



Extraction of Service Oriented Product System Design Strategies for the Upgrading of Local Manufacturing Sandals in GHANA (AHENEMA SANDALS AS A CASE STUDY)

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ABSTRACT: This article discusses the Ahenema sandal from a cultural perspective; from this perspective, the cultural base business service of the enterprise was the focus point. Then service design thinking concept coupled with user experience be used to explore culture-base service business of the Ahenema enterprise. This paper offers reflection and seeks to analyse the need for service-oriented product system necessity into Ahenema sandal enterprise in Ghana through literature research. Secondly, this paper aims to develop and promote the Ahenema for cross-cultural market segment with modern service design techniques. The focal goal is to create a new design tool for designer to bridge user-centeredness and cross-cultural experience among users. A review of literature includes [1-4].The research method used was Purposive Sampling and Ethnographic Methods. Then Fallon Decision Matrix and Descriptive Analysis were used in analysing data and questionnaires. Questionnaires carried out include, brand connection, service design awareness, memory, likability, reputation, and demand of service design, potential action of extracting service-oriented strategies and recommendation on sustainable service design etc. was sought and discussed using qualitative and ethnographic research method. The outcome demonstrated a possibility of service-oriented product design systems in the cultural base Ahenema service. This result aimed at not only playing the role of the uniqueness of the Ahenema sandal, yet moreover to develop and promote Ahenema for the cross-cultural market segment with a modern service design technique in the area of the economic image, brand competitive and realizing the effective integration of service-oriented design strategies.

KEYWORDS: Ahenema sandals, design service, service-oriented product system design, Cross-cultural experience.

I. INTRODUCTION

In Ghana, leatherwork has been an old vocation polished over a century. Its practice is concentrated in the northern parts of the nation and spreads southwards through the Ashanti and Greater Accra regions. Ahenema is a native sandal to the people of the Akan. The Ahenema sandal is an integral part of the Ghanaian culture and is worn by both gender and comes various kinds with icing status to the wearer in the aspect of personality, mood, financial status sometimes and most significantly the cultural value. It is endorsed with the essence of the cultural heritage of the people of Akan in Ghana with a rich historical background. Through history, only the usage, material and function of the Ahenema sandals has experienced changes and researched. The industry serves as the lifeline for the livelihood of several people across the country; nevertheless, its economic impact has not been felt much as an industry. This phenomenon calls for service design research methodology, analyzing from social, cultural and sustainable development aspects and treat service as a platform, the



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Ahenema as a tool, starting from stories, by using customer participation creatively, to come up with contents to provide a service. In this way, consumers can integrate themselves into the history and culture of Ahenema, from this perspective of cross-cultural experience and economic development to further seek the cultural theme inside consumers' mind, creating the brand image emphasizing on experience.

A. SIGNIFICANCE OF THE RESEARCH

This research will serve as a model in understanding the need of service oriented product system design in upgrading local manufacturing enterprise with greater part being channeled to service design thinking method and user center experience. This research will help and develop Ahenema for cross-cultural market segment with a modern service design technique. This research will assist manufacturers of the Ahenema sandal to adapt to modern service design perspective which is aimed at giving experience to its consumers rather than focusing on product. For researcher this paper will help in coming up to improved models that will not only help in upgrading of the traditional base service of the Ahenema enterprise but also improve both service services. For the designer, the study could help in creating new tools and ways to bridge user center and cultural experience for its consumer.

B. LIMITATIONS OF THE RESEARCH

This research is about service oriented product system design as bread stuff aim to upgrade the Ahenema sandals for cross-cultural experience. The research was limited to the people of Akan who mostly use the Ahenema sandals as observe by [5] and [6]. Secondly, the survey was covered by only 55 participants between the ages of 20 – 35 years. Hence, it became basically impossible to use such a small fraction to represent the majority.

