Internet Research

Explaining the internet usage of SMEs: The impact of market orientation, behavioural norms, motivation and technology acceptance

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Received 17 December 2013
Revised 14 January 2014
10 June 2014
8 July 2014
Accepted 13 July 2014

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Abstract

Purpose – Small to mid-sized enterprises (SMEs) are underrepresented in market orientation and internet-related research. Yet, marketing-related issues represent some of the most important problems for SMEs. The purpose of this paper is to explain why SMEs use the internet in business processes and to explore the relationship between market orientation and internet usage.

Design/methodology/approach – The study amalgamates the technology acceptance model, the motivation model and the integrated model of technology acceptance into one model. Hypotheses are tested with survey data from Belgian SMEs using partial least squares.

Findings – One of the findings is that intrinsic and extrinsic motivation are positively significantly related to internet usage intention. No significant relationships were found between behavioural norms and perceived ease of use and between perceived ease of use and the intention to use the internet.

Practical implications – Managerial implications include that SME-internet training providers should focus on methods to increase the user's perceived enjoyment (intrinsic motivation) instead of emphasizing the perceived ease of use of the internet.

Originality/value – Researchers as well as practitioners have stressed the gains from implementing market-orientated strategies in firms. Together with the prominence of studies about patterns and characteristics of internet usage, this calls for studies that integrate these two streams of literature. The study shows in what way market orientation is related to the capability to use internet to a firm's long term advantage. Up till now the relationship between market orientation and internet use has hardly received attention.

Keywords Internet usage, SMEs, Market orientation, Technology acceptance model, Integrated model of technology acceptance, Web technology

Paper type Research paper

1. Introduction

Internet usage has created fundamental changes in business processes and in the way business is conducted (Chatzoglou and Diamantidis, 2009; Ifinedo, 2011). Internet facilitates relationships with relevant market parties (Majumdar and Chang, 2010; Lucia-Palacios *et al.*, 2014). When well-anchored within a firm's strategy, internet can contribute to information-sharing, information-exchange, relationship-building actions and other market orientation supporting activities (Brock and Zhou, 2005; Chang *et al.*, 2002). Over time several models have been developed to explain IT adoption and usage. Most prominent are the technology acceptance model (TAM) and the integrated model of technology acceptance (IMTA).

A draft version of this work has been presented at the EURAM annual conference (June 2012, Rotterdam). The authors would like to thank those who attended this presentation, and those who read earlier versions of this paper, for their helpful comments.

Internet Research
Vol. 25 No. 3, 2015
pp. 358-377

1066-2243
DOI 10.1108/IntR-12-2013-0266

Over the past two decades, market orientation has been an important topic in the strategic marketing literature (Hadcroft and Jarratt, 2007; Lam *et al.*, 2010). Market orientation pertains to having a focus on market information processing activities (Day, 1994; Narver and Slater, 1990). Researchers as well as practitioners have stressed the gains that originate from implementing a market-orientated strategy (e.g. Ellis, 2006; Lukas and Ferrell, 2000). Still, important questions remain as to how market orientation influences the dynamic capabilities that are required to adapt to changing markets and technological progress (Teece, 2007).

The prominence of studies about market orientation on the one hand, and studies about patterns in internet usage on the other, call for studies that integrate these two streams of literature. It would be relevant to know in what way market orientation is related to the capability to use internet to a firm's long term advantage. Yet, with the exception of Celuch *et al.* (2007) the relationship between market orientation and internet use has never been studied.

Our study contributes to a better understanding of the relationship between market orientation and internet usage, particularly for small to mid-sized enterprises (SMEs), as market orientation related issues constitutes a significant problem for them (Lowry and Chapman, 2000). Market orientation research as well as internet-related research only pays scant attention to SMEs. This calls for a deeper insight in the relationship between market orientation as a strategic orientation and internet usage as a key organizational capability in the particular context of SMEs.

Our study adds to existing literature in three ways. First, we focus specifically on the use of internet for market orientation purposes. Hence, we differentiate ourselves from studies on general uptake of social media. Second, we include a typical IMTA construct as intrinsic motivation in a TAM based model. In particular, we integrate the Celuch *et al.* (2007) model, based on TAM, with the IMTA model. The inclusion of intrinsic motivation in a TAM model is an original and expedient exercise. Third, we focus on SMEs, a category of firms that still could have much to gain from adopting internet technology, as current uptake of internet within this group is still dramatically low (Yodle, 2013). Our study gathers empirical evidence on the manager's perceptions of market orientation and internet usage by administering a survey among 300 Belgian SMEs. In this way we identify the factors explaining why SMEs use internet in their business processes directed at market orientation.

2. Development of hypotheses

Much has been written about technology acceptance and the use of computers and internet by firms. Much less research has been directed specifically towards SMEs (Voges and Pulakanam, 2011; Ifinedo, 2011), which is remarkable as firm size has been found to be a determinant of ICT adoption (Burke, 2009). Small business owners typically base strategic decisions on implicit managerial perceptions (Day and Nedungadi, 1994). Contrastingly, large firms usually base strategic decisions on formal strategy formation techniques, including a self-analysis, a competitor analysis, vision statements and goal setting, and strategic planning (Carson, 1993). Managerial capabilities and managers' perception of the strategic value of internet technologies affect the adoption of those technologies within companies (Del Aguila-Obra and Padilla-Meléndez, 2006). Codifying the SME managers' implicit perceptions about internet usage, and its relation to market orientation, is particularly useful because it provides insight into the view of SMEs on the role of internet usage as a way to achieve market orientation.

