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Exploring determinants of early user acceptance for an audio-visual heritage archive service using the vignette method

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The purpose of this study is to investigate factors, which explain the behavioural intention of the use of a new audio-visual cultural heritage archive service. An online survey in combination with a factorial survey is utilised to investigate the predictable strength of technological, individual and contextual constructs. The case used to validate this model is that of a not-yet-existing audio-visual archive service. Based on data collected from the survey ($N = 1939$), it is confirmed that payment and interpersonal influence the intention to adopt a new service thus partially supporting our three-dimensional model (i.e. technology, individual and context). The study contributes to the field of adoption research by studying a new service rather than an existing one. Subsequently, a vignette study is adopted. Moreover, the field of audio-visual archives is introduced in user research, which is considered novel. Pioneering on the unlocking of audio-visual archive this research seeks answers in the user needs and determinants for services upon these archives. Furthermore, the practical and scientific implications are discussed.

Keywords: audio-visual heritage; early acceptance; vignette method; service features; social influence; demographics

1. Introduction

Books and printed documents have long been considered cultural heritage artefacts that shape a nation's culture. In contrast, television and radio have generally been seen as mass media for entertainment purposes with little historical value. However, with the existence of television and radio for more than 60 years, audio-visual content has become a vital component of historical and cultural heritage (Oomen *et al.* 2009), in addition to a nation's printed documents and other historical artefacts (Auffret and Bachimont 1999). Governments have established public institutions for the preservation and centralisation of audio-visual heritage material. However, the analogue carriers on which this content was originally stored are rapidly decaying. With the growth of digital content, plans have emerged to digitise ageing and fragile analogue holdings (Ongena *et al.* 2012).

The under-utilisation of the unlocking initiatives of these digital audio-visual archives remains however high, as is the case for new information systems in general (Davis and Venkatesh 2004). To overcome this problem, it may be beneficial to involve prospective users in an early stage of development, as recognised in the realm of Human–Computer Interaction (van Schaik 1999). This study focuses on user involvement at an early stage of development. The objective of this paper is to examine the determinants of the use of an audio-visual archive service. By assessing possible design issues that affect user acceptance, this examination may provide guidance to practitioners in developing new services based on these archives. Furthermore, with the inclusion of demographics, we aim to provide more insights in the characteristics of prospective users. This paper describes an alternative approach, based on the vignette method, to existing early user acceptance frameworks.

We begin with an elaboration of the background of this study, which includes a brief literature review on user acceptance at early stages of development. We also provide an explanation of the vignette method, including the features of fractional factorial survey design. Next, the rationales for the proposed determinants are detailed in the form of a research model. We also present a research method comprising a procedure, sample, vignette design and measures. We then present and discuss our results in light of prior research.

2. Background

2.1. Early user acceptance

User acceptance can be defined as 'the demonstrable willingness within a user group to employ information

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technology for the tasks it is designed to support' (Dillon and Morris 1996). User acceptance is considered a pivotal factor that determines the success or failure of new technology (Davis 1993). Over the years, user acceptance has gained attention, resulting in a prolific body of literature. The technology acceptance model (TAM) is considered the most influential and commonly employed theory to describe an individual's acceptance of technology (Lee *et al*. 2003). Initially, user acceptance focused on first-time usage, and acceptance was measured at the introduction of new technology. This initial acceptance is an imperative step toward the success of new technology, but long-term viability depends on continued use more than on first-time use (Bhattacherjee 2001). Therefore, recent user acceptance research addresses the use of technology in the long term (e.g. Zhou 2011). These studies address user acceptance a posteriori thus examines the post adoption of technology. Meaning that the (continued) use is assessed against technology that is already built. Based on the adoption phase by Karahanna *et al*. (1999) and Rogers (2003) make a strong case for distinguishing pre-adoption and post-adoption acceptance. Assessments of user acceptance at an early stage of development (a priori) may be beneficial to the success of technology. Davis and Venkatesh (2004) argue that pre-prototype user acceptance testing may provide valuable guidance on key project decisions. The value of examining user acceptance at an early stage has been demonstrated in cases of a smart card system (van Schaik 1999), low-cost portable system for postural assessment (van Schaik *et al*. 2002), a municipal wireless network (Jain and Manviwalla 2006), an intelligent refrigerator (Rothensee 2008) and an e-newspaper (Ihlström Eriksson and Svensson 2008).

