Why Do Certain Consumers Avoid New Media Developments? An Investigation of Three Prudent Users' Subjectivity

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Short Abstract

New media development constantly challenges consumer's habits. While innovations are supposed to bring new facilities to users, a certain number of them still remain reluctant in accepting, adopting and using new media offers. The aim of this research is to review the theoretical frameworks that are available for understanding such consumers' attitudes and behaviours and to confront theoretical analysis with in-depth subjective investigation of three prudent users facing a set of different mobile media offers. The empirical analysis is conducted using Q-method. Preliminary results offer a nuanced view of the representational space of non- and partial acceptance, adoption and use of new media developments.

Keywords: media and technology adoption, rejection attitude, non-use, partial use, Q-method

1. Introduction and background

New media developments are part of pervasive technologies. They completely permeate our everyday life as they grow mobile and, yet, a certain number of people still avoid, resist and even refuse to use them as much as possible. While a lot of studies have been dedicated to the digital divide that tend to explain IT and new medias non-use as the result of either economic, cognitive or socio-cultural deficiencies, researchers have begun to refine the study of IT and media non-use by integrating progressively attitude, technophobia and ideology (Selwyn, 2006). In organisational contexts, the use of technologies has been studied as a process of acceptance with quantitative models (Davies, 1989). These reference models, although becoming more and more sophisticated, fail to explain 100% of use/non-use and, more fundamentally lack qualitative nuances. Trying to bridge the two literatures and research traditions, the one directed at non-use and digital divide and the one dedicated to technology acceptance and use, we suggest that Q-method studies can document effectively the viewpoint of reluctant consumers and unveil to what extent non-use is actual, partial, arbitrary, paradoxical, and far from a binary variable.

Trying to map the theoretical and empirical contributions to the understanding of the use or non-use of media technologies leads us to discover a fragmented, although very rich, literature. Different disciplines have been looking at technology and media use/adoption/acceptance or non-use and include economic and management sciences, education, psychology, sociology, ergonomics and human-machine (or computer)-interaction.
Bringing these contributions together, it should be noticed that although literature dedicated to usage and literature dedicated to non-usage should have mirror-like logic, the underlying perspectives are indeed different. The stance of non-usage studies follows more or less from the digital divide research tradition while the usage-centred studies can be split into two sub-categories identified by Brangier, Hammes-Adelé and Bastien (2010): the operational acceptation on one hand and the social acceptation on the other hand.
The operational acceptation of technology derives from the ergonomics where the usability, ergonomic criteria and model of interaction are at the heart of technological acceptance. However, beyond operational acceptation which is important from a design standpoint, Orlikowski and Baroudi (1991, p. 7) pointed out that researchers need to understand social processes that underlie the

introduction, creation, use, mis-use and abandon of ICT. For this reason, several theoretical attempts were made in order to conceptualise technology use. One of the most prominent models is the TAM – Technology Acceptance Model, proposed by Davis (1986, 1989) and refined in subsequent publications. This model explains intention to use and actual use by attitude toward technology, perceived usefulness and perceived ease of use. This model is very popular and has been tested in many settings. Critiques and refinements have also emerged with time (Legris, Ingham and Collerette, 2003; Turner, Kitchenham, Brereton, Chareters and Budgen, 2010, Brangier et alii, op. cit.). Alternative conceptualisations have also been proposed. Among the most fruitful, we can cite the Expectation-Confirmation Theory - ECT (Bhattacherjee, 2001; Bhattacherjee and Premhumar, 2004) derived from the Satisfaction Approach (Oliver, 1980), the Task-Techno Fit Model - TTF (Goodhue and Thompson, 1995), the Structurationist approach (DeSanctis and Poole, 1994; Orlikowski, 1992), and the Coping Model of User Adaptation (Beaudry and Pinsonneau, 2005, 2010). These approaches address different stages and aspects of ICT acceptance and use. The ECT model suggests that expectations toward the technology at one point in time and the satisfaction derived from its first use conditions future use. Continued ICT use is then related to expectations and their confirmation via satisfaction. The TTF model holds that utilization depends on the task to be accomplished and the technological characteristics. When task requirements and technology characteristics fit, utilization and satisfaction are more liable. Fit assessment depends on the use context. In the long run, the individuals' performance in ICT use is also more likely. The structurationist approach points out that IT use, mainly in organizations, challenges theory and organizations as it induces changes. A dynamic and interactionist view is proposed and emphasizes social interactions emerging from IT adoption and use. The Coping Model of User Adaptation suggests that emotions constitute a significant part of ICT acceptation, first use and continued use. Different emotions have been studied: enjoyment, pleasure, anxiety and playfulness.

