KIDS CLOTHING: HIGH CONSUMPTION, LOW SHELF-LIFE

(IDENTIFYING KEY ISSUES PERTAINING TO LONG EVITY AND DISPOSAL)

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ABSTRACT

Kids grow up like weeds!!!! While children are growing, the body size and shape changes which results an increase in the consumption of children's clothing. Moreover, the shelf life for clothing in wardrobe reduces as non-fitting clothes need replacements too. The short shelf life and growing demand for children's clothing has led to a greater impact on the environment which needs to be recognized and necessary measures may be taken. Due to the frequent variations in size and body shape of children, the longevity of children's clothing is not given that much importance as adult's clothing. On the other hand, disposal is a major concern. The world is facing many ecological challenges, and to help all eviate some of them, the consumer today needs to adopt more sustainable consumption and disposal patterns. Psychographic variables such as lifestyle explain responsible commitment towards the globe better than the socio-economic background variables (Haanpaa,2007). Various research studies have been conducted to understand the environmental impact of clothing throughout the stages from raw material to final use and disposal (e.g. Goswami2008).This paper will identify key issues pertaining to life-span of children's clothing. It reports findings from empirical research undertaken to find out the attitudes and behaviours of parents towards children's clothing at consecutive lifecycle phases of acquirement, usage and disposal in order to explore the implications for children's clothing longevity and disposal.

Key Words: Kids Clothing, lifespan, longevity, disposal, and sustainable consumption

INTRODUCTION

The world is facing numerous ecological challenges like climate change, scarcity of pure water, inadequate energy resources, degradation of shoreline vegetation, excessive sedimentation, overwhelmed landfill sites, and many more. Concerns about environmental issues developed in 1970's, with further debates and considerations in 80's and 90's, resulted in environmental consciousness among clients, societies, governments and researchers (Bianchi &Birtwistle, 2010). Outcome of these discussions was the realization that consumers' choices, behaviors and lifestyles found critical in the efforts of establishing a sustainable consumption defined as 'consumption that supports ability of current and future generations to meet their material and other needs without causing irreversible damage to environment or loss of function in natural system' (Jackson and Michaelis 2003). Sustainable consumption, as a part of consumer behavior, involves pre-purchase, purchase, and post-purchase behaviors, with the latter including the process of clothing disposal (Jacoby, Berning, and Dietvorst 1977). Although many research studies related to sustainability and ecology have been undertaken, clothing and textile disposal were neglected in past, they have drawn a lot of attention of researchers recently. Clothing disposal, primarily an environmental issue related to waste amounts to landfills (Claudio, 2007) along with a trend of "throwaway' fashion attitude is the outcome of over consumption of garments (Birtwistle and Moore 2006). Lifespan of clothing includes raw material extractions, manufacture, use and disposal. Though children grow up fast resulting in quick replacements of old stock, it is less impactful on environment as compared to clothing in other categories[1]. Lifespan of children's clothing depends upon the use and maintenance of clothes such as washes, cleaning, etc.

LITERATURE REVIEW

Environmental Attitude and Ecological Behavior

Environmental attitudes are formulated in terms of attitudinal theory being composed of beliefs and affect towards an object; attitudes based on values have horizontal and vertical structure

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[1]Source: www.randd.defra.gov.uk/Document/Publicunderstandingproductlifetimesanddurability

from general to specific. Various surveys indicate consumer's attitudes reveal quite a bit of environmental concern (Kaiser et al., 1999). An individual's ecological behavior determines "actions contribute environmental preservation and/or conservation," (Fraj, Elena, and Eva Martinez. 2006). Ecological behavior does not necessarily match with attitudinal intentions; the gap between environmental attitude and ecological behavior can be filled with the concept of morality (Thogersen, 1996). Ecological behavior is determined by moral rather than conventional thinking (Howe et al., 1996). A person's ecological behavior reveals his or her feelings of a personal obligation i.e. feelings of responsibility.