2.2. *Vignette method*

This research method is also known as factorial surveys (Rossi and Nock 1982). In other research domains, factorial surveys are called scenario studies, conjoint measurement or policy capturing, but all of these methods entail similar approaches (Pieterson 2009, p. 215). The common goal of these methods is to assess the importance of various decision variables (Zedeck 1977). In the vignette method, respondents read a scenario in which variables are manipulated, and they make decisions based upon this scenario.[1] These scenarios or vignettes consist of contrived hypothetical situations and can be defined as 'short descriptions of a person or social situation that contain precise references to what are thought to be the most important factors in the decision-making or judgment-making processes of respondents' (Alexander and Becker 1978, p. 94). A typical vignette comprises a story in which a number of dimensions (concepts) are manipulated on a number of levels (values). For instance, a vignette study including five factors on each of two levels would yield $32(2^5)$ scenarios. Adding a dimension with two levels doubles the number of scenarios. This point demonstrates a weakness of the vignette method: the number of scenarios grows significantly as more dimensions and levels are added.

Vignette studies have several advantages over questionnaires. First, vignettes provide situations that approximate real-life decision-making (Barnett *et al*. 1994) and thus provide great realism. Second, this method provides standardised stimuli to all respondents, which enhances internal validity, measurement reliability and ease of replication (Alexander and Becker 1978). Third, these studies overcome one of the drawbacks of survey research: the likelihood of social desirability or social correctness (Kennedy and Lawton 1996). Finally, by focusing respondents' attention on specific characteristics of the research question, this method improves construct validity (Wason *et al*. 2002).

The vignette method has been employed in wide range of studies. For instance, Hsu and Kuo (2003) used a vignette design to examine how volitional control might affect the application of the Theory of Planned Behaviour to research decisions related to information ethics. Jansen *et al*. (2010) used the method to gain insight into the channel and source choices of entrepreneurs in a public organisational context. Recently, Caro *et al*. (2012) utilised the method to determine older people's views regarding residential options. Their vignettes involved dimensions such as functional status, social network characteristics, mobility barriers in current housing, features of retirement communities and financial implications of relocation.

3. Research model

Similar to other studies, our research focuses on the intention to adopt (Chau 1996, Jackson *et al*. 1997, Agarwal and Karahanna 2000, Gefen and Straub 2000, Chau and Lai 2003). The traditional TAM variables of perceived usefulness and perceived ease of use are intentionally omitted because Benbasat and Barki (2007) note that these concepts are largely tautological when explaining intention to adopt. Instead, our model uses three types of determinants: service features, social influence and demographic factors. Including these technological and contextual factors as alternatives in the TAM has proven to be valuable (Baaren *et al*. 2011). Figure 1 depicts the research model as used in this study.

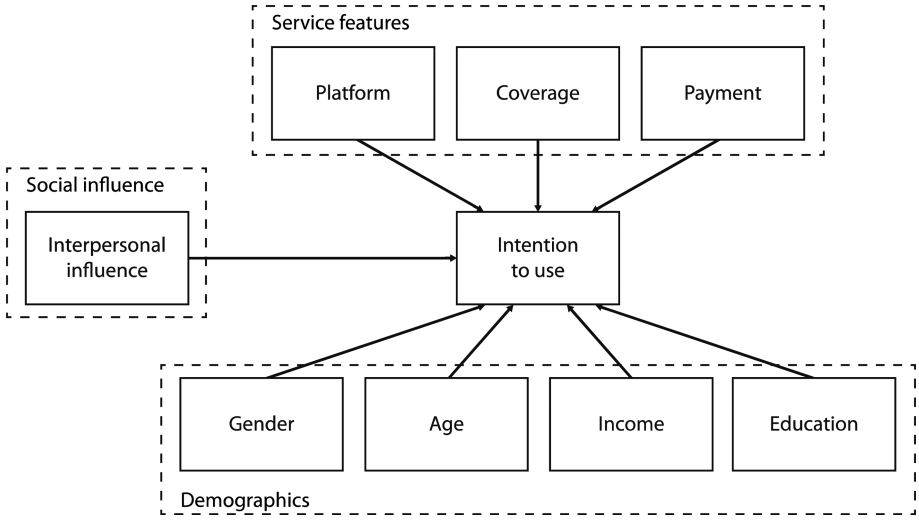

Figure 1. Research model.

