Validation of a new model to explain the impact factors of customers behaviour buying sporting goods

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Customer behaviour, online, retail, sporting goods

Abstract

Online shopping has become a critical factor in retail across all industries. The online channel has opened up new opportunities for customers and dealers and poses threats to traditional commerce. The reason for this investigation is that a new model should be used to investigate which factors influence the decision for particular channels. In this model, three main groups are used as research features: sociographic characteristics, intrinsic and extrinsic motivation. With the help of these characteristics, it can be examined which characteristics are responsible for purchasing decisions online on the Internet or stationary in retail. The model differentiates between three product groups which are Bike, Ski and Soccer. The process of buying was divided into two stages: search and buy. A standardized expert interview was chosen to conduct the investigation and validation of the model. The expert interviews were conducted with 11 experts. Expert interviews confirmed all independent variables in the model. The dependent variables did not validate the differentiation of the online channel into computers and mobile devices. In addition, the three product groups (Ski, Bike, Soccer) were also confirmed. Based on the interviews, the model was adapted and thus serves as the basis for further researches.

1. Introduction

Due to technological progress, the Internet is playing an increasingly important role in life. This affects all areas of life and also the consumption behavior of humans. Shopping 24 hours a day, seven days a week also has an impact on the landscape of classic retail. Due to the recent history of the Internet, research in this area is still very young. The first attempts to explain customer behavior were solved with the TAM model(Davis, 1989).

In empirical research, it has become common practice to design measurement models with multiple indicators if hypothetical constructs are to be captured and to test them for reliability and validity using causal analytical methods. This approach is especially useful if the constructs are phenomena that explain individual behavior. The researcher is confronted with problems that both, the content-theoretical mapping of his construct as well as the empirical-statistical proof of the quality of his measurement model. These are not independent of each other, and the performance of statistical methods in standard validation procedures is overrated by many users. In this new model we can find intrinsic, extrinsic motivation and shoppers socio demographics.

With the help of expert interviews, the model has been validated. It should be clarified whether the independent variables are those influencing factors, which are decisive for the choice of the purchase channel with the purchase of sport articles. In the selection of the experts an attempt was made to make a selection from the areas of sporting goods trade, sporting goods industry and interest groups.

2. Literature review

The TAM model (Davis, 1989), based on the TRA model (Fishbein and Ajzen, 1975). TAM assumes that the beliefs about the computer system influence attitudes, which in turn lead to intention, and then generate behaviour to use a system. The TAM model has been used very often to explain the use of the internet for shopping. The parsimony and predictive power of TAM are main strengths, but parsimony is also a limitation as there may be other variables instrumental to explain why customers are shopping online. The TAM model is taking two external variables in consideration: Perceived Usefulness and Perceived Ease of Use. In this research perceived usefulness is defined as the belief that the online channel improves the efficiency of shopping process (Frasquet et al., 2015, Venkatesh and Davis, 2000).

Childers et al. (2001) showed a positive relationship between perceived usefulness and the intentions to purchase online. Other studies showed the same positive relationship. As a result of the limitations of the TAM Model due to the parsimony, Venkatesh and Bala (2008) extended the existing TAM model. They added two more parameters: 1) Social influence and 2) Cognitive instrumental processes.

The motivational model (Deci and Ryan, 1985, Vallerand, 1997) was developed to overcome the limitations of the TAM model. The model also looks at the influencing factors associated with the reward when clients are intrinsically or extrinsically motivated. In the present study, the process of shopping was divided into two areas. On the one hand the search for products and on the other hand the actual purchase of sporting goods. The idea of using different channels differently during the purchasing process is not new and has already been analyzed before (Peterson et al., 1997, Montoya-Weiss et al., 2003).

By combining different models, the potential weaknesses are reduced to obtain more reliable statements in the context of scientific work. The combination of the motivational model and the TAM model (Frasquet et al., 2015) was suitable for investigations in the textile industry. Based on this model, the model in this research (Figure 1) was developed for the sporting goods industry and was validated in this study. Product involvement is a not very common variable and was implicated just in a few models (Stüber et al., 2009, Schuckel, 1999).