II. LITERATURE REVIEW

A. AHENEMA SANDALS

Ahenema is a native sandal to the people of the Akan states. Akans are the largest ethnic group in Ghana. The Akans occupy five of the ten Regions in Ghana. These are Ashanti Region, Brong Ahafo Region, Central Region, Eastern Region and Western Region[7]. The Akans are endowed with rich traditions and culture with respect to artworks and regalia which the Ahenema sandals convey cultural identity. In the beginning, it was used by royals as the Ahenema literally means Chief's children. The sandal was decorated with a gold ornament to show etiquette and appreciation, prestigious nature of the royal and also represent a strong ethnic characteristic. Today the Ahenema sandal usages are not limited to royals, chiefs, and queens and well know people in the community. Its usage spread beyond the traditional and contemporary used as reviewed by observed by[8]. It comes in predominantly three colors; black, red and white. Others include yellow and other multi colors. The manufacturers have developed names to the sandals and most are from the traditional Adinkra symbols, while others deprived their names form proverbs etc. these names mostly depict where it should be worn.

B. SERVICE-ORIENTED PRODUCT SYSTEM DESIGN

As a developing country, Ghana has its goals to be attained by 2020 in the national vision. The vision thus aims at diversifying the economy by growing the different sectors of Ghana's economy, including supporting and crafting funds for local manufacturing products. Industry design has been long used to solve problems of mass production in many developed countries. The upgrading and transforming of the locally manufacturing enterprise in Ghana require the transition from industrial society to a post-industry society where service design forms a stronghold of the transition. Service-oriented product system design will help shift market and brand competition to a more business and service competition. Service-oriented product system design will focus on the user-center than the market competition and help make a suitable service to affect all touch point of the customer affections. The focus is to develop a service aimed at giving an experience to consumer which are developed according to consumer's touch point rather than selling more products. The service becomes the main source of profit to the enterprise, not the product. The service-oriented product system design model leads to interaction, business model, products. APP which can be experienced by the user, websites are component of the physical



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evidence of the service model which can be used as the ultimate goal of the service and can also solve problems of daily life and meet a multipurpose life needs.

C. SERVICE DESIGN

Service design is the planning and organizing people, framework, correspondence and material parts of service so as to enhance its quality and the interaction between a service provider and its clients. In the 1960s there was a global tremendous change due to the improvement in the service industry as a result of industry structures. The modern industry demonstrated a worldwide transition from industrial to service [3], Richard Buchanan said, one of the great strengths of design is that we have not settled on a single definition.[9] may work as an approach to illuminate changes to a current administration or make another administration completely. The purpose of service design is to structure the best set up to practice service as demonstrated by both the needs of customers and the capability of the service provider. [10] agreed that service design theories support the co-operation of different disciplines towards the goal of corporate success through improved customer experiences, employee satisfaction, and integration of advanced technological processes in pursuing corporate goals. Service design makes use methods and tools from different disciplines, ranging from ethnography[11], [12, 13] to information and management science [14] to interaction design [15, 16].

III. RESEARCH METHOD AND SAMPLING

The literature reviewed includes secondary document made on ethnographic research method on Ahenema transposing current cultural base service of Ahenema business, cultural products, the interaction between community, technology, culture among the Akans in Ghana,[17] and online survey through Facebook. The online survey was made to target manufacture, consumers and retailers of the Ahenema sandals ranging from the ages of 20-35 years. An ethnographic approach was deemed the most significant to demonstrate quality over quantity and proud of culture. Purposive sampling was used to select participants for Facebook and focus online survey. Purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based on a variety of criteria [18]. The invitation was sent to Facebook to invite manufacturers of locally made shoes, consumers of Ahenema sandals, retailers and persons of interest by the researcher. The targeting focus size was 20 -25 members. The targeted number was fifty-five (55); fifteen (15) manufactures, thirty-eight (38) consumers and two (2) resource people. The online survey a link was created on Facebook by the researcher and base on ethnographic sampling require was send to sixty (60) people to participate and fifty-five (55) people in total were got as a participant for questionnaires. Questions asked range from the current service business method used by the Ahenema manufactures, brand connection, memory, potentials of establishing service-oriented product system design in the Ahenema business, suggestions on sustainable service, service design demands and awareness and modern business service methods.

