the notion made by Buhalis and Licata (2002) that tourist prefer the use of navigational devices with high internet speed to provide adequate information about places of interest. Again, the results reveals that the effort expectancy of paper map have changed to the use of digital maps. Therefore, it is about time facility managers in the tourism industry design appropriate websites that have enough information about their tourists' sites.

Ramayah, Rouibah, Gopi, and Rangel (2009) observed that the use of technology information products is influenced by an individual's degree of behavior control. The socio-demographic background of tourists could influence the type of map tourists depend on to visit attractions. Gender, age, experience and level of education are facilitating conditions used in the adapted unified theory of acceptance framework to determine the use of map. Results in Table 4 indicates the different types of maps used by tourists according to their age, gender and level of education.

Table 4: Types of Maps used by Tourists according to age, Gender and Level of Education

	Types of Maps (N=100%)				
Socio demographics	Google Maps	Cartographic maps	GPS Devices	Map guide book	Mobile mapping app
Age					
15-25yrs	21%	30%	25%	13%	12%
25-35yrs	40%	30%	75%	33%	24%
35-45yrs	17%	20%	00%	21%	17%
Over 45yrs	22%	20%	00%	33%	47%
Gender					

Male	40%	40%	75%	7%	29%
Female	60%	60%	25%	63%	71%
Level of Edu.					
Junior High	9%	20%	00%	13%	00%
Senior High	17%	10%	25%	13%	12%
Tertiary	66%	60%	75%	66%	88%
Post Graduate	8%	10%	00%	7%	00%

Source: Fieldwork. (2019)

The results in Table 4 reveal that majority of the respondents 40% within the ages of 25-35yrs use Google maps more than any other type of map. It was followed by 22% of tourists over 45yrs, 21% of tourists within 15-25yrs and 17% of those within 35-45yrs. Majority 60% of the female tourists used Google maps more than 40% of males. 66% of tourists with tertiary educational backgrounds used Google maps more than 17% of tourists with secondary education. It was followed by 9% of tourists with junior high education and 8% of the respondents with post graduate level of education. Gray and Ridout (2012) points out that mapmakers voluntary allow the public to provide information about travel routes of interesting destinations, locations of hotels and restaurants. This could be a reason why Google maps have become a widely geographic information platforms that allows people to add information and moderate data.

Map guide books was identified as the next common travel guide used by tourists aside Google maps. Map guide books are specific books for sightseeing, pilgrimage designed to advertise tourists' attractions. Conventional signs are used to represent path ways and interesting locations such as shopping malls, banks, rest stops and restaurants. But their use are determined by the educational level, age and gender of tourists. The result in Table 4 revealed that majority of the tourists between 25-35yrs and those over 45yrs use map guide

books with a percentage of 33% respectively. Tourist enjoy information that are close at hand to identify desired places. Map guide books provide adequate information about an area, hence both the old age and adults make use of them as a companion. It was followed by 20% of tourists within 35-45yrs and 13% of those between 15-25yrs. Majority of the female tourists 64% used map guide books more than 7% of the males. Specifically, female tourist used map guide books more than males. Tourists with tertiary education 67% used map guide books regularly than 7% of those with post graduate education. Also, the least percentage recorded was 13% for tourists with senior high education and junior high education respectively.

Another technological gadget used for way finding was mobile mapping apps. Mobile mapping maps make use of mobile phones and location sensors to locate a destination. They display adequate signs and route paths that explains the current position of the user. Buhalis and Licata (2002) asserts that internet services support the use of mobile devices to enable mobile users' obtain travel information about desired places. The results in Table 4 reveal that tourists who were 45yrs and over recorded 47% usage of mobile mapping apps. This could be the performance expectancy for mobile mapping apps is effective for old age visitors that the use of map guide books. It was followed by tourists within 25-35yrs with a percentage of 24%. The least age groups were tourists within 35-45yrs who recorded 17% and 12% of those between 15-25 years. The percentage value among age groups indicates that old age and adults enjoy the use of mobile mapping apps. Mobile mapping aps provide information about current location, name of destination, close landmarks and the distance travelled (McMahon, Smith, Cihak, Wright, Gibbons, 2015). This confirms why old age

visitors make use of them. Female tourists also recorded 71% with the use of mobile mapping apps more than males with a score of 29%. Tourist's educational backgrounds also affected the use of mobile mapping apps. The results in Table 4 discovered that 12% of tourists with secondary education and 88% of tourists with tertiary education were those using mobile mapping apps in the study.

Cartographic map (paper maps) was also another type of map used by tourists to visits attractions at Cape Coast and Elmina area. This type of maps are in the form of printed maps such as brochures and topographical maps. Cartographic maps make use of large scales in order to present every feature on the earth surface. This makes it difficult to present every feature on maps. Most of the tourists between 15-25yrs and those within 25-35yrs recorded 30% respectively for the use of cartographic maps. This could be that paper maps do not provide adequate information to tourists within this age groups as compared to the use of Google maps. Tourists within the ages of 35-45yrs and those over 45yrs also recorded 20% respectively for the use of cartographic maps. It could be inferred that the design on the paper maps are not user-friendly and adequate for adults. Features in urban areas are represented with cartographic symbols. Little information on street names and layout of building affects adequate orientation for visitors within this age group. The results indicates that 60% of female tourists used cartographic maps more than 40% of males. Female tourists enjoy following landmarks to visit desired destinations. 60% of the tourists with tertiary level of education use cartographic paper maps more than 20% of those with junior high education. The least was tourists with secondary and post graduate education which recorded 10% respectively.

GPS device was another navigational aid that tourists use to successfully locate destinations using internet signals. Shoval et al., (2014) highlights that GPS sensors in mobile devices provide travel information about desired places. The results in Table 4 reveals that only 25% of the tourists between 15-25yrs and 75% of those within 25-35yrs use GPS devices to locate attractions. This indicates that adults make use of GPS devices more than adolescences. Tourist between the age bracket of 35-45yrs and over 45 years scored 0% respectively with the use of GPS devices. This implies that the use of GPS devices was not convenient for old age tourists. Abebrese (2019) highlighted that the introduction of Ghana's GPS addressing system is a modern approach of allocating addresses within a defined space. Offori-Atta (2015) adds that it will reduce the complication visitors go through when finding desired destinations. Unfortunately, the results does not support the claims made by Abebrese (2019) and Offori- Atta (2015). This is because the use of GPS devices was mostly used by adults and does not support old age tourists in their way finding task. Also, 75% of males used GPS devices more than Females 25%. Males enjoy using survey knowledge in their way finding task with GPS devices whilst females enjoy landmark knowledge. Tourists with tertiary education 75% use GPS devices more than tourists with secondary education 25%. The use of GPS devices by tourists with junior high and post graduate education was 0% respectively.