Celuch *et al.* (2007) has used an individual-level perspective by adopting an attitude-model for understanding IT use, while integrating market orientation and behavioural norms into this model. Attitude-models are rooted in the Theory of Planned Behaviour (Ajzen, 1991) and the Theory of Reasoned Action (Ajzen and Fishbein, 1980). Over time several models have been developed to explain IT adoption and usage. Most prominent are the TAM, and IMTA. Table I shows the variables used in various key contributions.

TAM typically focuses on perceived ease of use and perceived usefulness to explain the usage intentions and actual computer usage (Davis, 1989). IMTA focuses on motivation and adds several constructs of TAM. Studies showed that IMTA was a better predictor of user behaviour than TAM (Venkatesh *et al.*, 2002). Fagan *et al.* (2008) used a subset of IMTA variables to study computer usage intention of first line managers in a mid-sized manufacturing organization. They found that intrinsic and extrinsic motivation were positively and significantly related to perceived ease of use, and called for more research to explore the relationship between intrinsic motivation and extrinsic motivation.

Table I (last column) shows how our study proposes to integrate market orientation into the IMTA model and thereby linking market orientation to intrinsic and extrinsic motivation. Following Celuch *et al.* (2007), market orientation and behavioural norms have been incorporated as external variables. The main determinants of technology acceptance and use in IMTA are intrinsic and extrinsic motivation (Davis *et al.*, 1992). Similar to Davis *et al.* (1992) it is argued that perceived usefulness, and therefore internet usage benefits are a proxy of extrinsic motivation. Hence, this research extends the Celuch *et al.* (2007) model that originates from TAM, with intrinsic motivation, which is widely accepted as a central factor in IMTA (Fagan *et al.*, 2008).

Conform Narver and Slater (1990) we define market orientation as having a focus on market information processing activities, i.e. gathering and interpreting data on customers' current and future needs as well data on suppliers, competitors and government regulations that might affect customer needs. A firm's market orientation determines the strategic priority that is given to the market information-processing activity (Baker and Sinkula, 1999). A strong market orientation is likely to be reflected in the behaviour of a firm with regard to internet usage. A strong interest in gathering and assessing data on customer and competitor behaviour may go together with monitoring the role of internet technology in the operations of customers and competitors (Celuch *et al.*, 2007), and therefore with information and expectations about the behavioural norms with respect to internet usage that are exercised by customers and competitors. This is particularly relevant for SMEs which because of their limited size and market influence can be expected to be quite sensitive to the behaviour of significant market stakeholders. Hence:

H1. Market orientation is positively related to the behavioural norms regarding internet usage.

For effective firm-interaction it is convenient to possess compatible production factors and tools. Hence, when large market stakeholders employ internet technology in their operations, it is likely that a solitary SME will identify internet technology to be useful for interaction with market stakeholders, as well as for its own operations in general. Therefore, it is expected that the behaviour of relevant market parties with regard to internet usage is related to the perceived benefits of an SME's own use of the internet (Chong, 2006; Hadaya, 2008). Conform Davis *et al.* (1992), perceiving usefulness because

Contribution	Celuch *et al.* (2007)	TAM (Davis *et al.*, 1989)	IMTA, e.g. Fagan *et al.* (2008)	IMTA Venkatesh *et al.* (2002)	Igbaria *et al.* (1994)	Our model: integration of Celuch *et al.* (2007) with Fagan *et al.* (2008)
Antecedents	Market orientation Behavioural norms	External variables		User acceptance enables	Skills Organizational support Organizational usage	Market orientation Behavioural norms
Ease of use	Internet efficacy (perceived self-efficacy)	Perceived ease of use	Perceived ease of use	Perceived ease of use	Perceived complexity≈perceived ease of use	Internet efficacy (perceived self-efficacy)
Usefulness	Internet usage benefits	Perceived usefulness	Extrinsic motivation	Perceived usefulness	Perceived usefulness	Internet usage benefits
		Attitude towards using	Intrinsic motivaton	Intrinsic motivation	Perceived fun/enjoyment Social pressure	Intrinsic motivation
Behaviour	Behavioural intention	Intention to use	Behavioural intention to use computers	Behavioural intention to use computers		Behavioural intention to use computers
		Actual system use		Short term use	System Usage	Internet use
				Continued use		

Table I.
Overview of different models to research technology acceptance

of other actor's behaviour may be interpreted as an example of extrinsic motivation for using internet. Hence:

H2. Behavioural norms regarding internet usage is positively related to the extrinsic motivation to use the internet.

Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). The perceived ease of use of the internet is difficult to gauge by firms, because of the lack of absolute standards on performance. Usually firms look at the behaviour of other market parties and benchmark themselves against these. In this way they form an opinion about their own ability to use internet for performing specific tasks (Bandura, 1997) and hence about the ease of use of internet for certain tasks. Therefore:

H3. The behavioural norms regarding internet usage is positively related to the perceived ease of use.

In a study on internet technology, Fagan *et al.* (2008) explore the relationship between intrinsic and extrinsic motivation by operationalizing the latter as perceived usefulness, i.e. generating benefits. Intrinsic motivation may lead to an increase in time that is spent on a certain task, which in turn generates skill and therefore high quality output (Starbuck and Webster, 1991). When people enjoy their work, they are capable of achieving industrious and creative results (Amabile and Kramer, 2007). Furthermore, when people perceive their tasks as important, they consider themselves as valuable to the organization, which generates a positive impact on their work outcomes (Amabile and Kramer, 2007). This is in line with the Cognitive Evaluation Theory which states that a high level of intrinsic motivation goes together with experiencing satisfaction of the basic psychological needs for competence and autonomy (Deci and Ryan, 1985).

Additionally, intrinsic motivation increases thoughtfulness and self-reflection, and is associated with diligence and thoroughness of cognitive processing (Bagozzi *et al.*, 1999). Hence, intrinsic motivation enhances perceptions of extrinsic motivation (Batra and Ray, 1986). Furthermore, Venkatesh *et al.* (2002) found a positive impact of intrinsic motivation on extrinsic motivation. More time spent on using internet technology is therefore likely to be related to a high perceived usefulness. We hypothesize that this also holds for our SME sample:

H4. Intrinsic motivation is positively related to extrinsic motivation to use the internet.

Intrinsic motivation pertains to perceived enjoyment in the task itself (e.g. Venkatesh *et al.*, 2002; Lee *et al.*, 2005). Intrinsic motivation preconditions active participation in any activity (Kaiser *et al.*, 2007; Gagné and Deci, 2005). Individuals who are intrinsically motivated to use internet technology are enjoying this activity and delving into it, investing more and more time without realizing it (Ji and Fu, 2013). Intrinsic motivation encourages persistence and builds energy for sustained effort, increasing the amount of time that employees are willing to spend on a certain task (Fredrickson, 1998). Hence, employees may underestimate their effort and therefore perceive the activity as being easy and fun, i.e., they will find internet easy to use (Venkatesh, 1999). Therefore:

H5. Intrinsic motivation to internet usage is positively related to the perceived ease of use.

Prior research suggests that perceived ease of use and extrinsic motivation – operationalized as perceived usefulness – are related (Davis, 1989; Davis *et al.*, 1992,

1989). An activity is perceived as being useful as it generates benefits to the user (Celuch *et al.*, 2007). If in the managers' perception it is easy to use internet for specific tasks, then it is likely that the use of internet is perceived as being beneficial for the company. Research has shown that perceived efficacies regarding market information usage of employees are positively related to perceived benefits (Celuch *et al.*, 2000). Organizational strategy literature underlines this perspective by linking perceived efficacy with performance expectations (Krueger and Dickson, 1994). Furthermore, literature on social cognition indicates a correlation between perceived efficacy and performance expectations (Bandura, 1997). SMEs will only integrate internet use in their business processes when they perceive this to be beneficial to their company. It is likely that they assess internet technology as being beneficial as they have the feeling they are capable and competent in using it. Hence:

H6. Perceived ease of use is positively related to the extrinsic motivation.

Intrinsic motivation is associated with a successful and voluntary engagement in a certain activity. In a conceptual study Palmer and Hardy pose that intrinsic motivation "drive[s] individuals to action in ways that enhance their own self-worth as well as benefiting organizational goals" (Palmer and Hardy, 2000, p. 279). Davis *et al.* (1992) expect that intrinsic motivation will directly and significantly affect the intentions to use computers in the workplace. Their study shows only a small, albeit significant influence on intentions and usage. Here intrinsic motivation was operationalized as perceived enjoyment and defined as "the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated" (Davis *et al.*, 1992, p. 1113). Teo *et al.* (1999) also find a positive relationship between perceived enjoyment and internet usage. However, Venkatesh *et al.* (2002) and Fagan *et al.* (2008) did not find significant support for this relationship. The results from the literature are mixed. We feel that intrinsic motivation will induce individuals to invest more time in a certain activity, which may increase their intention of continuing this activity. Hence:

H7. Intrinsic motivation is positively related to the intention to use the internet.

According to Davis *et al.* (1992) perceived usefulness is a form of extrinsic motivation. It is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 1112). Extensive research has linked extrinsic motivation to behavioural intentions to use a certain new technology (e.g. Hart and Porter, 2004; Shang *et al.*, 2005; Ji and Fu, 2013). Also the attitude model literature related to IT usage suggests a positive relationship between extrinsic motivation and attitude constructs and the behavioural intentions to use internet technology (Celuch *et al.*, 2004). It is expected that this relationship also holds for SMEs:

H8. Extrinsic motivation is positively related to the intention to use the internet.

Not only perceived usefulness but also perceived ease of use has been indicated to be a significant determinant of behavioural intentions to use information technology (Davis, 1989; Davis *et al.*, 1992, 1989). It is expected that this holds for SMEs as well:

H9. Perceived ease of use is positively related to the intention to use the internet.