All in all, these different approaches hold a common view that technology acceptation and use is socially constructed, influenced by utilization context, and by individuals' emotions and attitudes. In line with this, IT use or non-use does not merely appear as a matter of meeting ergonomic or technical requirements. The social stance at accepting and using technology is also prevalent in the non-usage literature.

Non-usage approaches include many digital divide studies such as Rice and Katz (2003) and represent a dynamic stream of research (Brandtzæg, Heim and Karahasanovic, 2011; Cruz-Jesus, Oliveira and Bacao, 2012). The most classical predictors of digital inequalities are income or socio-economic status as well as gender, age, education, and family structure. Beyond these traditional variables, Verdegem and Verhoest (2009) suggest that integrating usage-centred literature, and particularly the utility concept, opens alternative interpretations of non-use. They develop the ASA model, comprising Access, Skills and Attitude, in order to explain technology appropriation and thus e-inclusion or exclusion. Their investigation distinguishes five different profiles of non-users.

This echoes the work by Selwyn (2003, 2006) who already underlined that the patterns of non-engagement in technology and media vary between technologies and that there are different types of non-users. Typically, Selwyn distinguishes three reasons for non-usage: non-access (lack of economic, cultural or cognitive resources); technophobia and ideological refusal. Other refinements exist, for instance, Jauréguiberry (2012) focuses more precisely on voluntary non-usage where non-use is not necessarily absolute, but is rather partial (certain usages are simply paused) and segmented (limited to certain periods of the day for instance).

All this research suggests that understanding the representational space of consumers, especially those that remain prudent or even avoid new media adoption, is of foremost importace for both researchers and professionals.

2. Materials and Methods

We first describe the general method (2.1) and then, the investigation instrument (2.2.).

2.1 A brief presentation of Q-method

The Q-method (see q-method.org and Brown, 1993), was developed by the psychologist Stephenson (1935; 1953). Contrary to other classical approaches in psychology, where the aim is to objectivise the inner state of an individual, he considered the subjective view most important. He conceived a method aimed at the study of subjectivity. Subjectivity is conceptualised as what "emanates from a particular vantage point" (Brown, online). Fundamentally, Q-method belongs to qualitative approaches.

The Q-method rests on two important pillars: one is theoretical (concourse theory) and the other is methodological (q-sorting procedure and q-factorial analysis). Concourse theory suggests that meaning is dependent upon context and therefore not given in abstracto. Concourse can be defined as the volume of available statements on a topic. In other words: "concourse is the common coinage of societies large and small, and is designed to cover everything from community gossip and public opinion to the esoteric discussions of scientists and philosophers" (Brown, op. cit.). Even for one individual, a single word can have several meanings, depending on circumstances and the individual's mind-set. What is important to note is that these meanings partly overlap with other people's meanings, and this is what makes interpersonal communication possible.

Based on these considerations, Stephenson suggests that initial qualitative interviews or literature reviews should be conducted to generate as many meanings as possible concerning one topic. These meanings can be formulated as assertions. Altogether, assertions constitute the q-sample. Then, individuals are asked to rank-order assertions according to the degree to which they represent their subjective view of one topic (say, augmented reality). The respondents are designated as the p-sample. This ranking procedure, called q-sorting, requires that only a small portion of assertions will be selected as highly representative of one's personal vantage point, and only a small portion will be selected as badly representative; the majority will be neither representative nor non-representative. The result of the q-sorting process is a q-sort.

Factor analysis is then used to analyze the data. This is called q-factor analysis because instead of analyzing individuals, assertions or statements are analyzed. A map of the representations that people have is produced, which helps to identify the different visions that people share. Factor analysis is thus used to identify underlying q-factors which correspond to shared visions. It should be emphasized that the q-factors should be in no way assimilated to groups of people as in typological approaches. The factors are not a statistical representation of groups in the general population. Q factors are shared views, shared interpretation of one object.

2.2 Investigation instrument

The q-sort instrument is based on 29 statements (so q-sample=29) that were selected to cover different viewpoints. Interestingly, the emerging statements cover the different theoretical dimensions identified in both research traditions (Information Systems Research and Digital Divide/Non Usage tradition).

Nine conditions of instruction were given, resulting in 9 q-sorts per respondent (p sample=3). The nine conditions entail the participant's a-priori view of digital media – as opposed to print - and his a-posteriori view once the different technologies and services have been presented and judged. The different technologies and services have been chosen considering several aspects:

- the current state of media technologies (m-ticket, QR code)
- popularity: "in-progress" media technologies that benefited from buzz and that most people are aware of (like google glass, augmented reality)
- the functionality of media technologies (m-ticket, m-payment)
- the fact that technologies are clearly documented online so that the participant can understand how it works.

