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EVALUATING SKILLS AND CHALLENGES AS ANTECEDENTS OF COMPELLING ONLINE INFORMATION- SEEKING EXPERIENCES

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Abstract

In contemporary information societies, consumers are increasingly expected to be proficient users of online information to support and guide their buying decisions. Due to the world wide web and its availability on a wide range of connectable devices, information from infinite commercial and non-commercial sources can be instantly accessed and used. However, consumers' level of self-efficacy in dealing with technology and the wide range of information content as well as the extent to which they feel cognitively challenged by the technological and content issues may significantly influence the intensity of their involvement with companies' marketing information.

Based on the online flow theory, describing total involvement experiences, as well as on recent developments of the information literacy construct, in the present paper we propose a research instrument for assessing two essential preconditions of optimal, highly engaging consumer online information-seeking experiences. We posit that consumers have compelling online search experiences when the level of both their technical and their cognitive skills match the informational challenges perceived in the online medium. Nevertheless, the following study represents only the first step in a complex scale development process and in building and testing the structural model describing causal relationships between flow constructs.

1. INTRODUCTION

Although, in their online information-seeking activities, consumers usually encounter situations that require little cognitive effort, there are also occasions when consumers may face an informational task that is perceived to challenge their abilities and competencies in dealing with information technologies and content. It is such situations new media commercial applications are trying to exploit in order to drive value from customer knowledge. Drawing on this premise, our study's main intention is to contribute to a deeper understanding of what determines fully engaging consumer experiences during online information-seeking activities.

An extremely elaborate construct has been proposed in the marketing literature for measuring consumers' total involvement in an experience (Hoffman and Novak, 1996) – the *flow* construct. The original construct was introduced by Csikszentmihalyi (1975) in social sciences for describing a state of consciousness in which a person feels cognitively effective and wishes to maintain this enjoyable feeling. Later imported and further developed in the marketing field, online flow described activities "(1) defined by a seamless sequence of responses facilitated by machine interactivity; (2) intrinsically enjoyable; (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing" (Novak, *et al.*, 2000:23). Both the original and the online flow literature accept the above average levels of challenges and skills as essential preconditions of flow experiences.

The main purpose of our present study is to fill the gap observed in previous studies consisting in poor operationalization of the two essential flow antecedents and propose more precise measurement instruments for informational skills and challenges to be tested in commerce-related information-seeking contexts.

2. EMPLOYING FLOW MODELS TO MEASURE ONLINE INFORMATION-SEEKING EXPERIENCES IN COMMERCIAL CONTEXTS

2.1. CRITICAL REVIEW OF PREVIOUS FLOW MODELS

The originator of the flow theory in social sciences Csikszentmihalyi (1975) thought of the construct as reflecting a *holistic experience* in task involvement. Flow was described as a mental state characterized by deep concentration, enjoyment and no concerns about losing control or feeling under pressure. In such a state of consciousness the individual achieves a balance between his internal abilities and the the external challenges, whereby both performances are above an average level¹. *Skills* and *challenges* are two important factors of flow experiences and constitute fundamental constructs used in the flow theory.

According to later causal online flow models (Hoffman and Novak, 1996; Novak *et al.*, 2000; Koufaris, 2002; Skadberg and Kimmel, 2004; Guo and Poole, 2009), compelling experiences can be evaluated through a set of dimensions, antecedents and consequences². The most cited precondition in the structural models

¹ If challenges exceed the skill levels, people feel overwhelmed and anxious; on the other hand, if the activity is too easy, people get bored. Both challenge and skill should be situated on a level above daily average, so that the person may live a compelling experience.

² As far as the measurement methodology, online flow literature "did not provide a specific measurement scale but proposed any measurement of the construct should include its antecedent conditions, consequence, and dimensions." (Siekpe, 2005:33) The flow experience itself is confounded with its antecedents and consequences (Sanchez and Schaufeli, 2008:29).

reviewed by our study is the balance of challenges and skills. However, it is generally accepted that operationalizing the skills/challenges ratio is troublesome. Most studies measure them as separate constructs. Moreover, in the reviewed literature there is still a persisting ambiguity of what types of challenges and skills should be measured. Many researchers of online flow relate online skills and challenges only to interface usage issues.

In the present paper we are trying to fill this gap by conducting further in-depth research into the information and web behaviors literature and by proposing measurement instruments for information skills and challenges that include detailed cognitive and technological elements. We posit that an online information-seeking activity can be a flow activity because it implies a set of special challenges characteristic of complex informational environments and presupposes a special set of skills (both cognitive and technological) which induce, when they are matching the challenges perceived, a state of deep concentration and intrinsic pleasure, in which the person loses track of time and reduces his fear of failure.

