The effect of prior knowledge and decision-making style on the online purchase decision-making process: A typology of consumer shopping behaviour

Sahar Karimi [a,b], K. Nadia Papamichail [a,1], Christopher P. Holland [a]

[a] Manchester Business School, The University of Manchester, Booth Street East, Manchester M15 6PB, United Kingdom
[b] Edge Hill University, St. Helens Rd., Ormskirk, Lancashire L39 4QP, United Kingdom

A B S T R A C T

This paper provides an empirical typology of online decision-making purchasing behaviour. The study explores how the online purchase process is affected by individual decision-making style and knowledge of product. Drawing from the decision analysis and consumer behaviour literatures, we present a typology of online purchase decision-making behaviour and introduce four archetypes of online consumers. A number of experiments have been conducted in two online settings: retail banking and mobile networks. Based on an extensive video analysis, we have captured four process-related dimensions (number of cycles, duration, number of alternatives and number of criteria) using a business process modelling approach. Significant differences in all process-related dimensions were found across the four archetypes. The study improves understanding of the different types of online consumers and their process outcomes. The findings are useful for online retailers seeking to improve the way they support the four archetypes of online shoppers throughout the decision-making purchasing process.

© 2015 Elsevier B.V. All rights reserved.

1. Introduction

An increasing number of consumers are engaging in online retailing interactions [17]. Even though electronic commerce is expanding rapidly [51], our understanding of e-consumer behaviour is still limited [25]. Internet purchase behaviour does not necessarily follow traditional consumer purchase behaviour [65]. Therefore, developing new models of consumer behaviour will help businesses to enhance their understanding of their consumers and market segments, which in turn will lead to increased profitability [97].

There have been several attempts to model and interpret online purchase behaviour [16,22,50,70,109]. A number of studies have explored behavioural variation, taking into account individual characteristics such as perceived risk [63], trust [20,38], Web skills [56,65] and involvement [4,91]. However, there are still gaps in our knowledge of how different individuals engage in purchase decision-making processes and how such processes unfold. Therefore, there is a need to shift our focus from investigating adoption of Internet shopping to exploring actual online consumer behaviour and identifying distinctive groups of consumers based on their decision making styles. Two variables, consumer knowledge and decision making style, are used in this study to develop a typology of online consumers.

Consumers' knowledge of products is an individual characteristic that has been shown to have an effect on the purchase process [76].

However, the findings in the literature are contradictory. Some studies have shown that knowledge of product influences online behaviour [44,76] whereas other studies do not show any significant relationship [6]. It has been suggested that these contradictory results are due to the impact of other individual characteristics [9,74]. Decision-making style, which can be defined as the tendency to satisfy or maximise a decision, is an individual characteristic that has been shown to be a predictor of decision-making behaviour [53,102] and a determinant factor in the way decision making processes unfold [18,102]. Taking into account both characteristics can further explain the variations in the purchase decision making process.

This paper investigates the differential effects of decision-making style and knowledge of products on purchase decisions. We classify consumers into four archetypes, taking into account decision-making style (maximisers/satisficers) and knowledge of products (high/low). The behaviour of each archetype in terms of decision-making process outcomes is examined. Previously, process outcomes such as the number of cycles, the duration of the decision-making process, the number of criteria and alternatives considered by customers have been used to assess the purchase decision-making process [18,98,102, 106,120].

The main aim of this study is to explore online purchase decision-making processes. The objectives are:

- to develop a typology of online behaviour based on archetypes of online consumers defined by decision-making style and knowledge of product

- to empirically demonstrate differences in the decision making behaviour exhibited by each archetype
- to present a process modelling method for coding the consumer decision-making process

This paper informs the literature by showing the fundamental differences in the decision-making behaviour of each archetype of consumers. It is a broad study that measures the behaviour during all the stages of the purchase process, rather than using the common approach of focusing on search and evaluation only. By improving our understanding of different consumer segments and variations in their behaviour, it will "assist service providers in designing customized websites for competitive advantage" [91 p. 51].

The structure of the paper is as follows. Section 2 discusses the literature on purchase decision-making processes, introduces our typology of consumer decision-making behaviour and presents our theoretical framework. Section 3 illustrates the research method and discusses our data collection process. It is followed by the data analysis in Section 4, which discusses the approach used to model purchase decision-making processes and the measurements applied. Section 5 presents the results of this research followed by a conclusion and discussion of limitations and further research in Section 6.