Kids clothing

Children are growing at an alarming rate; the little ones grow so hurriedly that they do not get chance to wear all clothes before they outgrow them resulting in demand for new clothing. Lot of money is involved along with guilt knowing that outgrown clothing simply become piles of outfits in overstuffed wardrobes, while discarding becomes difficult task for parents. Since the late 1990s, there is a significant change in trends in the purchase of children's clothing although the birth rate has decreased. Sales of infant and toddler clothing have increased since 1998, reasons could be modern families with fewer children, more disposable family income, etc. (Prendergast and Wong, 2003, Verdon, 2003). Moreover, fast fashion retailers such as Zara, H&M, Gap, etc. offers affordable clothing by creating desire for "must-haves" for each season for everyone, in this strategy children are the prime target segment. Furthermore, the fashion conscious parents also make every effort to get latest clothing for their children.

According to WRAP Design for Longevity report[2] 2013, children go through seven different sizes in first two years meaning needs of clothing almost every season, a headache of parents. The significant increase in the size of kids is indicated by the Mothercare sizing guide[3] for infants and children up to 5 years in Table 1.

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[2] Source: http:/www.wrap.org.uk/sites/files/wrap/hhfdw,-2012,-main.pdf

1.1.1 [3] Source: http://www.mothercare.com/mothercare-sizing-guide-for-babies-children/buyersguide-ms-clothing-sub3,default,pg.html

Table 1: Mothercare sizing guide for babies & children

|	Height (cm)	Chest (cm)	Waist (cm)	Hips (cm)
Newborn	56	-	-	-
0-3 months	62	-	-	-
3-6 months	68	42.25	46.5	47
6-9 months	74	47.5	49	49
9-12 months	80	49	50	51.5
12-18 months	86	50.5	51	54
1.5-2 years	92	53	52	56
2-3 years	98	55.5	53.5	58
3-4 years	104	57	54	60
4-5 years	110	58.5	54.5	62.5

Longevity

Most common problems parents face regarding their children clothing is what to do with outgrown clothes? Various researchers have concluded that unwanted clothes are typically either thrown away or passed on to siblings, children of friends or family or to charities (Lee, J. Y., Halter, H., Johnson, K. K. P., &Ju, H., 2013). Majority of parents perceive lifetime of clothing shorter than ever before (Francis and Burns, 1992). Children wear often requires frequent laundering; which decrease longevity as repeated launderings weaken and fade the fabric by giving it a worn appearance. Longevity of kids wear reduces due to some quality issues of garment as well such as occurrence of shrinkage when the garment has been washed at too high a temperature, garment becomes useless. Durability of kids wear also depends upon the lifestyle and activities of a child; activities related to indoors and outdoors causes clothes worn out quickly (Gam, H. J., Cao, H., Farr, C., & Kang, M. , 2010).

Clothing Disposal behavior

Data shows that some consumers see fashion items as easily disposable. Other than throwing items away, various methods to dispose unwanted textile and clothing items, such as donating it to nonprofit organizations, passing it to other family members (Koch and Domina, 1999) or selling it to second hand stores; redesigning and reusing are adopted by consumers these days. Factor encouraging consumers towards clothing disposal could be level of social consciousness (Roberts, 1995), defined as "individual awareness of social injustice" (Joung, H. M., & Park-Poaps, H., 2013). It motivates socially responsible consumer behavior (SRCB) defined as "the behavior of a consumer who begins his or her acquisition, usage, and disposition of products and services on a desire to curtail or eradicate any destructive or harmful effects and to maximize long-term beneficial impact on society" (Koszewska, M. 2013). Disposal of clothing is initiated due to number of reasons such as poor fit, outdated style, and boredom and/or wear-out (Koch and Domina, 1999). To measure attitudinal factors, a number of items were developed from the literature (Shim, 1995; Koch and Domina, 1999; Domina and Koch, 1997) namely:
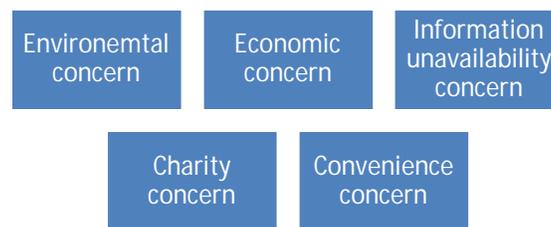
Figure 1 attitudinal items

Environmental concerns relates to decrease landfills, economic concerns relates to save money, charity concerns relates to raise money for charities or temple, information unavailability relates to unawareness about discarding options, while convenience concern relates to easy discard due to lack of time.

