Product Analysis Based on Botswana's Postcolonial Socio-cultural Perspective

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Products designed and manufactured in any country are influenced by local factors, such as the availability of raw materials, human skills, tradition, and socio-cultural values. The tendency to use available natural resources is in harmony with the eco-system. It is expected that culture plays a crucial role in designing contemporary, socially-acceptable products. This paper describes a comprehensive experimental study analysing several products made in Botswana and identifying the underlying socio-cultural factors that influenced their design. The study was conducted in collaboration with design students at the University of Botswana. Visual and textual data were collected. The results indicate that materials, emotional socio-cultural factors, and social practices have not yet been incorporated convincingly in contemporary product design. The paper proposes how designers can integrate socio-cultural factors by 'conscious design efforts' rather than by 'accident,' thereby leading to innovative, culturally-oriented and cherishable products with wider product acceptance.

Keywords - Culture, Botswana, Design, Product Analysis, Socio-cultural Factors.

Relevance to Design Practice - The research challenges the way products are designed for different cultures and supports the use of local content for the design and development of new products.

Introduction

From an African perspective, and using a postcolonial socio-cultural framework of analysis, this paper describes a socio-cultural study of indigenous products that were designed and manufactured in Botswana. It has been observed that Botswana's contemporary designers have not yet been able to encode cultural phenomena to the same extent as physical and cognitive human factors (Moalosi et al., 2005). Therefore, the current study was motivated by a need to conduct research that could assist designers attempting to encode socio-cultural factors in their design practices. The paper proposes how designers can integrate socio-cultural factors by 'conscious design efforts' rather than by 'accident' or by 'chance' in product design. This would ultimately be expected to lead to more innovative, culturally-sensitive, environmentally-sound, cherishable, and user-friendly products in Botswana, which in turn may lead to wider product acceptance.

First, the paper outlines economic and social information about Botswana, proposing that its economy can be diversified through product design. Next, the paper analyses Botswana's culture, drawing on postcolonial theory. This was done to identify and articulate elements of socio-cultural tradition characterising indigenous products. Such elements assist designers to draw on a foundation upon which they could extend to new experiences, since the past helps to form the present and future. These traditional socio-cultural factors were then divided into material practices, social practices, and emotional factors.

The paper proceeds to report on an experiment conducted on a focus group comprised of University of Botswana design students. Participants, having studied the socio-cultural analysis outlined above, analysed certain selected products relative to the socio-cultural factors incorporated within them and their importance to Botswana's society. The paper concludes by proposing how socio-cultural factors could be employed in the design of culturally-oriented products.

Botswana's Socio-economic Framework

Botswana is a landlocked country situated in Southern Africa with an area of approximately 581,700 square kilometres. The population of 1.6 million practises a democratic system of multi-party politics (Central Statistics Office, 2004). Botswana attained its independence in 1966 from the British Protectorate. There are over fifteen ethnic groups, which together represent a rich and diverse cultural heritage. Of these ethnic groups, 79% speak the Setswana language with its myriad dialects. This valuable heritage must be preserved, nurtured, and developed to foster a strong sense of national identity, pride, and unity (Ministry of Labour and Home Affairs, 2002). However, even though Setswana is the national language, English is the official language.

The average gross domestic product (GDP) per capita annual growth has been 8%, while the average per capita income is US$3600. This puts it in the category of middle-income, newly-emerging economies. Botswana's economy relies heavily on diamonds, which generate much of the country's revenue, as they contribute 45% to the GDP. Tourism is viewed as the next pillar of the economy, contributing 15.9% to the GDP (Central Statistics Office, 2004). Agriculture today provides a livelihood for more than 78% of Batswana (people of Botswana) who live in semi-urban and rural areas. Their major means of survival are farming and the rearing of livestock. The most significant agricultural enterprise is cattle rearing. Approximately half (51%) of the households own cattle (About Botswana - United Nations, n.d.). These features are underscored by the Ministry of Labour and Home Affairs (2002), which points out that the rural Botswanan mode of life is invariably tied to land, manifested in agro-pastoralism. Beef exports to the European Union contribute 5 per cent to the GDP, making this the third largest income generator. Botswana, like all other countries in Africa, is on a quest to diversify its economy so as to avoid over-reliance on natural resources. A possible area for economic diversification could be the design of culturally-oriented products for the country's booming tourism industry.

