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The Good, the Bad, and the Ugly: Tourist Perceptions on Interactions with Personalised Content

Personalisation is a critical factor in superior customer experience and retention. It is also observed to be a cause of user frustration. This paper challenges the assumption that accurate content personalisation always positively affects tourist perceptions on the usefulness and ease of use of the information systems. The study integrates the logic of technology acceptance and the process of human motivation to explain personalised recommender system acceptance. In-depth semi-structured interviews with tourists, industry practitioners, and academic experts were used in research. The findings illustrate that the characteristics of personalised content have double and, sometimes, ambivalent influence on tourist perceptions on system performance. A comprehensive strategy is required to optimise the potential of personalisation. This study expands the understanding of tourist interactions with personalised content and calls for further exploration of the effects of information system components on user experience.

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Introduction

Content personalisation is generally defined as the strategy and set of methods that allow to identify tourist preferences, filter out irrelevant options and implicitly present the remaining information in the way that is convenient for the user (Höpken, Fuchs, Zanker, & Beer, 2010). Personalisation can increase the usefulness of information service (Piccoli, Lui, & Grün, 2017) and decrease information overload in the context of high volumes of information (Ricci, Rokach, & Shapira, 2015), thereby determining user attitude toward technology and intentions to use it. Therefore, special attention in personalisation research has been devoted to advancing tourist context recognition and user modelling techniques with the aim to increase the relevance of selected information to individual or group tourist requirements.

Interactions with the accurately personalised content do not guarantee high tourist satisfaction (Gavalas, Konstantopoulos, Mastakas, & Pantziou, 2014). However, explanation of the precise mechanism how personalised content affects tourist reasoning and perceptions is unknown. This study accepts customer-centric view to explain the influence of personalisation on tourist motivations and information system (IS) performance. It applies abductive reasoning to investigate the sequential effect of personalised content on tourist sense of competence and autonomy, IS performance, as well as attitudes toward the IS, and proposes the framework that explains personalised IS acceptance within the process of motivation.

Personalised Content Characteristics and Technology Acceptance

Tourists interact with a wide scope of travel-related information, which is presented as a set of separate offers (e.g., hotels) at travel websites. The website content quality characteristics (DeLone & McLean, 2016; Pu, Chen, & Hu, 2011) can be logically grouped into two categories. Such parameters as the relevance of information for task completion together with novelty, accuracy, and completeness of description can be used to assess the

quality of each recommendation. The amount of options, their variety, transparency of personalisation and comprehensibility of the reasons why travel services are proposed to the user, describe user interactions with the list of options as a single entity. Given the dynamic and context-dependent nature of tourist needs and related information search process, tourists perceptions on these parameters vary depending on the person and situation (Buhalis & Foerste, 2015). Content selection as a form of personalisation refers to the procedures of filtering the options, which are assumed irrelevant, out from the displayed information (Adomavicius & Tuzhilin, 2015). Depending on hypothesised preferences and applied personalisation strategy, a recommender system can provide tourists either with few highly personalised suggestions or an extended list of relatively relevant options, thereby, affecting their perceptions on the quality parameters of each option and the list of options.

According to the technology acceptance model and its derivatives (e.g D. Y. Kim, Park, & Morrison, 2008; T. G. Kim, Lee, & Law, 2008; Venkatesh, Thong, & Xu, 2016) user perceptions on IS quality, including relevance and sufficiency of information, and their capability to assess it, voluntary nature of interactions and other factors shape tourists perceptions on the usefulness and ease of use of the IS and form an acceptance decision. By manipulating the quality parameters of each recommendation and the entire list of options, personalisation may affect tourist perceptions on IS performance. However, the details of tourist reasoning underlying personalised information service usefulness, ease of use, affective states and commitment to service are underexplored.

Personalised Content and Tourist Motivations

Tourist motivation is a multistage process, directed at satisfying needs and affected by the factors of individual internal and external environment. According to self-determination theory (SDT) (Ryan & Deci, 2017), the extent to which each of external factors facilitates or undermines intrinsic motivations determines human affective states, influencing the reasoning

toward accepting or rejecting interactions with this factor. In the context of technology acceptance, SDT enriches the explanation of the effect of IS characteristics, being seen as external factors, on user attitudes towards technology (Lee, Lee, & Hwang, 2015).