In order to gather more social dimensions we also include the view of what future generations or parents might think. Finally, 9 conditions of instructions are retained. The conditions of instructions are as follows:

1) What is your general viewpoint about available mobile media technologies?
2) About m-ticket for public transportation?
3) About QR code advertising?
4) About augmented-reality product pre-visualization?
5) About Google glass?
6) About m-payments?
7) Now that we have seen several possibilities, please reassess your view of mobile services and technologies
8) In your opinion, what would be the view of your parents?
9) In your opinion, what would be the view of future generations?

For each q-sort instrument, an example of the media technology was first given either through pictures or online video demonstrations in order to make sure that the participants understood well the media technology features.

2.3. Case study selection

Three individual case studies were selected based on their mobile technology use. A reasoned sampling is adopted with users we firstly interviewed (on a slight basis) in order to assess where they were using or not mobile technology. Then if they accepted to participate to the study a more detailed questionnaire was included in order to precisely asses (and confirm) their profile. The questionnaire entails question such as: how do you possess an cell phone, have you ever bought product or services with your well phone, do you use apps? Do you have a mobile internet access?

Table 1. Individual cases brief description

	Mobile internet access	Attitude toward tech	Mob apps use	Mobile purchase
Marnie	No	Unfavorable (2/5)	No	No
Juliette	No	Unfavorable (2/5)	No	No
Louise	Yes	Neutral (3/5)	Yes, emails and FB	No

From this we can see that two cases can be easily considered as non users and one as an occasional user.

3. Results and Discussion

We will first review the results of two non-users and then analyse the results of an occasional user.

3.1 Non-users

3.1.1 Non-user case 1, Marnie

The first prudent consumer is a French 36-year-old female called Marnie. She is a well-educated person (master degree in management science) and she can be qualified as a media technology-aware person as she's been using a computer and internet for years for both professional and private

purposes. In terms of mobility, she has long possessed a cell phone and has had a smart phone for 4 months. She does not use mobile media (except SMS) because she did not subscribe to any internet access.

Centroid analysis is used and judgemental rotation applied to selected factors as recommended in Q-method. In the present case, thanks to the two factors, we can identify actually four visions including one specific case (q-sort#6) because factor 2 is bipolar. Factor 1 (31% of variance) entails four q-sorts: general opinion ex-ante and ex-post, QR-codes and Google glass. Factor 2 (33%) opposes (a) the vision for future generations, together with the vision of m-tickets and AR-pre-visualization versus (b) the vision for parents. The fourth vision corresponds to q-sort #6 which pertains to m-payment.

Vision#1 corresponds to Marnie's general vision of mobile media technologies. This general vision is stable over time as the ex-post evaluation is in line with this. QR Codes applications seem to be very typical of her general vision which is one of defiance toward these technologies: "I am not fond of these technologies" , "data protection is important. Marnie does not "feel curious" at all about mobile technologies. This defiance and potential rejection is nurtured by critical considerations: "we are dependent upon our mobiles", "I don't really need it". This vision of mobile media technologies is driven by rational and critical thinking and leads to distanciation.

Vision#2 (a & b) is a more complex one. Marnie considers that her parents and future generations would hold opposite attitudes toward mobile media technologies. Both hedonic and functional dimensions of mobile services appear in relation with future generations. A hedonic instance is given with mobile Augmented Reality Apps helping to interactively visualize the effect of wearing glasses on people's face. A functional instance is given through mobile ticketing for public transportation. Marnie considers that mobile services may "make life easier" and can even be "exciting!", "pleasant" and "playful". A certain level of "curiosity to try these technologies" arises. Some issues appear without relevancy such as "data protection". On the contrary, older generations, such as her parents, would consider mobile services and technologies to be potentially "dangerousand would consider it to make us "more and more dependant upon technology". We also observe that "distrust concerning security" also arises.

The last vision (corresponding to q-sort#6) pertains to mobile payment. Marnie appears highly concerned with this and considers this technology to involve a "danger" and generates distrust which probably derives from perceived financial risks. She also feels more comfortable with "conventional" payment methods. While recognizing that this technology will be more and more present "in the future", she does not consider it as "exciting" or "playful and fun" at all. This view echoes Vision#1 where Marnie's core vision is expressed. This q-sort exemplifies however a sharper standpoint than vision #1.

3.1.1 Non-User Case 2, Juliette

The second non-user of mobile technologies is a French 32 year-old woman called Juliette. She has had a smartphone for over three years because it didn't cost her much, but she doesn't have access to the Internet on it. She wouldn't be willing to buy with her cell phone at the moment and if she would she would choose preferably already known merchants.

The analysis of the q factor analysis reveals that her vision of technology is dual. The first vision she expresses encompasses all questionnaires but the one about future generations and is a very distanced one. It explains 64 % of the variance. The second vision she expresses includes only the q-sort on future generations and explains 10 % of the variance.

