

Antecedents of Hoarding Behavior: A Marketing Perspective

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Abstract

Hoarding exists when the consumer's current inventory of an item exceeds the inventory for previous periods, while their consumption rate stays the same (Canale, 2013). Our principal research objective in this study was to investigate the preconditions that drive hoarding behaviors when consumers perceive a shortage in supply and are faced with other marketing stimuli that indicate product scarcity. We sought to further understand the lifestyle of consumers, and the impact that instilling urgent needs in advertising and pricing strategies had on hoarding behaviors. A usable random sample of 297 responses were obtained through a self-administered on-line survey. ANOVA and regression were used to ascertain differences and relationships between our dependent variables. Our findings indicated that the uncertainty of future supply or perceived shortages have a significant impact on hoarding behaviors. Consumers with high levels of hoarding behaviors have traits such as difficulty-discarding possessions, carrying "just in case" items, and having a large percentage of unused items. These consumers display sensitivity to advertisements that portray uncertainty of future items that result in a higher purchase rate in times of visible shortage. Other key variables that we found to relate to hoarding were emotional attachment to items, feelings based upon advertising, perceived scarcity, and specific personality traits. Our findings can help marketing managers understand the signals that influence hoarding and have implications for their overall marketing strategy. Marketing managers can gain knowledge from this research to determine purchase motives, plan for inventory replenishment, adjust pricing, and design appropriate marketing communications. We conclude by underscoring avenues of future research.

Key Terms:

Consumer Hoarding, Primary Data, Random Sample, Empirical Findings, Marketing Strategy

Introduction

Our principal research objective in this study was to investigate the preconditions that drive hoarding behaviors when consumers perceive a shortage in supply and are faced with

other marketing stimuli. We sought to further understand the lifestyle of consumers, and the impact that instilling urgent needs in advertising and pricing strategies have on hoarding behaviors. The goal of this research was to collect information in order for decision-makers to discover the preconditions of hoarding behaviors and decide the proper advertising, price, and supply in a strategic manner. With some patterns and preconditions that elicit hoarding uncovered, the marketing manager can begin to understand the signals that influence hoarding and begin to adjust their marketing strategy.

Hoarding disorder is referred to as acquisition and failure to discard a large number of possessions, where it has direct effects on financial planners, therapy, and health (Canale, 2013). Hoarding behaviors exist due to the acknowledgement of the scarcity of items that previously had been in excess, and the consumer's response to this scarcity to hoard those items. According to Canale (2013), hoarding develops as a result of "conditional emotional responses to various thoughts and beliefs" (p. 46). Hoarders are more likely to experience traumatic life events, which leads to higher severity of hoarding (Canale, 2013). Hoarders also think about future uncertainties and the chance that items are needed in the near term. Difficulty discarding, acquisition problems, clutter, and interference/distress were identified as symptoms of hoarding (Coles, 2015).

Consumption may be short-run if the perceived shortage is temporary, or it can be a long-run consumption rate if the uncertainty of future inventory is perceived as long-term. When the consumer withdraws, the marketing channel will cut back on production of those items. Once the consumer re-enters the marketplace, they will again perceive uncertainty of future supply and begin to hoard. Marketing managers can gain knowledge from this research to determine purchase motives, plan for inventory supply and adjust pricing, and send the correct messages through the marketing channel.

We designed our conceptual model based on prior research in the area on what drives certain types of personalities to exhibit hoarding behaviors, and then tested the proposed model. We developed hypotheses and designed an on-line survey that was distributed to a random sample. Data was analyzed and the findings and marketing implications are reported. We conclude with our remarks on limitations, and future research possibilities.