To stay motivated, people need to feel competent in completing tasks, autonomous in their actions, as well as to be socially related to others (Ryan & Deci, 2017). Competence is supported through acquisition of new skills and knowledge, which enables the completion of intrinsically-motivated tasks, but is deprived through over challenging tasks. Autonomy requires the sense of choice, which incorporates both perceptions of voluntary action and the presence of multiple options (Ryan & Deci, 2017). Content personalisation, which increases the relevance of displayed information for tourists decision-making, may strengthen tourist perceptions of self-effectiveness and capability to learn (Oulasvirta & Blom, 2008), thereby, informing competence and empowering them to use information. So may do the decreased information overload, caused by shorter list of options. However, implicit manipulations with the list of available options may have an effect on multiple parameters of information quality, experienced by users, including the perceptions on the variety of options and of being the source of the acquired result. Therefore, personalised content can create dual effect on competence and autonomy through a range of factors, thereby shaping tourist perceptions on the service performance and intention to use it.

Methodology

To explain the potentially ambivalent influences of implicitly personalised content attributes on intrinsic tourist motivations, perceptions of IS performance and its acceptance, the study accepted pragmatic research paradigm (Biesta & Mälardalens högskola, 2010) and the point of view that knowledge is derived from context-dependent practical experience. It applied qualitative methodology and abductive reasoning (Creswell & Poth, 2017). The deductively developed framework defined the scope of analysis and guided data collection.

Qualitative content analysis triangulated three data sources and matched with the inductively identified patterns in the preliminary framework (Yin, 2013). The theoretically derived codes were extended based on empirical data, acquired from the purposive sample of 17 in-depth semi-structured interviews: (1) 6 Hong Kong residents with the recent experience of one of the personalised travel IS, used to travel abroad; (2) 7 industry experts, engaged in digital marketing and personalisation in tourism, and/or in software design and personalisation; (3) 4 academics with the expertise in tourism and ICTs (intercoder reliability KALPHA = 0.883 achieved by two independent researchers). The finalised themes, acquired by triangulating tourists experience with personalised content and experts' explanation of the desired IS design, and by placing them in the context of intrinsic motivations, were peer-reviewed by another researcher to ensure the reliability of the inferences (Creswell & Poth, 2017).

Data analysis, results and discussion

The findings illustrate that tourist perceptions on the relevance of provided information and the choice of selected options simultaneously affect their sense of competence and autonomy through different motivators. This, in turn, forms an evaluation of the personalised website performance and its further acceptance.

The Effect of Relevant Information on Competence and Autonomy and IS acceptance

The relevance of provided options has been proven to affects tourist perceptions on service performance and attitudes towards use via an individual sense of competence and autonomy (Figure 1). High performance of implicitly personalised IS, including usefulness and ease of use, is associated with self-efficacy and empowerment, which are the outcomes of increased competence: '*I know I can organise any trip myself [when using the IS]*'. Inaccurate content personalisation leads both to perception of the ineffectiveness of and annoyance with the IS. Regardless of personalisation accuracy, tourist's awareness of certain options being implicitly filtered out without their explicit participations triggered perceptions of non-

voluntary actions and motivated them to form a negative judgment about the service performance. Despite admitting that the recommended hotels were relevant for her budget, location, and service quality requirements, one of the interviewees explained her uncertainty about booking though this OTA as follows: "*How do I know that they choose these hotels for me? Maybe the companies just give them [OTA] money to make this look like a 'top-choice' hotel.*" When asked about the optimal strategy to personalise content, all experts agreed that accurately selected content enables tourists to spend less time for decision-making, proving the capability of personalisation to increase usefulness and ease of use of the IS. However, software developers added that the absence of transparent manifestation of content selection principles or provided a perception of control over selection process increases the risk that the IS would be abandoned in favour of more standardised solution.

Figure 1: The effect of relevant content on intrinsic motivations and intentions to use IS

SDT explains that people accept the factors that support their perceptions of competence and autonomy as part of personal values and accomplishments, thereby judging them as useful and valuable for supporting their intrinsically motivated activities (Ryan & Deci, 2017). However, lack of self-regulation and freedom of decision-making in the situation, when acquired useful knowledge or skills result from externally controlled activities, minimises the positive effects from satisfying competence and sometimes can cause refusal to use the IS. As a result, personalised content can cause mixed attitudes towards IS as it boosts the sense of competence while thwarting tourist perceptions of autonomy.

The Effect of Relevant Choice on Competence, Autonomy and IS Acceptance

When exploring the proposed recommendations, tourists simultaneously overview the scope of the options to form perceptions of the quality of the IS and the efforts, required to arrive at a decision. In such settings, content personalisation, which results in the shortened list of relevant options, is observed to have dual, and, sometimes, an ambivalent effect of tourist perceptions of autonomy and competence, leading to three distinctive cases (Figure 2).