Vision #1 is negative. Juliette reckons she's not « fond of this technology », doesn't need it and doesn't want to try. Yet, she makes it clear that it is « modern » and that it's « probably the future ». Mobile

technologies don't trigger any strong emotional response in her, she doesn't feel excited about them, doesn't find it pleasant, but she is not upset by the technology either. She doesn't think these technologies are dangerous. As far as ease-of-use is concerned, Juliette first vision considers mobile technologies are complicated. Finally, she says she doesn't need mobile technologies, yet they could be practical. The irrelevance of mobile technologies and complicatedness appear as her biggest barrier to using it.

Vision #2 is diametrically opposed to this. In this view, mobile technologies are seen as « fun and playful », « pleasant » and « exciting ». Juliette's vision of the future is one where mobile technologies are easy to use, to access, and fun to use. The lifestyle Juliette imagines for future generations, different from her reality, could explain the discrepancy between the two visions. Another explanation could be in the distance Juliette puts between herself and mobile technologies as seen in the first vision, which may not apply when she thinks of others.

3.2. Occasional Users

The third case is the one of a 26 year-old French woman named Louise. Louise has had a smartphone for 2 years and uses mobile media occasionally. She says that her mobile phone is a functional thing. Mobile internet is used only in special circumstances when she's in a waiting room for example or when travelling in order to access her email and social networks. She prefers to use her laptop to access internet services.

The analysis of Louise's q-sorts shows a dual attitude towards mobile technologies: factor 1, explaining 36 % of the variance, encompasses all questionnaires except the ones about pre-visualization, google glasses and future generations. Factor 2, explaining 19 % of the variance, includes only q-sorts on google glasses and future generations. These two factors reveal a dramatic change of attitude towards mobile technologies depending on the temporal dimensions Louise projects herself in. She is skeptical towards mobile technologies that are already available and that she could be using today, but she shows enthusiasm for technologies less spread technologies like Google Glasses and imagining the future.

Vision #1 expresses skepticism towards present mobile technologies. First, lack of trust explains this attitude. Statements like « I feel it raises distrust about payment security » and « Data protection is essential » are determinant in shaping Louise's point of view. Then, Louise has a distant relationship to mobile technologies: she doesn't see a role for them in her life, « It's not vital, I don't need it » , and they don't trigger a positive emotional response. Indeed, Louise agrees that she is « not fond of this technology » and disagrees with the statements « I feel curious about trying it », « These technologies are exciting! », and « I find it pleasant to be able to use these technologies ». Therefore, she's not keen on trying. From an ideological perspective, she seems to fight the idea of technologies replacing going to the store, not because she needs the haptic experience but likely because it takes away human contact from the experience. Despite this, Louise admits that these technologies could be convenient. She might resolve to use them in specific situations.

In the second, enthusiastic and future-oriented view Louise expresses, statements about enjoyment such as « I feel curious about trying it » or « I find it pleasant to be able to use these technologies » are positively rated . Her concerns about payment security and data protection vanish. When thinking about the future, she believes that « It's modern and coherent with our more and more mobile way of life », and rates negatively the idea that these technologies are not « vital ». It seems that mobile technologies make more sense to her in a future context because she imagines an alternative lifestyle, so her attitude to technology may be highly depending on context.

3.3 Discussion

The analysis of these case studies shows that determinants of use and non-use are varied. It appeared that ideological aspects, the lack of positive emotional relationship to technology, the functional aspects of technologies and their relevance to one's lifestyle, play a major role in structuring respondents' attitudes and behaviour toward mobile media.

Indeed, non-users and the occasional user have a neutral relationship to mobile media, and both of them didn't identify situations when mobile technologies would be handy. Both respondents reckoned some issues linked to privacy or security, which vanished when they were thinking of next generations. These prudent (and even reluctant) users seem to wait for an evolution of mobile technologies, which would make it safer to use them.

In the case of the occasional user, we see that there is no positive emotional relationship to mobile technologies. Besides, ideological considerations are playing a role and might be a barrier to using mobile media more. Convenience and relevance of mobile technologies explain that the respondent resolves to use them in particular situations. But again, the respondent seems convinced that in the future, technologies will be more exciting and relevant.

4. Conclusions

Our investigation of three prudent consumers documents how new media developments are subjectively appraised and indicates ways of improvement in terms of theory and practice. The study suggests that even if a negative attitude toward new media development has been formed, the benefits may be recognized and the media may be partially and occasionally adopted. A sense of "bricolage", including paradox, arises. Thanks to Q method, the different shades of media acceptation, adoption and appropriation can be documented and brought into light. "Non-use" can be pictured as a changeable geometry between different aspects and should encourage further development not only to understanding satisfaction criteria but also to unveil motivational factors of acceptation in relation with special use contexts.

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