Conceptual Development

We tested hoarding behaviors among consumers to examine what factors lead people to hoard items, and how different personality types affect people's habits to hoard. We designed research questions to guide our project to focus on hoarding behaviors. The questions include:

1. What patterns and preconditions exist that formulate hoarding, such as sensitivity to scarcity and consumer expectations of inventory?
2. Will higher levels of urgency in advertising increase hoarding behaviors in consumers?
3. Do high levels of uncertainty within individuals drive higher levels of hoarding?
4. How do visual supply shortages produce hoarding behaviors in consumers that have certain personalities, such as indecisiveness?

We were interested in understanding what items people refuse to release and why they tend to keep certain items. Based upon research, individuals tend to hold onto “just in case items”; they choose to save these items to avoid choosing whether or not to get rid of them (Canale, 2013).

Prior work indicates that emotional attachment is involved in hoarding objects. Further, hoarding and consumption are related topics, where mass media, interpersonal communication, and the ability to observe price and retail ability are signals under the control of marketing managers. An importance of studying hoarding behaviors lies in the disorderly market dynamics that result from such behaviors. According to Mueller, Mitchell, Crosby, Glaesmer, & de Zwaan, “the point prevalence rate of clinically significant hoarding behaviors is 2% to 6% of the population”, (as cited in Canale, 2013, p. 44). This is not something that should be disregarded. Families of individuals who hoard are significantly affected in regards to health