Exploring the potential for Q method in the study of personal information management

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ABSTRACT

This paper describes the use of Q method to explore self extension to possessions in the digital environment and the desire to maintain digital possessions for a digital legacy. Q method has been widely used in psychology, politics and consumer behavior to explore how individuals' opinions on a specific issue cluster on similar characteristics. While seldom used in information science, Q method has great potential for use in the study of personal information management (PIM), specifically due to the method's ability to quantitatively measure behavioral intent.

Author Keywords

Personal information management; maintaining; archiving; Q method.

ACM Classification Keywords

Management; Measurement; Human factors.

General Terms

Human Factors; Measurement.

INTRODUCTION

In a world of cheap digital storage, individuals can easily *accumulate* vast amounts of digital items, but *maintaining* those digital items requires more time and effort. Research has shown that individuals rarely need or want to maintain every digital item they create, save, and /or download. So what is really important in one's digital life? What personal digital items are worth the effort to maintain and why? Currently, there is little guidance about how to go about maintaining personal digital items for our lives and beyond, or our digital legacy. This study addresses these questions by exploring individuals' maintaining behavior of personal information they desire to maintain for a digital legacy.

In order to explore this issue, Q method was used to understand how individuals extend their self to their *digital* possessions and how self extension to digital possessions influences maintaining digital possessions for a digital legacy. Used to study human subjectivity, or how individuals' points of view cluster, consumer behaviorists have deployed Q method to measure self extension to physical possessions, which made it ripe for application to the exploration of self extension to digital possessions.

Self extension to possessions describes the concept that individuals can view their possessions as making a contribution to their identity. Such a study provides greater understanding of individuals' relationships with their personal digital information. While these results have implications for future work in PIM, a reflection of the use of Q method in this study provides insight into how the method may be used to explore behavioral intent associated with the management and maintenance of personal information.

Background

In this study, Q method was used to explore self extension to digital possessions and the implications for maintaining personal information. Coined by consumer behaviorist Russell Belk [1], the concept of self extension to possessions dictates that individuals can conceptually imbue their possessions with aspects of their identity. The possessions can then reflect their identity back to the individuals and can also serve as a vehicle to extend an individual's identity to other people. In this sense, possessions can contribute to individual identity [12]. While consumer behaviorists have explored self extension to physical possessions, few studies have explored self extension to digital possessions [10]. If individuals value the digital possessions to which their self extends over other digital items, digital possessions should be the first considered for maintaining for a digital legacy. The concept of a digital legacy relates to maintaining for our lives and beyond [6].

If individuals regard some digital objects as digital possessions, then distinctions between possessions, in regard to maintenance, begin to appear. According to findings by Furby [4] all subjects, even young children, conceived of a responsibility to care for their physical possessions. In the digital environment, caring for digital possessions is regarded as maintenance.

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Methods

Forty-eight subjects in three age groups each completed three sorts of 60 statements about digital possessions along a -5 to +5 distribution using the sorting software program *FlashQ* (see figure 1). The 60 item Q sample of statements was developed from existing literature about motivations for personal archiving, and 23 subject interviews about the characteristics of digital possessions. Subjects sorted the statements related to the strength of their belief in how the statement represented their view of the digital possession they chose for each condition.

Gender was held constant in the three age groups of 16 subjects (48 subjects total). Each age group (18-24, 38-47, 58-67) was linked with a period of life transition [8] According to Whittaker and Hirschberg [15], individuals tend to assess their personal archives during periods of life transition.