TAM proposes that internet usage is determined by behavioural intention (Davis, 1989). The relationship between "intention to use" and "usage behaviour" is frequently

addressed in studies about psychology, consumer behaviour and in other disciplines (e.g. Ajzen, 1991). For example, with respect to political elections Ajzen (1991) has found a significant positive correlation between people's voting intentions and actual voting behaviour. The Theory of Reasoned Action (Ajzen and Fishbein, 1980) states that behaviour can be predicted by the behavioural intention to perform an actual behaviour. The greater the behavioural intention the more one will engage in that behaviour. We expect that SME's intention to use the internet will positively influence the actual internet usage of SME's. Hence:

H10. Intention to use the internet is positively related to internet usage.

Figure 1 illustrates our model, which integrates market orientation with several constructs from the information technology literature.

3. Methodology

Data were collected by a survey among 300 (top)managers of Belgian SMEs, i.e. firms with less than 150 employees. The questionnaire was accompanied by a cover letter stating the purpose of the study and an assurance of confidentiality and anonymity. Prior to the distribution of the questionnaire, two subject-matter experts and two professionals provided useful comments and suggestions on the clarity survey items. Based on their feedback, the content of the cover letter and the design of the questionnaire were slightly adapted to enhance ease of use and readability of the questionnaire. Efforts were made to enhance the response rate by offering respondents a summary of the results and using reminders (Dillman, 2000).

In total, 78 surveys were returned (all valid; effective response rate: 26 per cent). This response rate compares favourably to similar studies (Klassen and Jacobs, 2001). Respondent firms were predominantly from retail (21.8 per cent), construction (17.9 per cent) and business services (16.7 per cent). Responding firms ranged from zero to four to 100-149 employees, with most firms having five to nine employees. Note that 94.4 per cent of the responding SMEs had less than 50 employees. In all, 92.5 per cent of the SMEs had annual total revenues of less than ten million euro.

Several procedural remedies have been undertaken to reduce the usual risk on various biases. By protecting respondents' anonymity and asking respondents to answer the questions as honestly as possible respondents' evaluation apprehension was being reduced (Podsakoff *et al.*, 2003). This makes it less likely that managers' answers are socially desirable (Podsakoff *et al.*, 2003). Moreover, the underlying research model contains mediations, and interactions, which reduces the risk of

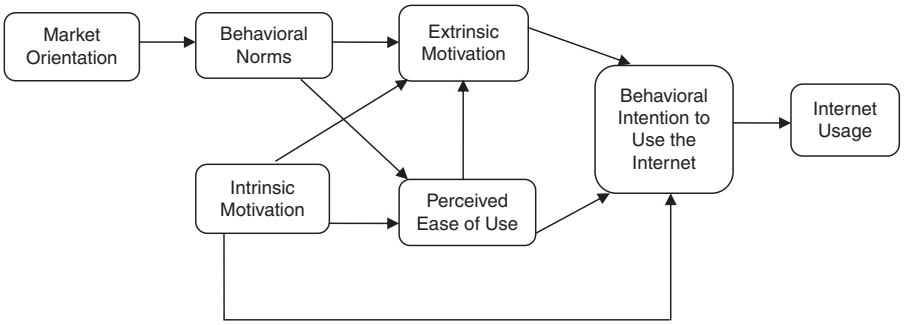


Figure 1.
Conceptual model

respondents "guessing" the desirable answers (Malhotra *et al.*, 2006). The complexity of the research model ensures that respondents cannot easily combine related items and produce the correlation needed to produce common method variance biased pattern of responses (Chang *et al.*, 2013). By avoiding the use of bipolar numerical scale values and providing verbal labels for the midpoints of scales acquiescence bias was further reduced (Tourangeau *et al.*, 2000).

Five-point Likert scales were used measure variables. Items were adopted from previous studies by Celuch *et al.* (2007) and Fagan *et al.* (2008) (Appendix 1). Conform these studies intrinsic motivation was operationalized as perceived enjoyment, extrinsic motivation was operationalized as internet usage benefits, and perceived ease of use was operationalized as internet efficacy.

Demographical and control variables in the survey include: gender, level of education, management position, number of employees and sales. We checked whether control variables were correlated with the core variables of interest. Following Becker (2005) control variables without significant correlations with the core constructs of our model were excluded in further analysis to avoid an unnecessary decrease of the power of our analyses.

4. Results

The measurement model and structural model were estimated by means of structural equations modelling (SEM), specifically partial least squares (PLS) (Ringle *et al.*, 2005). SEM allows an analysis of systems of variables at the same time, whereas multiple regression analysis does not. Furthermore, PLS is particularly suitable for situations in which the parameter-to-sample size is relatively small (Cassel *et al.*, 2000), and is suitable for complex modelling, including models with mediating and moderating effects (Wetzels *et al.*, 2009).