and well-being, which also has an effect on the market. Marketing managers must analyze the threats and opportunities in the uncontrollable market dynamics resulting from hoarding, where both defensive and offensive marketing strategies are required (Stiff, 1975). In order to do so, they need to stay attune to the results of advertising on individuals with certain characteristics.

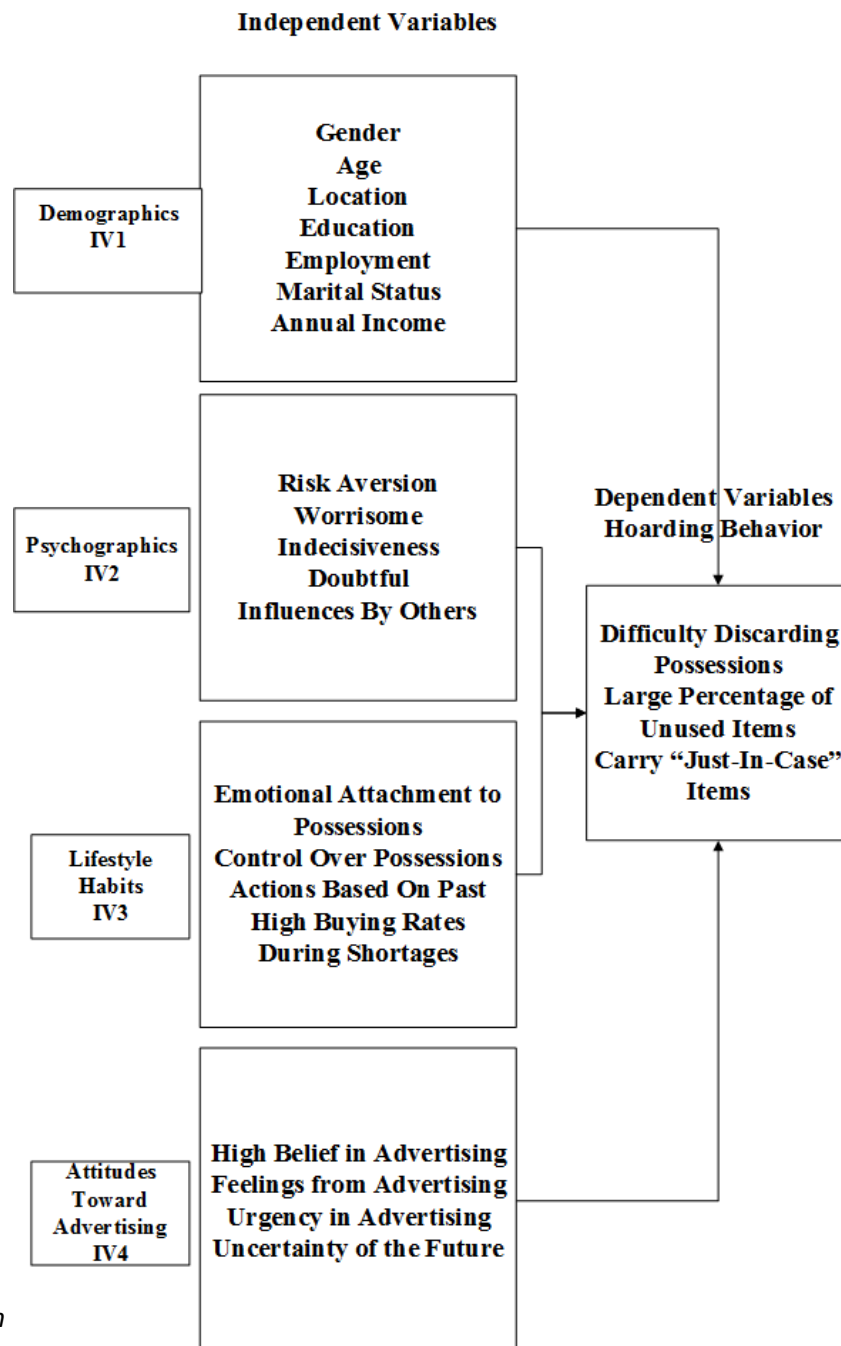
Within the past decades, the rights and interests of the consumer in both the public and private sectors have been an increasing concern. Within the area of attitudes of consumers toward marketing, research holds room to grow; yet the consumer-focused approach requires answers (Barksdale & Darden, 1972). Hoarding behaviors exist due to the acknowledgement of the scarcity of items that previously had been in excess. Consequently, the consumer’s response to this scarcity is to hoard these items. Certain advertisements focus on the strategy of portraying urgent needs, where they result in consumers purchasing excess amounts of one specific item. The type of advertising for hoarded products could lead to short-run increases in profits. Within the topics of hoarding, media attention and consumer behavior focused research emphasizes what Maycroft (2009) found to be “irrational hoarding”, which is more extreme and overwhelming than lower amounts of hoarding. Certain expectations that items are exceptional or unworldly is contributed to media construction itself, and according to Maycroft (2009), “normal daily experience with the state and placement of objects” (p.362). Our study examines the relationship between psychological and demographic aspects of the symptoms of hoarding themselves amongst various levels of extremes.