A. DATA ANALYSIS METHODS: ETHNOGRAPHIC THEORY, FALLON DECISION MATRIX (FDM), AND DESCRIPTIVE ANALYSIS.

a) DESCRIPTIVE ANALYSIS

Descriptive analysis as observes by[19] is a method of describing numerical data collected from a survey with descriptive statistics. It makes use of percentages and frequency distribution in the form of charts to explain or demonstrate, compare the interrelations among the data size. The mean, mode or standard deviation is also another procedure summarizing the data sample which includes numerical charts.

b) FALLON DECISION MATRIX

Decision Matrix is an orderly process for summarizing decision and its effectiveness lies in its ability to show and present clearly how the answer was obtained. It was invented by [20], a mathematician, a value analyst, and philosopher. The Fallon argues that the decision-making system must have the following steps:



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- (1) Select criteria
- (2) Define limits, reference levels, and sensitivity curves
- (3) Establish weights or relative importance factors
- (4) Rate each alternative on each criterion
- (5) Calculate relative figures to give a solution.

c) ETHNOGRAPHIC THEORY

Ethnographic method was used to gain insight into the people of Akan who mostly use Ahenema sandals as observed by [5] and [6]. According to [21] and [22] allows the researcher to immerse themselves as creators of their own empirical settings for their own meaning. During the research, the researcher tells experience in terms of his or her participation and observation in the research and it adds richness and texture to the experience of conducting the research in a narrative interpretation of the entire event that took place.

IV. QUESTIONNAIRES FROM MANUFACTURERS, CONSUMERS AND INNOVATIVE SUGGESTIONS FROM CONSUMERS.

The survey shows that most respondents were literate. They had a formal education and the responses clearly demonstrate their level of intelligence.

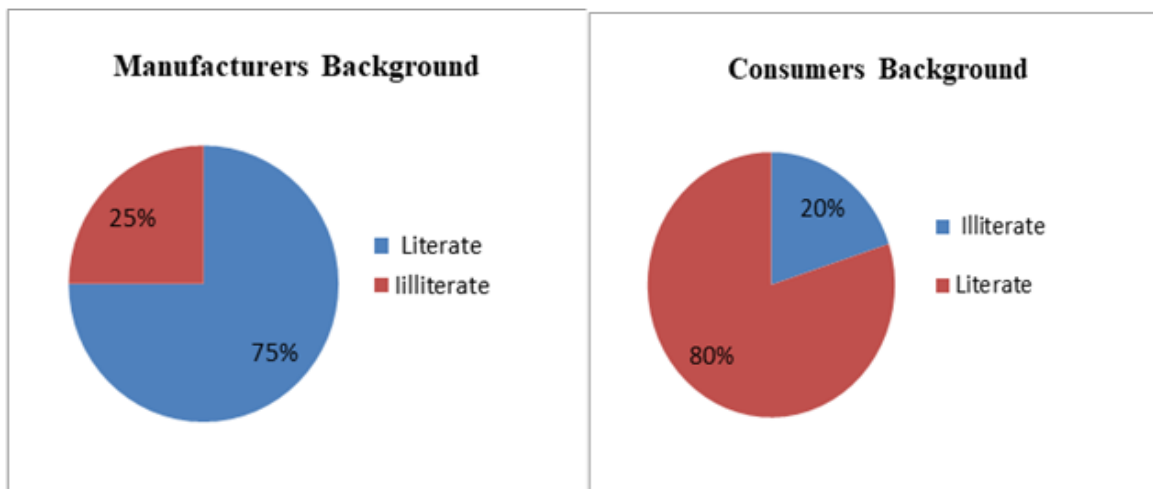


Figure 1: Educational background of both manufacturers and consumers

A. PRESENT DESIGN STATUS

As shown in Figure 2, both consumers and manufacturers do not know about service design. Among few respondents from the questionnaires claim to have an idea about service design, but could not clearly demonstrate how to give an experience to their clients. The consumer also was also confused about service from the manufacturers and the product they buy. In the area of advertisement, Cultural Brand and Service design, respondents claim the area scores below 45% and there could be a way of improving the trends. Even most manufacturers have an idea of design and how to make their product suit the