In sum, the results from the data declares that tourists make use of different navigational tools to explore tourist destinations. The use of Google maps, mobile mapping apps and map guide books had the highest percentage values with respect to the age, gender and level of education of tourists that

determines its usage. This means that their performance expectancy were high to motivate tourists behavioral intention to use them. Specifically, tourists with tertiary education enjoyed the use of mobile mapping apps and Google maps more than any other educational level. Female tourists enjoyed using map guide books, Google maps and mobile mapping apps more than male tourists. GPS devices was used by male tourists than any other type of map in their way finding tasks. Surprisingly, tourist within the age groups of 25-35 depend on Google maps whilst tourists above 45 years also used mobile mapping apps to navigate tourist destination. Tourists within 25-35yrs had high efforts expectancy for Google maps whilst tourist who were over 45yrs had high effort expectancy for mobile mapping apps. This could be that the display of information format provided by mobile mapping apps were user-friendly to both adults and old age tourists. Cartographic paper maps had low effort expectancy by tourists as compared to the use of GPS devices.

Effective use of Maps to Locate Tourist Attractions at Cape Coast and Elmina Areas

Effort expectancy is one of the components used to explain the acceptance of technology in the Unified Theory of Acceptance model. Effort expectancy measures tourists' attitudes towards the use of navigational aids. The data collected measured the views of respondents on the effectiveness of maps using a five-point likert scale (1- Not at all effective, 2- Not effective, 3- Neutral, 4- effective, 5-very effective) of which they were asked to indicate their extent of agreement to the outlined statements. In order to facilitate the interpretation of the results, the 5-point likert scale was subsequently reduced

to three points which were; Not effective =1 (not at all effective + not effective), Effective = 2 (very effective + effective) and 3= Neutral.

The researcher used the three point likert scale, because Ogula (2005) posits that the points 'not at all effective' and 'very effective' which are at the extreme ends of the scale, merely emphasize the extent of agreement. Based on this, the researcher was convinced by the fact that data transformation exercise does not lead to any information lost but, rather enhances the interpretation of the results. The data collected from the field was analyzed using Statistical Product for Service Solutions version 23. The result was presented with, means, standard deviations, and significant values of each statement in table 5.

Table 5: The Influence of Tourists Socio-demographic (age, gender and level of education) on Effectiveness of Maps

Items	Socio-demographic	Means/ Standard Dev.	F value	Sig.value
Maps are convenient to use	Gender		.126	.72
	Male	M=2.86,SD=.24		
	Female	M=2.84,SD=.26		
	Age		.540	.66
	15-25yrs	M=2.64,SD=.27		
	25-35yrs	M=2.84,SD=.25		
	35-45yrs	M=1.83,SD=.38		
	Over 45yrs	M=2.91,SD=.22		
	Level of edu.		1.060	.37
	Junior high	M=1.81,SD=.39		
	Senior high	M=1.77,SD=.43		
	Tertiary	M=2.88,SD=.32		
	Doctorate	M=2.93,SD=.26		

Tourist maps are user-friendly	Gender		1.191	.28
	Male	M=2.74,SD=.44		
	Female	M=2.80,SD=.40		
	Age		3.652	.01
	15-25	M=1.60,SD=.49		
	25-35yrs	M=2.85,SD=.36		
	35-45yrs	M=2.80,SD=.41		
	Over 45yrs	M=1.81,SD=.39		
	Level of edu.		7.180	.00
	Junior high	M=1.45,SD=.50		
	Senior high	M=2.71,SD=.46		
	Tertiary	M=1.84,SD=.37		
	Doctorate	M=3.00,SD=.00		
Available tourist maps have adequate information	Gender		.390	.53
	Male	M=2.70,SD=.42		
	Female	M=1.81,SD=.39		
	Age		.394	.76
	15-25yrs	M=1.79,SD=.41		
	25-35yrs	M=1.81,SD=.39		
	rs	M=1.74,SD=.44		
	5yrs	M=1.83,SD=.38		
	Level of edu.		2.739	.04
	Junior high	M=1.68,SD=.48		
	Senior high	M=1.68,SD=.48		
	Tertiary	M=1.94,SD=.37		
	Doctorate	M=1.93,SD=.26		
Map guide books are efficient than mapping app	Gender		.630	.43
	Male	M=2.46,Sd=.50		
	Female	M=2.52,SD=.48		
	Age		7.504	.00
	15-25yrs	M=,1.21SD=.47		
	25-35yrs	M=1.52,SD=.50		
	35-45yrs	M=2.69,SD=.41		
	Over 45yrs	M=2.57,SD=.44		
	Level of edu.		4.351	.01
	Junior high	M=1.23,SD=.50		
	Senior high	M=1.38,SD=.45		
	Tertiary	M=2.58,SD=.35		
	Doctorate	M=2.60,SD=.33		

Table 5 continued

Maps are easy to understand in unfamiliar areas	Gender		.1.419	.24
	Male	M=2.87,SD=.33		
	Female	M=2.82,SD=.39		
	Age		.333	.80
	15-25yrs	M=1.80,SD=.41		
	25-35yrs	M=1.85,SD=.37		
	35-45yrs	M=1.86,SD=.35		
	Over 45yrs	M=1.85,SD=.36		
	Level of edu		3.293	.02
	Junior high	M=1.63,SD=.49		
	Senior high	M=2.81,SD=.40		
	Tertiary	M=2.88,SD=.32		
	Doctorate	M=2.93,SD=.26		
Verbal descriptions are effective than mapping apps	Gender		3.768	.05
	Male	M=1.57,SD=.50		
	Female	M=2.70,SD=.46		
	Age		.878	.45
	15-25yrs	M=1.55,SD=.50		
	25-35yrs	M=1.68,SD=.47		
		M=1.63,SD=.49		
		M=1.70,SD=.46		
	Level of edu		1.555	.20
	Junior high	M=1.59,SD=.50		
	Senior high	M=1.52,SD=.50		
	Tertiary	M=1.70,SD=.46		
	Doctorate	M=1.60,SD=.51		
It is easy to locate attractions using mapping apps	Gender		.630	.43
	Male	M=1.80,SD=.40		
	Female	M=2.84SD=.36		
	Age		1.217	.30
	15-25yrs	M=1.74,SD=.44		
	25-35yrs	M=2.83,SD=.38		
	35-45yrs	M=2.89,SD=.32		
	Over 45yrs	M=2.87,SD=.33		
	Level of edu		3.959	.01
	Junior high	M=1.68,SD=.48		
	Senior high	M=2.71,SD=.46		
	Tertiary	M=2.87,SD=.33		

Table 5 continued

Doctorate	M=3.00,SD=.00

Mean Scale; 1.00-1.50= Not effective, 1.50-2.50= Neutral, 2.50-3.00= Effective
Significant value; P≤.005
Source: Fieldwork. (2019)

Socio-demographic variables are one of the key factors that determines tourist way finding strategies. The assumption was that, visitors' socio-demographic characteristics influence their way finding abilities to be effective or not effective. Table 5 presents the effectiveness of tourist navigation with maps and how age, gender and level of education influence their use. The corresponding means and significant values of the socio-demographic variables explain the significant relationships and variance of tourist age, gender and level of education with effective use of maps to locate tourist attractions. Visitors experience extraneous situations when they are unable to decipher and memorize spatial settings. They become very vulnerable to way finding problems. Tenbrink and Wiener (2006) emphasized that way finding problems may look intensified if the user is a first time visitor and not familiar with the environmental settings.