Previous Research

Hoarding exists when the consumer’s current inventory of an item exceeds the inventory for previous periods, while consumption rate stays the same. Hoarding Disorder is referred to as acquisition and failure to discard a large number of possessions, where it has direct effects on financial planners, therapy, and health (Canale, 2013). At different levels, hoarding can be problematic, and according to Canale (2013), can “cause clinically significant impairment” (p. 47). Modeling, pertaining to the family vulnerability regarding the observation of hoarding behaviors, demonstrates that those who hoard may do so due to an external influence (Canale,

2013). Dangerous and unhealthy living conditions, including physical and mental illness and debt, are present in families who hoard (Busher, 2013). Symptoms of distress are due to retaining items to avoid the possible negative side effects of discarding the item. Options to further develop research may include the individual influencers on hoarders themselves; a complex relationship between ecological, cognitive, and executive functioning variables contributing to difficulty discarding, clutter, and acquiring.

Figure 1
Conceptual Map



Hoarding specifically involves emotions of fear, anxiety, and distress. It is a sizable desire for hoarders to avoid negative emotions (Timpano, 2014). This explanation relates to a similar issue of hoarders according to Frost (1995) by “avoiding the harmful consequences of throwing things away” (p. 898). The responsibility of harm in throwing an item away involves negative feelings to a point where the individual just avoids the action entirely, and retains the item. However, empirical research in hoarding is still in its infancy, and can further be developed. Advertisements reach the vulnerability of individuals who hoard. Specific personalities are affected by hoarding differently when the urgency of situations increases (Frost, 1995). In fact, theories of hoarding lead to marketing implications involving distribution pricing, advertising and public relation positions. As stated by Grisham, Frost, Steketee, Kim & Hood “hoarding develops as a result of emotional responses to various thoughts and beliefs” (as cited in Canale, 2013, p. 46). Sociologists place a greater role on mass media and interpersonal communications as signals for hoarding, as well as the direct observation of both retail ability and purchase behavior of other consumers. Advertising would increase generic product design leading to competitor’s stock outs, which produces brand switching, and increases the long and short-term market share (Stiff, 1975). Understanding advertising’s role in hoarding behaviors is beneficial to establish efficient advertisements.

Hoarders are more likely to experience traumatic life events, which lead to higher severity of hoarding (Canale, 2013). Hoarders also think about the future uncertainties and the chance that items are needed in the near term. Difficulty discarding, acquisition problems, clutter, and interference/distress were identified as symptoms of hoarding (Coles, 2003). After a self-report, findings that indecisiveness, maladaptive evaluative concerns, and OCD symptoms associated with hoarding. This study also found that the main sources of compulsive hoarding include information-processing deficits, problems in forming emotional attachments, behavioral avoidance, and erroneous beliefs about the nature of possessions. Individuals who are hoarders carry more “just in case” items, and also carry possessions in order to avoid making the decision to discard them, thus indicating indecisiveness.

Possessions are imbued with importance far in excess of their true value (Frost, 1995). Beliefs about possessions, emotional distress, and avoidance result in manifestations of hoarding. Symptoms are defined as saving unless the items contain little or no sentimental value, which is distinguished from items that they find interesting and valuable (Frost, 1995). Extreme levels of clutter are where hoarding becomes pathological. This relates to our study, where we also sought to discover how the number of items that individuals hold relates to the amount of emotional attachment that they face. When possessions provide feelings of safety, there are higher levels of emotional attachment. In fact, impaired mental growth, checking and doubting were highly correlated with hoarding (Frost, 1995).

Symptoms relating to compulsive hoarding involve acquisition and buying. Hoarding Disorder is a psychological disorder and also a money-management disorder. Hoarding of low-priced consumer goods are based on expectations of short-run instability of supply (Stiff, 1975). Goods with high intrinsic value involve collections based on long-run scarcity. The degree of hoarding is based off of the ratio of current inventory to previous inventory (Stiff, 1975). A necessary condition for hoarding is that the present cost is less than the future cost, which can

be indicated in the prices of goods themselves. The future cost would include the future expected price of goods. An increase in prices may increase demand. A company is more likely to increase its short-run profits by raising prices during hoarding. In fact, increases in higher prices may trigger increased hoarding levels. Money itself can be hoarded, which should be taken into account. When money is viewed as sacred, as shown with the analytical personality type, bargain hunting, indecisiveness and saving in case of unarmed threats occurs (Canale, 2013). This leads to under spending. According to Stiff (1975) "Collections are based on assumptions of long-term scarcity of the collected goods, which are often of high intrinsic value" (p.1). The uncertainty of scarcity motivates individuals to hoard at higher levels. Figure 1 illustrates our conceptual model that integrates the prior research in the area with our comprehensive model for this research that emanates from such research.

Methodology

Using a quantitative, descriptive research design we use validated scales for attitudes and beliefs. Past studies and scales from the *Handbook of Marketing Scales*. We used an online questionnaire using a random sample that was based on four independent variable categories: demographics, psychographics, lifestyle habits and attitudes towards advertising. We measured the dependent variables of hoarding behaviors constructs such as difficulty discarding possessions, having a large percentage of items not used, and carry "just in case" items. The following hypotheses were tested:

1. A higher level of urgency within advertising increases hoarding behavior in consumers.
2. Patterns and preconditions such as emotional attachment lead to hoarding behavior.
3. Visual supply shortages lead to hoarding behavior in consumers with specific personalities particular to hoarding.
4. High levels of indecisiveness leads consumers to have difficulty discarding possessions, relating to hoarding behaviors.
5. A high level of uncertainty in individuals drives higher levels of hoarding.

