Influence of Seaming and Fit Factors on the Serviceability of Custom-Made Clothing: A Study of Female Students in the University of Cape Coast, Ghana

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Abstract:
This study examined the influence that seaming and fit factors have on the serviceability of custom-made clothing. Specifically, the study investigated the relationship between seaming and fit factors and serviceability of custom-made clothing among female students in the University of Cape Coast, Ghana. Descriptive survey design was employed for the study using 246 female students. A questionnaire was used for the data collection and the data were analysed using descriptive and correlation analyses. The results indicated that seaming and fit factors do have influence on custom-made clothing serviceability but the respondents do not have much knowledge on seam quality. Secondly, respondents did not have much problems with the seaming and fit factors of their custom-made garments even though their garment manufacturers are responsible for their style selection. It was concluded that respondents achieve the benefits they wish to derive from their custom-made garments and that their garment manufacturers are meeting their expectations in terms of seaming and fit issues. It was recommended that garment manufacturers continue to pay attention to seaming and fit related factors in clothing construction since they influence the serviceability of garments. This would also help their customers to obtain maximum satisfaction from their products.

Keywords: Stitching, fit, custom-made garments, serviceability

1. Introduction

Garment serviceability basically describes the product's ability to meet the consumers' needs, thus the product should meet the intended purpose for which it was constructed (Kadolph, 2007). A garment is therefore considered to be serviceable and of good quality when it performs the functions for which it was made.

Garment quality, according to Pavlinic and Gersak (2009) is determined by influential factors such as construction and the quality of the fabrics incorporated in the garments. The construction aspect of clothes is a major part of preparing garments for the market. All forms of new ideas and styles come to life by means of construction. Construction therefore is the foundation of clothing and fashion design as it determines even the fit of the garment; it is vital that fashion designers know and understand the techniques involved in creating a three-dimensional garment from a two-dimensional fabric that fits on the moving human body. Construction factors that can affect garment use include the seaming parameters such as stitches and seam types employed in constructing lines, darts, pockets, collars, sleeves and other design details to derive the desired fit needed. As indicated by Stamper Sharp and Donnel (1991), the appearance and durability of seams depend on stitching. For instance, Chowdhary and Poynor (2006) indicated that poor selection of any of the construction factors such as stitches, stitch densities and seam types can result in poor quality of garments produced. The good appearance of seams, for example, is determined by the straightness of seam lines, thread tension, stitch density, and particularly by the stability of stitch length at certain intervals of the seam (Vobolis, Jucienė, Vaitkevičius & Punys, 2003). The selection of the construction factors is within the domain of the manufacturer (Fischer, 2009) and wrong choice can result in poor fit in

garments.

Apparel fit has long been of interest in clothing research because it is considered a crucial element of clothing quality and customer satisfaction (Song & Ashdown, 2010). According to Klerk and Tselepis (2007) a well-fitting garment is one that is comfortable to wear, with sufficient room to allow for easy movement, has no unnecessary wrinkles and bunching of the fabric or a display of bagginess, and is aesthetically acceptable as well as fashionable. According to Liechty, Pottberg and Rasband (2000) a good fit can be determined by the following three factors: balance, room for movement and appearance. Balance, according to the authors, means the whole garment is hanging on the body as it was intended to hang with all the seams being at their appointed places. Room for movement, on the other hand, involves that aspect of sufficient space for easy movement when walking, ascending and descending stairs, sitting and kneeling down. In addition, appearance refers to the visual appeal of garment when the consumer is wearing it.

Attractive garments will however not be worn if they are not comfortable in terms of sitting, bending, walking and stretching or straining the seams. It was further mentioned by Liechty et al. (2000) that design would determine the features of the garment. This creates a certain look, for example close fitting or loose fitting. Ease of movement and or design ease are added to the body measurements when the pattern is created. This ensures that the desired look is created, a certain level of comfort is achieved, and in this way, the appearance of the garment is enhanced. Liechty et al. (2000) also stated fabric as another factor that is crucial to good fit. For instance, the same style of a garment would look and fit differently according to the fabric type used (soft or crisp fabric). For this reason, certain fabrics should be avoided when making garments for certain figure types. Consumers always want to benefit from the monies they spend, therefore construction factors need to be selected appropriately so that garments would be serviceable.

