"ALEXANDRU IOAN CUZA" UNIVERSITY OF IAȘI, ROMANIA
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

PhD. DISSERTATION

THE IMPACT OF ONLINE FLOW ON PERCEIVED QUALITY OF A BRAND WEBSITE

Supervisor,
Prof. Corneliu Munteanu

Author,
Obadă Daniel Rareș

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RESEARCH CONTEXT

In the last years, considering the expansion of the Internet and the growth of the online market, scholars and marketers focused their studies on online customer behavior. Internet is an important channel for a brand in order to communicate with customers. We consider important for brand managers to develop brand websites with a high perceived quality, in order to achieve their marketing objectives and to induce to customers a compelling, positive experience. The main function of a brand website is to inform de customers and build the brand, rather to facilitate online trading. Brand websites represent the most durable communication activity on the Internet (Karson and Korganondar, 2001) and allow brand managers to control what information will be presented to the customers, in what order, and for how long (Bezjian-Avery, Calder and Iacobucci, 1998). As a result, developing an effective brand website is extremely important for marketing specialists and for a company's activity in online settings.

Scholars applied flow theory (Csikszentmihalyi, 1975) to online environments in the study of consumer behavior (Hoffman and Novak, 1996; Novak et al., 2000) in order to better understand users' experiences and behavior in virtual worlds.

From a marketing perspective, flow is considered to be an important construct due to the major impact on user's behavior (Csikszentmihalyi, 1975) while surfing on a brand website. According to Csikszentmihalyi (1975, 1988), flow is "a crucial component of joy" and is "the holistic sensation that people feel when they act with total involvement". Flow has been recognized to be a useful construct for explaining online consumer behavior (Koufaris, 2002) and Siekpe (2005) showed the importance of the "flow construct [...] for understanding the nature of consumer experience."

However, there is a lack of studies in the literature that investigate the marketing outcomes of online flow. In this context, we consider important to study the relationship between the online flow state experienced by customers and the perceived quality of a brand website. The importance of investigating this relationship lies in the interest of marketing scholars and practitioners to better understand how to create brand websites with a high perceived quality, in order attract and maintain customers.

In our study, we used the service quality literature as a theoretical background, because a website is similar to a service: it has an intangible nature, an interactive aspect, and its user is active in navigation.

The literature shows that a brand website perceived as having a high quality and customer service leads to high profitability levels for a company (Hoffman, Novak and Chatterjee, 1995; Lohse and Spiller, 1999; Vanitha, White and Bharat 1999; Tilson, Dong, Martin and Kiek, 1998; Xia, Ahmed, Ghingold, Boon, Mei and Hwa, 2003). Based on these studies, we argued that in the online environment,

the perceived quality of a brand website is one of the most important factors that influence consumer purchase decision. A brand website and a service with a high level of perceived quality will generate a higher level of profitability (Hoffman et al., 1995; Lohse and Spiller, 1998, 1999; Vanitha et al., 1999; Tilson et al. , 1998; Xia et al., 2003).

Despite the importance of the perceived quality construct in the online environment, most studies have focused on website design (Mandel and Johnson, 1999; Menon and Khan, 1997).

From a marketing perspective, it is extremely important to identify the dimensions of the perceived quality of websites, whether it is an e-commerce or a brand website, as well as factors affecting customer perceptions on quality (Lin and Lu, 2000).

Therefore, in our dissertation we argue that the flow construct is important for companies and can be used in order to improve customers relationships by building effective brand websites, to induce a flow state to users.

RESEARCH PROBLEM, AIM AND OBJECTIVES

In our thesis we consider important to investigate the relationship between online flow state and perceived quality of a brand, due to the lack of studies in the literature, and to the marketing implications of using flow theory in the online environment.

Studying this relationship involved running an interdisciplinary approach, by using concepts from several areas: psychology, marketing, statistics and information systems - for a better understanding of how we can use flow theory to increase the perceived quality of a brand website. However, in our dissertation, the marketing perspective is prevailing, and the aim of our study is to better understand the consumer behaviour in the online environment while surfing on a brand website.

Research problem: how can flow theory be used to increase the perceived quality of a brand websites?