Scales and Validation

The scales used were taken from three sources: The *Handbook of Marketing Scales: Multi-item Measures for Marketing and Consumer Behavior Research -- The Hoarding Rating Scale*, by Tolin, D.F., Frost, R.O., & Steketee, G. (2010), and the *Big Five Model of Personality*. Below are the original multi-item scales we used from The *Handbook of Marketing Scales* and the *Hoarding Rating Scale* with the corresponding Cronbach's Alpha. All of our adaptations to the scales were 0.70 and above, which indicates good internal consistency. One exception to this was the *Compulsive Buying Scale*, as indicated in Table 1, where we only used one item from this scale (and were unable to calculate the Cronbach's Alpha).

Table 1
Cronbach's Alpha

Original Scale	Cronbach's Alpha	Our Adaptation to Scale Cronbach's Alpha
Psychographics	0.80	0.751
Possession Satisfaction	0.80	0.764
Attachment to Possessions	0.80	0.735
Compulsive Buying Scale	0.884	N/A
Price Perception	.78 - .90	0.747
Consumer Attitudes Toward Marketing	.69 -.76	0.768
The Hoarding Rating Scale	.77 -.91	0.735

Survey Design and Implementation

Several aspects were included in our online survey. The respondents were assured anonymity and were "forced" to answer every question in order to complete the survey. This was advantageous to reduce error. To distribute the survey we used snowballing, We used only one screening question to ask if the respondent was over the age of 18. We ended up with 348 respondents, and 297 usable responses. We used structured, matrix type questions with an interval 7-point Likert-type scale in order to measure absolute differences between scale points (Devasagayam, 2014). The two anchors ranged from "Strongly Disagree" on the left as "1" and "Strongly Agree" on the right as "7." Since each question was structured, the respondent had to choose from predetermined responses. Our survey was pretested and revised to reduce the number of items, make sure they were in the correct order, and word our questions in order to get interval level data. We began with psychographic questions, lifestyle habits, advertising questions, followed by questions related to hoarding, and we ended with demographic questions. After doing this, we pretested the survey again to see if any changes should be made. We finalized our questionnaire and launched the survey to begin data collection. The survey was kept under 5 minutes to reduce fatigue within the survey, and to launch an unpaid survey that respondents would fully complete. Our questions were broken up by category.

Figure 2
Sample Survey Hoarding Questions

I feel that I...							
	Strongly Disagree						Strongly Agree
I have difficulty discarding possessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience emotional distress because of clutter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a large percentage of items I have not recently used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I carry " just in case items ," so I am never unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sample Profile

Our Sample consisted of 297 participants. Out of these participants, 67% of the population were female, while 32% were male, the remaining 1% consisted of transgender and other identities. In analysis, we measured the comparison between the top two genders, and removed the one percent from further analyses. Just above half (53.9%) of participants are single, where 21.1% are in a relationship; 24.9% are married either with or without children. A majority of participants live in a suburban area. Table 2 summarizes the profile of our sample, which indicates a good representation of the sample across all demographics.