3.1. *Service features*

In light of converging media, services are increasingly developed for multiple media, platforms and devices. However, different platforms require different implementation approaches. Moreover, traditional media (e.g. television) differ from new media (e.g. mobile technology) in interaction and portability. This concept is reflected in media richness theory (Daft and Lengel 1986), which states that when the ambiguity and uncertainty of a task increase, people seek richer media that are able to reproduce information. Potential media for initiating unlocking of the audio-visual archive consist of television, the Internet (via PCs) and mobile devices. The latter has emerged through the rapid development of handheld computers with myriad functions in addition to the basic initial function of phoning. Furthermore, the prevalence of these mobile devices is propelled by the development of mobile telecommunication networks facilitating Internet access (López-Nicolás *et al.* 2008, Zhou 2011). Because the choice of a particular platform has major implications for the design of a service, we included this factor in our vignette design.

In addition to the type of platform, we included a factor related to the amount of available content. From a supply side, it is likely that the entire archive will not be available to users. This is primarily due to copyright issues and content selection due to high costs. However, the non-availability of content is a possible barrier for the adoption of new technology (Baaren *et al.* 2011). Moreover, recent research indicates that media content is a vital component in the adoption of mobile television (Jung *et al.* 2009). Based on both sides (demand and supply), we investigate the role of this factor for a potential audio-visual archive service.

Finally, we incorporate prospective payment for the service. Audio-visual archives suffer from a long-tail problem because the major part of the archive is of interest to a small number of people (Courtois *et al.* 2010). The viability of the service also becomes more important with declines in governmental donations. To determine users' willingness to pay, we include this concept in our research model. This construct is measured using different payment methods (i.e. free of charge, advertising, pay-per-view and monthly payments). Although research investigating the influence of different payment methods is scarce, previous studies show that users may reject, postpone or oppose payment methods (Szmigin and Foxall 1998). Hence, it is assumed that payment plays a role in the intention to use new services.

3.2. *Social influence*

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers 2003, p. 5). There are two main types of influential channels: interpersonal channels and mass communication. Interpersonal channels involve a face-to-face influence between two or more individuals, whereas mass media channels are a means of transmitting messages involving mass media or expert opinions. Because the audio-visual archive is in its beginning stages (in contrast to other cultural heritage domains), we believe that minimal social influence exists at a macro level. Therefore, we adopt the concept of interpersonal influence, in which norms may come from partners, friends, peers and relatives. Although communication is an imperative factor in the diffusion process, few

studies have included interpersonal communication in this process (Karnowski *et al*. 2011). Similar to Baaren *et al*. (2011), we expect a higher acceptance rate when others, directly related to the user, are positive about the new service.

3.3. Demographics

Behavioural scientists have identified the importance of individual factors concerning behavioural intention. Rogers (2003) is one of the pioneers in research on individual factors, demonstrating that different categories of adopters involve different characteristics of individuals (for example, innovators are youngest in age, have the highest social class and have great financial lucidity). The adoption literature emphasises the significant role of gender (Venkatesh and Morris 2000, Venkatesh *et al*. 2000), age (Morris and Venkatesh 2000) and income (Bellman *et al*. 1999). These dispositional variables remain unexplored in relation to audio-visual archives. To examine this uncharted field, we included these three variables in our research model. Furthermore, we included education level because, in general, users of archives tend to be highly educated (Conway 1986).

4. Research method

4.1. Procedure and sample

The empirical data were collected during the spring of 2010 as part of a larger self-administered online questionnaire mailed to a sample of the Dutch population. This sample was selected from an earlier pool of respondents. To encourage the respondents to complete the questionnaire, we informed them that they could win a voucher for either a movie or a media shop. The URL of the survey was also sent to another sample based on a random sampling procedure provided by a panel organisation. An online survey was used because this type of survey has some advantages (e.g. cost, response and lack of geographical limitations) over paper-based questionnaires.

We included four dimensions in the study, which were manipulated on different levels. The vignette design included 48 scenarios ($3 \times 2 \times 4 \times 2$). The inclusion of the vignettes in a larger (extensive) survey limited the possibility to postulate multiple vignettes to the respondent. The length of the entire survey exceeded 30 min. Hence, we decided to present one vignette to each respondent. The vignettes were randomly assigned. The respondents were asked to read the scenarios carefully and to assume that they were the person described in the scenario. The respondents were then asked to indicate their intention to use the service.