The aim of the thesis was to study the relationship between the online flow state that can be experienced by users, and the perceived quality of brand websites. To achieve this goal, we considered necessary to develop a model that contained a set of relationships between the variables proposed to be the antecedents of online flow state, the online flow state, and the perceived quality of brand websites.

Considering the complex structure of the flow and perceived quality constructs (primarily, due to their multidimensional nature) and the specificity of online studies, investigating this relationship required to overcome a series of conceptual

and methodological difficulties, by designing the research in order to achieve the aim of our study. To this end, we disaggregated more specific research objectives for investigating the relationship between online flow state antecedents (situational motivation, Internet self-efficacy, perceived challenge and telepresence), online flow experience, and perceived quality of a brand website. Research objectives:

O1: To study the influence of *situational motivation* on *online flow state* experienced by a brand website user.

O2: To investigate the influence of *online flow state* on *perceived quality of a brand website*.

O3: To examine the influence of *situational motivation* on *perceived quality of a brand website*.

O4: To study the influence of *Internet self-efficacy* on *online flow state* experienced by a brand website users.

O5: To investigate the influence of *perceived challenges* on *online flow state* experienced by a brand website user.

O6: To examine the influence of *telepresence* on *online flow state* experienced by a brand website user.

O7: To develop a valid measurement model for evaluating *online flow antecedents, online flow state, and perceived quality of a brand website*.

O8: To develop a structural model for evaluating *online flow antecedents, online flow state, and perceived quality of a brand website*.

By achieving these research objectives, we consider that we can reach the aim of our study, namely to investigate the relationship between online flow state and perceived quality of a brand website.

STRUCTURE OF THE PhD THESIS

The PhD thesis is organized as it follows: in **chapter I** we reffer to the research context by highlighting the importance of studying the relationship between online flow state and perceived quality of a brand website, the aim of the study, research objectives and expected contribution, and present the operational definitions of the used concepts.

Chapter II contains a critical literature review on flow theory and perceived quality of a brand website, the measurement approach, and the research methods used in the study of online flow state. The objectives of the literature review were: (1) to describe the flow theory, (2) to define the flow and perceived quality constructs, (3) to present the main models of online and offline flow state, (4) to identify the measurement approach of research variables, (5) to review the scales and the measurement models for the research variables, and (6) to outline the marketing outcomes of online flow.

In Chapter III we reffered to the online flow state and perceived quality relationship.

In this chapter we presented the research model, the hypotheses regarding the relationships between variables and the arguments from the literature that supported our hypotheses.

In the second part of Chapter III we highlighted the research efforts undertaken to develop the questionnaire and to test the used scales for measuring the variables. This chapter describes the measurement approach of online flow state, the perceived quality of a brand website, as well as other variables considered to be antecedents of flow: situational motivation, Internet self-efficacy, perceived challenge and telepresence. Afterwards, we selected and adapted the scales from the literature. At the end of the chapter we briefly refferd to the pilot study conducted for pre-testing the questionnaire.

In Chapter IV we present the research design, navigation scenario, sampling method, the assigned brand website and other important issues that concerned data collection and validation. Also, in this chapter we reffer to validity and reliability analysis we conducted for the scales we used. The main objective of this chapter was to obtain the data we needed in order to verify the hypotheses of our research model: flow antecedents, flow state and perceived quality of a brand website.

In **Chapter V** we discuss the statistical techniques used to test the hypotheses and SEM procedures for estimating the structural model of the relationships between online flow antecedents, online flow experience, and perceived quality of a brand website. The results of our analysis led to test an additional hypothesis: online flow state mediates the relationship between situational motivation and perceived quality of a brand website. The invalidation of the influence of perceived challenge on online flow state led us to propose a new measurement model for online flow, by considering perceived challenge to be a dimension of the flow construct, and reestimating the structural model. This new model explains better the relationships between online flow antecedents, online flow experience and perceived quality of a brand website. Chapter V ends with a series of conclusions on the tested hypotheses and modified structural model.

Chapter VI of the thesis contains a detailed discussion on the results of our study and the main findings. We highlight the theoretical and the managerial implications of our research, in positive psychology, information systems and marketing. In addition, we outline the personal contributions, limitations of the study and future research directions.