In Ghana, custom-made garments (garments produced by a garment manufacturer following the specifications the customer gives) are mainly obtained from manufacturers in the micro and small-scale enterprises (MSSE) of the informal sector (Fianu & Zentey, 2000). Generally, Ghanaians are known to take pride in the wearing of custom-made clothing from fine-quality African prints. The call by the government of Ghana for its citizens to patronise made-in-Ghana goods to boost the economy has also enhanced the wearing of custom-made clothing by Ghanaians. Sustainability in the industry, especially for small garment producers therefore requires creativity, skills and techniques in well-tailored clothes with innovations to match that of the couture industry (Dzramedo, Amissah & Awuyah, 2014).

Fischer (2009), indicated that garment construction involves both technical and design issues. The technical aspect looks at how the designer construct lines, pockets, collars and finishes edges in order to create unique look and experience for the wearer. A good design concept must reflect in the manufacturing of the garment, otherwise the style will not see the light of day or will not be accepted by the populist (Carr & Pomeroy, 2006). Thus, poorly constructed garments are often not patronised and if patronised at all would be left hanging in the wardrobe or finally discarded. A study by McVey, mentioned in Workman (1991) revealed that 70% of garments on markdown racks end up as markdowns because of problems with construction and or fit.

In the mass production industry, the setting of standards controls quality. In the Ghanaian custom-made industry however, there seem not to be any standardized specifications for production. As indicated by Quartey (2006) there has been a decline in the activities of the fashion industry in Ghana due to poor finishing and non-conformance to standards, which could be attributed to the kind of training received by artisans during apprenticeship. Imirhe (2004) observed that, in Ghana, garment production is a popular small-scale occupation for both men and women and there has been a long and sustained condition of apprenticeship in garment making. However, he further indicated that in the training of these apprentices, no formal curriculum is used. Rather apprentices turn to have on-the-job training, thus the job at hand, the problems arising and the faults at the material moment determine the content of training given. Therefore, the teaching of theoretical principles which should prepare and give them opportunities to judge situations based on the available theoretical principles is non-existent (Biney-Aidoo, Antiaye & Oppong 2013). Unfortunately, it does not look as if factors of quality in terms of construction are given much attention when apprentices are undergoing apprenticeship. Therefore, these apprentices become master artisans and the problem recurs. It is therefore a commonplace to see people discard clothes even though the fabric is new. Custom-made clothes that people take for alteration and repair are also a usual practice in Ghana. For Ghanaian garment manufacturers to be able to compete on the global level, it would be in the right direction to identify problems that consumers have with custom-made clothes so that quality issues can be addressed to obtain serviceable garments.

A number of researchers (Ibrahim, 2012; Tarafdar, Roy & Sarkar, 2005) have investigated quality of clothing items in relation to fibre and yarn content, fabric construction techniques (i.e., different ways of making fabrics) and colour fastness but little has been done in the area of constructional factors' effect on clothing most especially on custom-made clothing in Ghana. The purpose of this study was to establish the influences that seaming and fit factors have on the performance of custom-made clothing among female students in the University of Cape Coast, Ghana.

The study was guided by two research questions which were;
- How do seaming factors affect serviceability of custom-made clothing?
- What is the relationship between fit and serviceability of custom-made clothing?

It was anticipated that the study would establish the influences that stitching and fit factors have on the serviceability of custom-made clothing among the female students in the University of Cape Coast, which would help inform producers about the performance of their products on the market and more importantly bring out production operations that

need special attention; in order to prevent the occurrence of similar defects in future productions. The findings of this study would add on to the limited literature on the influences that constructional factors have on custom-made product acceptability and would become a reference point for further research in the area of clothing and textiles.

2. Methodology
The descriptive survey design was adopted and data was collected at a single point in time.

2.1. Population
The research population covered regular undergraduate female students of the University of Cape Coast, Ghana. A total number of 246 female students were selected.

2.2. Sampling Procedure
Stratified, probability proportional to size (PPS) and simple random sampling techniques were used for the selection of the female students. Stratification was done by distributing the samples into the eight faculties and schools of the University. The sample size of 246 was then allocated to the various faculties and schools using PPS. This technique ensured that samples selected from each faculty and school fairly represented the total number of female students in that faculty and school.
The simple random sampling (SRS) technique was adopted for the selection of the respondents. The 'Random Numbers Generator' function in the SPSS (version 20.0) was used. The registers of the various faculties and schools were obtained from the Faculty Officers and captured in the SPSS. The software was then instructed to randomly select a given number of respondents depending on the sample size for the faculty/school.