A total of 1941 questionnaires were completed. The gender ratio indicated a 50-50 distribution because the sample consisted of 50.3% women and 49.7% men. Approximately, half of the respondents in the sample (52.1%) were younger than 50. Moreover, most of the respondents had an average income. Table 1 summarises the attributes of the respondents. Although, the sample is somewhat skewed to older people, the sample adequately reflects the Dutch population. Since age is included as an independent variable in our model, to avoid bias, no survey weights have been applied. Moreover, the statistical package that has been used did not allow the weighing of the data. The number of respondents was large enough to provide a basis for conducting our analysis on 11 levels with dimensions specified as dummy independent variables.

4.2. Vignette design and measures

As mentioned, our model consists of three groups of determinants: service features, social influence and demographical factors. The latter are part of the survey and are used as variables in the analysis. The service features and social influence are incorporated in the vignette design. For our vignette design, we adopt the framework proposed by Rossi and Anderson (1982), who distinguish dimensions, levels, objects, judgements and the factorial object universe. The dimensions refer to social objects or variable characterisations of these objects (e.g. gender) that can vary qualitatively or quantitatively. Levels detail the values that a dimension may take (e.g. female). Objects are the units being judged that are described by a single level for each dimension (i.e. the vignette). A judgement is the valuation given by a respondent to an object. The factorial object universe is the set of all unique objects formed by all possible combinations of

Table 1. Characteristics of subjects ($N = 1941$).

Measure	Items	Frequency	Percentage	Population
Gender	Male	964	49.7	49.5
	Female	977	50.3	50.5
Age	21–30	268	13.8	16.8
	31–40	343	17.7	18.2
	41–50	400	20.6	21.5
	51–60	453	23.3	18.8
	61–70	413	21.3	15.4
	>71	65	3.3	9.3
Income	Below average	438	22.6	20.4
	Average	684	35.3	42.4
	Twice average	587	30.2	24.3
	More than twice average	232	11.9	12.9

one level from each of the dimensions (i.e. the product of all of the levels). In the present study, we included five dimensions with levels that varied from two to four: device or platform (three levels), amount of content (two levels), type of payment (four levels) and social influence (two levels). The vignette structure is shown in Table 2. Considering these dimensions, the factorial object universe is 48.

We used dichotomous conditions to define the levels of the factors. These nominal levels have proved to be effective in scenario studies (Hoffman 1960). We added contextual information to each of the vignettes to inform the reader about the existence of the Dutch audio-visual archive; this step also concealed the manipulations and the purpose of the vignettes. An example of a vignette (object) is shown below.

> *''The archive of Sound and Vision contains vital television programmes of public broadcasters since the introduction of television in the Netherlands. More than 700,000 hours of radio, television and films exist within the repositories, appended daily with recent broadcastings. Imagine the following situation, in which this archive is made accessible for a Dutch audience.*
>
> *Suppose there is an interactive digital television channel that is available 24 hours a day. This service enables the viewing of part of your favourite programmes from the audio-visual archive. The use of this service is free of charge. A friend has tried the service and tells you it is not worth it.''*

5. Results

To determine the effects of the dimensions included in the vignette on intention to use, we estimated a partial least squares (PLS) path model. This technique is a form of structural equation modelling (SEM), which is component-based, in contrast to the classical SEM method, which is covariance-based. Parameter estimates are obtained to minimise the residual variance of all dependent variables (Wetzels *et al*. 2009). This method is also more appropriate because the objective is prediction-oriented, which has a more explorative character than the testing of theory (Henseler *et al*. 2009, Urbach and Ahlemann 2010). Additionally, the prediction error in PLS is smaller than in other multivariate methods. The data from the survey were analysed with WarpPLS 3.0 software (Kock 2012), which merits increased attention and use by scholars in the field of information systems due to its usability and functionality. Table 3 reports three specifications of the above model. In each model, we included an additional determinant. The first model consists of the service features. In the second, we added potential pervasiveness by peers or social influence. In the third, we added demographic characteristics. Each of the dimension estimates is robust to specification, which suggests that the dimensions are independent from one another, as intended by the vignette design.

A number of variables in the vignette structure were associated with the intention to use the audio-visual archive service. The payment dimension had the most profound effect. Compared to a monthly payment, intention to use significantly increased when the content is freely available. Furthermore, when advertisements are implemented instead of a monthly fee, intention to use the service increased. However, implementing payment per view did not significantly enhance prospective customers' intention to use the service. Another service feature is related to the platform on which the service should run. It is more likely that respondents will use a service that is implemented on television or on the Internet and accessible via a desktop than a service implemented on a mobile device. The presence of users' favourite programmes

Table 2. Vignette dimensions and levels.