Reliability was judged by evaluating the unidimensionality of items through their factor loadings and composite reliability. Individual item loadings show that all items in our sample load higher than 0.5 on their respective construct, providing support for a high degree of individual item reliability (White *et al.*, 2003). Composite reliability assesses the internal consistency of items hypothesized to measure a single construct (Fornell and Larcker, 1981). All our composite reliability values exceed the 0.7 guideline suggested by Nunnally and Bernstein (1994), i.e. the items measuring the constructs can be considered internally consistent (Table II).

Convergent and discriminant validity are used to determine the validity of constructs (Bagozzi *et al.*, 1991). Convergent validity is established when an item loads with a significant *t*-value on the latent variable that is supposed to measure (Trochim, 2010). The *t*-values of the structural model loadings are all above 1.96, therefore

	AVE	Composite reliability	R^2	Cronbach's α
Behavioural norms	0.69	0.87	0.22	0.79
Extrinsic motivation	0.77	0.91	0.44	0.85
Intention to use internet	0.85	0.94	0.56	0.91
Intrinsic motivation	0.68	0.87	n/a	0.77
Market orientation	0.55	0.83	n/a	0.74
Perceived ease of use	0.73	0.84	0.22	0.63
Internet usage	0.87	0.95	0.67	0.93

Table II.
Quality criteria PLS analysis

establishing convergent validity (Gefen and Straub, 2005). Inspection of each construct's average variance extracted (AVE) gives a within-method convergent validity of the constructs. AVE should be equal to or above 0.50 to indicate convergent validity (Fadel and Brown, 2010; Hock and Ringle, 2010; Caniëls and Bakens, 2011). Table III shows that all constructs meet convergent validity criteria.

Discriminant validity tests whether alleged unrelated measures of constructs are truly unrelated (Trochim, 2010; Caniëls and Bakens, 2011). An examination of cross loadings (see Appendix 2) shows that, with the exception of MO1, each item loads highest on its respective construct. The exception is acceptable, because the item loading with extrinsic motivation and perceived ease of use are 0.61 and 0.62, respectively, indicating overall good discriminant validity for the market orientation construct. Furthermore, Table III shows that the square root of the AVE of each construct is much larger than the correlation of the specific construct with any of the other constructs in the model (Chin, 1998a), which also indicates adequate discriminant validity. Hence, we conclude that the discriminant validity of the constructs is satisfactory.

The structural model represents the relationships between constructs that were hypothesized in the research model. The goodness-of-fit R^2 of the latent endogenous variable "internet usage" has a value of 0.67. The predictive relevance Q^2 (cv-redundancy index: i.e. Stone-Geisser's Q^2) is another criterion for the structural model assessment. Values of Q^2 larger than zero indicate that exogenous latent variables have predictive relevance for a particular endogenous latent variable (Chin, 1998b). A Q^2 value of 0.57 for the "internet usage" confirms the predictive relevance of the associated PLS path model relationships. Application of the finite mixture procedure, FIMIX-PLS, results in an Akaike Information Criterion of 881.05, a Bayesian Information Criterion/Schwarz Criterion of 991.81, and a normed entropy statistic of 0.83. Hence, the fit indices for the structural model indicate a good fit to the data.

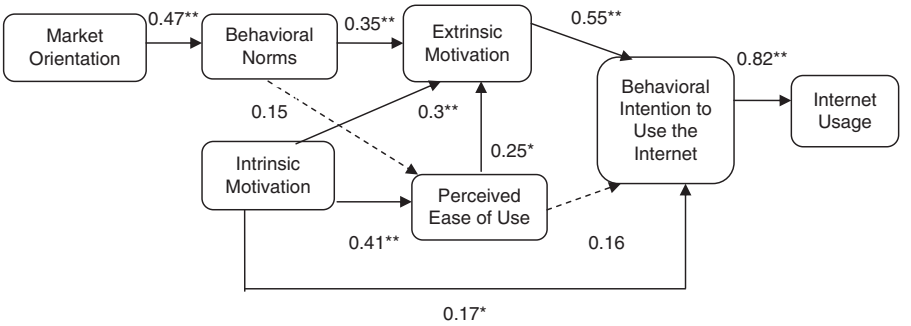
Figure 2 shows the empirical results for the structural model. The *t*-values for the individual coefficients are obtained via bootstrap resampling procedure consisting of 500 runs (White *et al.*, 2003).

Eight out of ten hypothesized relationships are statistically significant. Market orientation has a positive impact on the behavioural norms regarding internet usage ($\beta = 0.47$; $p < 0.01$). Behavioural norms regarding internet usage have a positive influence on extrinsic motivation ($\beta = 0.35$; $p < 0.01$), but have no significant influence on perceived ease of use ($\beta = 0.15$; $p > 0.05$). Intrinsic motivation has a positive effect

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Behavioural norms	*0.83*						
(2) Extrinsic motivation	0.49	*0.88*					
(3) Intention to use internet	0.43	0.72	*0.92*				
(4) Intrinsic motivation	0.26	0.50	0.52	*0.83*			
(5) Market orientation	0.47	0.56	0.39	0.37	*0.74*		
(6) Perceived ease of use	0.25	0.47	0.50	0.44	0.64	*0.85*	
(7) Internet usage	0.52	0.66	0.82	0.49	0.35	0.38	*0.93*

