

# Understanding Consumer Perception of Technological Product Failures: An Attributional Approach

## 1. Research Problem

Research shows that the increasing complexity of consumer electronics results in an increasing number of unknown field complaints. Because users do not always understand how these complex products function, they often perceive the product's behavior, feedback messages and malfunctioning differently than designers do.

**Goal** Gain better insight into how users perceive (potential) product failures to support design decisions in the product development process.

**Methodology** Investigate the differences in perceived failure causes between product designers and users by taking an attributional approach. Such an approach is interesting because a person's perceived cause of a failure (i.e. failure attribution) not only influences satisfaction but also actions undertaken after such a product or service failure experience.

## 2. Study

Internet-based experiment with implemented video-based failure scenarios of failures related to picture quality of an LCD TV with in total 354 participants.

Random assignment to one of the two designed failure

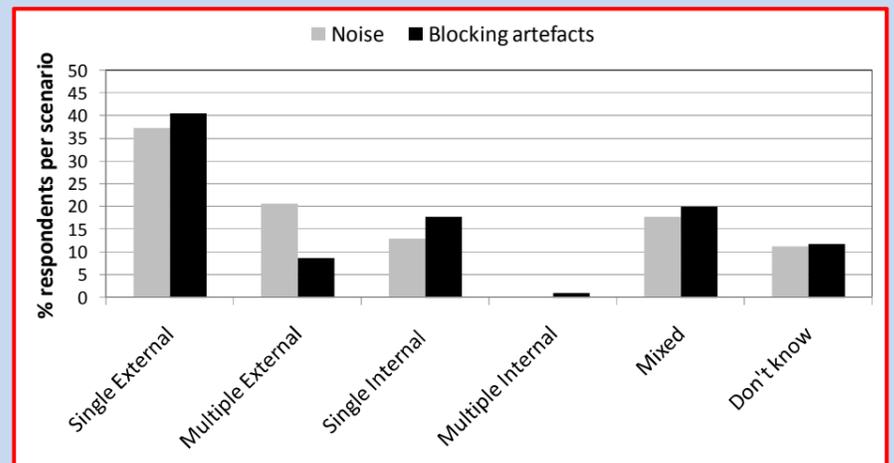


**Figure 1:**  
Example of noise  
caused by signal  
disturbance or  
a bad cable  
(connection)

**Figure 2:**  
Example of blocking  
artefacts caused by  
(software) faults in  
the TV

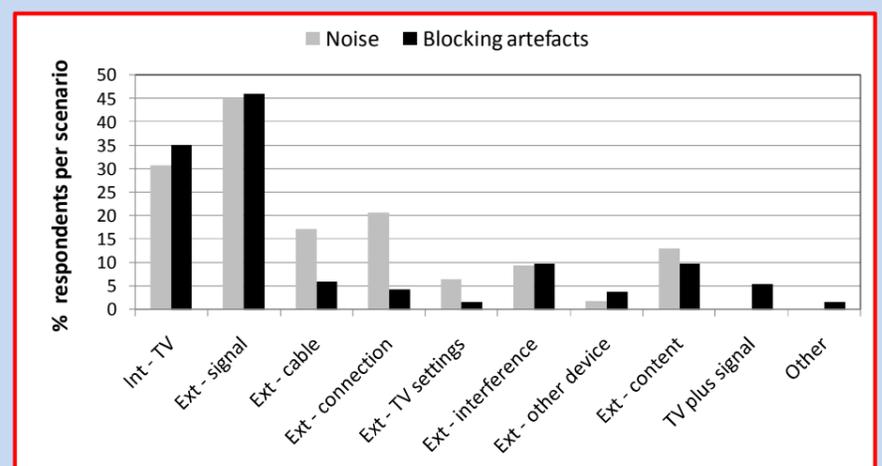


## 3. Results



**Figure 3: Overview of attribution locus**

Internal = perceived cause(s) inside TV; External = perceived cause(s) outside TV; Mixed = both internal and external causes



**Figure 4: Detailed overview of attributed causes**

e.g. "Ext-signal" refers to the quality of the transmission of the TV signal, "Ext-TV settings" refers to wrong settings selected by the user

## 4. Contribution

Analyzing product failures with an attributional approach can:

- 1) help customer service centers and designers to better understand and diagnose user-perceived failures and consumer complaints.
- 2) help to understand when and how users attribute perceived product failures which can give insight to designers to change design aspects to influence attribution.

## 5. Future work

- Laboratory experiment with more qualitative measures of failure attribution.
- Investigate how user group differences influence failure attribution.
- Investigate how design aspects can influence failure attribution.