Layers of Culture

Culture is not a timeless and motionless body of value systems that remains unaltered by social change; rather, it is dialectic and incorporates new forms and meanings, all the while changing and reshaping traditional ones (Parsons, 1999). Consequently, it is conceived as a coherent body of beliefs and practices that are dynamic and changing within particular historical periods. Culture consists of multi-layers. Stephan (2004) suggested that two layers, visible and invisible, exist. Conversely, Schein (1999) and Lee (2004) each proposed three levels (basic assumptions, values, and artefacts). Hampden-Turner and Trompenaars (1997) and Spencer-Oatey (2000) advocate four layers (basic assumptions and values; beliefs, attitudes, and conventions; systems and institutions; and artefacts, products, rituals, and behaviours).

However, it is hard to draw a precise line between the notions of 'basic assumptions and values' (Spencer-Oatey, 2000). In her model, Spencer-Oatey proposes combining the two concepts, because together they form the core layer of culture. 'Basic assumptions' are deeply held by a society but are subconscious and invisible core beliefs that inform the other layers. Meanwhile, 'values' involve the observable culture that a given society claims to hold. This level introduces a useful distinction between values and their expression; however, while it is more precise, it is at a non-implemented level. Group members are unlikely to share identical sets of

'beliefs, attitudes, and conventions', which comprise the second inner layer. The second layer in turn influences the third layer, consisting of 'systems and institutions.'

Culture is associated with social groups, and people are simultaneously members of a number of different groups and categories. This layer is encircled by a split outer layer of culture composed of 'artefacts and products' (material items) on one side and 'rituals and behaviour' (non-material elements) on the other side. Artefacts include the visible and easily described elements of culture, which have an immediate emotional impact (Schein, 1999). Designers tend to overlook incorporating the inner core layers of culture and instead design products that are largely based on the outer layer (Lee, 2004). Lee's observation is particularly useful to a design approach based on a holistic understanding of culture, which is the approach employed in this paper.

Dynamics of Socio-cultural Factors From a Postcolonial Perspective

Bearing in mind this background, this study analyses the products from a socio-cultural perspective that relates to Botswana's culture. The paper does the following:

1.   Develops an approach for analysing socio-cultural factors that accurately represents Botswana's culture; and
2.   Proposes a culture-based set of core values that are applicable for making product design in Botswana more human-centred.

In this context, human-centred design is based on the premise that design is meaningful only when the focus of its activities and outcomes accommodates the largest possible number of people with all their diversity. The approach goes beyond design's traditional focus on the physical and cognitive needs of users, and encompasses cultural, social and emotional human factors (Moalosi et al., 2004). The study has been based on this foundation in order to develop a Botswanan socio-cultural product-analysis approach that will assist designers in designing culturally-sensitive products.

In order to establish socio-cultural factors, it was useful to draw on postcolonial theory, which points to the importance of viewing Botswana's culture, like that of other newly-independent nations, from the perspectives of the pre-colonial and post-colonial eras (Moalosi et al., 2004). Postcolonial theory recognises the importance of exploring the interaction between the colonising, colonised, and decolonising cultures, and the factors involved in the production of hybrid cultural identities. Botswana's culture has been shaped by colonialism and has started to decolonise, but the process has yet to proceed very far. The country needs to decolonise its education, values, language, religion, technology, and social organisation, which are heavily influenced by colonialism and globalisation. For example, developing countries - and Botswana in particular - need a different approach to design education, challenging the current system that

is so predominantly based on Western values that tend to be detached from the needs of some Botswana's social groups.

However, decolonisation is a continuous process that carries on long after formal political independence is achieved. Decolonisation cannot restore a historically continuous and allegedly 'pure' pre-colonial heritage. It requires the imaginative creation of a new form of consciousness and way of life (Bhabha, 1994). Postcolonialism involves the coming together of two or more cultures as a result of colonialism and the production of new and different hybrid cultural identities, characteristically distinct from the cultures that initially merged (Hall, 1996). In the process, old habits give way to new attitudes, values, and modes of action. Botswana's contemporary socio-cultural factors are a result of this hybridisation. The valuable continuities with people's pre-colonial culture should be maintained, while welcoming vitalising contributions from other cultures in order to construct a healthy and unique synthesis derived from all these facets (Chinweizu, 1975). The understanding of Botswana's socio-cultural framework that is developed in this paper will be based on the foundation outlined by Chinweizu.