Table III.
Descriptives

Notes: Square root values of average variance extracted on the diagonal. All correlations are significant (0.05 level)



Notes: The straight lines represent significant relationships; the dotted lines non-significant relationships. Significance level of path coefficients: *$p<0.05$; **$p<0.01$

Figure 2.
Research model

on extrinsic motivation ($\beta = 0.30$; $p < 0.01$), perceived ease of use ($\beta = 0.41$; $p < 0.01$) and intention to use the internet ($\beta = 0.17$; $p < 0.05$). Perceived ease of use is significantly and positively related to extrinsic motivation ($\beta = 0.25$; $p < 0.05$). However, perceived ease of use has no significant relationship with the intention to use the internet ($\beta = 0.16$; $p > 0.01$). Extrinsic motivation has a strong positive impact on the intention to use the internet ($\beta = 0.55$; $p < 0.01$). Finally, there is a significant relationship between the intention to use the internet and internet usage ($\beta = 0.82$; $p < 0.01$).

5. Discussion and conclusion

Our study aimed to gain understanding on how market orientation influences the dynamic capabilities of SMEs, particularly internet use for the benefit of market orientation. Hereby we contribute to research on the acceptance of technology. By combining TAM with IMTA and integrating market orientation into this model, we gain insights on how market orientation is related to a firm's capability to use internet for long term advantage.

All constructs were found both (convergent and discriminant) valid and (composite) reliable. Our model explains 67 per cent of the variance in internet usage. We find market orientation to be significantly and positively related to behavioural norms regarding internet usage. Apparently, the degree in which a firm is market orientated reflects in its behaviour towards internet usage. This is not surprising, as SMEs can be expected to adapt their behaviour to market developments, and to actions of important market stakeholders (Chau and Hui, 2001). We also found that in our sample of SMEs the presence of behavioural norms for internet usage was, in turn, positively related to benefits from internet usage (extrinsic motivation), confirming the work of Celuch *et al.* (2007).

In contrast with Celuch *et al.* (2007), we found no significant relationship between behavioural norms and perceived ease of use in our sample. A possible explanation is that managers of SMEs do not gauge internet adoption of major market parties as an indicator of internet being easy to use, and therefore suitable to implement in their own business processes. Apparently, some SME managers feel that the implementation of internet related tools in their own firm might be a dawning task, and the fact that other market stakeholders are using internet technology does not give them the belief that it will be easy. This is in line with earlier case study research by Mehrtens *et al.* (2001) and related to Del Aguila-Obra and Padilla-Meléndez (2006), who showed that small firms have fewer management capabilities to adopt internet technologies.

Our findings indicate that perceived enjoyment in using internet (intrinsic motivation) is positively and significantly related to perceived usefulness (extrinsic motivation) and perceived ease of use. Hence, engagement and joy in using internet related tools for business is associated with the feeling that internet can be useful for the organization and can be easy to apply for existing business processes. These results are in accordance with prior large firm studies (e.g. Fagan *et al.*, 2008). It also relates to psychology research. People in flow are self-motivated and experience intense and focused concentration on a certain task (Nakamura and Csikszentmihalyi, 2002). Flow has been related to feelings of usefulness of the task at hand, as well as ease of use (Kaiser *et al.*, 2007). Furthermore, Silvia (2008) shows that intrinsically motivated employees experience positive affect, i.e. they become excited, alert and determined, which is associated with a feeling of being capable for undertaking the task at hand. Intrinsic motivation is also strongly correlated with persistence, perseverance and sustained effort (Fredrickson, 1998; Gagné and Deci, 2005). Intrinsically motivated employees tend to invest more and more time into a task without realizing it.

Our SME sample supported the hypothesis that perceived ease of use has positively influences perceived usefulness (extrinsic motivation). Apparently, SME managers that have the impression that using internet is easy for their organization also expect internet to generate benefits to their company. This confirms earlier work of Davis (1989), Davis *et al.* (1989, 1992) and Fagan *et al.* (2008).

In support of *H7* and *H8*, both intrinsic and extrinsic motivation are positively related to internet usage intention, confirming earlier work of Davis *et al.* (1992). Extrinsic motivation generates the strongest impact: the more one is convinced of the benefits of internet usage, the more one intends to use the internet to obtain information from customers, share information with customers, and respond to requests for information from customers. Managers who are aware of the benefits of internet tend to fully embrace it as a business tool that supports business objectives. This supports explorative case study findings among SMEs by Mehrtens *et al.* (2001).

Remarkably, no support was found for a significant and positive relationship between perceived ease of use and internet usage intention. It could be that once people are familiar with internet and have learned how to use it effectively, the direct effect of the perceived ease on behavioural intention disappears. The relationship is most likely replaced by the indirect effect of perceived ease of use on perceived usefulness (Davis *et al.*, 1992, p. 998).

Furthermore, as expected, internet usage intention resulted in a significant positive impact on internet usage, thereby supporting studies that show that the behavioural intention to perform a certain behaviour is related to the actual execution of that behaviour (Ajzen, 1991). SMEs that have the intention to use internet, will indeed use it in practice.