Dimensions	Levels	Description	*N*
Device	A. Television	'... interactive digital television channel ...'	664
	B. Online	'... online video service ...'	649
	C. Mobile	'... mobile video service ...'	626
Content	A. Full coverage	'... all your favourite programmes ...'	926
	B. Partly covered	'... part of your favourite programmes ...'	977
Payment	A. Free	'The use of this service is free of charge'	550
	B. Advertisements	'Although the use of this service is free of charge, the programmes contain advertisements.'	462
	C. Monthly	'For using this service, you have to pay a monthly fee.'	465
	D. Pay-per-view	'For using this service, you have to pay a fee per programme.'	462
Social influence	A. Positive	'A friend has tried the service and tells you it is worth it.'	923
	B. Negative	'A friend has tried the service and tells you it is not worth it.'	1016

Table 3. Predictors of the intention to use of an audio-visual archive service ($N = 1939$).

	Model 1 (β)	Model 2 (β)	Model 3 (β)
Online	0.033	0.036*	0.040**
Television	0.029	0.030	0.038*
Full coverage	0.025	0.024	0.030*
No payment	0.329***	0.332***	0.333***
Payment by advertisements	0.197***	0.195***	0.194***
Payment per viewed programme	0.000	0.002	0.009
Friend is positive		0.085***	0.075***
Gender (male)			0.069**
Age			−0.067**
Education			0.066**
Income			0.096***
R^2	0.103	0.110	0.142

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

was relevant at a 5% level. When the service entails full coverage of programmes, it was more likely that the service will be used than if the service includes only part of the programmes. Social influence, in terms of interpersonal communication, was an important factor in the intention to use an audio-visual archive service. In comparison with a friend who presents a negative attitude towards the service (I would not recommend the service), a positive friend significantly increased respondents' likelihood of using the service.

All of the demographics showed significant results. Gender had an influential effect on the intention to use an audio-visual archive service. The results showed that men tended to use these services more than women do. Age presented a negative effect on intention to use; younger people had higher intentions than older people to utilise the presented service. In contrast to age, education displayed a positive association with intention to use. Respondents with higher education had increased intentions to use the archive service. Income had a similar effect on the intention to use an audio-visual archive service; people with higher income had higher intentions to use the service in contrast to people with lower income.

6. Conclusion and discussion

The goal of this study was to gain insight into the determinants of early user acceptance. Drawing on the vignette method, this research developed an early user acceptance model for audio-visual archive services. A factorial design for the investigation of critical technological requirements, social influence and demographics was used and was shown to be valuable for identifying determinants of user acceptance at an early stage of development.

The results of the statistical analysis indicate the vital role of payment for the service. A free service was the variable that had the greatest effect in the model. Pay-per-view, monthly payment or even advertisements may be barriers to the adoption of technology. The idea of levels of payment has received little attention in adoption models, but, in light of business modelling, it is a crucial factor. Barriers such as cost should be included in future adoption models. Hence, similar to Van Schaik *et al.*'s (2004) conclusions, our results regarding payment also suggest that user acceptance research should consider a balance between benefits (e.g. usefulness) and barriers (e.g. costs).

In this study, we examine a new audio-visual archive service. The first main choice developers have is the choice of platform. Thus, the type of platform was considered as another service feature in the vignette. The results of our study suggest that the mobile phone is the least-preferred platform in comparison with television and desktop computers. This finding confirms the study by Xu *et al.* (2008), which found that mobile video services might not be the most popular applications for the mobile Internet because not all types of video content are appropriate for a mobile media platform. This non-significant result could also be explained by the less popular of the mobile Internet, which was present at the time of study. From 2010, the acceptance of the mobile Internet increased rapidly, which is often attributed to the prevalence of Apple's iPhone (Ling and Sundsøy 2009). Hence, it is imperative to consider the mobile phone as a potential unlocking platform for audio-visual material in the future.

Baaren *et al.* (2011) concluded that the amount of available content did not significantly influence users' intention to subscribe to high-definition television (HDTV). However, our results indicate a significant role of the amount of content because the coverage of favourite programmes affects consumers' intention to use an audio-visual archive service. This finding holds, however, only when we include demographic characteristics. Hence, we can conclude that the amount of available content affects the intention to use new technology but is not considered a pivotal factor.