2.3. Instruments
Questionnaire was employed for data collection from the respondents. The questionnaire was divided into three sections with section 'A' items eliciting views on respondent's background information, 'B' assessing seaming factors and 'C' fit factors. The items in all the sections were close ended type and some sections had Likert scale type items.

2.4. Data Collection Procedure
The collection of the data depended on direct contact with respondents. The researchers established rapport with the respondents and explained items that were not clear to them. In order to encourage respondents to frankly respond to the items, confidentiality was assured. To easily identify sets of questionnaires for administration and analysis purposes, each set of questionnaires for the various faculties and schools was labelled. For instance, ED for Education students, ART for Art's students and MD for students from the School of Medical Sciences. The respondents responded to the questionnaires in their lecture halls in the presence of the researchers. Although the study recorded 100% retrieval rate, after editing and cleansing, 13 questionnaires were found to be defective (thus some respondents gave multiple answers to questions and others skipped some vital information on the questionnaires) and were subsequently discarded. Therefore, the total number of respondents in the study was reduced to 233 representing 94.7%.

2.5. Data Analysis
The Statistical Product and Service Solutions (SPSS version 20.0) was used to run the analysis on the data collected. Basically, data gathered in this research were analysed both descriptively using frequencies and percentages and inferentially. The research questions were analysed using the Pearson's Product Moment correlation analysis.

3. Results and Discussion

3.1. Background Characteristics of Respondents
Table 1 provides the summary of the age distribution of respondents.

Age (in years)	Frequency	Percentage
16 – 20	49	21.0
21 – 25	132	56.7
26 – 30	36	15.4
31 and above	16	6.9
Total	233	100.0

Table 1: Age Distribution of Respondents

Among the respondents, majority (72%) of them were aged between 21–30 years, while 49 (21%) were between 16–20 years. Sixteen representing 7% were 31 years and above. The results confirm the general assertion that students in the tertiary institutions currently, particularly in the University of Cape Coast are young with an average age of 25 years for females as against 27 for males. It can be inferred from the results that the respondents were young and could have flair for fashion and for that matter custom- made garments.

Questions asked to determine the respondents' knowledge in clothing construction which could presumably inform their sense of judgment, indicated a greater number had no experience in clothing construction as depicted in Figure 1.
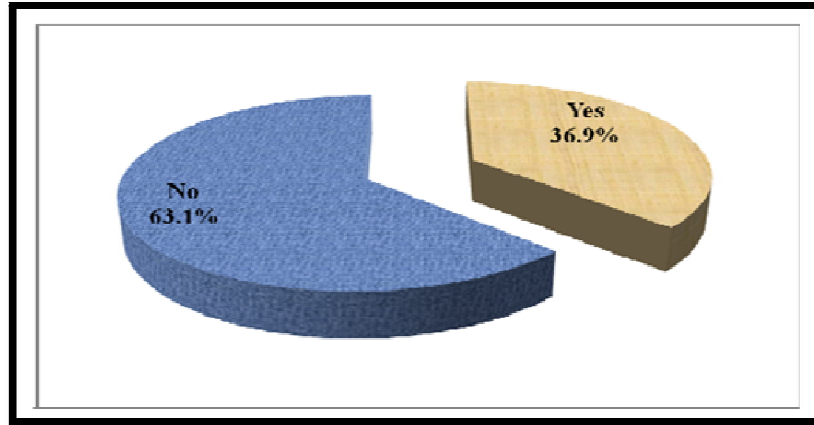

Figure 1: Experience in Clothing Construction

Table 2 shows the frequency at which respondents patronised custom-made garments.