METHODOLOGY

In order to study the relationship between the variables from our research model, we used qualitative and quantitative research methods.

For developing the questionnaire we run in-depth interviews to verify the accuracy of items translation from English into Romanian, and to better understand how to rephrase the terms. In order to test the research hypotheses and to estimate the structural model containing the relationships between flow state antecedents, online flow state and perceived quality of a brand website, we conducted an online survey. In designing our study, we took into consideration the nature of online flow (situational optimal experience), experienced by users while surfing on a brand website (www.palasmall.ro). By setting the navigation task, and asking the respondents to surf on a particular website, we studied flow experience in a specific context.

In order to verify if the navigation task was accomplished, in the first part of the questionnaire we asked the participants to mention the visited sections on the assigned brand website. Using this control question would let us identify and remove from the database the bias responses. Collecting the data immediately after browsing on the assigned brand website allowed us to eliminate the bias generated by difficulty of the respondents to recall the surfing experience (immediately after surfing on the assigned brand website, the respondents were asked to fill in the questionnaire to report their experience).

Questionnaire development

In order to conduct the main study and to test the relationships between the variables from our research model, we selected the brand website of the largest shopping mall complex from Romania (Palas Mall Iaşi): www.palasmall.ro.

The main function of the assigned brand website, www.palasmall.ro, is to comunicate with stakeholders and it differs significantly from an e-commerce website, whose main function is to sell. The navigation task involved searching information for leisure on www.palasmall.ro. We sent the invitation to potential respondents using a database containing 35.000 e-mail addresses of Internet users from Iaşi County.

Surfing scenario on the assigned brand website

The navigation scenario was created after consulting the literature, and aimed to engage the participants in goal-oriented behaviour. While browsing a brand website for information, customers are more likely to experience a flow state. In addition, by setting to participants a clear task, we created the conditions for online flow state occurance: clear goals, a potential balance between perceived Internet self-efficacy and perceived challenge.

Sample and data collection

We used in our main study a convenience sample. Participants were Internet users and they were contacted by e-mail to participate in the study. They received an e-mail containing an invitation and a link to the online questionnaire. The invitation letter was designed according to Iacobucci's and Churchill Jr.'s (2010) recommendations to increase the response rate.

Data collection and validation

We collected data for the pilot study between June 24th –July 3rd 2013. In this period we sent 890 invitations via the e-mail marketing platform www.mailchimp.com. We received 67 completed questionnaires and 62 were valid.

For the main study, data was collected between April 2nd - April 12th 2014. The preliminary phase of data collection consisted in sending the invitation to approximately 35.000 potential respondents, Internet users from Iași County. We received 1.280 responses, and after the preliminary database analysis, we obtained 915 valid responses. Responses were validated by examining the time spent by respondents to complete the questionnaires, and by taking into considiration their answers to the control questions. Also, we used the random function to display the questions, in order to avoid the bias generated by similar answers given by respondents to keep an apparent coherence.

Pilot study respondents – descriptive statistics

Pilot study respondents were 51.6% male and 48.4% female. 86% of the respondents had their age between 19 – 35 years; 12.9% had a college degree, 16.1% post college degree, 41.9% had a bachelor degree, 29.1% a master degree.

Main study respondents – descriptive statistics

Main study respondents were 41.0% male and 59.0% female and had their age between 19 - 73 years; 14,4% had their college degree, 16.1% post college degree, 46% had a bachelor degree, 31.4% a master degree, 4,3% had a PhD degree.

RESULTS AND MAIN FINDINGS

In the last years, marketing and information systems specialists were interested to understand how to create brand websites in order to provide a compelling experience to online customers. According to existing studies from the literature, almost half of the users have an optimal experience while surfing online, so flow theory is important for online marketing, in order to desing brand websites with a

high perceived quality. Therefore, we consider that the construct of flow is crucial for understanding consumer behaviour while browsing a brand website.

The aim of the PhD thesis was to assess the relationship between online flow state and perceived quality of a brand website, for a better understanding of the online consumer behaviour. In our study, we considered important to investigate the relationship between online flow state antecedents, online flow state and perceived quality of a brand website, for a broader understanding of the flow process.