Sigala, Christou, and Gretzel (2012) explains that the use of new information systems have changed the way tourists search for information about places of interest. Travel information guides such as map guide books, mobiles devices and landmarks provide information about tourism destinations. The convenient use of maps had no significant relationship between age (P=.66, F=54), gender (P=72, F=.126), level of education (P=.36, F=1.060) in Table 5. This could be that maps assist visitors in their way finding task. Bailey, Smaldone, Elmes, and Burns (2007) noted that effective map reading and

interpretation of a geographic information is affected when maps suffer from poor design. Tourist become unhappy to use such maps because of its limited potential. First time visitors spend more to time to locate attractions when map designs are unfavorable for way finding. The mean values of gender revealed that males performed better with the use of well-designed maps than females with mean values of M=2.86 and M=2.84 respectively.

According to Pyo (2005), geographic knowledge enables educated tourists to have more knowledge about the accessibility to tourist destinations. Tourists who were more educated found their way easily to a destination through their ability to read maps and follow signpost or route paths. The results in Table 5 revealed high mean values for tourists with tertiary education (M=2.88, SD=32) and post graduate educational (M=2.93, SD=.26) backgrounds. This could mean that tourists with high educational background feel convenient with the use of maps and other travel information guides than illiterates. Kirasic (2000) reported that people who are younger outperforms older people when seeking for spatial information. The results indicates that tourists who were over 45years (M=2.91, SD=.29) and those within the age bracket of 25-35yrs (M=2.84, SD=37) and 15-25yrs (M=2.64, SD=.40) recorded high mean values on convenient maps. The result from table 5 did not support the findings by Kirasic (2000). Specifically, those within the age brackets of 25-35yrs and over 45years felt convenient with maps such as mobile mapping apps and Google maps.

User-friendly maps also ensure effective way finding performance among tourists. User-friendly maps provide adequate interaction between the spatial environment and the map user. The type of map and it user-friendliness

determines tourists effort expectation during way finding. The results in Table 5 reveal that user-friendly maps had no significant relationship with gender (P=.27, F=1.19). The mean value for female tourists (M=2.80, SD=.40) were larger than male tourists (M=2.74, SD=.44) in the results. Thus, the effort expectations between males and females were not significant. This emphasize that maps were more user-friendly for female tourists than male tourists involved in the study. This situation could be as a result of the type of map used to visit attractions at Cape Coast and Elmina Area. The results from the interview section revealed that map guide books and brochures were the only travel guides provided for tourists. This explains that map guide books were friendly for female tourists than males. Again Google maps were friendly for female tourists since it recorded the highest percentage in Table 4 on the types of maps used by tourist. The age groups of tourists were statistically significant with user-friendliness of maps (P=.01, F=3.652). That is tourists ability (effort expectancy) to use a type of map depends on the age group of the user on user. Tourists within the age groups of 25-35yrs (M=2.85, SD=.36), 35-45yrs (M=2.80, SD=.41) and 45years and over (M=2.81, SD=.39) had large mean values. This implies that maps such as Google maps, map guide books and mobile mapping apps were interactive for adults and old age tourists.

Also, the level of education of tourists was statistically significant with user-friendly maps (P=.00, F=7.180). It can be inferred that tourist ability (effort expectancy) to use user-friendly maps depend on their level of education. Tourists with secondary education (M=2.71, SD=.46), Tertiary education (M=2.84, SD=.37) and Post Graduate education (M=3.00, SD=.00) recorded higher mean values for user friendly maps. This implies that maps were user-

friendly for tourists with high educational background. Hence their way finding task would not be a problem as compared to visitors with little education.

The content and design of maps also inform visitors about their expectations and locations of tourist attractions. Navigational aids such as Google maps, map guide books, GPS devices, and mobile mapping apps' inform tourists about the major areas, land marks, route paths, accessible roads, rest stops, hotels and restaurants available in a destination. Consequently, the search of accessible information to tourist attraction, could be influenced by different socio-demographic characteristics (Tham et al, 2013). The results in Table 5 indicates that age (P=.757, F=.394) and gender (P=.53, F=.390) had no significant relationship with adequate information of maps. It was only level of education (P=.04, F=2.73) that had a significant relationship with adequate information on maps. This implies that tourist who were highly educated had the opportunity to know more information about tourists attractions in magazines, brochures, maps and through the internet more than visitors with low educational backgrounds. The processing of information from these platforms were poorly affected by the age and gender of tourists. This is because understanding of destination information involves adequate cognitive process to make use of the information. Males (M=2.70, SD=.39) easily understood complex information on maps more than females (M=1.81,SD=42). The mean values for the ages of 35-45years (M=1.83, SD=.38) and over 45years (M=2.50, SD=.44) were not satisfied with the information on maps.

Map guide books also serves as travel guide which is frequently used by tourists to visit tourist attractions. The results in Table 5 indicates that tourist characteristics such as age (P=.00, SD=7.504) and level of education (P=.01,

SD= 4.251) were statistically significant with map guide books being more easy to use than mobile mapping apps. This implies that the use of map guide book as a navigational aid was highly influenced by the age group of tourists and their educational levels in the study. Map guide books are easy to use despite age and level of education of tourists. Tourists within 15-25 years (M=1.21, SD=.41) and those within 25-35yrs (M=1.52, SD=50) scored low mean values for effective map guide books than mobile map devices. Tourist within 35-45yrs (M=2.68, SD=47) and those over 45years (M=2.57, SD=50) scored high mean values for effective map guide books than mobile app devices. This explains the fact that tourists within ages 35-45yrs and over 45 years have adequate effort expectancy behavioral intentions to use map guide books more than mobile mapping devices.