Table 2
Sample Profile (n=297)

Gender		Employment		Annual Income	
Female	67%	Part-Time	39.4%	Below \$20,000	40.1%
Male	32%	Full-Time	43.1%	\$20,000 - \$39,000	8.8%
Other	1%	Unemployed	17.5%	\$40,000 - \$59,000	8.1%
Age		Area Lived in		\$60,000 - \$79,000	8.1%
17 - 25	58.6%	Urban	16.5%	≥ \$80,000	20.2%
26 - 34	10.4%	Suburban	73.7%	Would rather not Disclose	14.8%
35 - 54	13.8%	Rural	9.8%	Education	
55 - 64	13.5%	Race		< Highschool	0.7%
≥ 65	3.7%	White / Caucasian	89.2%	High School / GED	9.1%
Marital Status		African American	2.4%	Some College	38.4%
Single	53.9%	Hispanic	4.4%	2- Year College Degree	7.7%
Married	18.5%	Asian	2.0%	4 Year College Degree	23.6%
Married with Children	6.4%	Other	2.0%	Graduate's Degree	20.5%
In a Relationship	21.2%				

Findings

A summary of the results can be found in Table 3 that compare the independent variables of demographics, personality, lifestyle habits, and attitudes towards advertising against the dependent variables of the three hoarding levels which are difficulty discarding possessions, having a large percentage of items not recently used, and carry “just in case” items”. The significance level was set at $p \leq 0.10$ or below and coefficient of determination (R^2), was used to examine relationships between our constructs.

Table 3
ANOVA and Regression Analysis

Hypotheses: ANOVA	Results
<p>H₀ There is no difference between gender (males and females) for having a large percentage of items not recently used.</p>	<p>Reject null (F= 6.680, p:0.010)</p>
<p>H₀ There is no difference between uncertainty levels and carrying just in case items.</p> <p>H₀ There is no difference between uncertainty levels and having a large percentage of items not recently used.</p> <p>H₀ There is no difference between uncertainty levels and difficulty discarding possessions.</p>	<p>Reject null [all] (F= 11.195, p:0.0001)</p> <p>(F= 8.416, p:0.0001)</p> <p>(F= 6.119, p: 0.0001)</p>
Hypotheses: Regression	Results
<p>H₁ Higher levels of certain personalities (composite) will lead to consumers having a difficulty discarding possessions.</p>	<p>Confirmed (F=26.999, p:0.0001, R²=.084)</p>
<p>H₂ Higher levels of indecisiveness will lead to consumers with a difficulty discarding possessions.</p>	<p>Confirmed (F=68.406, p:0.0001, R²=0.188)</p>
<p>H₃ Consumer attitudes toward urgency in advertising will lead to large percentage of items not recently used.</p>	<p>Confirmed (F=25.036, p:0.0001, R²=0.078)</p>
<p>H₄ Consumer attitudes that purchases made due to feelings from advertisements will lead to large percentages of items not recently used.</p>	<p>Confirmed (F=27.843, p: 0.0001, R² = 0.08)</p>
<p>H₅ Consumers who have high levels of purchases due to shortages</p>	<p>Confirmed</p>

will have a large percentage of not recently used items.	(F=46.037, p: 0.0001, R ² =0.135)
H₆ Consumers that are uncertain of the future will have high levels of purchases and will carry just in case items.	Confirmed (F= 63.389, p:0.0001, R ² 0.177)
H₇ Consumers with high levels of emotional attachment to possessions will have difficulty discarding possessions.	Confirmed (F=51.719, p:0.0001, R ² =0.149)

For instance, using gender as a factor, an F value of 6.680, and a significance level of 0.01, there is a significant difference; gender has a statistically significant impact on having a large percentage of items not recently used. This means that we reject the null hypothesis since there is a relationship between these variables..

Similarly for the second ANOVA, we ran “uncertainty of the future”, with all three of the reliable dependent variables. We chose to include all three, for in each of the three cases there were significant differences between the means. With a significance of 0.001 for each variable, and F values of 11.195, 8.416, and 6.119 respectively. There is a difference between the levels of future uncertainty based upon the dependent variables.