Personalised Content	Effect on Intrinsic Motivations	Performance Expectancy	Attitudes Towards Use
Extensive List of Options	Competence: overchallenge / Autonomy: presence of choice	• Not useful / • Not easy to use	No Intention to Use
Short List of Options	Competence: increased self-efficacy / Autonomy: no choice and lost control	• Useful / • Not easy to use	May Use
Selection of Options	Competence: self-efficacy + relevant challenge / Autonomy: self-regulation + presence of choice	• Useful / • Easy to use	Willing to Use

Figure 2: The effect of relevant choice on intrinsic motivations and intentions to use IS

While providing them with the freedom of choice, an *extensive list of options* thwarts tourist perception of being competent, so that it is perceived as neither useful nor easy to use, triggering the call for better personalisation. Information overload tourists face when interacting with considerably large amount of options make them feel frustrated and not capable of '*making the right choice'*. Such reaction is consistent with the "paradox of choice" (Schwartz, 2004) and confirms that despite competence is supported by exploratory activities, such as information search, it can be destroyed through over challenging tasks as people cannot experience the feeling of mastery and ability to solve problems (Ryan & Deci, 2017).

A *limited number of options* also creates mixed effect on IS acceptance through perceptions of autonomy and competence. All interviewees, including tourists, industry experts, and academics, agreed that personalisation, which displays only those options that fit immediate tourist preferences, would be enjoyable and extremely useful for satisfying travel needs. However, tourists provided negative and sometimes emotional feedback on the idea of receiving a short list of options that would be implicitly filtered according to some sorting

criteria. First, they associated the amount of recommendations with the reliability of the service provider and its capability to satisfy their needs: "*I don't trust the app if it only offers me three options, even if these options look good for me. I just simply don't think that a website with limited amount of options is professional!*". Whereas several tourists said that they '*have no choice but stick to good offers*', several claimed that they would abandon the IS and book with another service provider. Second, tourists' awareness that some of the options have been screened out led to perception of involuntary decision: "*...I feel that I cannot change anything [list of options]. I cannot control these things.*" Such perceptions were also followed by the willingness to regain control over personalisation by manually verifying the IS settings, or to stop using the IS. Software developers suggested that the problem is caused by perceptions of the lost control over the interactions with the IS. Effort should be exerted to allow tourists to manually customise some of the filtering criteria. Marketing executives explain tourists' reaction by lack of assurance and perceived security. According to them, personalised content should be supplemented by a considerable opportunity of direct interactions with a customer support service to create the perception of caring environment.

According to SDT, lack of competence or autonomy triggers perceptions of insecurity and the fear of failure, thereby resulting in resistance to cope with external motivator and in opposition to it (Ryan & Deci, 2017). While supporting their competence by enabling easy and quick decision-making, limited range of highly-accurate options restricts tourists' autonomy through lack of variety and choice and perceptions of control, which is taken away by the service provider. This can cause negative attitudes toward the service provider and negation of IS usefulness, followed by the decision to abandon the IS. In this situation, regaining control over personalisation settings becomes an instrument to support autonomy, while the presence of customer support and perception of caring environment targets relatedness, which refers to the feeling of being cared about, responded to, and not being rejected. According to SDT, such

activities can leverage perceptions of competence and autonomy and attitudes toward the IS (Lee et al., 2015; Nikou & Economides, 2017). As a result, personalisation requires a complex strategy to minimise the risk of IS abundance.

Lastly, a *selection of options* is the only situation, described by tourists as supportive and convenient for decision-making and easy to use and not being associated with the negative effect on autonomy and competence. A range of relatively relevant options engages tourists in the selection process so that they feel "*interested*" and "*doing careful choice*" on the one hand, and "*secure*" and "*comfortable*", on the other. One of the tourists said that "*I will only read first 1-2 pages as maximum… but if I don't see that this website has more options, I will also search via other websites to compare.*" SDT states that relevant challenge and encouragement to self-regulate are the means to support competence and autonomy (Ryan & Deci, 2017). The case with irrelevant options being excluded to decrease information overload and simplify decision-making, but with a range of relatively relevant solutions being displayed to tourists, is observed as the only situation that supports both competence and autonomy and does not create negative effects on them.

Conclusion

This study explored tourist interactions with personalised content and explained the influence of its characteristics on tourist motivations, and the subsequent perceptions on the usefulness and the ease of use of the IS. The findings confirm the high importance of content personalisation but illustrate that it does not guarantee positive tourist experience with the service. In addition to the straightforward effect of personalised content characteristics on user perceptions of the IS performance, the process of motivation creates additional and sometimes ambivalent effects between these factors and resulting behavioural intensions. While a better understanding of tourists' interactions with personalised content is needed, it is possible to

conclude that a comprehensive approach that would allow to leverage the benefits and control

the side effect of personalisation is required to minimise the risks of this strategy.

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