This could be that map guide books provide detailed information and does not involve adequate cognitive processing of information. Tourists with junior high (M=1.23, SD=.43) and secondary educational levels (M=1.38, SD=50) had low mean values for effective map guide books. This implies that they were much conversant with the use of mobile mapping apps than map guide books. Tourists with tertiary (M=2.58, SD=.50) and post graduate educational levels (M= 2.60, SD= 45) scored high mean values for effective map guide books. This could mean that they use both map guide books and mobile mapping apps to locate tourists' attractions. Also, map guide books and mobile mapping apps provide effective spatial information for tourists with high levels of education. Gender was not statistically significant for effective map guide books and mobile mapping apps. Females (M=2.52, SD=48) scored high mean value more than males (M=2.46, SD=.50). This could imply that females used

map guide books to identify landmarks and tourists destinations more than males.

Gartner (2012) clarifies that visitors are not able to identify the initial point of a route to its end as a result of poor settlement pattern. The use of verbal description or word of mouth was another form of way finding strategy used to locate tourist destinations. The analysis from the data indicates that there was no significant relationship between age (P=.454, F=.878), educational levels (P=.20, F=1.555) and the use of word of mouth as a way finding strategy as compared to the use of mobile mapping apps. Gender was statistically significant with the use of word of mouth to locate tourist attractions (P=0.5, F= 3.768) as compared to the use of mobile mapping apps. This implies that age and level of education have no intention to use word of mouth whilst using mobile mapping apps. But the intentions of female and male tourists were possible to use word of mouth than using mobile mapping apps. The mean score of females (M=2.70, SD=46) was high than males (M=1.57, SD=50). This implies that females use word of mouth more than males. Males easily navigate through an environment without any assistance from anyone

Multiple investigations have suggested that way finding problems in the complex environments can cause some serious degree of stress, frustration and professional time loss (Arthur & Passini, 1992). This can strongly affect the user's cognitive approach towards way finding leading to disorientation (Chang, 2013). Particularly freshmen, have a great chance of disorientation in these environmental settings. The familiarity of the area enhance the spatial ability of tourists to locate attractions in unknown areas. Familiarity of the environments

makes it easier and quicker to use maps to locate attractions. Unfamiliarity of the environment affects the use of maps.

The results reveals that tourist characteristics such as age (P=.80, F=.333) and gender (P=.235, F=1.419) had no significant relationship with effective use of maps in unfamiliar areas. Males (M=2.87, SD=33) scored high mean values than females (M=2.82, SD=.39). This implies that both males and females were capable of locating attractions in unfamiliar areas. The mean variance between age groups were small. Iaria et al. (2009) found that the inefficient processing of information from maps is influenced by age which contributes to the navigation problems for older people. Fortunately, tourists were capable of locating attractions in unfamiliar areas despite their age differences. The level of education was statistically significant with effective maps in unfamiliar area (P=.02, F=3.293). This implies tourist with different educational levels were capable of navigating with maps in an unfamiliar area. Specifically, tourists with secondary (M=2.81, SD=40), tertiary (M=2.88, SD=32) and post graduate (M=2.93, SD=.26) navigate effectively in unfamiliar area.

The results in Table 5 reveal that Gender (*P*=45, F= .63) was not statistically significant with the use of mobile mapping apps. This implies that the relationship is not statically different between male and female. Females (M=2.84, SD=.36) enjoy using mobile Mapping Apps more than males (M=1.80, SD=.40). The age groups of tourists was also not statistically significant with the use of mobile mapping apps to locate tourist attractions (*P*=30, F=1.217). Tourists 15-25yrs (M=1.74, SD=.44) had a neutral mean value whilst tourists within the age brackets of 25-35yrs (M=2.83, SD=.38), 35-

45yrs (M=2.89, SD=.32), and over 45yrs (M=2.87, SD=.33) recorded larger mean values. It can be inferred that age groups between 20-35yrs, 35-45yrs and over 45yrs have no statistic significant relationship with the use of mobile mapping apps. The educational level of tourists were statistically significant with the use of mobile mapping apps (*P*=.01). Tourists with secondary education (M=2.71, SD=.46), tertiary education (M=2.87, SD=.33) and post graduate education (M=3.00, SD=.00) had larger mean value on the use of mobile mapping apps. Only tourists with junior high education had neutral mean values on the use of mobile mapping apps (M=1.68, M=.48). This shows that the categories of education were statistically significant with the use of mobile mapping apps.

In sum, the analysis revealed that maps were convenient navigational tools that support effective way finding. But its effectiveness was determined by tourists' characteristics such as age, gender and level of education. Tourist maps were not user-friendly to the categories of gender but was significant to the categories of age and level of education. The use of mobile mapping apps was not statistically significant with gender and age, but was significant with level of education. Map guide books was not statistically significant with gender but statistically significant with age and level of education. The use of verbal descriptions to locate an attraction was significant among the categories of gender but was not statistically significant with age and level of education.

Factors that Influence Tourist way Finding Abilities to Tourist Attractions in Cape Coast and Elmina

Ramayah, Rouibah, Gopi, and Rangel (2009) observed that behavioral control affects individual's intention to use technology information systems.

Tourists' behavioral controls could affect their intention to use of navigational aids In the study, 14 items in a construct was measured on a 5 point likert scale (strongly agree- strongly disagree) which was used to determine factors that affect tourists ability to locate tourist attractions in Cape Coast and Elmina. An Exploratory Factor Analysis was used to determine the items that affect tourists' ability to locate tourist attractions. Prior to the EFA, the data was checked if the sample size (n = 207), and the items on the constructs were reliable enough to perform factor analysis. A result from the Kaiser-Meyer-Olkin measure of sampling adequacy was .653, which was above the cut off value of .5. This indicates that there is a significant correlation between the factorability of the items. Bartlett's test of sphericity was significant ($\chi 2$ = 538.354, p < .05). Finally, the commonalities were all above .5, which confirms that each item shared some common variance with other items. Given these overall indicators, factor analysis was deemed suitable with all 14 items.

A principal component analysis was conducted to determine factorial components that should be extracted from the items. The extraction from the principal component analysis from the data resulted in five-factor components. These five factors were accepted because all their Eigenvalues were greater than one. The primary loadings of the sixth factor and subsequent factors had an Eigenvalue less than one and were not accepted. Each factor explains the percentage of variance that exits between overall factors. The result in Table 6 displays all the five factors with their eigenvalues. The five factors accounted a total of 6.602 eigenvalue and 47.157% of total variance.