As mentioned, Rogers (2003) states that personal communication influences people's attitudes towards new technology. This finding is confirmed by our results in the present study, which show that interpersonal communication affects the intention to use an audio-visual archive service. Similar to the early work of Rogers, this finding confirms recent adoption studies that incorporated social influence, as in the case of YouTube (Yang *et al.* 2010). However, this study is among the first to confirm interpersonal influence in an early development phase by considering early acceptance.

Demographically, innovators are often characterised as young, wealthy and well educated (Rogers 2003). The latter especially holds for archive users (Conway 1986). Our results support these prior findings as well as recent adoption research that incorporated dispositional variables, such as the Unified Theory of Acceptance and Use of Technology (Venkatesh *et al.* 2012). Thus, demographics must be taken into account in further adoption research. In sum, the typical audiovisual archive user can be described as a young man who is highly educated and has a high income.

This study presented an alternative model to the frequently used TAM that has been criticised the past few years (e.g. Benbasat and Barki 2007). For this reason, we omitted the constructs of perceived usefulness and perceived ease of use. However, future IT acceptance studies should benefit from these constructs as these are proven to be of value in determining behavioural intention in an early stage of development (van Schaik 1999, Davis and Venkatesh 2004). An area for future research is to integrate the general approach utilised in this study with existing theoretical models (e.g. TAM). In this way, it will benefit from the reliability and validity of these models, and it advocates resolving the tautological and impractical issues that are raised concerning the constructs in these models.

7. Limitations of the study

The findings of this study should be interpreted in light of their empirical limitations. The first limitation pertains to the gap between intention and actual behaviour. This study investigates a potential service and is therefore limited to measuring behavioural intention. The literature supports a low-to-medium effect size for the relation between these constructs (Bhattacherjee and Sanford 2009). Hence, although our study is limited to intention, it is questionable whether a new service will be used in practice once it has been developed. Second, the use of the vignette method, as used in this study, has limitations. The number of vignettes is limited because every additional item multiplies the number of scenarios. Therefore, the number of variables is limited to the number of respondents. Moreover, the scenarios are not suitable for the incorporation of constructs with multiple items. The third limitation of this paper is that comprehension of the scenarios used in this study was rather complex for the respondents. Currently, few audiovisual archive services exist, which reduces respondents' potential for accurate evaluations of their own media behaviour. Fourth and finally, there is a constraint regarding the sample that may influence the generalisability of the findings. The total set of respondents is not fully representative of the Dutch population, as older adults are to some extent overrepresented. The data were collected via self-selection. Hence, the people in the dataset have an intrinsic motivation to complete the online survey. In future research, a more representative sample of the Dutch population should be used. Despite these methodological concerns, we believe that our findings provide significant information for academics and practitioners on possible determinants of new services.

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Note

1. The terms scenarios and vignettes are used interchangeably due to the similarity in definition (Wason *et al.* 2002).

References

Agarwal, R. and Karahanna, E., 2000. Time flies when you're having fun: cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, 24 (4), 665–694.

Alexander, C.S. and Becker, H.J., 1978. The use of vignettes in survey research. *Public Opinion Quarterly*, 42 (1), 93–104.

Auffret, G. and Bachimont, B., 1999. Audiovisual cultural heritage: from TV and radio archiving to hypermedia publishing. *In: Proceedings of the third European conference and research and advanced technology for digital libraries*, 22-24 September, Paris, France. Berlin: Springer, 58–75.

Baaren, E., Van de Wijngaert, L., and Huizer, E., 2011. Understanding technology adoption through individual and context characteristics: the case of HDTV. *Journal of Broadcasting & Electronic Media*, 55 (1), 72–89.

Barnett, T., Bass, K., and Brown, G., 1994. Ethical ideology and ethical judgment regarding ethical issues in business. *Journal of Business Ethics*, 13 (6), 469–480.

Bellman, S., Lohse, G.L., and Johnson, E.J., 1999. Predictors of online buying behavior. *Communications of the ACM*, 42 (12), 32–38.

Benbasat, I. and Barki, H., 2007. Quo vadis TAM? *Journal of the Association for Information Systems*, 8 (4), 211–218.

Bhattacherjee, A., 2001. Understanding information systems continuance: an expectation-confirmation model. *MIS Quarterly*, 25 (3), 351–370.