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market, they never taught about an experience for cross-cultural purposes and how to touch the user touch point. It response from the survey also demonstrate a possible 55% from both manufacturers and consumers of a potential advancement of service design method in the enterprise. This arouses hope of a successful introduction of service design method

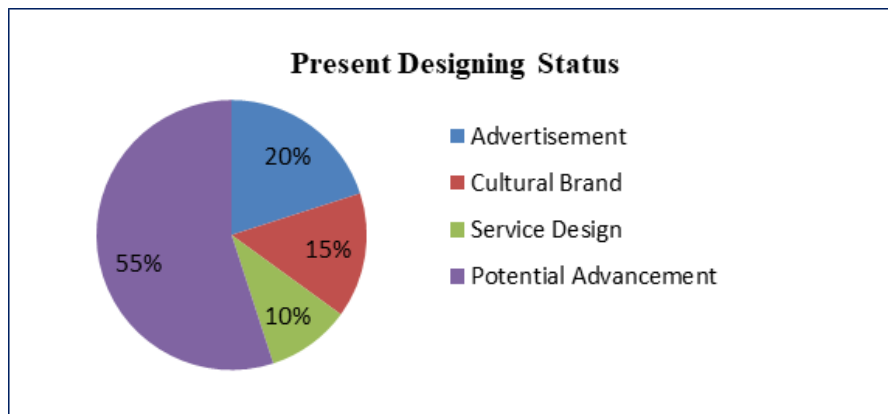


Figure 1 Knowledge about present design status.

B. POTENTIAL ESTABLISHMENT OF SERVICE ORIENTED PRODUCT SYSTEM

The survey shows that most of the manufactures are literate and are willing to adopt to new trend in satisfying consumer needs. 5% of the manufacturers claim it's difficult to introduce it system into their current management, 45% says they can give it a try when the necessary training and education is given and 35% agreed to try it and says it going to be easy.

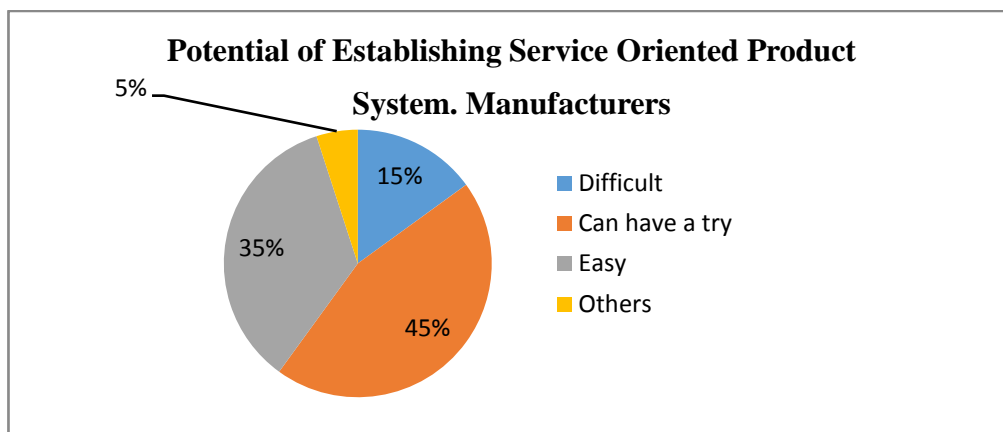


Figure 2: Potential establishment of service oriented product system



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C. What are the expectations from using the Ahenema?

As is shown by Figure 4, it shows respondent view about the Ahenema sandals. Most participants expressed that Ahenema is a cultural product and deem it highly cultured when they use it. According to them, is embossed their cultural ideology and esteem. Others express it is elegance and of value when they used it. It is due to the history and style which is carried around the sandal. Only a few respondents claim the sandals to be gentle and delicate when used.