Synthesis of the estimation of free parameters for the specified structural model of online flow state antecedents, online flow state and perceived quality of a brand website:

***Goodness of fit index* for the specified structural model:**

- *CHI-SQUARE* = 7124.027>0.05 (good fit);
- *RMSEA* = 0.056≤0.08 (good fit);
- *GFI* = 0.751<0.90 (poor fit);
- *AGFI* = 0.738<0.90 (poor fit).

***Comparative fit index* for the specified structural model:**

- *NFI* = 0.821<0.90 (acceptable model fit);
- *CFI* = 0.861<0.90 (acceptable model fit);
- *TLI* = 0.859<0.90 (acceptable model fit).

***Parsimony goodness of fit index* for the specified structural model:**

- *PNFI*= 0.807≥0.50 (parasimony model).

We concluded after reporting the goodness of fit index, comparative fit index and parasimony goodnes of fit index, that the specified structural model was acceptable, but it could be improved by taking into consideration other variables from the literature.

Hypothesis 1 was confirmed: situational motivation positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.311).

Hypothesis 2 was confirmed: online flow state positively influences the perceived quality of a brand website (the regression coefficient is 0.605).

Hypothesis 3 was confirmed: situational motivation positively influences the perceived quality of a brand website (the regression coefficient is 0.220).

After the confirmation of hypotheses 1, 2 and 3, we tested the mediation relationship between situational motivation, online flow state, and perceived quality of a brand website.

The additional tested hypothesis was the following: online flow state mediates the relationship between situational motivation and perceived quality of a brand website.

To test the mediation relationship, we studied the influence of situational motivation (independent variable) on perceived quality of a brand website (independent variable), by removing from the model the mediating variable (online flow state). The results indicate that situational motivation directly influences the perceived quality of a brand website (the regression coefficient is 0.709). Therefore, by introducing the mediating variable (online flow state), the situational motivation influence on perceived quality of a brand website decreases from 0.709 to 0.220, but remains significant. Therefore, **online flow state partially mediates the relationship between situational motivation and perceived quality of a brand website.**

Hypothesis 4 was confirmed: Internet self-efficacy positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.191).

Hypothesis 5 was invalidated: perceived challenges do not positively influence online flow state experienced by users while surfing on a brand website. In the literature, in some studies, *perceived challenge* is considered to be either an antecedent or a dimension of online flow state.

Therefore, we decided to modify the structural model by considering perceived challenges as a dimension of online flow.

Hypothesis 6 was confirmed: telepresence positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.689).

Therefore, after reviewing the literature, we decided to reestimate the structural model, by considering perceived challenges as a dimension of online flow state.

In order to reestimate the structural model, we proposed and tested a new model for measuring online flow state. After validating the new scale for measuring online flow state, we decided to reestimate the structural model using *SEM.*

Synthesis of estimation of free parameters for the modified structural model of online flow state antecedents, online flow state and perceived quality of a brand website.

***Goodness of fit index* for the reestimated structural model:**

- *CHI-SQUARE* = 7314.605>0.05 (good fit);
- *RMSEA* = 0.057≤0.08 (good fit);
- *GFI* = 0.732<0.90 (poor fit);
- *AGFI* = 0.719<0.90 (poor fit).

***Comparative fit index* for the reestimated structural model:**

- *NFI* = 0.816<0.90 (acceptable model fit);
- *CFI* = 0.856<0.90 (acceptable model fit);
- *TLI* = 0.854<0.90 (acceptable model fit).

Parsimony goodness of fit index* for the reestimated structural model*:

- *PNFI*= 0.804≥0.50 (parasimony model).

We concluded after reporting the goodness of fit index, comparative fit index and parasimony goodnes of fit index that the modified structural model was acceptable.

The modified structural model is ilustrated in Figure 38.