After completing ANOVA tests, we ran linear regression tests to further understand the relationships in the data that we collected. We used a composite of psychographics combining the variables indecisiveness, worrisome, a risk avoider, doubtful, impulsive, easily influenced by others, introverted and sensitive, and found it to be significant as a composite. This lead us to look deeper into individual psychographic variables, such as indecisiveness, which was in the composite, and found its significance at 0.0001, a high F value of 68.406 and a high R² value of 0.188. This R² value demonstrates that 18.8% of consumer responses with higher levels of difficulty discarding possessions is explained by indecisiveness. This is a high number, and conformed to our literature review, where levels of indecisiveness were associated with hoarding. The Pearson’s correlation coefficient, which measures the strength of the association between variables, is 0.434. This represents a moderate strength between indecisiveness and difficulty discarding possessions, which is also positive. Indecisiveness holds the highest F value amongst all of our selected hypotheses above, indicating that more variance in hoarding levels are associated with indecisiveness.

We tested consumer attitudes toward urgency in advertising as well as purchases made due to feelings from advertisements against our dependent hoarding variables. We found them to be significant, but were surprised to find they had a low result with F values of 25.036 and 27.843 and R² values of 0.078 and 0.086 respectively. Between these two variables, feelings from advertisements have a larger coefficient of determination, which indicates a

stronger linear relationship. It was believed these variables would have a strong relationship and believe further study would be helpful.

The last three hypotheses included regression results with R^2 values that were relatively higher than the other hypotheses. The variables “higher levels of purchases due to shortages”, “uncertainty of the future”, and “emotional attachment to possessions” contained R^2 values of 0.135, 0.177, and 0.149 respectively. The highest value was 17.7% of the variance in hoarding is associated with uncertainty of the future. Uncertainty is a large factor to hoarding, with an R^2 value of 0.421 which indicates that the strength in the association is moderate. Emotional attachment to possessions as well as uncertainty levels relate to prior research, and remain significant in this case.

Conclusions and Recommendations

Our findings indicate that women had a higher difficulty discarding possessions, had a large percentages of unused items, and carried larger amounts of “just in case” items compared to men. (It is important to note that our survey consisted of 73% of female participants.) However, in each variable of hoarding behavior, females ranked higher than males regarding hoarding symptoms. Connecting our results to our first hypothesis, we can agree with past studies that a higher level of urgency from advertisements increases the hoarding behaviors in consumers. When we analyzed the results of consumer’s attitudes to the responses given by males and females, our hypothesis was validated.

Our analyses also focused on determining if patterns and preconditions, such as emotional attachment, lead to hoarding behaviors. Our data showed that females held a higher mean in this area than men, displaying that women have more of an emotional attachment to items. We found there is a 14.9% impact on consumers with high levels of emotional attachment to possessions who will display hoarding behaviors.

The third hypothesis was that visual supply shortages lead to hoarding behaviors in consumers that have specific personality’s particular to hoarding. In order to test this we needed to see how often there are shortages of specific items that result in consumers purchasing so much at one time. Our adapted scales gave us an Alpha value that indicated a good level of consistency at 0.884. We only used one item from the compulsive buying scale because it was the only item significant to hoarding behaviors among consumers. Our data showed that there is a 13.5% impact on consumers who make a purchase very often due to shortages who display personality’s specific to hoarding. Also, uncertainty of future supply and perceived shortages stands out as indicators of hoarding behaviors, as seen in our literature review.

The fourth hypothesis we tested was high levels of indecisiveness will lead consumers to have difficulty discarding possessions relating to hoarding behaviors. Our data showed that 18.8% of the customer impact regarding discarding possessions is explained by indecisiveness. Indecisive individuals have a hard time discarding items. We ran an ANOVA to determine if there was a relationship between difficulty discarding items due to indecisiveness, and there was a significant relationship.

Our last hypothesis was a high level of uncertainty in individuals drives higher levels of hoarding. Our results showed us that 17.7% of people who have a high level of uncertainty would display higher levels of hoarding behaviors.