Socio-cultural Factors and User Behaviour

Social and cultural factors influence all aspects of user behaviour. Cultural values and basic assumptions in design are often taken for granted or even viewed as being incontestable (Roberts, 2001). Socio-cultural factors become important to designers when they develop product characteristics, functionality, interaction, and form, especially for a particular user group (Roberts, 2001). However, recognising these issues in the first place is a basic problem. Socio-cultural factors can be so innate, so assumed, that even when they are articulated, one may fail to grasp their significance (Moalosi et al., 2004). They include reference groups, family, roles, and status. Social class and social factors are clearly influenced by cultural factors (Kotler, 1997). This means that designers must consider socio-cultural factors in their practice, bearing in mind the subtle, hard-to-describe yet critical issues surrounding the identity and behaviour of any particular user group.

The paper stands on the premise that research into socio-cultural human factors should begin with the assumption that products succeed when they resonate with users' values, norms, and behaviours. When a product appeals to an individual, it does so relative to that individual's cultural framework, worldview, and past daily life experiences (Roberts, 2001). The implication for design is that designers should work with an understanding of how users perceive their experiences of the world around them. These experiences shape the users' conceptions and perceptions of their environment. At a social level, designers interpret their experiences relative

to societal norms and values. However, Roberts (2001) was unable to explain how cultural constructs place general parameters around design ideas, indicating ways in which products will be positioned within value systems and identifying how quickly users' worldviews may need to change in order to accept new products (Moalosi et al., 2004). Socio-cultural factors are deeply ingrained, but they are also constantly changing. As a result, products that openly conflict with socio-cultural factors may be rejected by users.

It is therefore important to develop a socio-cultural approach to product analysis that relates more adequately to the needs of Botswana's contemporary product design, challenging the practice of emulating Western design form and substance, neither of which reflects local culture and needs. Designers who are key cultural intermediaries must embody culture in the products they design (Roberts, 2001).

Research Method

To meet the objectives of this study, the research was organised into two parts. The first phase involves conducting an experiment with two groups of design students (years 3 and 5) at the University of Botswana. The participants comprised 17 fifth-year students and 23 third-year students. The participants' challenge was to individually analyse and identify socio-cultural factors embedded in particular indigenous products commonly used in Botswana. This task was based on the postcolonial socio-cultural analysis discussed with the students. Socio-cultural factors must be interpreted 'through the eyes of people being studied' (Bryman, 2001). This helps to probe beneath surface appearances and provides detailed information about how socio-cultural factors have been transformed into product features. The process enables one to assess how different elements of a social system (values, norms, beliefs, behaviour) interconnect in designing products. Through discussions, the participants agreed that selected socio-cultural factors should be considered in postcolonial designs that advance local thought process in problem solving. The profile of the participants is summarised in Table 1.

Table 1. Participant profile

Participant Profile	
Number of participants	40
Age range	19–25
Male	35
Female	5
Occupation	Students
Educational background	3rd and 5th year undergraduate design students
Educational institution & country	University of Botswana, Botswana

Participants were presented with products to analyse the Botswana's socio-cultural factors that are associated with them; these included the following: a porridge stirring device, a mortar and pestle set, wooden spoons, a thumb piano, human sculptures, clay pots, necklaces, and baskets. The researcher selected these indigenous products with the belief that they contain Botswana's core traditional cultural factors with little influence from global values. The assumption was that once these socio-cultural factors are identified, they could be used in the future as a foundation for designing contemporary products. At the end of the experiment, participants were asked to write a report on the products they analysed, describing it together with the socio-cultural factors they identified and the product features that represent them.

The second phase of the study involved dividing the participants into ten different focus groups to share, critique, and corroborate their initial findings. This approach assisted in triangulating the data and in building a measure of trustworthiness. All focus-group sessions were tape-recorded with the data transcribed.

Data Analysis and Findings

Data from the experiment were analysed using the content analysis method. This method allows closeness to text, which can alternate between categories and relationships. It is an unobtrusive means of analysing social interaction. This process was facilitated by the use of Atlas.ti software in the coding and data analysis. The analysis was based on the function of the product, design features that carry messages about users' culture (mediation), social activities directly or indirectly associated with the product, its aesthetic value, and emotions resulting from using such a product. Socio-cultural factors were divided into three themes: material artefacts, emotional factors, and social practices. These themes emerged from the data when socio-cultural factors were grouped together. A sample of the content analysis results from the participants is shown in Figures 1 and 2. It is important to note that the socio-cultural factors in Figures 1 and 2 might be similar to those of any other culture, but their interpretation is specific to the local context. The

specificity stems from portraying local identities and meaning that is influenced by the users' previous experiences. Thus, the factors are highly context specific.