5.1 Managerial implications

Our findings suggest that market orientation is positively related to the use of internet technology by SMEs. Firms that are market oriented tend to be sensitive to the adoption of internet based tools by market partners, which in turn increases the perception of usefulness of internet, which leads to the intention to use and finally to actual use of internet for streamlining business processes. Managers of SMEs should realize that a strong market orientation makes their firms sensitive to the behaviour of others and may therefore lead to internet adoption and use. This finding is especially relevant for large firm managers who try to stimulate SME buyers to use internet technology. Our findings suggest that efforts aimed at increasing motivation are likely to improve SME internet usage.

To address extrinsic motivation, a possible hurdle may be that SMEs are not yet fully convinced of the relative advantage to be gained by adopting internet technology. More and better information may be helpful in this case. SME managers contemplating using internet should explore its possibilities and gather information to become aware of possible advantages. Prejudices about internet technology, such as concerns about internet security, could be counteracted in this way. SMEs could attend meetings of industry-based associations at which knowledge and experience with internet usage is shared, and best practices are exchanged. According to our findings the interaction with other market players is likely to motivate SMEs to adopt and use internet in their own company. Trade publications can be a source of useful information about the behaviour and experiences with internet of market stakeholders. In this way SMEs may be induced to engage in initial experimentation, which in turn may initiate intrinsic motivation, as the use of internet is perceived as enjoyable.

Implications for internet training providers include that training programs should aim at increasing awareness of the possibilities of internet technology, underlining the productivity gains and improvement of company image that may be generated. Furthermore, SME-internet training providers should focus on developing methods to increase the user's perceived enjoyment (intrinsic motivation) in using internet for business, instead of emphasizing the ease of use. Training programs could aim at improving the technological appeal of internet technology. Here also lies a challenge for internet tool developers and designers. Training providers could show SME employees how the functionalities of personal use of internet at home can be translated and extrapolated to the business environment. Moreover, SME-internet training providers should show to SME managers how to sustain employees' intrinsic motivation for using internet technologies.

5.2 Limitations and issues for further research

Some limitations concern our data-collection. We employ cross-sectional data, which does not allow for conclusions about causality. Furthermore, we focused on market orientation and internet-related cognitions of managers in predominantly small firms. For generalizability of the findings, future studies could consider broader or other samples, for instance by ensuring a representation of mid-sized firms. Variables about whether the manager has an IT background, and whether the manager is also the owner, could further specify the model. Past research shows that firms possessing a high level of IT knowledge and capabilities are more likely to implement internet technology into their business processes (Lertwongsatien and Wongpinunwatana, 2003). Also, the degree in which internet technology is integrated in an SME's business processes might vary for different types of internet uses (Kula and Tatoglu, 2003; Walczuch *et al.*, 2000). Using internet for communication is likely to be perceived as less intrusive than offering online payment options or sending purchase orders to suppliers (Thakur and Srivastava, 2014; Chang *et al.*, 2013). Furthermore, the extent to which a firm has an international orientation might have an impact on the findings. Past studies indicated that the international experience of a firm positively and significantly influences the extent of internet adoption in SMEs (Colton *et al.*, 2010; Kula and Tatoglu, 2003). Also country differences are to be expected. For instance, SMEs in less-developed countries may have to deal with a poor telecommunications infrastructure, slow access speed, high cost and incomplete government regulations (Obiri-Yeboah *et al.* 2013; Tan *et al.*, 2010). Future studies may consider several of these factors.

5.3 Conclusion

A 2013 survey among US SMEs indicated that the majority of small business owners have yet to embrace internet to advance their businesses. In all, 52 per cent of SMEs does not even have a web site, let alone that they use internet technology to gather information from existing or potential customers (Yodle, 2013). Why are SMEs not using ready available internet technology to improve their interactions with customers? What factors explain their limited use of internet in market oriented business processes? In our study we have addressed these puzzling questions.

The main finding of our study is that the role of intrinsic motivation in internet adoption for market orientation is undervalued and not yet fully acknowledged by managers and policy makers alike. SMEs play an essential role in economic growth and progress, and are a major provider of employment (OECD, 2013). Policymakers have an interest in facilitating and stimulating SME development and growth. It is striking that ready-to-use technology like internet is still so sparsely in use by SMEs, as it has clear benefits for realizing efficiency gains in business processes. Our study shows that the road to altering this behaviour goes via stimulating intrinsic motivation of small business owners. SMEs must be seduced to use internet. They need hands-on practice, and in that way get acquainted with the benefits that internet can bring for market orientation. Policy makers could facilitate access of small business owners to, for example training providers, which have an array of possibilities to kindle intrinsic motivation and joy in the use of internet.

Large firm buyers also benefit if more SMEs were to use internet. The supplier networks of large firms typically consist of many SMEs (APEC Policy Support Unit, 2013; OECD, 2013). Internet use by SME suppliers vastly improves possibilities for information exchange with large firm buyers. Whereas in former times the main interaction took place between the large firm purchaser and the SME sales person, currently there is a need for interaction between employees in other functions as well. Engineers may want to exchange technical drawings, quality assurance managers may want to interchange quality norms, employees in logistics may want to align practical procedures. SME usage of internet facilitates the easy and instant information exchange, stimulates efficiency, and helps to solve problems at an early stage. In sum, it professionalizes SMEs by creating possibilities for co-creation and continuous improvement of the supply chain. Yet, studies show that there are many barriers and obstacles for SMEs to invest in training and skill development at the workplace (Stanfield *et al.*, 2009). Our study makes clear that supplier development programmes of big corporations and original equipment manufacturers should explicitly include methods aimed at increasing intrinsic motivation for using internet technology.