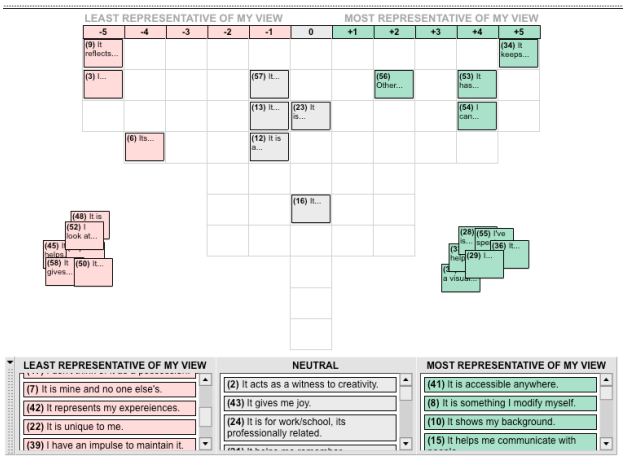

Figure 1. Screenshot from *FlashQ* sorting program

To conduct each sort, subjects were asked to think of a digital possession that: reflected their identity back to them (sorting task 1); displayed their identity to others (sorting task 2); and that they would like to maintain for a digital legacy (sorting task 3). Subjects could use the same digital possession for sorting tasks 1-3 or chose a different digital possession for each sorting task. Subjects sorted the 60 item Q sample of statements, considering how the statement applied to their digital possession and then how much they then agreed with each statement, along a -5 to +5 distribution. Subjects could choose any digital item they considered a possession; most subjects chose personal writing, digital photos, or elements of their Facebook profiles. A benefit of Q method for use in this study, I was able to design the study to allow for subjects to individually choose one of their own digital possessions relevant to them, and then all sort the same sample of statements about that digital possessions. This allowed for standardized data collection while still allowing the subject to personalize his responses to the stimuli (statements).

The distribution used in figure 1 only allowed the subject to place three statements in the slots at the most extreme ends of the spectrum (-5 and +5). The placing of statements along a spectrum with few extreme slots available required subjects to explore their opinion in detail and determine which statements truly represented the most extreme ends of their thoughts on the topic. This is another benefit of Q method-whereas subjects may not wish to provide extreme opinions in interviews or specific make distinctions while providing an opinion, the sorting process of Q method allows a subject to visually map her opinion, which may allow some subjects to better express themselves in the data collection process.

The instructions that directed the subject sorting in sort one and two represented two aspects of self extension to digital possessions: that the digital possessions reflected the identity back to the individual (condition 1) and that the digital possessions represent the individual to other people (condition 2). Sort three explored individuals' values associated with maintaining digital possessions for a digital legacy (see table 1).

Sort	instructions (direct the sorting)	map to research question
1	Sort the statements according to *the digital possession that you believe most reflects you identity back to you.*	What characterizes self extension in digital environments?
2	Sort the statements according to *the digital possession that you believe best represents your identity to other people.*	
3	Sort the statements according to *the digital possession that you would most like to maintain for a digital legacy.*	How do individuals characterize the digital possessions that they most desire to maintain for a digital legacy?

Table 1. Instructions for each sort, that map to research questions

A comparison between all sorts compares self extension to digital possessions with the desire to maintain possessions for a digital legacy in order to determine overlap between the two concepts. Overlap suggests that self extension to a digital possession is an important factor in determining whether an individual may desire to maintain the item for a digital legacy. If individuals dislike engaging in maintaining decisions, the ability to predict characteristics of digital items that individuals desire to maintain could someday help to lessen the cognitive burden of selection for maintaining personal information.

Summary of results

According to Sivadas and Machleit [12], characteristics of self extension to possessions are as follows:

- possessions to which the self has extended are *imbued with meaning* (Schau, 1998);
- possessions can *contribute to a sense of identity;*
- and possessions to which the self has extended can act as *a vehicle to extend the identity to others.*

Q method sorting tasks 1 and 2 revealed clusters of opinions (factors) about the characteristics of self extension to *digital* possessions. Four out of five factors for sorting task 1 and 3/3 factors for sorting task 2 all included statements linked to characteristics of self extension to possessions, indicating that self extension to possessions in the digital environment does indeed exist. While some subjects considered the digital possessions that reflected their identity to themselves or others to be imbued with meaning, other subjects understood the digital possessions to contribute to a sense of identity and/or extend their identity to others.

Findings also revealed that subjects adopted varying levels of degrees of self extension to digital possessions. The Q method results rank the defining statements for each cluster of opinions (factor) that people load onto. The rank of defining statements linked with a digital possession being imbued with meaning, a digital possession contributing to a sense of identity, and/or a digital possession extending one's identity to others clarifies differences between factors as well as the intensity of self extension to a digital possession linked with a factor. Further, possession attachment can be considered an extreme form of self extension to possessions because in addition to self extension, it includes an emotional relationship with the possession and a personal history with the possession.

