

## To Repair or Not to Repair: What is the Motivation?

### AUTHORS:

Kristin A. Scott  
Associate Professor  
Department of Marketing and International Business  
Minnesota State University, Mankato

S. Todd Weaver  
Professor  
Department of Business  
Point University

The lights on the dishwasher panel blink and then go dark. No amount of pushing, prodding, or opening and closing the dishwasher door succeeds in restoring life to the now-defunct home appliance. The consumer faces a decision: should he try to extend the lifespan of the appliance by having it repaired or repairing it himself? Or should he dispose of the broken dishwasher and replace it with a new one? While a significant amount of marketing research has focused on how and why consumers choose to buy new products, relatively little research has focused on product usage and disposal generally and repair specifically. However, repair decisions have an important bearing on environmental sustainability; if more consumers choose to repair rather than replace degraded items, the demand for new items and the natural resources they contain could potentially be reduced, thereby improving the environmental sustainability of consumption. Thus, this research

seeks to explore a crucial decision consumers frequently face: when a product no longer functions as it did when it was purchased, should it be repaired or replaced?

Despite the increased consumer interest in repair and its potential benefits to society, little research has examined the propensity to repair products, its antecedents, and its outcomes. This research attempts to fill this gap by developing a measure of repair propensity and conducting a survey to assess important antecedents and outcomes of repair propensity among U.S. consumers. Two samples were used: a survey of the general population (from MTurk) and a survey of known repairers (from ifixit.com). Results from the comparison between the samples reveal more similarities than differences between consumers with average repair propensity and those with higher repair propensity. Specifically, the same antecedents and outcomes of repair propensity appear to be present whether consumers are relatively more or less likely to repair their products (see Figure 1).

The results of this study indicate that all three categories of factors - market, product and consumer - have a significant influence on repair propensity. However, this study also indicates that within each category, there appears to be one or two variables that predominate. In terms of market factors, perceived inconvenience of repair seems to be the most influential. This finding would appear to indicate that marketers and policy makers interested in increasing repair behavior, either for sustainability or business purposes, should consider making repair parts and services more convenient to consumers. Making repair more convenient for consumers would also improve consumer well-being by reducing the psychic and time costs currently associated with repairs.

For product factors, initial item cost appears to be the most influential for the two samples. However, for this factor, differences exist between the samples. The results suggest that economic factors, such as the cost of the item or the cost of replacement products, are more influential for consumers relatively lower in repair propensity. This finding suggests that reducing the cost of repairs relative to new products would be an effective way to promote repair behavior to those less likely to repair, and marketers could do so by making affordable replacement parts and repair manuals more available to consumers. Policy makers may also have an opportunity to facilitate repair by increasing the relative cost of new items by requiring manufacturers or consumers to internalize the cost of product disposal, as with California's electronic waste recycling fee (ca.gov 2014). Efforts like these to make repair more affordable could benefit consumers financially. Considering that many consumers use the "50 percent rule" (Scelfo 2009), consumers are, in many cases, spending more on replacement products than would be required for repair. By reducing the cost of repairs and making it more likely that the cost of repair would be less than 50 percent of the cost of a replacement product, consumers would be more likely to repair and thus have more money to use in pursuit of other goals. In contrast, product attachment appears more prominent among consumers with relatively higher repair propensity. Thus, it is possible that repair propensity might be linked to a consumer's general view of products as functional/instrumental versus expressive/personal. Since product attachment implies a positive emotional connection with a product (Ferraro, Escalas, and Bettman 2011), repair could improve consumer wellbeing by extending the life

of products that elicit positive emotions or even by imbuing products with positive associations where there were none before.

In terms of consumer factors, the two samples suggest that two variables appear to be particularly important in predicting repair behavior: stewardship and innovativeness. Stewardship involves seeing the value and potential in material possessions while product innovativeness is the extent to which the consumer finds new and different uses for existing products. Interestingly, both of these variables involve facets of creativity, suggesting that to increase repair behavior, people should be encouraged to be innovative with their possessions and to see the potential that others might not see. In contrast, neither environmental concern nor frugality were significant when analyzed with other factors, suggesting that a general concern for saving money or preserving the environment may not be as important to repair propensity as previous literature suggests. This creative dimension of repair behavior and the specific links to consumer innovativeness and stewardship could mean that repair is an avenue for increasing consumer well-being by empowering consumers to express their ideals and values. In that case, policy makers and marketers can make consumers' lives better by making repair resources, such as parts, tools and instructions, more readily available to consumers.