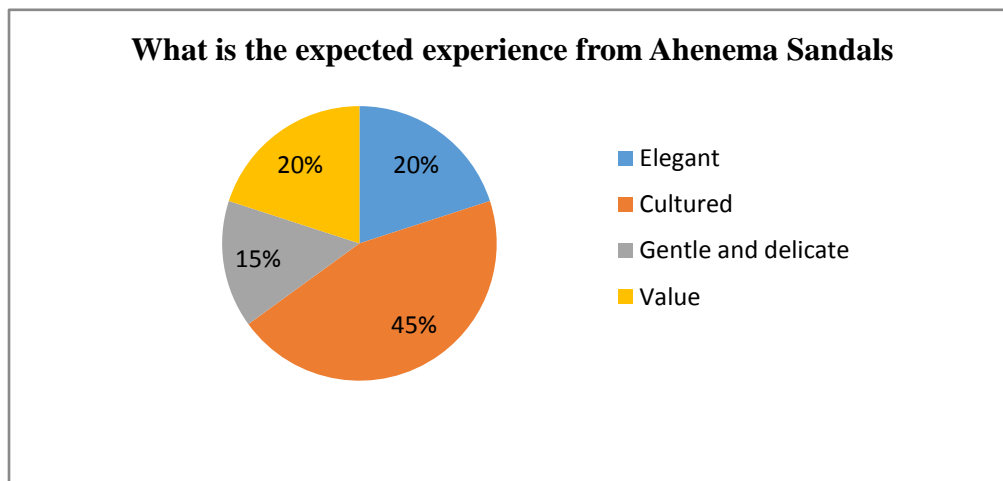


Figure 3: Expectation from using Ahenema.

D. Do you wish to make a difference material to make the sandal?

26% said they want no change in the sandal. They claim is a cultural product so changing its material and style of production will affect the cultural value of the product even though it has come major short comings. 5% had nothing to say about the change of material their reason was they don't normally use it. 69% of the respondents claim because of the discomfort of wearing it and there should be a modernize material to ensure user comfort and durability not going the cultural symbolism.



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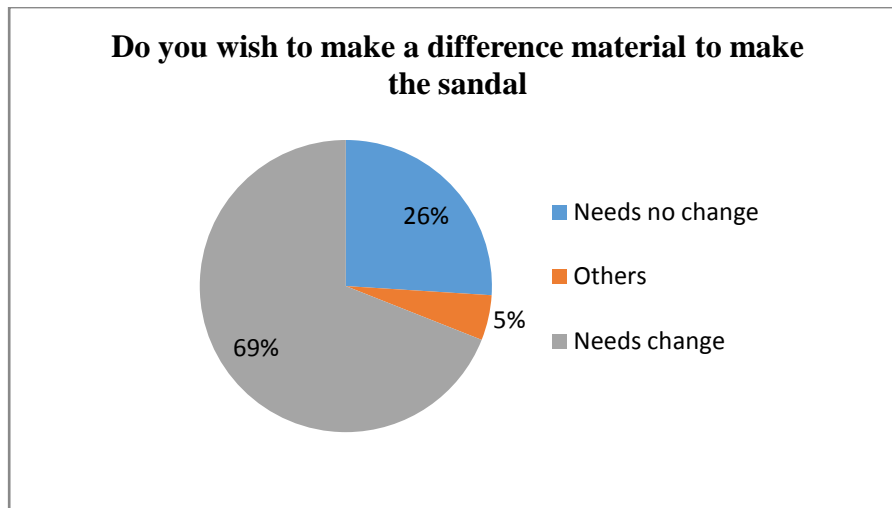


Figure 4: Wish to have a different material to make the sandals.

V. IMAGINARY INNOVATION OF THE AHENEMA SANDALS FOR CROSS-CULTURAL PURPOSE

The respondent was asked to give a suggestion about how they want the Ahenema service to look like in future. The purpose was to understand the needs of the consumers and also help the manufacturer meet the touch point its consumers.

A. Do you like the current traditional business services of the manufacturer? Give suggestions

Bad marketing service which affects the sale of products was an answer a consumer gave as to why he dislikes the service. 35% dislike it because lack of customer relations between the manufacturers and consumer. 20% also claims there is no e-commerce service so they can't purchase their sandal online couple with bad delivery and packaging.