METHODOLOGY

This study focuses on parents, we specifically targeted this set of customers who are fashion conscious, and facing children's clothing disposal issues. Data for this study was collected

through questionnaire as a survey instrument administered to 125 parents in India, out of which 7 questionnaires were discarded due to incomplete data. Final sample size considered for study was 118. Several researches undertaken in various part of world describe textiles disposal behavior of adults, but few studies were carried out in India with almost none available on parental behavior towards children's clothing longevity and disposal.

The research design is descriptive in nature. In order to explore implications for children's clothing longevity and disposal, the objectives of the research were formed as:

1. To identify attitudes of parents towards the children's clothing at the consecutive life cycle phases of acquirement, usage and disposal.
2. To find out how attitudes influence parental behavior towards disposal of children's clothing.

Hypotheses were developed on following assumption/s:

o H0: There is no positive impact of attitudinal factors (Environmental, economic, charity, convenience and unawareness) on disposal behaviours (Reuse, Resale, donation and discarding) of children's clothing.

o H1 There is positive impact of attitudinal factors (Environmental, economic, charity, convenience and unawareness) on disposal behaviours (Reuse, Resale, donation and discarding) of children's clothing.

ANALYSIS

To test our hypotheses, partial least squares (PLS) path modeling was employed. PLS is a nonparametric estimation procedure (Wold 1982). Its conceptual core is an iterative combination of principal components analysis relating measures to constructs, and path analysis capturing structural model of constructs. The structural model represents the direct and indirect no observational relationships among the constructs. The measurement model represents the epistemic relationships between the observed variables and constructs. Using bootstrap procedure packaged in SmartPLS 3.0 software (Ringle, Wende, and Will 2005), one can calculate standard deviations and generate approximate statistics. This overcomes the

nonparametric methods' disadvantage of having no formal significance tests for the estimated parameters (Chin 1998).

Measurement Model
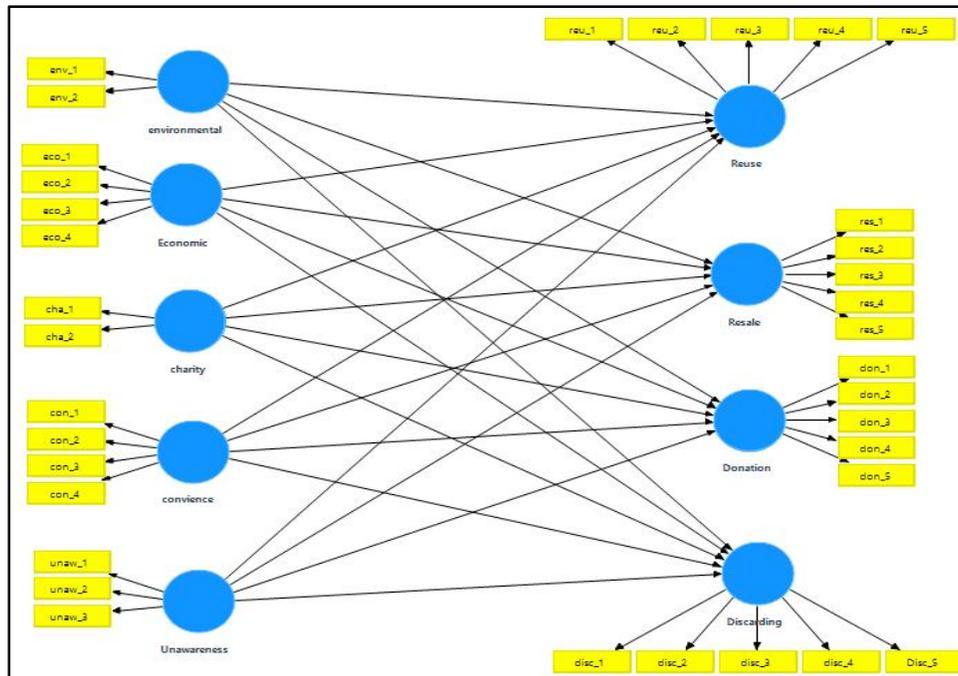
Figure 2: Proposed Model (Measurement Model)

The measurement model consists of nine latent variables and 35 indicators, whereby each relationship between constructs and indicators that is represented in model is specified a priori from past literature. First set of four variables are show different disposal behavior of parents toward the clothing of their kids. These four latent variables consists of five indicators to each so such way first 20 indicators measure different disposal behavior of parents toward clothing of their kids. Remaining items are used to measure motivational factors for disposing behavior. These motivational factors are divided in to five categories namely environmental, economic, charity, convenience and unawareness about other disposal options.