Bhattacherjee, A. and Sanford, C., 2009. The intention–behaviour gap in technology usage: the moderating role of attitude strength. *Behaviour & Information Technology*, 28 (4), 389–401.

Caro, F., *et al.*, 2012. Experiment choosing among residential options: results of a vignette experiment. *Research on Aging*, 34 (1), 3–33.

Chau, P.Y.K., 1996. An empirical assessment of a modified technology acceptance model. *Journal of Management Information Systems*, 13 (2), 185–204.

Chau, P.Y.K. and Lai, V., 2003. An empirical investigation of the determinations of user acceptance of Internet banking. *Journal of Organizational Computing and Electronic Commerce*, 13 (2), 123–145.

Conway, P., 1986. Facts and frameworks: an approach to studying the users of archives. *The American Archivist*, 49 (4), 393–407.

Courtois, C., Ongena, G., and Cannie, H., 2010. Funding the digitisation and unlocking of analogue audiovisual public service content: a look into Flanders and The Netherlands. *Observatorio (OBS*) Journal*, 4 (1), 221–238.

Daft, R.L. and Lengel, R.H., 1986. Organizational information requirements, media richness and structural design. *Management Science*, 32 (5), 554–571.

Davis, F.D., 1993. User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38 (3), 475–487.

Davis, F.D. and Venkatesh, V., 2004. Toward preprototype user acceptance testing of new information systems: implications for software project management. *IEEE Transactions on Engineering Management*, 51 (1), 31–46.

Dillon, A. and Morris, M.G., 1996. User acceptance of new information technology: theories and models. *Review of Information Science*, 31 (4), 3–32.

Gefen, D. and Straub, D.W., 2000. The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption. *Journal of the Association for Information Systems*, 1 (8), 1–30.

Henseler, J., Ringle, C.M., and Sinkovics, R.R., 2009. The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277–320.

Hoffman, P.J., 1960. The paramorphic representation of clinical judgement. *Psychological Bulletin*, 57 (2), 116–131.

Hsu, M.-H. and Kuo, F.-Y., 2003. An investigation of volitional control in information ethics. *Behaviour & Information Technology*, 22 (1), 53–62.

Ihlström Eriksson, C., and Svensson, J., 2008. How to predict the future of an IT innovation?: examining pre-adoption of the e-newspaper. *In: Proceedings of the 31st information systems research seminar in Scandinavia*, 10–13 August Åre, Sweden. Are, Sweden: The IRIS Association, 1–19.

Jackson, C.M., Chow, S., and Leitch, R.A., 1997. Toward an understanding of the behavioral intentions to use an information system. *Decision Sciences*, 28 (2), 357–389.

Jain, A. and Manviwalla, M., 2006. Preprototype perceived usefulness of a municipal wireless network: sources of variation among prospective users. *In: Proceedings of the twelfth Americas conference on information systems*, 4–6 August Acapulco. Atlanta, GA: AIS Electronic Library, 764–771.

Jansen, J., Van de Wijngaert, L., and Pieterson, W., 2010. Channel choice and source choice of entrepreneurs in a public organizational context: the Dutch case. *In: Proceedings of the 9th IFIP WG 8.5 international conference on Electronic government*, 29 August – 2 September, Lausanne, Switzerland. Berlin: Springer, 144–155.

Jung, Y., Perez-Mira, B., and Wiley-Patton, S., 2009. Consumer adoption of mobile TV: examining psychological flow and media content. *Computers in Human Behavior*, 25 (1), 123–129.

Karahanna, E., Straub, W., and Norman, L., 1999. Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly*, 23 (2), 183–213.

Karnowski, V., von Pape, T., and Wirth, W., 2011. Overcoming the binary logic of adoption: on the integration of diffusion of innovations theory and the concept of appropriation. *In:* A. Vishwanath, and G. Barnett, eds. *The diffusion of innovations. A communication science perspective*. New York: Peter Lang, 57–76.

Kennedy, E.J. and Lawton, L., 1996. The effects of social and moral integration on ethical standards: a comparison of American and Ukranian students. *Journal of Business Ethics*, 15 (8), 901–911.

Kock, N., 2012. *WarpPLS 3.0 user manual*. Laredo, TX: ScriptWarp Systems.

Lee, Y., Kozar, K.A., and Larsen, K.R.T., 2003. The technology acceptance model: past, present, and the future. *Communications of the Association for Information Systems*, 12 (1), 752–780.