Table 6: Explained Variance of factors affecting tourists way finding

Explain Variance of Factors Affecting Way finding in Cape Coast and Elmina

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Eigenvalues	1.683	1.393	1.241	1.160	1.125
% of Var.	12.025	9.947	8.864	8.287	8.034
Cum. %	12.025	21.972	30.836	39.123	47.157

Bartlett's test of sphericity (Approx. Chi-square) = 538.354, Significance = 0.000, Kaiser-Meyer-Olkin (KMO) Measure of Sample Adequacy = 0.653

Source: Fieldwork. (2019)

Extraction was done for all items using the Varimax rotation to determine the strong significant correlations among the items. The Varimax rotation resulted in a moderate significant correlation primary loadings of factor components. The extracted factor loadings were sorted by size. Items below 0.5 were not loaded. Factors were named after the items that had their highest loadings. The rotated factor loading matrix for the final solution is presented in Table 7.

Table 7: Rotated Component Matrix

	Rotated Component Matrix				
Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
I ask for directions on when to turn left or right (word of mouth)	.767				
I ask for directions on the number of streets to pass before I get to my destination	.708				
I do not have a very good ‘‘mental map’’ of my environment	.628				
Unfamiliarity of the place makes it difficult to understand maps		.682			
I have trouble-understanding landmarks		.635			
Navigational aids provides a good estimate of the size of the space					
Maps provides a precise idea of the spatial surrounding			.599		
I easily identify route path to a destinations			.577		
I have trouble understanding directions					
My sense of direction is poor				.599	
I possess adequate skills to read all types of maps				-.528	
I use mobile mapping app s or Google maps to locate attractions				-.506	
I have trouble following route directions					.703

Source: Fieldwork. (2019)

I easily locate names and features presented on the map	-.578

The results in Table 7 represents the items that were loaded in each factor with their factor loadings. Items found in each factor explains the degree of influence that affect tourist ability to use maps to locate attractions. Each factor was named according to their degree of influence.

The items loaded in Factor 1 describes the way finding abilities of tourists. De Goede (2009) posits that tourists make use of the layout of the environment causing tourists way finding abilities to be important as a navigational skill in tourism activities. The factor was made up with 3 items. Factor 1 accounted for the highest eigenvalue of 1.683, which amounts to 12.025% of the total variance. The first item ‘‘I ask for directions on the number of streets to pass’’ recorded the highest factor loading (.767). This item explains the strategies first time visitors use to locate a destination. Lawton (2010) explains that tourists’ spatial ability involves locating desired places, knowing the distance and directional relationships from one point to another. Effective spatial ability of the tourist results in effective way finding. Again the next item in Factor 1 was ‘‘I ask for directions on when to turn left or right” which recorded a factor loading (.708). This item also explains how tourist use verbal description or ‘word of mouth’ as a strategy to locate their desired destination. This activity could be very difficult for visitors who do not have clear understanding of an unfamiliar language to describe route paths of a place during their way finding tasks. This becomes a major setback that affect tourists way finding. The third item in Factor 1 was “I do not have a very good mental map of the environment”, which had the lowest factor loading (.628). Mental maps refer to personal visualization of the spatial information of a place. The third item explained how visitors were able to picture the destination in their

minds. Cognitive mapping measures how people perceive and recognize their spatial environments and to locate their routes. The geographic knowledge of the area motivate tourists to enjoy their stay and access tourist sites easily.

According to the reviewed literature, Frank et al (2001) explains that the knowledge of the environments serve as a basic spatial information needs to ensure tourists way finding. The study revealed that tourists depend on their own navigational aids to visit tourist attractions. Navigational aids which were not user-friendly affects tourists' spatial ability to locate travel routes to attractions. Tourist's destination image of a desired attraction could be distorted if available maps have inadequate information of the destination. Relevant works of literature contended that environmental forms encourage an understanding of accurate mental image representations of a place to reduce stress. O'Neill and Clive (2000) suggested that higher levels of configurationally understanding of an environment is associated with an efficient way finding performance.

Dogu and Erkip (2014) indicated that visitor's way-finding ability influences accessibility to tourist attractions and other recreational centers. The items in factor two describes the spatial orientation of the destination. The factor recorded an eigenvalue of 1.393, which amounts to 9.947% of the total variance. The factor was made up of two items. The first item was "unfamiliarity of the place makes it difficult to use maps'' with .682 factor loading and it was followed with "I have trouble understanding directions" with a factor loading of .632. Tourists with poor spatial orientation feel uncomfortable in new environments. When tourists are not able to orient themselves with the landscape of their destination, identifying a route path form their current

position to a desired destination becomes difficult. Tourists require adequate geographical knowledge to know the various route paths leading to each tourist attractions. Geographic knowledge provides tourists with a clear understanding of their new environment. Tourists are provided with the idea of sensing geographic features by processing the mind. The acquired geographic knowledge includes the ability to understand layouts and maps efficiently, to determine the spatial distribution of attractions in the locality, calculating distances of destination, identifying the routes, road types and transport systems (Wakabayashi, 2013). Unfamiliarity of the environment could cause tourists to spend more time identifying access points to tourist attractions and other recreational centers.

The items in Factor three also describes the tourists way finding abilities to locate attractions. This factor had two items that accounted an eigenvalue of 1.241 which amounts to 8.864% of the total variance. The items under this factor were "Maps provides a precise idea of the spatial surrounding" which had (.599) as a factor loading whilst the next item was "I easily identify route path to a destinations" with a factor loading of (.577). These two items explain visitors way finding strategies used in an unfamiliar area. Jansen- Osmann and Fuchs (2006) clarifies three kinds of knowledge that are used during way-finding. These are landmark knowledge, route knowledge, and survey knowledge. Landmark knowledge involves a particular location that serves as a reference point, which is easy to identify (Belingard, Péruch & Thinus-Blanc, 2000). These can be architectural elements, such as buildings, sculptures, and signage. Landmark knowledge confirms the location of the destination and it is useful in connecting routes to desired destinations. Cornell, Sorenson and Mio

(2003) explains route knowledge as the process of creating a sensory path linked to the landmark. Route knowledge develops a series of landmark actions like those given by navigation software (e.g., Google Maps: "turn right at the traffic light"). The results reveals that tourists who use navigational softwares (Google maps, mobile mapping apps and map guide books) were able to follow the paths to their desired destination. However, not all visitors were familiar with the use of navigational softwares or wish to spend time looking for details of the environment. Hence, tourists may either use verbal descriptions to locate attractions. The result reveals that tourists make use of landmark knowledge and route knowledge as their way finding strategies to locate tourists' attractions.

Tourists' way finding on the other hand involves identifying and following a route to a desired tourist destination. The items loaded in factor four also describes tourists' spatial cognition of a destination. The factor had an eigenvalue of 1.160 which accounts for 8.287% of the total variance. There were three items in this factor. The first item was "my sense of direction is poor" with a factor loading of (.599), and was followed by "I possess adequate skills to read all types of maps" with a factor loading of (.528). The third item was "I use mapping apps to locate attractions which recorded a factor loading of (.506). The items reveal that most of the tourists have adequate knowledge to read all types of maps but their sense of direction was poor. Thus, knowing when to stop, turn and move affect their ability to locate attractions.