3. Research Methodology

Guides expert interviews have been chosen to validate the new model. The survey was conducted with guide-based expert interviews. This form of standard interview, in which the interviewer interviews respondents based on a prepared guideline, was therefore chosen to evaluate the new model. The expert term, which is used as the basis for the expert interviews described in this work, describes "the specific role of the interviewee as a source of specialist knowledge about the issues to be investigated." It was decided in advance to interview at least 10 experts.

Selection of Experts

The selection of experts was subject to some criteria. Experts have been defined as those who have been working in the sporting goods industry, in field of sporting goods retailers or any lobbying organization for the sport goods business for 10 years or more. The selection of experts also made sure that they came from different regions in Austria. The distribution of postal codes in a table shows this distribution. In addition, the experts were selected so that they are in senior positions. Table one gives an overview of the composition of the expert group.

Name	Postal Code	Age	Experience	Section
Bernd Fürtbauer	4600	41	25	retail
Bram Wouters	5760	32	15	retail
Dieter Hagleitner	4600	44	14	retail
Eldrid Mänhardt	1060	53	16	lobby
Evelyn Scheidl	1020	55	35	industry
Gernot Kellermayr	4850	51	23	industry
Harald Sippl	3100	44	10	lobby
Herbert Neumayer	5710	48	34	retail
Holgar Schwarting	4662	53	15	retail
Markus Wallner	4600	42	23	retail
Wolfgang Haberstock	6971	38	15	industry

Table 1: List of Experts

Conducting the interviews

The interviews were conducted between 9.32018 and 21.3.2018. The experts were informed about the topic of the dissertation and explained that the survey serves to evaluate a new model. All respondents were able to look at the model before questioning and also ask questions about it. The answer options for the individual questions were scaled up after approval.

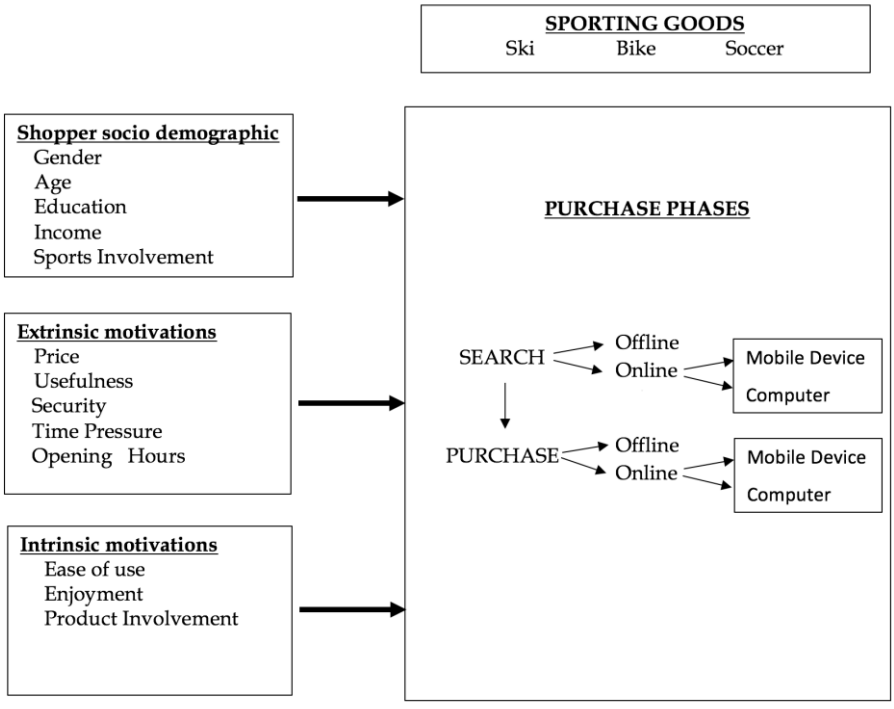

Fig. 1: Research Framework

4. Findings

The collected data was summarized in a frequency distribution. The results were divided into three tables:

Independent Variables

	strongly agree	agree	undecided	disagree	strongly disagree
Socio demographics					
Gender		9		2	
Age	7	4			
Education		3	4	4	
Income		4	6	1	
Sports Involvement	4	6		1	
Extrinsic motivations					
Price	5	6			
Usefulness	1	9	1		
Security	1	5	1	4	
Time Preassure	4	6	1		
Opening hours	3	4	2	2	
Intrinsic motivations					
Ease of Use	5	6			
Enjoyment	4	7			
Product Involvement	6	4	1		

Table 2: Socio demographics

Dependent Variables

	strongly agree	agree	undecided	disagree	strongly disagree
Search					
Search offline	3	6	2		
Search online	5	6			
Search online computer		3		8	
Search online mobile device	1	2		8	
Purchase					
Purchase offline	4	7			
Purchase online	6	5			
Purchase online computer	1	3	1	6	
Purchase online mobile device	1	3	1	6	

Table 3: Dependent Variables

Product Categories

	strongly agree	agree	undecided	disagree	strongly disagree
Ski	7	3		1	
Bike	7	4			
Soccer	4	4	2	1	

Table 4: Product Categories

Due to the frequency distribution, all variables are discarded where more than 50% of the experts' answers are disagree or strongly disagree. Therefore, the variables search online computer, search online mobile device, purchase online computer and purchase online mobile device the model were adapted.

5. Conclusions

Due to the expert interviews the model has been revised and is validated in the following version:

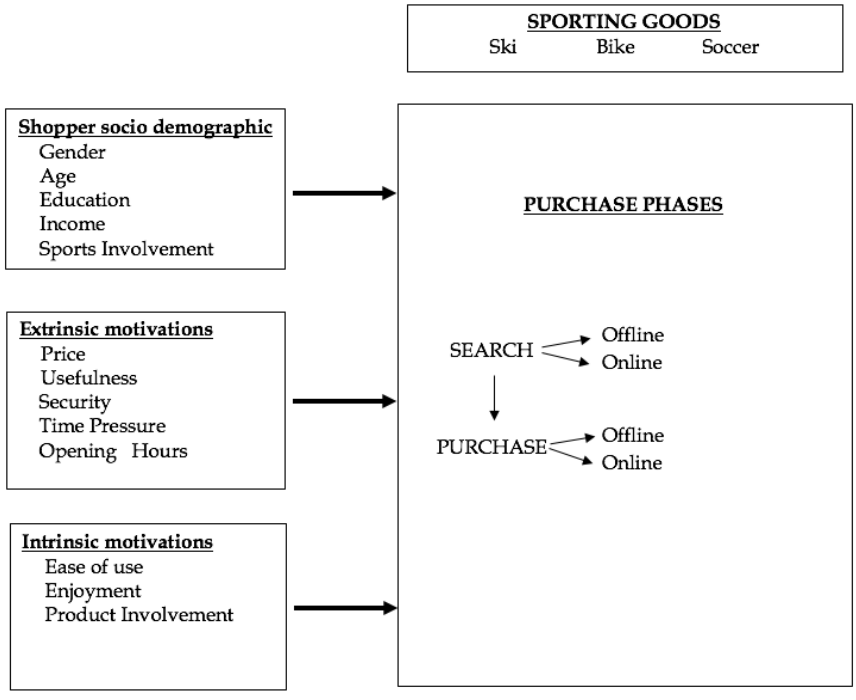

Fig. 2: Adopted Research Framework

During the interviews it became clear that a further differentiation of the online search or the online purchase into computer and mobile device plays a subordinate role for the experts. From the practical point of view of the experts, this distinction has no effect on any decisions and also designs of websites or online shops. It has been called "state of the art" that all content on digital channels must be made accessible on all devices and a clear tendency towards mobile devices can be recognized. All other variables were confirmed by the experts. In addition, no expert cited an additional variable that should be included in the analysis.

Based on the results, the revised model can be considered as validated and thus offers a contribution in the field of sports goods trade to explain the choice of the channel in the search or the purchase by different variables.

6. Limitation and direction of future research

The expert interviews were used to validate a research model. The conducted interviews and questions refer exclusively to the Austrian market. Most of the interviewed experts came from the ski or bicycle sectors and put these areas much more important than other product categories that are important for the sporting goods trade. Although the experts have eliminated the mobile device and computer variables, they may become more important for future research as mobile device usage has been steadily increasing for years.