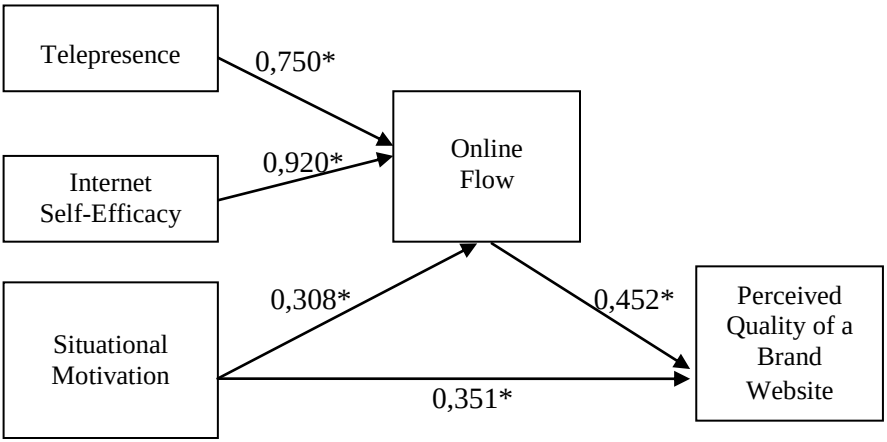

Figure 38. Ilustration of the modified structural model containing the relationship between online flow state antecedents, online flow state and perceived quality of a brand website.

To hereinafter we report the results for the tested hypotheses after estimating the modified structural model.

Hypothesis 1 was confirmed: situational motivation positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.308).

Hypothesis 2 was confirmed: online flow state positively influences the perceived quality of a brand website (the regression coefficient is 0.452).

Hypothesis 3 was confirmed: situational motivation positively influences the perceived quality of a brand website (the regression coefficient is 0.351).

To test the mediation relationship in the modified structural model, we studied the influence of situational motivation (independent variable) on perceived quality of a brand website (independent variable), by removing from the model the mediating variable (online flow state). The results indicate that situational motivation directly influences the perceived quality of a brand website (the regression coefficient is 0.709). Therefore, by introducing the mediating variable (online flow state), the situational motivation influence on perceived quality of a brand website decreases from 0.709 to 0.351, but it remains significant. Therefore,

online flow state partially mediates the relationship between situational motivation and perceived quality of a brand website.

Hypothesis 4 was confirmed: Internet self-efficacy positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.920).

Hypothesis 6 was confirmed: telepresence positively influences online flow state experienced by users while surfing on a brand website (the regression coefficient is 0.750).

We conclude that both models, the specified and the modified structural model are acceptable, but we admit that they could be improved by considering other variables from the literature, such as: *involvement, clear goals or enjoyment*.

CONCLUSIONS OF THE PhD. DISSERTATION

In this section we present the conclusions of our dissertation by briefly referring to the theoretical and practical implications of our results.

Considering the interdisciplinarity of our study, the results of our research contribute to the current state of art through a better understanding of the relationship between online flow antecedents, online flow state and perceived quality of a brand website. Although the flow phenomenon has been studied extensively in the past 25 years by researchers in positive psychology, information systems and marketing, there is still a lack of knowledge regarding the marketing outcomes of online flow state. Having this research problem as a starting point, the aim of our disertation was to investigate the relationship between *online flow state* and *perceived quality of a brand website*.

The complexity of our study is derived from the nature of the constructs we used: online flow state, a psychological optimal experience, ephemeral, experienced by brand website users, and perceived quality of a brand website – two constructs difficult to conceptualize, operationalize and measure in the online environment.

First of all, our literature review was a good starting point for a better understanding of the conceptual and methodological challenges for studying online flow state and perceived quality of a brand website. Our contribution in this phase consisted in analyzing two different constructs, online flow state and perceived quality of a brand website, which were investigated separately in the literature. At the end of the literature review, we proposed a research model containing the relationship between online flow antecedents, online flow state and perceived quality of a brand website.

Secondly, our research design offers solutions to the measurement problems of the research variables and provides conditions for brand website users to

experience online flow state. Therefore, we considered that scholars interested in studying online optimal experience might find our methodology useful to replicate or to develop other studies in this area.