We tested demographics, psychographics, lifestyle habits, and attitudes towards advertising against the three hoarding levels. The hoarding levels include difficulty discarding possession, large percentage of items not used, and large amounts of “just in case” items held. We have a fourth dependent variable, emotional distress because of clutter, but we chose not to use this variable because our Cronbach’s Alpha with this variable came out to be 0.683, which is a low score. When we removed this variable our Cronbach’s Alpha increased to 0.754, which is considered to be good. Consumers revealed they are statistically influenced by the four independent variables to have difficulty discarding possessions, hold a large percentage of unused items, and carry a large amount of “just in case” items. With statistically significant data, conclusions that emerged suggested that hoarding behaviors stem from a combination of areas. These areas included a relationship between uncertainty and all three symptoms of hoarding, as well as the relationships of indecisiveness, certain personalities, and feelings from advertisements on hoarding behaviors. Personality characteristics, certain demographics, mindsets, and exposure to aspects of the media are preconditions along with many others that relate to hoarding behavior.

Managerial Implications and Future Research

From this research, managers can determine what causes hoarding in terms of marketing strategies, such as advertising. In terms of adjusting prices, companies need to be aware of the levels of price changes in addition to how important the items are portrayed. With significant levels found between hoarding and specifically chosen characteristics, as well as a significance in regards to indicated shortages, managers must stay attuned to these factors in terms of marketing strategies, such as advertising. Our research findings are beneficial to the general population as an opportunity to understand how advertisements affect the purchase of a product amongst individuals with symptoms of hoarding. Certain demographics, psychographics, and lifestyles are more prone to hoarding than others. Indecisiveness and emotional attachment are associated with hoarding, which our study further examines, along with the areas of doubt and uncertainty. When marketing mix decisions are made with this in mind, advertisements that portray an emotional need or urgency to buy the product can be used, which may result in more purchases.

In retrospect, we focused on the total household income of each respondent, but we were unsure if their attitudes towards purchasing items that they would possibly hoard might differ if individual income was focused on as well. We also neglected to include a “retired” section for employment status. We only sampled respondents aged 18 and over, so we do not know if younger children hoard items that hold a strong meaning to them. Another limitation is that we did not include specific geographic region, so we do not know if participants were international versus national. This brings up an area of further study, including hoarding behaviors in different cultures. With numerous areas containing various priorities, accepted behaviors, as well as other cultural and economic differences, there are areas to discover

various other triggers of hoarding behaviors. Different markets and marketing plans amongst companies internationally utilize various techniques; to look deeper into the effects of cultural aspects on hoarding is an understudied area.

To further acknowledge the differences and similarities between hoarding and other disorders in consumers, there is room to further discover the area regarding hoarding and the topic of finance, for individuals may hoard money itself. Hoarding disorder, as a money disorder has a direct effect on financial planners, and also the financial health of clients (Canale, 2013). Knowing this information would further analyze the money aspect of hoarding, which may have a large impact on the market, for hoarding can affect many aspects of individuals' lives thus affecting the market in multiple ways. Understanding the impact of members related to, or in the same household as an individual who hoards, is also another area for future study. Hoarding behaviors may rub off on close individuals, and may have a large impact on the behavior and formed habits of other household members. A deeper analysis may include how the families of individuals who hoard are affected, and how these effects impact the marketplace. Do children of individuals with hoarding symptoms grow up and resemble similar habits? These areas of further research have yet to be determined.

Future research can be done on retailers who intentionally limit supply and availability causing the consumer to perceive the items as perishable and scarce (Byun & Sternquist, 2008). Understanding how consumers perceive perishability and scarcity of items will help marketing managers develop the appropriate retail strategies to accelerate purchase rates. (Bulow, 1986). The Commodity Theory, Endowment Effect, and Prospect Theory distinguishes how consumers value commodities that are scarce, have an attachment to possessions, and respond to loss aversion. Further exploration of these theories as they relate to hoarding behaviors may give insight into behavioral responses to the tactics of perceived perishability and scarcity of consumer goods.

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