B. Do you feel comfortable when wearing the sandal? Give experience and innovative ideas.

Most respondents claim it uncomfortable to wear the sandals. In a survey to determine their uncomfortable state, 40% revealed is because of the materials used to make it. 20% said that the colors and shape of the sandals were out of fashion and needed something modern but the same time traditional. 15% wrote there should be an improved material to reduce the weight of the sandals. 25% of the respondent complained about pain on the feet after wearing the sandals this is due to the weight and shape of the sandals when they wear it for long. A consumer complained because the manufacturer doesn't know sandal size of all client he suggests there could be sizing technology which can mould their feet and give accurate size of their sandals.

C. Would you like to see a change with the Ahenema Sandals and innovative idea do you suggest?

Although most respondent thinks the sandals is a cultural symbol and like to used it for most occasion, they still wish to see some changes in its monotonous usage. 76% of the respondent wants to see change in the sandals, they claim changes should be done in packaging, variety of shapes and design on the market, colors used should be bring to meet the contemporary world. They also think there should a means of customizing their own sandals from their comfort zone. The



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rest making 26% also suggested to have a good consumer relation to which the manufactures. They also suggest probably an online app could assist e-commerce sale as the world now is moving toward digitalization.

D. Which aspect do you want to see a change based on innovative ideas in the Ahenema Business?

With the areas of change most respondents wish they should be in the part of the enterprise thus user centered. 55% of consumers claim the producers just focus on the sale of the sandal and do not care about the costumers. 20% also wish to hear stories and names of the sandals they purchase so they can learn from their culture. 25% also wish they could get a souvenir anytime they make a purchase. They suggest this could boost their experience any time they see the souvenir.

VI. THEMATIC ISSUES

The service design tools used to carry this research like the journey map provide a framework to identify certain issues in the traditional cultural base service of the Ahenema enterprise. These issues were reviewed and are discussed as follows.

A. LACK OF USER-CENTERED PRACTICES

Today, under the requirement of promoting traditional culture and protecting intangible cultural heritage, most business services are attaching great importance on user-centered. Ahenema sandal has a long history, which is positive and can represent a positive culture with certain social taste. From analyzing the result of the questionnaires and the journey map, the customers who visited the shop were found either standing or sitting ideally. All purchase was done on the traditional method, thus transactions are made in the shop with no online shopping and delivery system. This creates overcrowding in the shop, making it difficult for manufacturers to pay attention to each customer wants or need. There is a just a little form of interaction between the customer and manufacture and between customers. And makes things worse, there is a lack of variety of the Ahenema sandals and some design was too ancient and the customers wanted innovation.

B. LACK OF ATTRACTIVE TOUCHPOINT

The core value of a business service is to create a memorable experience for this consumer. The services touch point, as mentioned, start from the first contact of the user. The Ahenema business services lack an attractive touch point from a diverse angle. Thus, the enterprises need more attention and enhancement of user focus to compete with competitors and attract more consumers. The manner the sandals are displayed in shares, the ways they are welcome to the shop, the furniture's in the shop, the entrance of the shop all contribute in bringing experience and pinning the user down into the service.

C. LACK OF TANGIBLE EVIDENCE

In the cultural base business service of the Ahenema enterprise, there is the absence of tangible experience for the consumer. It is known that physical evidence such as souvenirs creates in-depth memories in customer service. Again many aspects of the service remain abstract thereby making it difficult to register any service memory. The results from the questionnaires conducted it was reviewed that, most customers could not find anything relating to in memory from visiting the Ahenema shop. Again, the customer answered they feel neglected and are left out once their purchase is being made.

VII. AHENEMA SANDALS AS A SERVICE

Having explored the thematic issues surrounding the cultural base service of the Ahenema sandals and opportunities arising, a service was created for the consumers of the Ahenema sandals. The consumers were group into three namely, the public, the armature and the professional. The public consists of those born after the 90s, which is made up of young and middle age who have a fastpace of life and high purchasing power and are interested in trying new technology. The



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armature includes the general native who pays attention to traditional art and artifact. They pay detailed attention to culture and respect the traditional product. The professionals are also made up of foreigner and tourist. These are the consumer who purchases to satisfy a certain lifestyle or to memorize their trip.