Third, the adapted scales may be useful in other studies of optimal experience in the online environment. Our contribution is important as in Romania there is no valid instrument for measuring online flow state that can be used by marketers and information systems specialists. Also, another element of originality in our research is the use of two different measurement approaches, but complementary to online flow state: direct and indirect measurement – which have been cross-validated. Thus, through this holistic approach, our research could contribute to a better understanding of the appropriate approach for measuring online flow and to clarify certain inconsistencies and discrepancies in the literature. Cross-validation of direct and indirect measurements of online flow state could be useful to researchers interested in studying online optimal experience, because they could choose the most appropriate measurement methods (direct or indirect), depending on the aim of their study.

Furthermore, the development of the measuring model and its validation for perceived quality of a brand website represent other important contributions of our research in theoretical and practical terms. Analyzing the literature, we found many discrepancies regarding instruments for measuring the perceived quality of websites. Our study is important because we propose a measurement model for perceived quality of a brand website that can be used by Romanian marketers and information systems specialists. Thus, practitioners can assess the perceived quality of a brand website and optimize those dimensions which have a low perceived quality.

Fourth, the results of our research indicate that online flow state influences in a significant manner the perceived quality of a brand website. This result is extremely important from a theoretical point of view, as it contributes to a better understanding of the marketing outcomes of online flow state. Therefore, marketers and information systems specialists should induce flow experience to online users to positively influence their perceptions on the quality of a brand website.

The practical implications of this result are also important and they consist in a better understanding of the flow phenomenon and of the factors influencing the occurrence of optimal experience. To generate a flow state to a brand website user, it is important for marketers and information systems specialists to take into consideration the individual, the task and the artifact (as it was proposed by Finneran and Zhang, 2003).

More generally, our thesis contributes to a better understanding of the relationship between online flow state antecedents, online flow state and perceived

quality of a brand website - through the modified structural model. The results of our research confirm the direct influence of situational motivation on perceived quality of a brand website and the indirect influence via online flow state. In both tested structural models, the specified and the modified, online flow state partially mediates the relationship between situational motivation and perceived quality of a brand website. This result is extremely important, because it demonstrates that scholars should take into account the individual differences, not only the artifact's characteristics, when assessing the perceived quality of a brand website. Therefore, our findings could help specialists develop a more complex model for measuring the perceived quality of a brand website, including customers' individual differences.

Fifth, by confirming the influence of Internet self-efficacy on online flow state, we validated the hypothesis that Internet self-efficacy is a good surrogate for perceived skills and an antecedent of online flow state. This result is consistent with other studies from the literature.

Sixth, the invalidation of the perceived challenge influence on online flow state led us to modify the measurement model of online flow state, by considering this variable as a dimension of the optimal experience. Subsequently, it was necessary to repeat the analysis for the modified structural model, and all the remaining hypotheses were confirmed. Therefore, the results of our research are consistent with studies from the literature in which perceived challenge is a dimension of online flow state.

Seventh, the confirmation of telepresence influence on online fow state is another important result of our research, is consistent with the literature, and helps to better understand online flow phenomenon.

The widespread use of the Internet and customers' interest in searching information on a brand website continue to motivate both marketing scholars and practitioners to better understand how to attract and retain customers online. In order to develop a favorable behavioural response from customers, it is important to provide a optimal experience while surfing on a brand website.

ORIGINALITY

Personal contributions of our study can be summarized as follows:

- **theoretical contributions**: our interdisciplinary research contributes to the state of art, through a better understanding of the relationship between online flow state antecedents, online flow state and perceived quality of a brand website. In our analysis, we identified variables originary from three different areas: positive psychology, information systems and online marketing, and we have integrated them into a comprehensive model;

- **methodological contributions**: the study design provides solutions to the problems of measuring the research variables. We have also developed, tested and validated a measurement model to asses the online flow state experienced by Romanian brand website users. Another element of originality is the integration of two different approaches for measuring online flow state: direct and indirect measurements - that we cross-validated. Also, the development and validation of the measurement model of perceived quality of a brand website is another important methodological contribution of our research. The adapted scales can be used by marketers and information systems researchers, to assess the perceived quality of Romanian brand websites and optimize those dimensions which have a low perceived quality. Instruments for measuring research variables have been developed, tested and validated using advanced statistical techniques: structural equation modeling;

- **fundamental contributions**: we developed a model for online flow state and perceived quality of a brand website. The validated model is important because it contributes to a better understanding of the online marketing outcomes of online flow and provides solutions to increase the perceived quality of a brand website. In the literature, to our knowledge, there is no other model containing the relationships between the variables proposed to be online flow antecedents, online flow and perceived quality of a brand website.