Material factors are the elements that form a given artefact. For example, clay is the material factor in clay pots. The nature of the clay and local traditions both influence the way in which a pot is designed (Table 2: Images 3 and 4). A thumb piano (Table 2: Image 15) is associated with socio-cultural factors that relate to the playing of music while seated around a camp fire, social gatherings, fun, and attractiveness. These factors were extracted from focus group participants' statements during Phase 1 of the current research (Table 3).

Table 2. Sample of Botswanan material artefacts analysed by participants

Material artefact	Closed and open baskets	Clay pots	Human Sculptures
Categories	Image 1 Image 2	Image 3 Image 4	Image 5 Image 6
Material artefact	Mortar and pestle sets	Beaded necklaces	Porridge stirring devices
Categories	Image 7	Image 8 Image 9	Image 10
Material artefact	Wooden spoons	Roofs of rondavels	Thumb pianos
Categories	Image 11 Image 12	Image 13 Image 14	Image 15

Table 3. Statements associated with the use of a thumb piano (Table 2: Image 15)

Participant	Statement
8	Families in rural areas usually play the instrument (thumb piano) while seated around a fire in the evening.
1	The thumb piano displays the following product features: it is appealing, attractive, inviting, and pleasant to watch and use.
5	The instrument is mostly played for fun, entertainment...
16	Music can be a catalyst that brings people together, and it portrays the identity of the nation, tribe, family, or individual.

The participants' analysis of the listed products (Table 2) revealed that most were inspired by the local eco-system. For example, the basket designs have a local meaning or inspiration behind them. Many traditional basket designs are representations of African patterns and motifs, animals and flora (Nkarabang & Sabone, 2003) (Table 2: Images 1 and 2). Examples include the roof of a rondavel (how Batswana thatch their mud huts – Images 13 and 14); the tears of a giraffe (signifying women following men on a hunt); back of a python; and the flight of a swallow (when swallows migrate, it is a sign of rain or pula, which is supposed to signify good fortune). This indicates that the indigenous products studied have meaning which users can easily understand and appreciate. This principle is important for good product design.

Examples of emotional and social factors extracted during the coding process and their frequency of occurrence are shown in Figures 1 and 2.

1. Attractiveness	10. Interesting
2. Beauty	11. Joy
3. Excitement	12. Kindness
4. Entertainment	13. Love
5. Friendliness	14. Pleasure
6. Frustration	15. Spiritualism
7. Happiness	16. Stress
8. Frustration	17. Ugliness
9. Happiness	
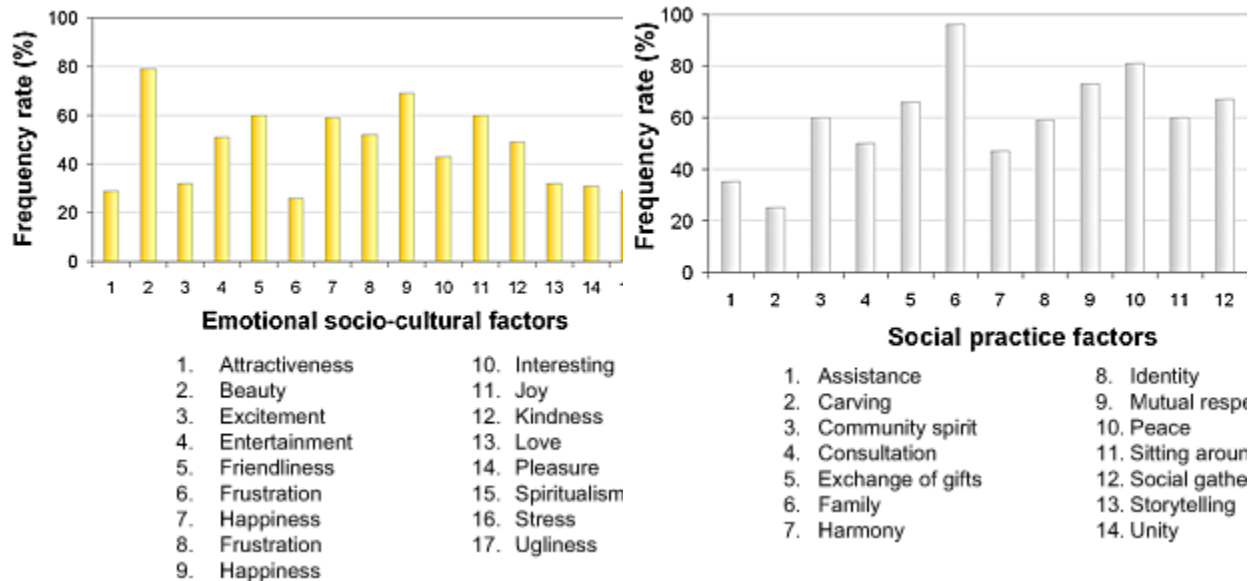
Figure 1. Sample emotional socio-cultural factors in Botswana.