Confirmatory Factor Analysis, Reliability and Validity of Proposed Model

The constructs were subjected to confirmatory factor analysis (CFA) to verify that the manifest variables load upon proposed constructs and are indeed indicative of these constructs. Combination of CFA and construct validity assessments allows researcher to evaluate the quality of their measures within a measurement model prior to testing structural model. For evaluation of reflective measurement model, Factor loading, average variance extracted and reliability plays most important role. According to Joe F Hair et al. factor loading should be more than 0.7 , AVE should be greater than or equal to 0.5 and Composite Reliability and Cronbach's Alpha should be greater than 0.7.

Table 2 Reliability and Validity of Model

Factor	Loading	AVE	Composite Reliability	Cronbach Alpha
Charity	0.875	0.772625506	0.871727804	0.705775701
	0.883			
Convenience	0.703	0.531396192	0.817461097	0.701430415
	0.601			
	0.773			
	0.820			
Discarding	0.860	0.727012934	0.930063485	0.905901263
	0.897			
	0.847			
	0.802			
	0.855			
Donation	0.794	0.589851453	0.877343002	0.825714761
	0.819			
	0.715			
	0.684			
Economic	0.683	0.546154087	0.827187585	0.721810222
	0.723			
	0.829			
	0.713			
Environment	0.459	0.47912977	0.723763967	0.632144799
	0.743			
	0.821			
Resale	0.799	0.629163221	0.893874278	0.852339028
	0.860			

	0.857			
	0.753			
	0.683			
Reuse	0.739	0.502786951	0.831437761	0.743544138
	0.651			
	0.740			
	0.519			
	0.852			
Unawareness	0.488	0.628211388	0.826218769	0.689992513
	0.901			
	0.913			

Table 2 provides the information regarding quality measurement for the proposed model. Factor loading for the given different construct provides the adequate to acceptable loading on that particular construct. In construct unawareness and environment one item each shows the poor loading on that particular construct but other measurement AVE and CR are good so these items we will tolerate as we have only three indicators in both these construct.

Average variance extracted varies between 0.49 to 0.77 and composite reliability varies between 0.72 and 0.93 where reliability standards vary between 0.69 to .90. So overall proposed model confirm loading of their indicators on particular construct adequately and reliability and validity criteria provides evidence for good reliability and validity.
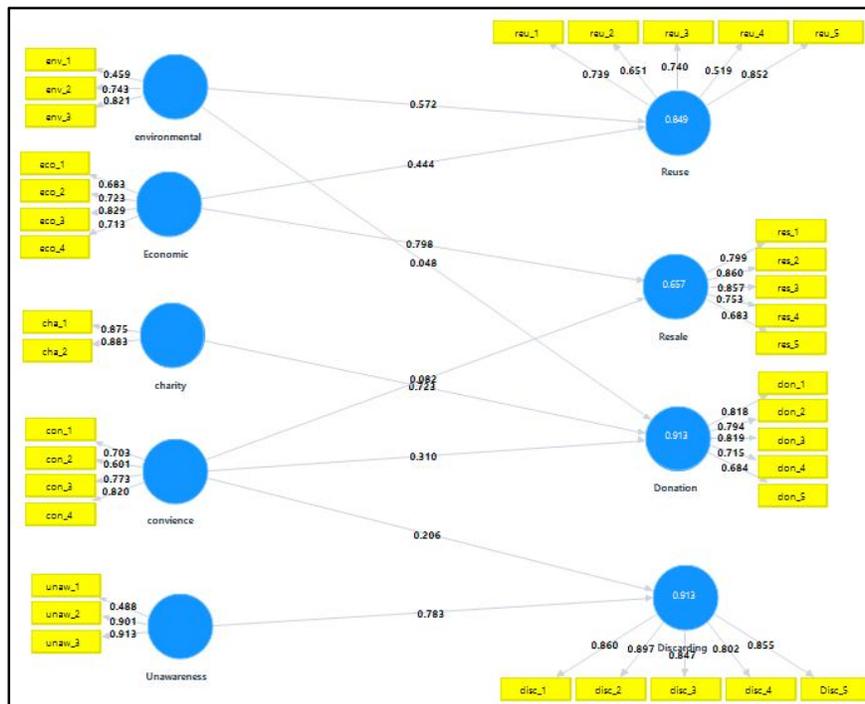
Causal Model for Disposal behavior