The validated research model is used for further investigations and will provide an insight into the choice of the channel when buying sports articles in the future.

7. Appendices

Questionnaire for expert interviews

Guideline Expert Interview

Are there any questions before we start?

How old are you?
Which qualifications do you have?
Which position are you having at the moment?
How long you are dealing already with sporting goods retailing?
In my research I deal with the topic, impact factors on the choice of purchasing channel (online / offline) for different product groups. Below is a list of drivers (dependent variable) that should have a significant impact on whether a customer purchases sporting goods online or in-store.

Independent Variables

Socio-demographics of shoppers

Gender

☐	☐	☐	☐	☐
strongly agree	agree	undecided	disagree	strongly disagree

Age

☐	☐	☐	☐	☐
strongly agree	agree	undecided	disagree	strongly disagree

Education

☐	☐	☐	☐	☐
strongly agree	agree	undecided	disagree	strongly disagree

Income

☐	☐	☐	☐	☐
strongly agree	agree	undecided	disagree	strongly disagree

Sports Involvement

☐	☐	☐	☐	☐
strongly agree	agree	undecided	disagree	strongly disagree

Extrinsic motivations

Price

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Usefulness

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Security

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Time Pressure

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Opening hours

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Intrinsic motivations

Ease of Use

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Enjoyment

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Product Involvement

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Dependent Variable

Beside the impact factors (independent variables) the purchase phase is divided in two stages. These stages are "Search" and "Purchase". At each stage you can find a further segmentation between "offline" and "online". Due to recent developments like the increase of mobile devices "Online" is differed in "Computer" and "Mobile Device".

The following segmentation of the purchase phase is relevant for the research frame work:

Search

Search offline

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Search online

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Search online Computer

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Search online mobile Device

☐ strongly agree ☐ agree ☐ undecided ☐ disagree ☐ strongly disagree

Purchase

Purchase offline

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

Purchase online

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

Purchase online Computer

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

Purchase online mobile Device

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

The research will be applied for three different product categories in the sport goods industry. Are the chosen product categories relevant for the research frame work?

Ski

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

Bike

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

Soccer

☐ ☐ ☐ ☐ ☐

strongly agree agree undecided disagree strongly disagree

8. References

CHILDERS, T. L., CARR, C. L., PECK, J. & CARSON, S. 2001. Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing,* 77**,** 511-535.

DAVIS, F. D. 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly,* 13**,** 319-340.

DECI, E. & RYAN, R. 1985. Intrinsic Motivation and Self-Determinationin Human Behavior. *Springer Science & Business Media*.

FISHBEIN, M. & AJZEN, I. 1975. *Belief, attitude, intention and behavior: An introduction to theory and research*.

FRASQUET, M., MOLLÁ, A. & RUIZ, E. 2015. Identifying patterns in channel usage across the search, purchase and post-sales stages of shopping. *Electronic Commerce Research and Applications,* 14**,** 654-665.

MONTOYA-WEISS, M. M., VOSS, G. B. & GREWAL, D. 2003. Determinants of online channel use and overall satisfaction with a relational, multichannel service provider. *Journal of the academy of marketing Science,* 31**,** 448-458.

PETERSON, R. A., BALASUBRAMANIAN, S. & BRONNENBERG, B. J. 1997. Exploring the implications of the Internet for consumer marketing. *Journal of the Academy of Marketing science,* 25**,** 329-346.

SCHUCKEL, M. 1999. *Bedienungsqualität im Einzelhandel*, Kohlhammer.

STÜBER, E., BRUSCH, M. & BAUMERT, K. 2009. Wirkung und Einflussfaktoren von Personalisierung im Einzelhandel-Eine empirische Betrachtung von stationärem Handel und Internethandel.

VALLERAND, R. J. 1997. Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in experimental social psychology,* 29**,** 271-360.

VENKATESH, V. & BALA, H. 2008. Technology acceptance model 3 and a research agenda on interventions. *Decision sciences,* 39**,** 273-315.

VENKATESH, V. & DAVIS, F. D. 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science,* 46**,** 186-204.