1. Assistance	8. Identity
2. Carving	9. Mutual respe[ct]
3. Community spirit	10. Peace
4. Consultation	11. Sitting arou[nd]
5. Exchange of gifts	12. Social gathe[ring]
6. Family	13. Storytelling
7. Harmony	14. Unity

Figure 2. Sample Botswanan social practice factors.

Emotional factors involve expressing a strong feeling toward a designed product (Figure 1). Beauty, friendliness, happiness, joy, and love are important emotional factors in the Botswanan context due to the frequency of their occurrence (Figure 1). The participants expressed that the products they analysed were aesthetically pleasing, affording their users a sensually-pleasurable experience. This has been achieved by using traditional aesthetic (beauty) elements, like motifs, colours, shapes, and forms. The aesthetic dimension is a source of reconfiguration of images designed to make them aesthetically acceptable and culturally appropriate (Algotsson & Davies, 1996). This acceptance evokes positive emotional factors, such as beauty, pleasure, fun, excitement, satisfaction, spiritualism, love, friendliness, and joy (Figure 1).

As emotional factors were analysed (Figure 1), it became clear that beauty has great significance to Batswana. Beauty has been associated with Botswana's fauna and flora, as well as the use of colour. Participants demonstrated this during Phase 1 of the research (Table 4).

Table 4. Statements associated with traditional aesthetics (beauty)

Participant	Statement	Image (Table 2)
13	Most of the time, designers make products by looking at the environment around them. In the case of a necklace, they use earth tones with the locket resembling an animal.	Images 8 and 9
3	The style of the product was inspired by some cultural products, like the seeds of plants or fruits and even the colours of stones, rocks...	Images 8 and 9
19	Patterns are inspired by nature...	Images 1-6

Forms influenced by the eco-system attract the attention of the user and invite users to touch the artefact, and this evokes cultural associations. This makes the product simple, honest, and inviting. The invitation engages users so that they develop an emotional attachment to that given product. The shapes and forms were used in a way that relates to the users' culture that leads to emotional responses from the user, such as a product being perceived attractive or as bringing happiness (Figure 1). The shape and form of a product make it attractive and compatible with the society's cultural values.

Another dimension of designing beautiful products is to use colours that resonate with the users' culture. In this study, participants observed that products were finished using earth tones (brown, orange, and red). These colours express aesthetic values within Botswana's context and are pleasing to the eye. Colours are chosen to reflect customs and beliefs and have ritual significance (Algotsson & Davies, 1996). Therefore, colour is considered one of the most useful and powerful design tools. Users respond to different colours in different ways, and these responses take place on subconscious and emotional levels. Colours reflect the social, emotional, and cultural context in which the products are designed.

This calls for designers to be vigilant when choosing and applying colour to products, as they can easily undermine the essential aesthetic values of users. The participants' statements (Table 4) demonstrate that the colours used exert an important influence on the emotions certain products evoke. However, while aesthetics is important, approaches to cultural design should extend beyond the obvious; they should stem from a serious understanding of users' values and basic assumptions (Lee, 2004).

Many different factors influence the overall perception of a product. A sense of beauty is inspired through the use of traditional motifs, such as those that are triangular or heart-shaped (Table 5). Some participants suggested that the use of these shapes in existing decorations expresses aesthetic qualities. These shapes evoke cultural and spiritual associations in users.