Number	Frequency	Percentage
None	5	2.2
1 – 2	66	28.3
3 – 4	80	34.3
5 – 6	41	17.6
More than 6	41	17.6
Total	233	100.0

Table 2: Average Number of Custom-made Garments Patronised Annually by Respondents

From Table 2, it can be noted that out of the 233 respondents who responded to the questionnaire, 162 representing 70% reported that they had patronised three to six garments in a year. Five representing 2% of respondents indicated they had not made any new customised clothes in a year. This shows that respondents do use custom-made garments and so are likely to have some experiences with regard to such garments. A further probe indicated that mostly respondents decide on the fashion fabrics that would be used for the construction of their garments and for that matter buy the fabrics for the designers. However, with regards to style selection as depicted in Figure 2, 217 respondents out of the 233 representing 93% indicated that they do not normally select styles for their custom- made garments. A probing question to find out why respondents left the selection of styles in the hands of their dressmakers revealed that 187 (86%) respondents out of the 188 who indicated they never selected designs for their dressmakers did so because they had no knowledge in clothing designing, while 14% mentioned that they trusted in the judgement of their designers. The response given by the majority of the participants concerning the reason why their garment manufacturers select styles for them, confirm the results on their knowledge in clothing construction illustrated in figure 1. It can therefore be concluded that despite the fact that respondents do not select the designs for their custom-made garments, they tend to have control over the fashion fabric.
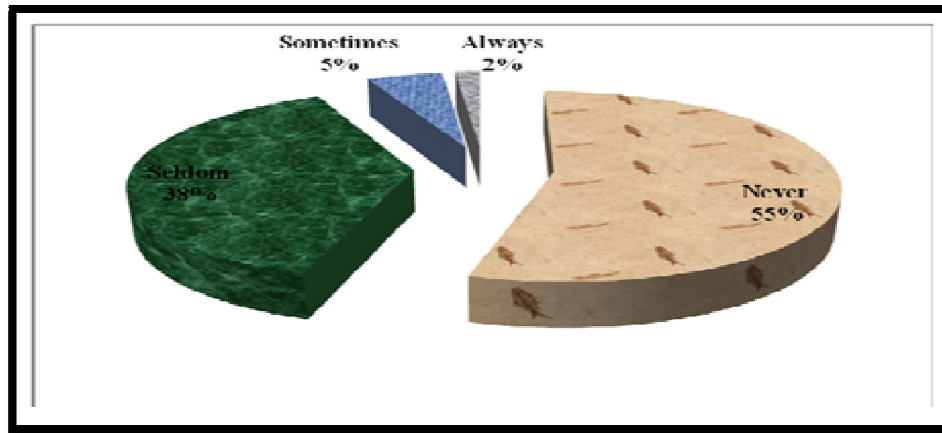
Figure 2: Choice of Style for Dressmakers

3.2. Research Question 1

This research question sought to find out how seaming factors such as seam type, stitch and seam construction and thread type all affect the total serviceability of custom-made clothing leading to their discard. Using clothing quality standards developed by Klumpp (2000), respondents were requested to assess the quality of seams in their most recent discarded custom-made garments. Six questions were asked on seams and stitches to constitute seaming factors in custom-made clothing. Neat construction of seams and stitches, stitching thread colour matching fabric colour, flatness of seams in the garment, evenness, straightness and attractiveness of stitches on the side seams, stitching threads do not break easily and last through the garment's life were the components of stitching factors.

Majority (53%) of the respondents said that their thread colour always matched the colour of their garment fabric, while (30%) and (12%) of the respondents said "sometimes" and "seldom", respectively. Thirteen of the respondents representing 5.6% indicated that thread colour never matched the colour of their garment. This means a greater number of the respondents were satisfied with thread and garment fabric colours in constructing their garments. One hundred and twenty-six (54%) of the respondents reported that they sometimes had seams and stitches constructed neatly in their custom-made garments. Furthermore, 29% of the respondents indicated that they always had seams and stitches neatly constructed in their garments. In addition, 82 respondents indicated that the stitches constructed on the right side of their garments were even, straight and attractive indicating that averagely custom-made garments constructed for the respondents, are sometimes without any seaming related problems. However, the finding of this study seems contrary to what Ampong (2004) found in her study on the assessment of the quality of construction of garments produced by Ghanaian manufacturers in Cape Coast. Ampong found no rating for excellent, but 55.2% ratings below average for stitches and seams. The result from this current study, may be attributed to the fact that most of the respondents had no knowledge in clothing construction and so could not make better judgments regarding the seaming factors or that the garment manufacturers are now actually producing good quality garments for their customers.