To conclude, with this study we underline the role of intrinsic motivation for stimulating SMEs to use internet for market orientation and interaction with business partners. When using internet yields a positive experience for SMEs, they will become engaged and use more of this technology, leading to higher economic growth and welfare.

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Appendix 1

Table AI. Constructs and items

Construct	Abbreviation	Item	PLS factor loading
Market orientation (MO) (Celuch *et al.*, 2007)		Currently	
	MO-1	Our company makes use of customer information in assessing our market position	0.61*
	MO-2	Our company makes use of competitor information in assessing our market position	0.89***
	MO-3	A strong orientation to customer needs is inherent in our firm	0.80**
	MO-4	We can usually anticipate how our competition will respond to our moves	0.64**
Behavioural norms (BN) (Celuch *et al.*, 2007)		Within the next 12 months	
	BN-1	Most of our major customers will be using the internet for a significant amount of business communications	0.78**
	BN-2	Most of our major suppliers/vendors will be using the internet for a significant amount of business communications	0.84**
	BN-3	Most of our competitors will be using the internet for a significant amount of business communications	0.88**
Intrinsic motivation (IM) operationalized as perceived enjoyment (Fagan *et al.*, 2008)	IM-1	I find using the internet to be enjoyable	0.82**
	IM-2	The actual process of using the internet is pleasant	0.88**
	IM-3	I have fun using the internet	0.77***
Extrinsic motivation (EM) operationalized as internet usage benefits (Celuch *et al.*, 2007)		Within the next 12 months, using the internet will	
	EM-1	Significantly improve your company's ability to obtain information from your customers	0.87**
	EM-2	Significantly improve your company's ability to share information with your customers	0.88**
	EM-3	Significantly improve your company's ability to respond to requests for information from your customers	0.89**
Perceived ease of use (PEU) operationalized as internet efficacy (Celuch *et al.*,2007)		Within the next 12 months	

(*continued*)

Table AI.

Construct	Abbreviation	Item	PLS factor loading
	PEU-1	Our company would not have any difficulty using the internet for customer communications	0.81
	PEU-2	Our company is very confident in its ability to use the internet for customer Communications	0.89
Behavioural intention to use the internet (Celuch *et al.*, 2007)		Our company intends to increasingly use the internet within the next 12 months to	
	BI-1	Obtain information from our customers	0.92***
	BI-2	Share information with our customers	0.92***
	BI-3	Respond to requests for information from our customers	0.93**
Internet usage (USE) based on Celuch *et al.* (2007)	USE-1	Obtain information from our customers	0.95***
	USE-1	Share information with our customers	0.93***
	USE-1	Respond to requests for information from our customers	0.92***

Notes: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Appendix 2

	Behavioural norms	Extrinsic motivation	Intention to use internet	Intrinsic motivation	Market orientation	Perceived ease of use	Internet usage
BI	0.46	0.62	*0.92*	0.46	0.44	0.51	0.76
BI2	0.29	0.61	*0.92*	0.37	0.24	0.34	0.74
BI3	0.42	0.74	*0.93*	0.59	0.39	0.52	0.76
BN1	*0.78*	0.45	0.46	0.21	0.25	0.20	0.50
BN2	*0.84*	0.35	0.25	0.11	0.30	0.09	0.39
BN3	*0.88*	0.42	0.34	0.29	0.56	0.30	0.42
PEU1	0.16	0.27	0.45	0.31	0.54	*0.81*	0.27
PEU2	0.26	0.51	0.41	0.43	0.57	*0.89*	0.37
IM1	0.24	0.42	0.36	*0.82*	0.24	0.27	0.36
IM2	0.17	0.48	0.45	*0.88*	0.41	0.49	0.46
IM3	0.25	0.32	0.46	*0.77*	0.25	0.30	0.39
EM1	0.40	*0.87*	0.63	0.41	0.43	0.34	0.53
EM2	0.39	*0.88*	0.62	0.39	0.52	0.45	0.62
EM3	0.50	*0.89*	0.64	0.51	0.53	0.46	0.58
MO1	0.15	0.61	0.50	0.49	*0.61*	0.62	0.33
MO2	0.47	0.45	0.32	0.25	*0.89*	0.59	0.25
MO3	0.38	0.44	0.33	0.16	*0.80*	0.44	0.29
MO4	0.30	0.32	0.14	0.41	*0.64*	0.38	0.26
USE1	0.52	0.65	0.85	0.53	0.33	0.39	*0.95*
USE2	0.47	0.65	0.69	0.43	0.29	0.36	*0.94*
USE3	0.48	0.53	0.73	0.41	0.37	0.30	*0.92*

Table AII.
Cross-loadings

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