Table 5. The use of traditional motifs

Participant	Statement	Image (Table 2)
7	The triangular motif is one of the common features in decorating clay pots	Images 1-2 and 13-14
4	Triangular and heart-shaped motifs are commonly used in decorations.	Images 3-4, 8-9, and 13-14
2	Triangular motifs are widely used in decorating houses and pots	Images 3-4 and 13-14
10	The triangular motif is used as a pattern for decoration	Images 1-4 and 11-14

This kind of transformation has resulted in products that enhance emotional feelings. This means that traditional motifs trigger positive emotional reactions to products, because they appeal to users and induce some level of interest. This application develops cultural connections between products and their users.

It has been observed that society places great emphasis on activities that are habitually or customarily followed (social practices). Community spirit, peace, the exchange of gifts, family, mutual respect, and social gathering each play a significant role in Botswana's society (Figure 2).

For example, Figure 2 shows that Batswana place strong values on family relationships. The family factor is featured very prominently (Figure 2). Other factors can be built around family values. Socio-cultural factors that relate to family values include unity, mutual respect, assistance, social gathering, story telling, the spirit of collective use or sharing, and community spirit (Figure 2). It is also important to note that most of the products analysed were targeted to a given member of the family or to the entire family. The following two examples illustrate how products are designed to fulfil family needs. The mortar and pestle are used to pound grain into flour to feed the family. Clay pots are used by the family for cooking and also for storing grain, water, and traditional beer (Table 2: Images 3 and 4). Upon closer analysis, it is apparent that the family is the most important social group among users of these two products. As a result, designers of these types of products should align their efforts in fulfilling family cultural values. Material artefacts designed in a certain way are meant to assist families in performing certain

social practices. If this is achieved, families tend to express positive feelings toward those products.

Family, peace, the spirit of sharing, and community spirit are all valued socio-cultural factors within Botswana's society, because they teach principles related to life and morality (Figure 2). Moreover, consultation, community spirit, and assistance provide patterns of problem solving, whereas mutual respect, authority, friendliness, peace, and harmony give Batswana a sense of identity. In one way, these factors are a means of passing on societal traditions and beliefs from one generation to the next (Moalosi et al., 2005). This section has presented the participants' views regarding the various factors that could be involved in postcolonial design, thereby advancing local thought pertaining to problem solving. This means that postcolonial design should concentrate its efforts on addressing the identified socio-cultural factors, together with the problems and needs associated with them.

Based on the coding system, a relational analysis approach was adopted to examine and identify the relationships among the themes (Figure 3). Individual concepts, in and of themselves, are viewed as having no inherent meaning; rather, the meaning is a product of the relationship among concepts in context (Carley, 1990). Therefore, what emerged is that problems or needs in a society are rooted in social practices (society's customary activities). Users are not in a position to perform certain tasks to their maximum satisfaction. Therefore, appropriate manipulation of material factors in designed products can assist users to perform social practices more easily, or it can enhance the performance of particular social tasks. This outcome has led to an expression of pleasure or appreciation of beauty in products.
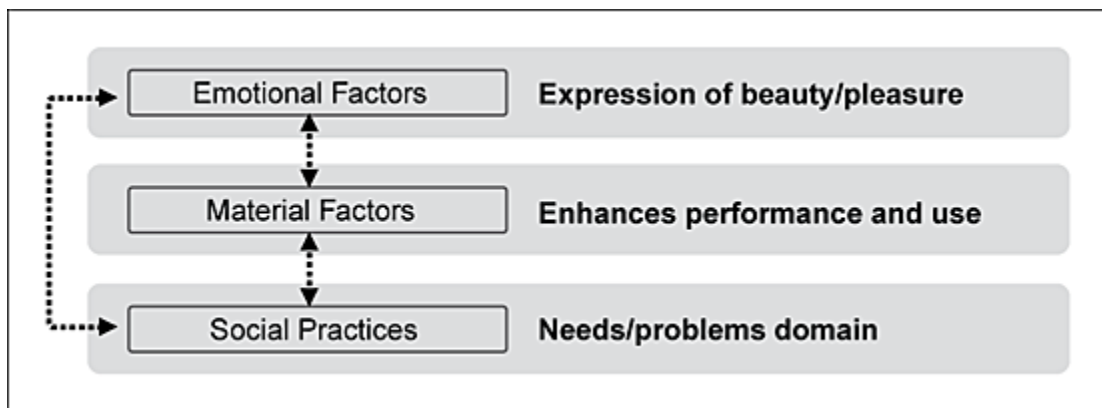

Figure 3. Interrelationships between socio-cultural factors and their applicability to product design.