Firstly, a mobile app service can be created for the consumers. The mobile app will bring together sizing technology and e-commerce to enhance the service of the Ahenema business. The sizing technology will offer consumers precision measurement and the manufacturer to ensure quality and durable Ahenema making. The sizing technology will offer a platform for consumers to choose the type of sandals, help the consumer to integrate it with accessories, create you customizes Ahenema with precision. E-commerce is another area in which service provider can use to understand the user want and needs and can improve service of the Ahenema business. The e-commerce aspect will be used for online ordering, navigating through the shop to find what you want before going to it. It will also cater to the safe and reliable delivery system. The mobile app will help generate interest and enjoyable experience for not only the public consumer but also to ease the purchase of the tourist.

Secondly, is to present the symbolic meaning the Ahenema sandal. Well-known products portray and symbolize the meaning of their products. The mobile app will contain a timeline story and history of the Ahenema. Consumers will also intend to pay more for a product or brand if the value is well known and are satisfied with them. The mobile app will create an online short history of the Ahenema sandals, stories of the materials used, and how it reflects the diary life of the wear and community they find themselves. The value of the Ahenema that consumer experience brings self-dignity, honor given the symbolized product (Ahenema) and when they have strong credibility, they highly appreciate the service of the enterprise.

To add to the above point, excellent packaging can be beneficial to enhance the business service. From the first time the Ahenema was being used till now, there has not been zero contribution to it as a brand in terms of packaging, despite the sandals being highly respected and use in the Akan communities. The Ahenema is well known in the Ghana and people gave out a gift and present during naming ceremonies, marriage and used as all occasion for both religious and social purpose, good packaging design can add value to the product and also fulfills modern aesthetic.

In all service design is a new model of selling more product by focusing on user experience. It includes models which when developed can lead to new business models, products and other necessary means of design. In this view manufactures of the Ahenema sandals must be willing to transform themselves from selling of product to providing of service. They should search for new product development and innovative ways to present the Ahenema sandals. With the integration of ancient styles, emphasizing on the combination traditional culture and modern cultural innovation and service-oriented product system design, service design should move hand in hand with local cultures to move Ghana economy from function economy to service economy. To achieve this manufactures should set long term development plan into their business and how to include consumer in the service they provide.

Below is a storyboard of how the modern Ahenema service will be experience.

Story board



A middle age man with his son sitting on a sofa in their living room. The man is busy and get to the shop to get Ahenema sandal. He takes his phone and opens the Ahenema platform and looks through the available sandal on the platform for his choose. He gets an option on that platform which assist him customize his own sandals. He chooses a variety of material and accessories to modify his sandals. With the sizing technology on the platform he takes a picture of his feet and get the form and size of the feet. He also sees the customized Ahenema sandal on his feet from the sizing technology. The customer Service helps him to make payments and guides in giving details directions for this parcel and delivery information. He is happy as he reads the story of the Ahenema to his son and learns about the various names of the sandals.



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V. CONCLUSION

The case study was used to investigate the cultural base service of the Ahenema sandals business. The author used ethnographic and empirical investigation on the Akan people of Ghana who are known for the use of Ahenema [6]. From the questionnaires, the author came across cons and pros for introduction service-oriented product system design in the Ahenema enterprise. Journey map, mobile ethnography, Fallon Decision Matrix, and other useful service design tool were used to analyze the case, identify thematic issues. The case study also offered a learning moment of service design methods that can help improve the cultural base Ahenema service. Service design, as the newborn design thinking has been accepted by most developed countries across the world and has the potential of transforming the business from functional to user center experience. If the culture of the Akan people and service design thinking principles are integrated into a modern business service it will provide a framework to enhance localized design innovation and appreciation. An effective appealing from the user experience will make made in Ghana product a prominent cultural product with a priceless value.

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