The relationship between seaming factors and serviceability of custom-made clothing was determined with the help of Pearson product moment correlation analysis and the result is presented in Table 3.

		Serviceability
Seaming factors	Correlation	0.386**
	P (2-tailed)	0.000
	N	233

Table 3: Correlation between Seaming Factors and Serviceability
*** Correlation is Significant at the 0.05 Level.*

Table 3 illustrates a significant positive correlation (r = 0.386, p=0.000) between seaming factors and serviceability of custom-made clothing. This means that seaming factors have influence on the total quality of custom-made clothing and should be considered greatly during garment production. This study however shows that the customers do not know much about clothing construction and by implication seaming factors. The serviceability of their garments will therefore only fail when there is physical failure of seams as in breaking of stitches for example. Research has also indicated that most Ghanaian small scale custom clothing producers do not know much about seaming factors (Ampong, 2004) so they may not be actively considering them in them in their work.

3.3. Research Question 2

Research question two examined the relationship between fit factors and serviceability of custom-made clothing. Ten questions were asked and they constituted the fit factors. These included smoothness and absence of puckers on dart stitching line, securely finished dart ends, fitness of skirts and trousers at the waist, garment on the shoulder, sleeves, armpit, armhole, hip and breast area.

Descriptive statistics on the fit factors, indicated that 193 (83%) of the respondents said they did not experience any fit related problems around their breast area. It can be inferred from the result that fit around this part of the body was considerably good. Again, 72 (31%), respondents reported that their skirts and trousers were always well fitted at their waist. Furthermore, when asked whether their dart stitching lines were smooth and free from puckers, 189 (81%) of the respondents indicated that they sometimes had smooth dart stitching lines and had no winkles on their garments. Seventy-one representing 31% and 114 (49%) of the respondents "always" or "sometimes" had the garments which gave them room for easy movement at the armhole because the fit was good. However, the amount of ease needed in a garment varies by personal preference, the type of fabric used, and the design of the garment.

Table 4 provides the correlation results for fit factors and serviceability.

		Serviceability
Fit factors	Correlation(r)	0.403**
	P (2-tailed)	0.000
	N	233

Table 4: Correlations between Fit Factors and Serviceability
*** Correlation is significant at the 0.05 level.*

Table 4 shows a positive correlation (r = 0.403) between fit and serviceability of custom-made clothing. This implies that when customer's fit preference is met, it would increase their appreciation for the custom-made cloth. In determining whether it plays a major role in total serviceability of the custom-made cloth, a *p*-value of 0.000 was obtained. This implies that the fit is of high significance to the customer in determining the serviceability of the custom-made cloth. However, individual preferences play a major role in how well custom-made clothing fit therefore when the garment is constructed according to the individual's preference it results in high serviceability to the wearer. The above finding is consistent with studies of Frost (as cited in Shin, 2013), Alexander et al. (2005) and Fuzek (as cited in Keeble, Prevatt & Mellian, 1992). According to Frost (as cited in Shin, 2013), the relationship that exist between comfort (which is a component of serviceability) and fit means that they influence one another in the apparel evaluation process. Alexander et al. (2005) also noted that fit contributes to the confidence and comfort (serviceability) of the wearer. This implies that the wearer is likely to feel comfortable and confident when wearing well-fitted clothing. Fuzek (as cited in Keeble et al., 1992) also indicated that fit is the most important factor in the subjective evaluation of comfort.

4. Conclusion

From the results of this research, it can be concluded that seaming and fit factors influence custom-made garment serviceability but respondents have very little knowledge on seaming factors to allow them make a good judgement. Respondents only select the fabric to be sewn for their custom-made garments and leave the choice of style to their garment manufacturers. However, respondents seem not to have problems with regard to the seaming and fit issues related to their custom-made garments and so obtain the benefit they require from such garments.

5. Recommendation

Based on the findings and conclusions of this study, it is recommended that, since seaming and fit factors were found to influence garment serviceability, garment manufacturers should pay particular attention to selection of especially the seaming factors such as stitches and seam types for a better serviceability. The scope of this study could be expanded to obtain more representative responses. Other constructional factors that contribute to the performance of garments such as fastenings and under linings can also be examined to determine their influence on garment serviceability.

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