2. Background and conceptual development

2.1. An online purchase decision-making process model

According to the consumer decision-making literature, a purchase decision is the behavioural pattern of a consumer who determines and follows a decision process comprising various stages in order to reach a choice [29,31,48]. The 'classic purchase behaviour model' is a linear model that illustrates the main stages of the purchase process. This model is based on several studies including those of Engel et al. [30], Howard and Sheth [48] and Nicosia and Mayer [79] and has been used as the standard model in consumer behaviour research (e.g. [111,116]) and online consumer research [44]. It comprises the need recognition, information search, evaluation of alternatives, purchase and post-purchase stages.

The discipline of decision analysis provides a different perspective on how purchase decisions, which are one type of decision-making process, unfold. A widely used model of decision-making, introduced by Holtzman [47], includes three stages: formulation, evaluation and appraisal. The two phases of formulation and appraisal are important stages of any decision-making process [35,47,81,95] but have been overlooked in the consumer decision-making literature. In the formulation stage, the decision problem is formulated in the mind of the decision-maker, alternatives are generated and criteria articulated. Appraisal is where the resulting choices are appraised. These stages are therefore included in the purchase process.

Decision-makers often skip steps or do not follow all stages in a linear form [82] and process instances often include divergences from the main route and iterations between stages [68]. Online purchase decision-making is a dynamic and highly flexible process. Decision-makers are adaptive in the way they respond to decision tasks [64,85,86]. As the decision process unfolds, individuals make choices about the process and may follow different paths. This kind of flexibility has been defined as "the ability to adapt the process flow on demand through adding, skipping, or sequence reordering of process steps" [28, p. 330].

A new framework is presented in Fig. 1 that is based on the literatures of consumer purchase decision-making and decision analysis.

The framework synthesises stages of the purchase process to provide prescriptive and descriptive views of online purchase decision-making processes. It extends the linear process models often used to describe decision processes. First, it supports the dynamic and constructive nature of this process by illustrating loops within the process. Second, it illustrates a prescriptive view in the sense that it includes a comprehensive set of stages. The framework is used to measure and identify key patterns of behaviour and variations in the way the purchasing process unfolds.

2.2. A typology of online consumer decision-making behaviour

Early research on purchase decision-making focused on decision tasks but there is less evidence on those decision-making characteristics that affect purchase decisions [103]. Recently, several studies have discussed individual characteristics and their impact on the stages of the purchase decision-making process [18,91,108]. Prior consumer research included demographics or product-related characteristics that vary across individuals, such as product involvement and consumer profiles [18]. However, our review of the literature indicated that decision making style and knowledge of product are important variables and there is little empirical research into their effects on online consumer behaviour.
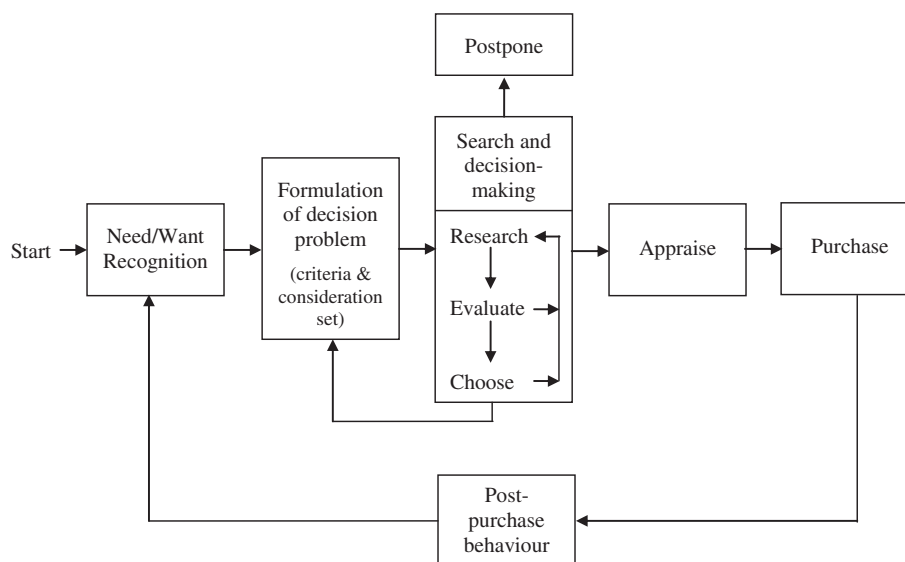

Fig. 1. Consumer purchase decision-making framework.