In the initial stage, measurement model converted in to the causal model. All possible hypotheses were checked in causal model. Through bootstrapping analysis, PLS⬚SEM does not presume that data are normally distributed. Consequently, PLS applies nonparametric, which involves repeated random sampling with replacement from original sample to create a bootstrap sample, to obtain standard errors for hypothesis testing. The process assumes that sample distribution is a reasonable representation of intended population distribution. The bootstrap sample enables estimated coefficients in PLS⬚SEM to be tested for their significance (Henseler, Ringle, and Sinkovics 2009).Many proposed hypotheses were not found statistically significant, those are removed from model and causal model run again in SmartPLS3.
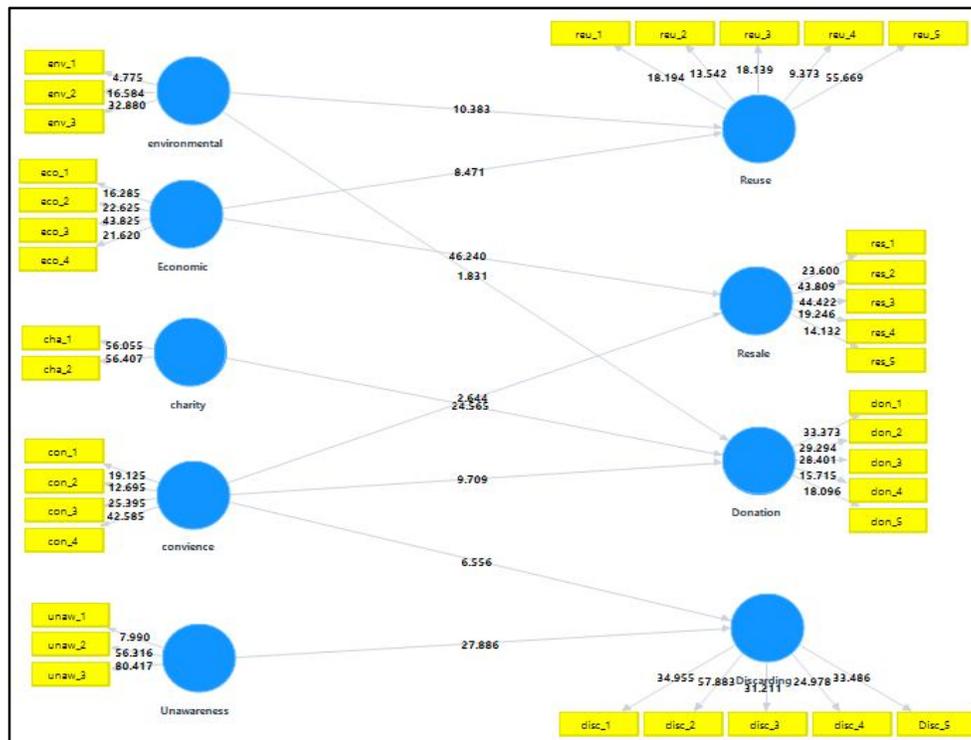
Figure 3 : Bootstrapping analysis

Figure 3 provides bootstrapping information for proposed model. All indicators are found statistically significant as values of each are far more than 1.96 (at 5 % level of Significant). Those which are shown in the figure 3 effects are found significantly on disposal behavior of parents towards kids clothing. Reuse behavior is significantly influenced through environmental and economic factors where resale behavior is because of economic and convenience factors. Charity and convenience combine explain major portion of variance in donation behavior. Last action towards disposal of kids clothing is discarding which mainly influence is through convenience and unawareness.