The last factor, thus factor five also describes tourists' map reading abilities. The factor also had an eigenvalue of 1.125 which accounts to 8.034% of the total variance. This factor had two items. The first item that loaded under this factor was "I have trouble following route direction" with (.703) as factor

loading, and was followed by "I easily locate name and features presented on the map" with a loading of (.578). Castaldini, Valdati and Ilies (2005) explains that tourist maps must be easily understood by tourists with little or no education to locate desired places. If tourist maps are difficult to understand, it becomes difficult for tourists to have adequate information. This leads to poor user satisfaction and spatial inabilities.

The items in factor five reveals a similar scenario which explains tourists' inability to understand features in a map to identify route directions. Krygier and Wood (2016) clarifies that the nature (design) of maps help to understand the relationship between tourist's spatial abilities and the map they use to locate desired places. A well-designed map is easy to use and would easily assist tourists to locate tourist destinations. In contrast, poorly designed maps would mislead visitors and takes much time to understand. Bailey, Smaldone, Elmes, and Burns (2007) noted that understanding geographic information becomes inefficient as a result of inadequate information and poor designs. Therefore, tourists that visit attractions in Cape Coast and Elmina would have a poor travelling experience since identification of travel routes was troublesome.

In sum, tourists' ability to locate tourists' attractions depended on their map reading abilities and adequate geographical knowledge of an area. The way finding strategies used by tourists in Cape Coast and Elmina were landmark knowledge, route knowledge and verbal description. These abilities equipped tourists to explore tourists' destinations without any complications. Tourists had a poor image of the destination as a result of inadequate information on maps. Inappropriate spatial orientation also affected the way finding ability of tourists.

Thus, unfamiliarity of the place made it difficult to understand and follow maps. Tourists spent more time to locate their desired destinations. The factors that affect tourists' ability to locate attraction in Cape Coast and Elmina have been outlined in Table 8.

Table 8: Factors that Affect Tourist Ability to Locate Attractions in Cape Coast and Elmina

Factors	Names of Factors
Factor 1	Way finding abilities
Factor 2	Spatial Orientation
Factor 3	Way finding abilities
Factor 4	Spatial Cognition
Factor 5	Map Reading abilities

Source: Fieldwork. (2019)

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter consists of the summary of the main study and conclusions that were reached as a result of the analysis. Again, recommendations made for the study and suggestions for further research are provided in this chapter.

Summary of the Study

The study focused on tourists' perception of tourist maps in the Cape Coast and Elmina area, Ghana. The study adapted the Unified Theory of Acceptance and use of Technology to explain tourists' intention to use tourists' maps. The research design for the study was concurrent mixed method design. It was used to discover answers to questions on factors that affect tourists' way finding to destinations, and the types of tourist maps used to locate attractions. The use of the concurrent mixed method provided in-depth knowledge and explanation to why tourist maps are inadequate, the measures putting in place to market tourist attractions and the factors that affects tourist's way finding. The target population for the study comprised all leisure tourists and operating managers at tourism destinations within Cape Coast and Elmina area. The sample size for the study was 380 but 207 respondents provided usable information for the study. The sampling technique for the study was the convenience and purposive sampling techniques which were used to determine the sample size of the study. The instruments for data collection were interview guides and questionnaires. The responses from the questionnaire were coded and entered into Statistical Product for Service Solution computer software for

analysis and interpretation. Frequencies, percentages, t-test values, mean and standard deviation were presented in a table to describe the results of the study.

Key Findings

The study found that, tourists visit attractions in Cape Coast and Elmina purposely for sightseeing, fun, relaxation and rest, and to engage in cultural activities. Majority of the tourists were students, whilst females visited more than males at tourist attractions in Cape Coast and Elmina. The study revealed that operating managers do not have enough maps to assist tourists to locate attractions (Cape Coast Castle, Elmina Castle and Kakum National Park). The only map available were tour guide books in the form of brochures (paper maps) which shows tourist attractions with a brief history. Inadequate tourist maps were as a result of inadequate funds for map making and design of websites. Skilled personnel to design accurate maps of the destination were insufficient. Map making was left in the hands of private artists who sell cultural artifacts. Again, the importance of having appropriate maps and signage to guide tourists have been overlooked due to poor leadership roles and managerial skills.

Again, the study found that tourists used their own maps such as Google maps, mobile map apps whilst others use word of mouth to get to their desired destination. The demographic characteristics (age, gender and level of education) of tourists had a strong influence with the use of digital maps. Tourists within the ages of 25-35 years were familiar with the use of Google maps whilst tourists within 35-45 years were familiar with the use of map guide books. Tourists with secondary education, tertiary education and post graduate education were familiar with the use of digital maps such as Google maps and mobile mapping apps. Females enjoyed using map guide books, Google maps

and mobile mapping apps more than males. GPS devices were used by males more than females. It was unfortunate that few tourists had a knowledge of the use of GPS devices. This could minimize the patronage of the Ghana post-digital addressing system to help tourists to get information about tourism destinations. Maps were user-friendly for females than males. Tourists with high educational background described mobile mapping apps and map guide books to be effective. The use of Mobile maps and map guide books was not effective among different age groups and gender. Map guide books were patronized more than mobile maps because it does not involve high cognitive processing of information.

In sum, the study found that tourists' way finding abilities were affected by their map reading abilities, way finding abilities, spatial cognition and orientation of the new destination. The way finding strategies used by tourist was landmark knowledge, route knowledge and verbal description. Tourists had adequate map reading abilities and knowledge of the destination but their way finding strategies (sense of direction) to locate tourist attractions and other interesting places was poor.

Conclusions

It can be concluded that tourists visited attractions in Cape Coast and Elmina with their own maps and used verbal description to locate attractions in Cape Coast and Elmina. This does not portray a good destination image of our tourist attractions in Ghana. Although tourist operating managers provide brochures to market their destinations, it must be noted that the taste for paper maps to navigate new environments have shifted to the use of digital maps. Tourists make use of Google maps, map guide books and mobile mapping apps to explore attractions because their performance expectancy are very effective. The content and design of these maps are user-friendly to support effective way finding. Age, gender and level of education slightly affected tourist's ability to use navigational tools such as Google maps, maps guide books and mobile mapping apps. Tourists within 25-35years and those above 45years enjoyed using digital maps. Females used Google maps, map guide book and mobile maps more than males. Tourists used landmark knowledge and route knowledge as way finding strategies to locate tourist attractions. Map reading abilities, spatial orientation and spatial cognition (knowledge of the destination were the major factors that affected tourists' way finding abilities.