2.2. EXTENDING ONLINE FLOW THEORY WITH INFORMATION LITERACY ISSUES

An information seeking activity is an activity of attempting to obtain information in both human and technological contexts. A review of the literature on information seeking behaviour shows that information-seeking has generally been accepted as a complex and dynamic process (Marchionini, 1989; Sutcliffe and Ennis, 1998; Foster, 2005; Kuhlthau, 1991; 2006). Many accounts of the information-seeking process (Shneiderman et al., 1997; Marchionini, 1989; Broder, 2002; Marchionini and White, 2008) assume an interaction cycle consisting of:

- identifying an information need,
- query specification,
- examination of retrieval results,
- (if needed) reformulation of the query,
- and repeating the cycle until a satisfactory result set is found.

Standard web search engines support query specification, examination of retrieval results, and to some degree, query reformulation. Other steps are increasingly well supported by more recent intuitive search interfaces which attempt to help with problem formulation, information-reorganization, and the creation of new representations from gathered information. Thus, due to the central role played in systematically prioritising the information that people view, knowing how search engines works constitutes a particular challenge that requires a particular set of skills during an online information-seeking activity.

The mechanisms of search engines can be – and often are – manipulated to inflate the relevance of websites, a little like an advertiser hijacking the Dewey Decimal System. There is also a commercial element to web page ranking, and search engines often offer ‘sponsored links’ to websites that pay to be prominently displayed. Different search engines apply different mechanisms to search different indexes and therefore, of course, return different results. No search engine produces a neutral, definitive, or representative reflection of what is on the internet. (Miller and Barlett, 2012:40). Being knowledgeable about information technology is not enough to exploit the information possibilities offered by the internet when trying to make consumption decisions. Consumers also need to have critical-thinking skills such as initiating the search strategy³, locating and accessing

³ Search skills are important (competent at using correct syntax for a search engine query): subtle differences in the semantic construction of search queries, including the ordering of Boolean operators, the use of synonyms, antonyms and

the resources; assessing and comprehending the information.

Such skills are part of the so-called *information literacy*. However, *information literacy* is a fluid concept (Martin, 2013) that is constantly evolving in an information-rich society. In the actual context of a massive proliferation of digital technologies, information literacy is sometimes replaced by the alternative concepts of *digital literacy* and *digital fluency* (Darrow and MacDonald, 2004; Catts and Lau, 2008; Covello, 2010; Belshaw, 2011; Miller and Barlett, 2012). What is ascribed to information literacy also varies – from describing the physical skills of using digital artefacts to intellectual-critical information competencies, to a holistic interpretation of education as *learned*.

3. SCALES DEVELOPMENT: GENERATING THE ITEMS POOL FROM LITERATURE REVIEW

The rationale of this paper – first step within the frame of a larger standardized scientific process⁴ – is the need for a solid theoretical grounding for information skills and challenges scale development. In the first part of this study, we have reviewed flow literature in marketing to identify models of optimal online information-seeking experiences and we have also conducted an exploratory theoretical research into the information and web behaviours theories to capture more thorough ways of operationalizing informational skills and challenges recurrent in web-based informational activities.

Even from the beginning of online flow studies, Chen *et al.* (2000) have suggested

that key concepts, like *skills* and *challenges*, should be operationalized in terms of specific web activities. Although there are many studies validating the original challenges and skills scales (Novak *et al.*, 1998; 2000) in the context of general web usage (Huang, 2003; Li and Bowne, 2006), there are also investigations which adapted the scales to online shopping (Koufaris, 2002; Skadberg and Kimmel, 2004; Guo and Poole, 2009) or online gaming (Voiskounsky *et al.*, 2004; Chiang *et al.*, 2011) and tested them with positive results. Nevertheless, there is still a persisting preconception that online information-seeking activities do not have the potential for generating flow like states (Hoffman and Novak, 2009).

We posit that researchers' restraint in evaluating the flow potential of online information-seeking activities and even the poor testing results scored by the few studies doing it are mainly due to an inadequate operationalization of the main flow constructs in the particular context of an information-seeking activity.

Building on the *information literacy self-efficacy scale* developed by Kurbanoglu, *et al.* (2006)⁵ in the information sciences field and the web challenge items identified by Pace's (2003) qualitative research in the flow studies area, in the present paper we propose a more elaborate scale for evaluating consumers' online information-seeking skills and challenges on two distinctive levels (representing two different categories out of the six

abbreviates can return hugely different results.