- **managerial contributions:** the analysis of the relationship between online flow antecedents, online flow state and perceived quality of a brand website offers possible solutions to increase the perceived quality of a brand website. Our study can help marketing and information systems managers to better understand user's behaviour on a Romanian brand website. Also, our research provides a tool for assessing the perceived quality of a brand website, which can be used by practitioners to optimize these types of artifacts.

IMPLICATIONS

In this section we will briefly consider the implications of our study in psychology, marketing and information systems – the three areas in which the concepts we used have their origins.

First, the results of our research contribute to the flow theory, originating from positive psychology, through a better understanding of the consequences of optimal experience in the online environment.

Second, the cross validation of direct and indirect measurements of online flow state has important implications for flow researchers, as they can adapt their methodology, having strong arguments for both approaches. This result is

important for measuring online flow in complex studies, where the number of investigated variables is large.

Third, our thesis has important implications for IS researchers. By understanding the importance of online flow state and perceived quality of a brand website, information systems practioners can develop and optimize artifacts (such as brand websites), to generate an immersive, optimal experience to users.

In addition, with the validation of the measurement model of perceived quality of a brand website, IS specialist can adjust the systems by assessing different dimensions of the perceived quality construct, or by globaly measuring the perceived quality of a brand website. The validated sub-scales can be useful for IS specialists to assess *the perceived interactivity of a brand website, perceived security, reputation, processing speed, perceived usefulness, ease of use, complexity, novelty and quality content* – in order to act precisely for improving the perceived quality of a brand website.

Fourth, we consider that the marketing implications of our thesis are important. Studies indicate that a brand website with a high perceived quality leads to profitability. Therefore, from a marketing perspective, it is essential to identify the factors that influence the perceived quality of a brand website and the variables affecting customer perceptions. In this context, our results indicate that online flow state significantly influences the perceived quality of a brand website.

Fifth, due to our thesis is focused on brand websites, we believe that the research results can be useful for marketing and information systems specialists from Romania who are interested in creating brand websites with a high perceived quality, in order to attract a large number of customers and to maintain a constant traffic on the brand website. In addition, a high quality website can facilitate a positive emotional connection between the brand and customers in the online environment, which could have significant financial implications.

LIMITATIONS AND FUTURE RESEARCH

The research presented in our PhD thesis has also limits. First of all, our study is valid for brand websites, and conclusions cannot be extended to e-commerce websites.

We consider a challenge measuring online flow construct due to its contextual nature. Then, the study design and the convenience sampling we used require caution in generalizing results and do not allow drawing inferences for a larger population. Finally, we emphasize the need for more studies on exploring the relationships between online flow antecedents, flow state, and perceived quality of a brand website.

Second, the sample used in our research consisted of Internet users living in a specific geographical area of Romania, so the research results should be interpreted with caution and cannot be generalized to the whole country, because there may be important differences in browsing behaviour of subjects coming from different geographical regions of Romania.

To improve the proposed structural model, we believe that other variables may be introduced as online flow conditions, from psychology (such as individual personality) and information systems (other features of the artifact), to build a more complex model of online flow antecedents, online flow state and perceived quality of a brand website.

Future research

The results of our research are a first step in investigating the relationship between online flow state and perceived quality of a brand website. In our opinion, future research could focus on:

- replicating our study, to test the results. Alternatively, it could be investigated the relationship between online flow antecedents and perceived quality of an e-commerce website (another type of artifact);

- investigating other factors that could be antecedents of online flow, such as personality or individual propensity to experience online flow state. Another hypothesis that could be tested is that individuals with a certain type of personality would be more likely to experience online flow state during their navigation on a commercial website.

In addition, in order to study online flow state conditions, we consider necessary to investigate the relationships between the artifact characteristics (brand website or e-commerce website) and online flow state.

Future research could use our methodology, such as research design and adapted scales, in: positive psychology, marketing or information systems. Also, a representative sample of Internet users from Romania would allow the generalization of study results.