Recommendations

Based on the findings and conclusions drawn from the study, the following recommendations are made.

1. Is about time facility managers of tourists' attractions take a paradigm shift from the use of paper maps and brochures to digital interactive maps. More maps should be designed and made available to provide information about tourist attractions. Again, awareness of Ghana's digital addressing system

must be made known to tourists for easy navigation to tourist destinations. This will avoid tourist way finding problems.

2. There must be effective collaboration between the land Use and Spatial Planning Department, Ghana Tourism Authority and facility managers of tourist attractions in Cape Coast and Elmina, to design a collective data base of attractive destinations that would provide adequate information about travel routes, locations, landmarks and street names of the destination.

3. Available funds to design maps and websites to improve service delivery must be provided by management of heritage sites and recreational centers. The available funds will sponsor the cost of updating websites and designing user-friendly maps in the form of guide books, mapping apps that shows all tourist destinations in Cape Coast and Elmina, which will motivate tourists' to visit regularly. This will promote the image of the destination and provide information to visitors to have a fair knowledge of the place before they visit.

5. Adequate provision of way finding signage and other navigational tools would help improve tourism sustainability. This would attract more visitors and improve economic development by pointing people to appropriate areas a municipality wants people to see, explore, experience, and connect existing visitors to discover more.

6. A properly developed and executed tourism way finding plan would direct visitors to key attractions and natural assets. It would coordinates and enhances the overall image of the municipality as a destination with a consistent and attractive standard design. This would increase tourist's confidence and safety to move freely in a new destination.

Suggestions for Further Research

To obtain more understanding of tourists perception of tourists' maps, further studies could adopt a case study approach to probe further the spatial behavior of tourists in an unfamiliar area.

Further studies could look at other behavioral factors in tourist way finding which were not part of this study. This will contribute to identify other factors that affect tourists way finding, aside the problems discussed in the study.

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APPENDIX A

UNIVERSITY OF CAPE COAST

COOLEGE OF HUMANITIES AND LEGAL STUDIES

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

QUESTIONNAIRE TO BE ADMISTERED TO TOURITS

Purpose: This questionnaire seeks to assess tourists' perception of tourist maps used in the Cape Coast and Elmina area. The information you provide will be treated confidentially and will be used for academic purpose only. You are therefore not to write your name anywhere in the questionnaires. Kindly express your candid opinion which will serve as useful information for this research. In filling the questionnaire, please be as honest as possible. Thank you for agreeing to participate.

SESTION A: DEMOGRAPHIC BACKGROUND

1. Age : 15-25 years [ ] 25-35 years [ ] 35-45years [ ] 45 years and over [ ]
2. Sex: a. Male [ ] b. Female [ ]
3. Marital Status: a. Married [ ] b. Single [ ] c. Divorced [ ] d. Separated [ ]
4. Occupation a. Teacher [ ] b. Self Employed [ ] c. Unemployed [ ] d. Student [ ] e. Civil servant [ ]
5. Level of Education a. Junior High School [ ] b. Senior High School [ ] c. Tertiary [ ] d. Post Graduate [ ]

6. Number of visit

a. First time visit [ ] b. Second time [ ] c. third time [ ] d. more than three times [ ]

7. Purpose of Visit a. Sightseeing [ ] b. Fun, Rest and Relaxation [ ] c. visiting Friends and family [ ] d. Culture [ ] e. Conference [ ]
8. Continent of Origin
   a. European [ ] b. Asia [ ] c. Australian [ ] d. African [ ] e. American [ ]
9. Travel Party
   a. Alone [ ] b. Family [ ] c. Friends [ ] d. Associates (groups) [ ]

Section B

The types of maps Used by tourist to explore tourist attraction in Cape Coast and Elmina

This section identifies the type of maps used by tourist for the purpose of their visit to attractions in Cape Coast and Elmina area, Ghana. Kindly select the appropriate answer for each question.

1. How did you arrive at the tourist attraction?
   A. Was directed by a friend
   B. By using a mobile map/Google map
   C. By following a directional sign
   D. By using word of mouth

2. Which of the maps do you highly depend on for the purpose of your visit?

A. Google Maps

B. GPS devices

C. Cartographic Maps

D. A map guide book

E. Mobile Map Apps

3. Was there any challenge you encountered visiting your tourist destination? If any, share with us

……..

4. What are your recommendations to make this tourism destination more attractive and comfortable to visit?

……

……

SECTION C

EFFECTIVE USE OF MAPS TO LOCATE TOURIST ATTRACTIONS AT CAPE COAST AND ELMINA AREA WITHIN THE CENTRAL REGION OF GHANA

This section seeks to examine tourists' ease of use of maps to locate tourists' attractions in Cape Coast and Elmina area. It assesses how effective maps assist tourists way finding and use of navigational tools for the purpose of their visit. Kindly select the appropriate answer for each question. Please put a tick mark (√) in the appropriate box to indicate your level of agreement or disagreement with each statement: 1 (not at all effective); 2 (not effective); 3(Neutral); 4 (effective); and 5(very effective). Best regards.

		NAE	NE	N	E	VE

	STATEMENTS	1	2	3	4	5
1	well-designed maps are convenient for way finding					
2	Maps are easy to understand in unfamiliar area					
3	Is easy to locate attractions using mapping apps					
4	Maps are user-friendly					
5	Maps in the region have adequate information for effective way finding.					
6	Map guide books are more effective than mapping apps on the phone					
7	Verbal descriptions are effective than mapping apps					
9	A tour guide assistance is effective than using mapping apps to visit attractions					

SECTION D

FACTORS AFFECTING TOURISTS ABILITY TO LOCATE TOURIST ATTRACTIONS

This section examines the factors that affect tourists' ability to locate tourists' attractions in Cape Coast and Elmina area. Tourists ability to locate attractions are analyzed under the following constructs such as way finding abilities, spatial orientation, map reading abilities and spatial cognition. Please put a tick mark (√) in the appropriate box to indicate your level of agreement or disagreement with each statement: 1 (Strongly Disagree); 2 (Disagree); 3 (Neutral); 4 (Agree) and 5 (Strongly Agree).