The results of this study also suggest that repair propensity may influence product choice and product usage (see Figure 1). Although the cross-sectional nature of this study limits the extent to which the direction of causality can be established, it is at least plausible that a trait like repair propensity is a cause rather than an effect of behavior. Specifically,

this study suggests that repair propensity may influence acquisition choice and product care. Thus, if people are interested in repairing their products in later stages of consumption, they will be more likely to pick out products that can be repaired and take care of them so there is less of a chance of needing to do so. If repair propensity does influence product choice, marketers and policy makers could promote repair by giving consumers a signal of reparability, such as the smartphone reparability index recently created by iFixit (Crabbe 2013), that would be available to consumers prior to purchase. Again, consumer well-being would be improved by giving the consumer the information they desire when making product choices.

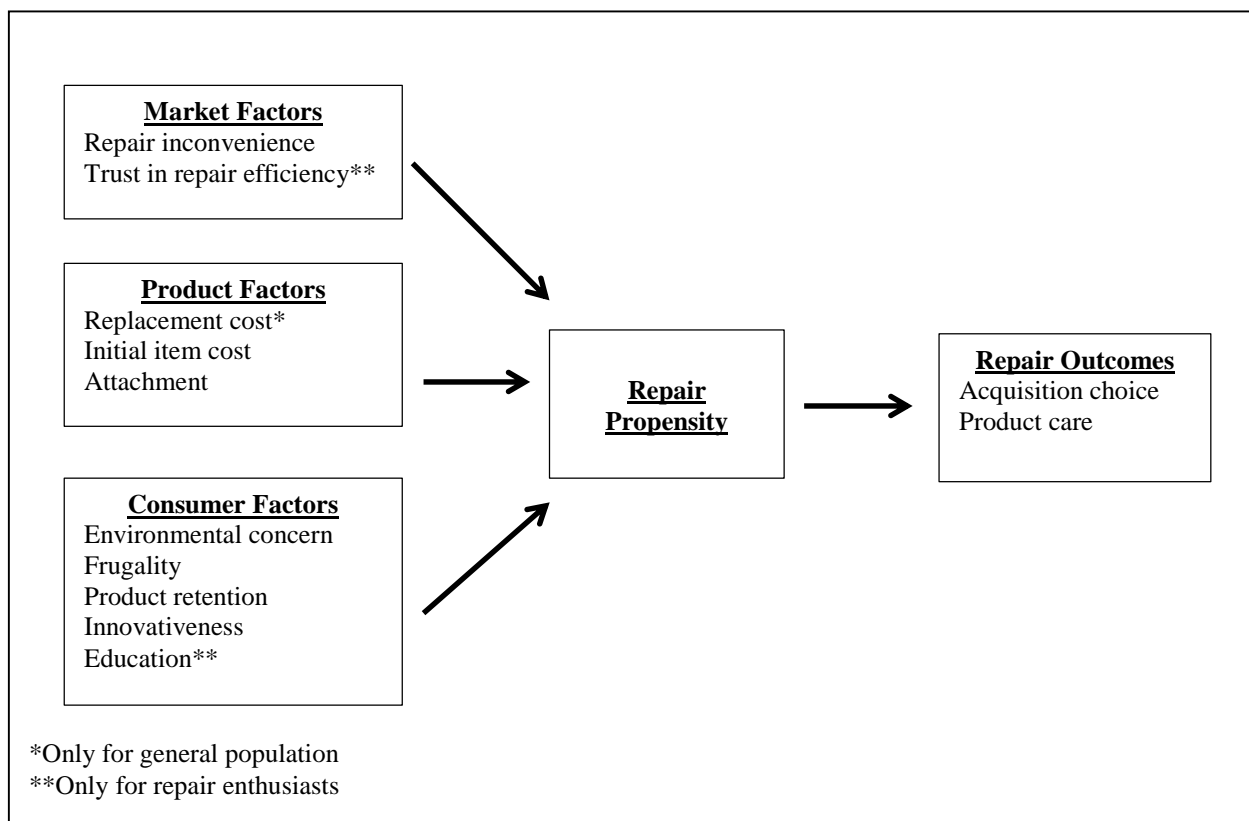


Figure 1: Predictors and Outcomes of Repair Propensity

This research represents a very early and exploratory investigation of repair propensity and the market, product, and consumer factors related to repair. Ultimately, if an increase in repair leads to longer product lifespans and decreased use of natural resources, all consumers could benefit from the positive environmental effects of a more sustainable economy. Furthermore, repair holds the promise of increasing consumer well-being financially and emotionally. Thus, repair can be a fruitful field for further research that could help improve the well-being of consumers individually and collectively, and the authors hope that this study will be the first step in that direction.

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