⁴ That of building a structural model useful for explaining and anticipating relationships between antecedents, dimensions and consequences of consumers' flow experiences during commerce-related online information-seeking tasks.

⁵ Kurbanoglu, *et al.* (2006) defined perceived information skills as an individual's own judgment of their capabilities for using the web for information-seeking activities. The strength of self-efficacy is traditionally measured by degrees of certainty that one can perform a given task. Therefore, Kurbanoglu, *et al.* (2006) considered that self-efficacy demands to be measured directly (rather than indirectly) by the use of self-report scales. They have tested the scale with positive results in an educational context.

information literacy categories⁶ identified by Kurbanoglu, *et al.*, 2006). In order to adapt the original scale to the context of our study (online commerce-related information-seeking), we have rephrased some items, eliminated others and added new ones suggested by Pace (2003).

By comparing Kurbanoglu, *et al.*'s (2006) skills operationalization in general informational contexts with Pace's (2003) challenges operationalization in online information-seeking contexts, we found that they complete each other in rendering a complete view of the balance needed between people's skills and challenges when performing compelling online information-seeking activities. We used common items (on two distinctive levels, as pointed out before) for evaluating the skills and challenges constructs and put them into two different sets of statements – one assessing the skills level (*I feel confident and competent to...*) and the other assessing the challenges level (*I find it difficult to...*).

Level 1 – initiating the search strategy:

I feel confident and competent to/ I find it difficult to (4 statements):

1A *Limit search strategies by subject, language and date* (original item, Kurbanoglu, *et al.*, 2006);

1B *Initiate search strategies by using keywords and Boolean logic* (original item, Kurbanoglu, *et al.*, 2006).

Level 2 – locating and assessing the resources:

I feel confident and competent to/ I find it difficult to (16 statements):

2A *Locate information sources on the internet using online search tools* (rephrased after Kurbanoglu, *et al.*, 2006);

2B *Use different kinds of internet search tools (such as search engines, metasearch engines, directories, etc.)* (rephrased after Kurbanoglu, *et al.*, 2006);

2C *Locate information sources in the results list* (rephrased after Kurbanoglu, *et al.*, 2006);

2D *Deal with a large collection of potentially relevant links* (original item from Pace, 2003);

2E *Distinguish relevant links from irrelevant links*⁷ (original item from Pace, 2003);

2F *Use different kind of online sources (websites, social media, wikis, podcasts, newscasts, videos, etc.)* (rephrased after Kurbanoglu, *et al.*, 2003);

2G *Scan a web page for relevant information* (original item from Pace, 2003);

2H *Understand the content and non-linear structure of a web page*⁸ (original item from Pace, 2003);

4. PRELIMINARY CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

The present paper represents only the first step (generating and rephrasing the items pool from literature review) in a complex scale development process and in building and testing a structural model for evaluating flow type online information-seeking experiences and their impact on consumer behaviours.

As further research directions we propose conducting a content analysis to ensure content validity of construct

⁷ Very often this challenge arises when inspecting the results generated by a search engine. Each entry in the list may consist of a page title or URL followed by a text excerpt showing the context in which the search terms appear on this page. Determining the relevance of the source to one's goal based on these elements calls for judgments and discernment on the part of the user.

⁸ Hypertext and interactive features can offer too many choices and too many animations that may confuse and disorient otherwise skilled information users.

⁶ Individual information skills traditionally draw on a whole range of capabilities such as: artifact usage capabilities (*i.e.*, the individual's technical skill of utilisation), critical understanding capabilities (*i.e.*, the individual's fluency of comprehension and interpretation) and communicative capabilities. In the present study we focus solely on the information-seeking skills.

domains (categories), which were predetermined from literature review. Based on the constructs definitions, we plan to ask a jury of 4 experts (in information/web behaviours and marketing) to assess construct deficiency as well as construct contamination for each item, using a 5-point measurement scale, in which 1 represents *very unlikely* and 5 represent *very likely*. The experts will also be asked to clarify the items and provide suggestions as to how to reinforce the representativeness of the developed construct domains. After receiving the experts' constructive comments on the scales, we plan undertaking a consensus analysis to compare these comments.

For the selected items (based on agreements of three or more experts) we propose collecting consumer responses using a seven-point Likert scale, anchored with notations: 7 = almost always true, 6 = usually true, 5 = often true, 4 = occasionally true, 3 = sometimes but infrequently true, 2 = usually not true, 1 = almost never true to. After collecting the answers, the next steps will be the purification of both measurement scales and the assessment of the constructs latent structures using the SPSS program.

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Biography

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