STATEMENTS	SD	D	N	A	SA
Way finding					
Following route directions are difficult					
I ask for directions on the number of streets to use					
I ask for directions on when to turn left or right (word of mouth)					
I use mobile mapping apps to locate attractions					
I depend on route paths to a destination					
Spatial Orientation					
Maps provides precise idea of the spatial surroundings					
Navigational aids provides a good estimate of the size of the presented space.					
I have trouble understanding landmarks					
My sense of direction is poor					
Map Reading Abilities					
I easily locate names and features presented on the map					
I possess adequate skills to read all types of maps					
Unfamiliarity of the place makes it difficult to understand maps					
Spatial Cognition					
My ‘‘sense of direction’’ is very poor					
I have trouble-understanding directions					
I do not have a good mental map of my environment					

APPENDIX B

UNIVERSITY OF CAPE COAST

COOLEGE OF HUMANITIES AND LEGAL STUDIES

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

INTERVIEW GUIDE FOR TOURIST SITES OPERATING MANAGERS

Purpose: This study focus on tourists' perception of tourist maps in the Cape Coast and Elmina area. The information you provide will be treated confidentially and will be used for academic purpose only. You are therefore not to write your name anywhere in the questionnaires. Kindly express your candid opinion which will serve as useful information for this research. In filling the questionnaire, please be as honest as possible. Thank you for agreeing to participate.

SECTION A

INTERVIEW GUIDE FOR TOURIST SITES OPERATING MANAGERS

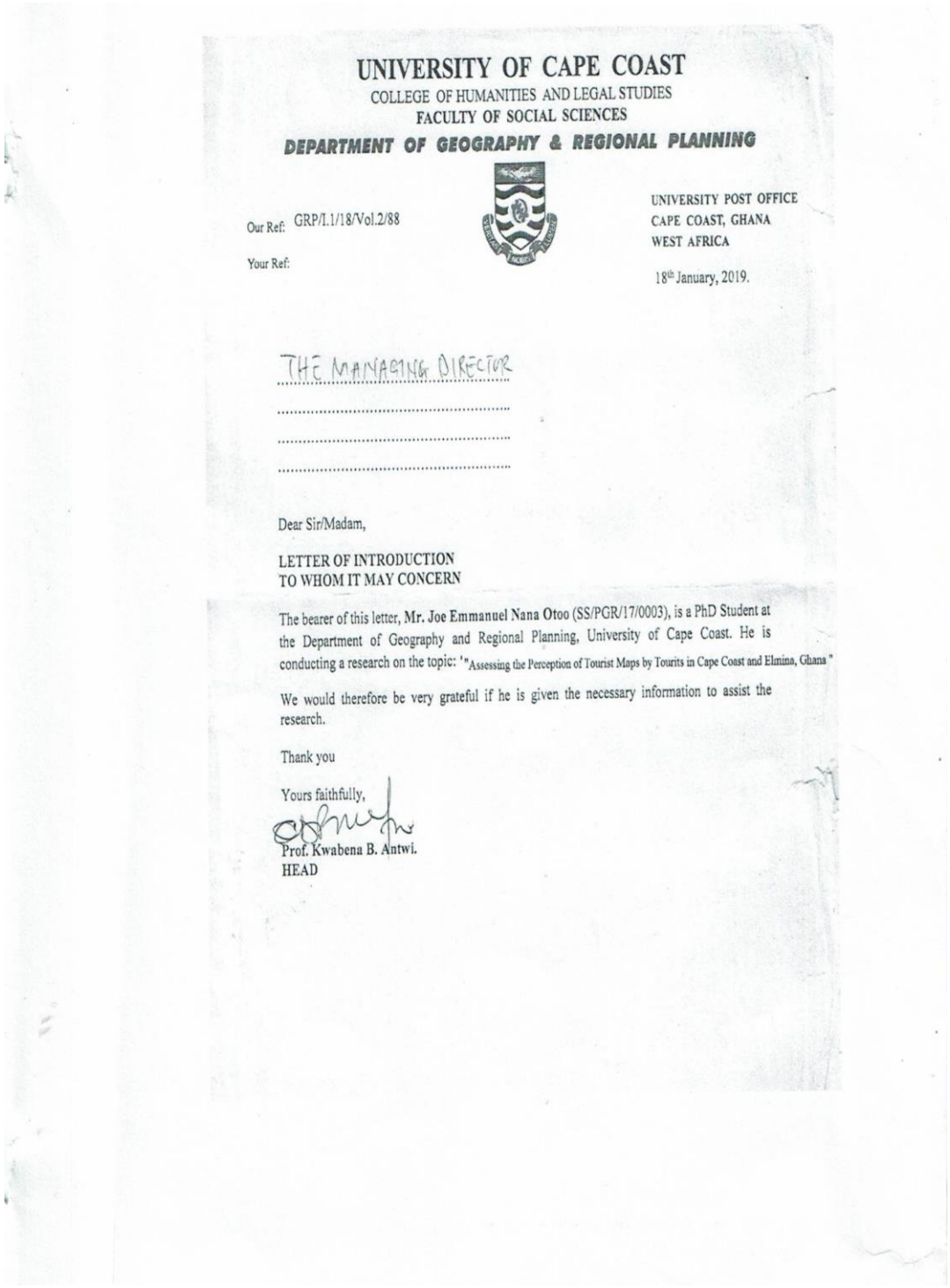
This section seeks to explore the types of tourist maps used to visit tourist attractions in Cape Coast and Elmina area. It contains questions as a guide for an interview schedule with tourist site operating managers and the director of Ghana Tourism authority in Central Region.

1. What type of maps are available to guide tourists?
2. Which of the types of maps are available?
3. Where are the maps located in the region?
4. What are the challenges associated with the making of maps?
5. How long does it take to update tourist maps?
6. What measures have been in place to ensure managing signpost and maps?

7. Do you have adequate skills in the use of geographic information system to manage spatial data?
8. Where are the sources of revenue to design tourist maps?

APPENDIX C

INTRODUCTORY LETTER



UNIVERSITY OF CAPE COAST
COLLEGE OF HUMANITIES AND LEGAL STUDIES
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF GEOGRAPHY & REGIONAL PLANNING

Our Ref: GRP/I.1/18/Vol.2/88

Your Ref:

UNIVERSITY POST OFFICE
CAPE COAST, GHANA
WEST AFRICA

18th January, 2019.

THE MANAGING DIRECTOR
.....
.....
.....

Dear Sir/Madam,

LETTER OF INTRODUCTION
TO WHOM IT MAY CONCERN

The bearer of this letter, **Mr. Joe Emmanuel Nana Otoo** (SS/PGR/17/0003), is a PhD Student at the Department of Geography and Regional Planning, University of Cape Coast. He is conducting a research on the topic: "Assessing the Perception of Tourist Maps by Tourits in Cape Coast and Elmina, Ghana."

We would therefore be very grateful if he is given the necessary information to assist the research.

Thank you

Yours faithfully,

Prof. Kwabena B. Antwi.
HEAD