Overall, some subjects do not extend their identity to others. Possessions that represent the identity are characterized by their use and their purpose for maintaining. This relationship with possessions is very utilitarian. However, at the other end of the spectrum are the subjects who understand their possessions to be representative of their identity and imbued with value. These subjects can sometimes become emotionally attached to their possessions. Understanding where a subject falls on this self extension to possessions spectrum can direct how an information professional could offer advice to the individual in maintaining his personal information.

Concerning the desire to maintain digital possessions for a digital legacy, the degree of self extension to digital possessions was also represented by intensity along a spectrum. While some subjects did not extend their self to the digital possessions they desired to maintain for a digital legacy, other subjects definitely extended their self to these possessions, characterized by the understanding that these possessions were imbued with meaning, reflected one's identity and displayed one's identity to others. An emotional relationship and a personal history with the possession was also present for some subject's relationships with the digital possessions. While self extension to a digital possession cannot predict the likelihood that a subject would want to maintain the digital possession for a digital legacy, self extension to digital possessions is a relevant area to explore when considering maintaining for our lives and beyond for some subjects. A complete discussion of Q method and results can be found in [3].

BENEFITS OF Q METHOD

Most researchers consider Q method a qualitative research method. However, due to its rare quantitative features used to address qualitative-type questions, Watts and Stenner [14] refer to Q method as a qualiquantological. Due to its uniqueness, Q method is positioned to quantitatively measure a qualitative-type question, allowing qualitative researchers a different way to collect and interpret data.

Q method is best used to address research questions that aim to explore perceptions, values and attitudes about a specific topic. Q method is particularly useful in exploratory research, due to its ability to highlight new ideas in the abstract area of attitudes and values [8]. In addition, the factors that consist of the ranked items sorted by individuals lend themselves well to scale creation, as the factors represent what the subjects who load on the factor have in common, suggesting a prototype [8].

OPPURTUNITIES FOR Q METHOD IN PIM RESEARCH

According to Jones [6], personal information management "refers to both the practice and the study of the activities a person performs in order to acquire or create, store, organize, maintain, retrieve, use and distribute the information needed to complete tasks (work related or not) and fulfill various roles and responsibilities" (p. 453). Jones [6] distinguishes the following PIM activities: keeping activities, referring to the input of information into a personal space of information (PSI); finding/re-finding activities, referring to the output of information from a PSI; and *meta-level activities*, referring to the maintenance and organization of information within a PSI. Meta-level activities have included *organizing*; *maintaining*; *managing privacy and the flow of information*; *measuring and evaluating;* and *making sense* [6].

If Jones' PIM activities describe the realm of most PIM research, than Q method is particularly useful in PIM investigations. PIM researchers attempt to understand individual's activities associated with the management of personal information. The value-laden, personal-concept rich arena of personal information practices is ripe for the use of Q method. Q method can be used to explore individuals attitudes associated with PIM activities. In addition, individuals are frequently forced to question their personal information management practices in a world replete with technological change. This constantly changing research environment leads to many exploratory research designs, which is complementary to the use of Q method.

In the study I described above, I used Q method to explore a PIM issue: maintaining for our lives and beyond. I chose Q method because of the method's ability to determine characteristics of digital possessions, to create a model of patterns and trends of the points of view associated with the characteristics of self extension in a digital environment, and the characteristics of the digital possessions that individuals desire to maintain for a digital legacy. While qualitative interviews provided information about personal opinions, the interviews alone did not allow for quantifiable information about the defining characteristics that differentiate one opinion from another. Q method allowed for more granularity.

CONCLUSION

With its ability to quantitatively measure attitudes and points of view, Q method has great potential to be used to explore PIM activities from a new angle. Especially useful in exploratory research, research that utilizes Q method can specifically lay the groundwork for the development of measurement scales, an area in which PIM research has yet to venture. An example of a Q method study of self extension to digital possession and the implications for maintaining personal information for a digital legacy demonstrates the usefulness of the method in PIM research.

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