Some social practices are not easily identified, but they can be embedded within the material product. Participant #16 argued that "the hidden message in a product is often more important than its surface beauty." Algotsson and Davies (1996) concur that, in African design, the underlying message in a product is more important than its beauty. It is through the use of such products that they become noticeable. The emotions attached to these products might be a result of the aesthetic qualities of the product, the performance of that product, the knowledge it generates, or the message it conveys. Nonetheless, emotional factors should be seen as fluid, complex, and dynamic, and always in a state of flux (Moalosi et al., 2004). What might be exciting or fun today may not be tomorrow, and the opposite is true for something that is currently perceived as unattractive.

Material socio-cultural factors facilitate or enhance social practices; and, in the process, evoke appropriate emotional feelings about products. For example, a product, such as a basket, facilitates the 'spirit of sharing and assistance' among users, and this could stir up emotional feelings of pleasure or kindness (Figure 1). Another outcome worth noting is that products conceived from a socio-cultural perspective provide users with cultural meaning (Table 6).

Table 6. Cultural meaning in products

Participant	Statement	Image (Table 2)
12	The product narrates a story behind its design to users.	
14	Cultural products carry meaning and stories.	Images 1-14
19	The products provide meaning to their users.	

Responses to products often produce a mixture of intrinsic and extrinsic meaning. A product cannot express its own meaning; consequently, meaning is constructed, assigned, and produced through social discourse and socio-cultural practices. This means that products are no longer seen only as functional objects but also for what they symbolise; that is, their meaning, association, and involvement in building users' self image. The meaning may represent users' social status or concrete symbols of their intimate experiences. Products are a form of social interaction, participating in a social language. They may represent a memory of a user's past, a sign of a user's current identity, or a symbol of what the user hopes to become (Goodman & Cohen, 2003). In support of Goodman's claim, participant #19 argued that "culturally sensitive products make one connect with history or his/her roots."

The social environment played a major role in influencing the design of the products listed in Table 2. Nature possesses a wealth of historical imagery (Moalosi et al., 2006). It introduces an era based on what can be extracted and learnt from the natural world. It surfaced that design features, such as forms, shapes, colours, and patterns, were borrowed from nature. Features from nature were used for design improvements and decorations. Visual and tactile cues emerged from landscapes, animals, and vegetation (Table 7).

Table 7. Nature's influence on designed products

Participant	Statement	Image (Table 2)
10	Nature improves the quality and appearance of the product.	Images 1-6, 8-9, and 11-12
11	Nature makes the product more human. It looks more natural, and people can relate it to their lives.	

Postcolonial design from nature should enable users to improve their quality of life and, at the same time, be conscious of the environment. According to Algotsson and Davies (1996), "nature is a source of information and inspiration in African designs" (p. 96). The use of local aesthetics derived from nature may encourage users to accept products designed for them, because they reflect their culture. Products that relate poorly to users' lifestyles will face resentment in most cases (Dormer, 1996).

Discussion

It is through the use of products that some socio-cultural factors are displayed. For example, a product like a wooden spoon or thumb piano does not immediately reflect the socio-cultural factor of the 'spirit of collective use or sharing.' Participant #12 argued that "even though these factors may not easily be visible to some people, they are indeed embedded in the product." It is through their social relationship with a product that such socio-cultural factors become evident. The product becomes a mediator of socio-cultural factors. It creates a social communication link between users and their culture. The message embodied in such products shapes and controls the scale and form of human association and action. Postcolonial cultural artefacts should embody, reflect, and mediate the views of the society from which they emerge (Figure 4). Reinharz (1992) argues that "cultural products of any given society at any given time reverberate with the themes of that society and that era" (p.107). This paper proposes that one way by which designing culturally-oriented products can be realised is through the mediation model (Figure 4).
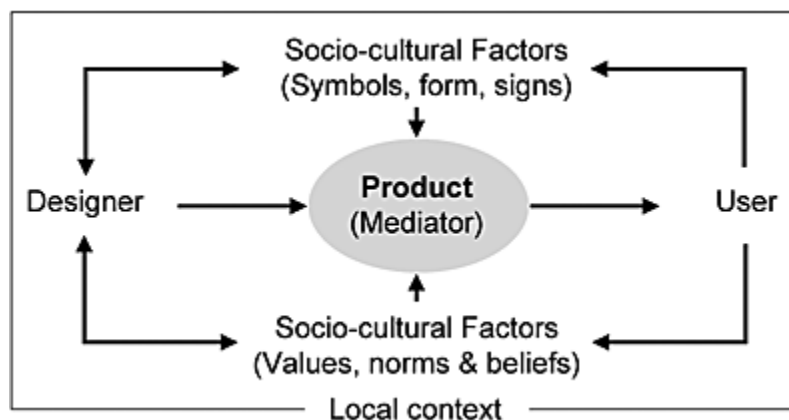