Ling, R. and Sundsøy, P.R., 2009. The iPhone and mobile access to the internet. *In:* J. Höflich, C. Dietmar, G. Kircher, and I. Schlote, eds. *Mobile media and the change of everyday life*. Berlin, Germany: Peter Lang, 213–223.

López-Nicolás, C., Molina-Castillo, F.J., and Bouwman, H., 2008. An assessment of advanced mobile services acceptance: contributions from TAM and diffusion theory models. *Information & Management*, 45 (6), 359–364.

Morris, M.G. and Venkatesh, V., 2000. Age differences in technology adoption decisions: implications for a changing work force. *Personnel Psychology*, 53 (2), 375–403.

Ongena, G., Huizer, E., and van de Wijngaert, L., 2012. Threats and opportunities for new audiovisual cultural heritage archive services: the Dutch case. *Telematics and Informatics*, 29 (2), 156–165.

Oomen, J., *et al*., 2009. Images for the future: unlocking the value of audiovisual heritage. *In: Museums and the Web 2009: proceedings*, 15–18 April Indianapolis. Toronto: Archives & Museum Informatics, 1–13.

Pieterson, W., 2009. *Channel choice; citizens' channel behavior and public service channel strategy*. Thesis (PhD). University of Twente.

Rogers, E., 2003. *Diffusion of innovations*. 5th ed. New York: Free Press.

Rossi, P. and Anderson, A., 1982. The factorial survey approach: an introduction. *In:* P. Rossi, and S. Nock, eds. *Measuring social judgments: the factorial survey approach*. Beverly Hills, CA: Sage, 15–67.

Rossi, P.H. and Nock, S.L., 1982. *Measuring social judgments: the factorial survey approach*. Beverly Hills, CA: Sage.

Rothensee, M., 2008. User acceptance of the intelligent fridge: empirical results from a simulation. *In*: C. Floerkemeier *et al*., eds. *Proceedings of the 1st international conference on The internet of Things*, 26–28 March Zurich. Berlin: Springer-Verlag, 123–139.

Szmigin, I. and Foxall, G., 1998. Three forms of innovation resistance: the case of retail payment methods. *Technovation*, 18 (6/7), 459–468.

Urbach, N. and Ahlemann, F., 2010. Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application*, 11 (2), 5–40.

van Schaik, P., 1999. Involving users in the specification of functionality using scenarios and model-based evaluation. *Behaviour & Information Technology*, 18 (6), 455–466.

van Schaik, P., Bettany-Saltikov, J.A., and Warren, J.G., 2002. Clinical acceptance of a low-cost portable system for postural assessment. *Behaviour & Information Technology*, 21 (1), 47–57.

van Schaik, P., *et al*., 2004. The acceptance of a computerised decision-support system in primary care: a preliminary investigation. *Behaviour & Information Technology*, 23 (5), 321–326.

Venkatesh, V. and Morris, M.G., 2000. Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 24 (1), 115–139.

Venkatesh, V., Morris, M.G., and Ackerman, P.L., 2000. A longitudinal field investigation of gender differences in individual technology adoption decision-making processes. *Organizational Behavior and Human Decision Processes*, 83 (1), 33–60.

Venkatesh, V., Thong, J.Y.L., and Xin, X., 2012. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36 (1), 157–178.

Wason, K.D., Polonsky, M.J., and Hyman, M.R., 2002. Designing vignette studies in marketing. *Australasian Marketing Journal*, 10 (3), 41–58.

Wetzels, M., Odekerken-Schroder, G., and Van Oppen, C., 2009. Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly*, 33 (1), 177–195.

Xu, X., Ma, W.W.K., and See-To, E.W.K., 2008. Will mobile video become the killer application for 3G mobile Internet? A model of media convergence acceptance. *Information Systems Frontiers*, 12 (3), 311–322.

Yang, C., Hsu, Y., and Tan, S., 2010. Predicting the determinants of users' intentions for using YouTube to share video: moderating gender effects. *Cyberpsychology, Behavior, and Social Networking*, 13 (2), 141–152.

Zedeck, S., 1977. An information processing model and approach to the study of motivation. *Organization Behavior and Human Performance*, 18 (1), 47–77.

Zhou, T., 2011. An empirical examination of users' post-adoption behaviour of mobile services. *Behaviour & Information Technology*, 30 (2), 241–250.