Figure. 4 : Path model

A structural model has been estimated in order to examine proposed causal effect. The final model and explains all causative relations between motivational factors and disposal behavior. The SRMR - standardized root mean square residual score for the model is 0.081. It varies between 0.0 and 0.1, SRMR is zero when the model predictions or estimates match the data perfectly. The index is a pretty good indicator of whether the researcher's model captures the data, because it is relatively less sensitive to other issues such as violations of distributional assumptions. The SRMR would be "close to" 0.09 or lesser (Hu &Bentler 1999, p.27), while for our model it is on the border line 0.081 which make the model acceptable fit, also all of the path estimates found substantial and go in the expected direction..   Figure 4 reuse behavior is influenced by economic and environmental factor and among them environmental have 0.572 regression weight which is most compare to economic. Through these two variables approximately 0.85% variance explained in reuse variable. Where resale behavior is because of economic factor mainly (0.798 beta weight) and other have low impact and combine it explain 0.66 % variance. Charity, convenience and environmental factors are explanatory variables for

donation and it account approximately 90% variance in donation. Charity is the most influencing variable on donation as it has 0.723 beta weight. Mainly discarding behavior is because of unawareness of the parents (0.78 beta weight) and convenience factor (0.206) only which explain 91.3% variance in discarding behavior.

DISCUSSION

The clothing consumption experience of consumer is a unique experience compared to other product categories. It is more complicated due to different consumption stages such as acquirement, storage, usage, maintenance and disposal provides excellent opportunities to explore socially responsible consumer behaviours (SRCB) at different stages. Survey on parents outlines that purchases of children's clothing is not much planned as it occurs impulsively too. Aspects considered in buying clothing for children were fabric quality, style, fit & durability of garment along with price, brand name, and packaging; fabric quality and style is given most importance compared to others. In addition to new purchase, the donation or recycling are considered to be responsible consumer behavior. The intended use of products affects its lifespan; extending useful life of products could be good initiatives towards sustainability. Lifespan of children's clothing depends on many parameters such as their activities, number of washes, proper maintenance of clothing, change in fit and size, discarding policies, etc. results exhibit that due to trend of low-cost throwaway fashions, parents today expect constant and rapid up-dating in children's clothing, also discarding becomes challenge. To understand disposal behaviours, four clothing disposal behaviours namely, resale, donation, reusing and discarding along with five specific attitudinal factors such as environmental, economic, charity, convenience and unawareness were examined. The main finding of research demonstrates that parents are likely to adopt socially responsible behavior towards disposition of children's clothing

CONCLUSIONS

The researchers attempted to make a significant contribution to limited literature on consumer disposal of textile through this study with special concern towards kids clothing. As kids grow faster day by day, the clothing requirement is high; this results in a large amount of textile disposal and in conclusion, parents dispose of surplus clothing of their kids in different ways depending upon different motivational factors. The disposal of textiles pertaining to kids is almost overlooked by researchers and as related to textile disposals of adults our findings have specific implications for parents and charity in India such as donating kids clothes to charity organizations, temples, NGOs, donating clothing to servants, domestic helpers, etc. In India the general recycling behavior of parents positively impacts donating to charities, findings also specified that parental attitude towards the environment was more related to donation as it involves emotions of pleasure towards doing right than having guilty, resale behavior is not considered significant. The unawareness about proper information related to discarding of kids clothing could be lack of knowledge and media coverage, kids clothing producers and retailers could initiate to aware parents towards disposal of their kids clothing. The parents were found eager to behave socially responsible regarding disposal of children's clothing, but sometimes due to lack of adequate information and infrastructure, they behave otherwise. The suppliers or retailers could also consider buy back schemes and parents should be encouraged to engage in swapping, sharing and repurposing along with giving to friends or family. Overall results suggest that in India, parents who have a positive attitude towards recycling are more likely to dispose of their clothing in an environmentally friendly manner, such as giving to family or friends or donating to charities or to needy, selling to second hand shops, etc. which is consistent with previous studies conducted in field of disposal of textile of adults or young consumer.

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