Figure 4. Mediation model.

User receive messages from the designer through the product. Postcolonial products should embody cultural messages by being encoded with a shared set of socio-cultural factors (symbols, form, signs, values, norms, and beliefs). For example, symbols may convey commonly-held cultural values, and they can be used to gain greater power if emotional fervour is attached to them. Based on feedback from users, the designer can modify the product to make it more responsive to users' social and cultural needs. However, this process needs to be conducted in the early stages of the design process, when the concept is still relatively fluid. These needs may be utilitarian or expressive; that is, aimed at communicating personal, cultural, and aesthetic experiences. Cultural needs are complex and often blend both utilitarian and expressive purposes. All this is influenced by the local socio-cultural context in which the mediation process takes place.

The premise of this paper is that it is important to identify which of Botswana's core socio-cultural factors are applicable to postcolonial design (Figures 1 and 2). The identified socio-cultural factors will provide a foundation to build upon. These factors can then be integrated with other contemporary socio-cultural factors due to the dynamic nature of culture. The goal is not to restore the bygone past but to draw upon the past to create a new future with products designed in line with current users' social and cultural needs.

Conclusions

Critical analysis of socio-cultural factors in products provides a new way of assessing users' needs, preferences, and concerns. This approach leads to users being provided with pleasurable and cherishable products, rather than merely functional and usable products. The approach goes beyond physical and cognitive issues and encompasses emotional, social, and cultural human factors. Product acceptance can be assured by this approach, because it dwells on the users' culture being critically analysed. The dynamics of socio-cultural factors have been influenced by the impact of colonialism and globalisation, an impact which has resulted in the hybridisation of traditional and Western values.

The current study has demonstrated how products can be analysed relative to Botswana's socio-cultural perspective. The engagement of student designers in Botswana to analyse commonly used products that are locally-designed and manufactured, both to identify the socio-cultural factors and to critically examine how they can add value to the products, has been an important aspect of the research. What emerged is that socio-cultural factors can be grouped into three themes - social practices, emotional factors, and material factors. It is concluded that these cultural factors are not only functionally or technologically driven but are also eclectic generators of ritual or sensation. Therefore, postcolonial designers from newly-emerging economies need to incorporate socio-cultural factors to become a pinnacle of good product design.

The long-term goal of this research is that participants (students) become aware of the importance of culture in design, and that, as designers-to-be, they will ultimately design culture-sensitive products that enhance users' experience. Another aim is for participants to become familiar with the method before they are engaged as design practitioners in industry. The findings emphasise the importance of encoding such cultural features as identity, mediation, product meaning, and spiritualism in postcolonial product design. These features are likely to facilitate product acceptance, and they should be incorporated at an early stage in the design process. That is, designing products that connect cultural and emotional factors with users is likely to facilitate product acceptance. In the long run, this will provide Batswana with products having greater narrative stamina, enabling their stories to unravel over a period of years rather than just a handful of days, while avoiding unnecessary financial wastage and ecologically-hazardous products.

In this paper, it has been argued that designers should strive not only to create products that combine tradition with contemporary technology to satisfy the needs of users but also to achieve a new way of approaching the development of products from the perspective of a postcolonial culture in Botswana. The everyday products that users own are more than just objects: they are also a reflection of their culture and lifestyle. The ultimate aim is to create a framework under which modern Botswanan products and ideas can be developed in the long term. This is one way of improving, unifying, and rearranging the image of traditional Botswana in positive and progressive ways. In the process, indigenous subject matter will be developed. By managing the image consistently and by clarifying and establishing a realistic postcolonial identity, socially-positive concepts and products can be achieved.

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