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Social Media and Entrepreneurship

—Exploring the Role of Digital Source Selection and Information Literacy

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Abstract

Internet-based applications, such as social media – offer potentially effective and efficient vehicles to access, use and distribute information as well as means to network with other actors. However, for realizing this potential, critical competencies are information and digital literacy. In this chapter we discuss the importance of information literacy (IL) in the context of social media. Information literacy is defined as cognitive skills necessary for using and evaluating information in an educated and effective way. IL is a necessary competence for entrepreneurs in general and specifically for entrepreneurs relying entirely or partially on social media in their entrepreneurial activities. We argue that access and use of information is an important way for entrepreneurs to reduce uncertainty in their entrepreneurial action. Information literacy and information source selection are important to practicing entrepreneurs as most need to access information in order to run their business; information from policy makers, financing institutions, tax authorities and legal counsel to name a few. This information is today inherently provided in digital format.

In this chapter our focus is on digital information and specifically digital source selection and information literacy. We have studied 145 Finnish entrepreneurs and analyzed their information literacy in relation to digital source selection. Results show that while information literacy impact digital information source selection, that relationship is influenced by source accessibility and the task complexity. Interestingly, and somewhat unexpectedly the study revealed that source selection is directly influenced by the opinions of peers or social norms.

Keywords:

Digital literacy, Digital transformation, Entrepreneurship, Information literacy

1 Introduction

Today, most information used in everyday life is digital. The use of ubiquitous information systems (UIS) such as Facebook, Twitter, and YouTube – social media – has become the norm for both personal and professional purposes (Vodanovich et al. 2010). As Kaplan and Haenlein (2010, p. 67) stated: “In today’s digital economy, everything is about social media and firms will be out of the cyberspace if they do not participate in social media platforms”. Consequently, entrepreneurs are increasingly *in cyberspace* using information sources such as social media platforms to obtain information, to support their business growth, creating new networks among peers or customers, or creating new business ventures (Kuhn & Galloway, 2015; Nambisan, 2017; von Briel et al, 2018). UIS share a common characteristic that they are available everywhere and all the time.

Thus, in the context of social media, activities, and entrepreneurial activities especially, are less bounded and predefined. Social media due to this defining characteristic thus transforms the nature of uncertainty in entrepreneurial processes and outcomes and also how entrepreneurs deal with uncertainty (Nambisan, 2017). While social media has transformed our everyday lives for almost two decades, social media (and other digital technologies) and its role in shaping entrepreneurial opportunities, decisions, actions, and outcomes has been mostly neglected (Nambisan, 2017). Although digital technologies have indeed been subject to studies in entrepreneurship these have primarily been treated as contexts of empirical work along with other forms of technology entrepreneurship. Only recently, have digital technologies been considered as inherent to entrepreneurial processes and outcomes (Nambisan, 2017; von Briel et al, 2018).

Social media has been subject to scholarly inquiry that has occurred within other disciplines, e.g. information systems, marketing, and communications. Previous research show that firms use social media to communicate with customers, tap on customer preferences, build company reputation and image, build product awareness for the purpose of increasing sales and enhance business performance (Jones et al, 2015; Kaplan and Haenlein, 2010).

Popular press has since the dawn of Facebook and Twitter written extensively of social media entrepreneurs and the use of social media to drive business growth. An indication that this area is indeed novel comes from variance in defining social media within entrepreneurship: is it a platform, is it an ecosystem, or is it just infrastructure for communication and digital distribution? Nambisan (2017) defines social media as digital infrastructure and as an important external enabler of venture creation (Davidsson, 2015; von Briel et al, 2018). While we concur with this definition it is to our minds even more important to understand is that social media is an *information* system. This means that accessing and using information becomes an important skill and competence to leverage the full potential of social media as an external enabler of venture development. That very competence is known as *information literacy*.

In a world which is filled with information overflow and increasingly fake fact, fake news, fabrication and disinformation, information literacy skills and capabilities become paramount. Traditionally, a person with the basic ability to read and write was referred to a literate person, however due to digitalization of work and business processes, the traditional definition of literacy is no longer relevant. In today's digital world, a person is required to have a profound set of skills and knowledge to efficiently find, locate information sources and use information to solve an information need (Ciftci and Knautz, 2016).

Recent research has considered digital technologies as external enablers of entrepreneurial activities (Briel et al, 2018, Nambisan 2017). Against this, social media is understood as an external actor-independent enabler in new venture creation. However, we argue that the full potential of social media cannot be realized without an *actor dependent* internal enabler i.e. *information literacy*. Moreover, just because a person owns a smart phone and a laptop computer and has a Facebook, an Instagram or a Twitter account does not make that person automatically information literate.

In this chapter we theorize on the importance of information literacy and specifically its relationship to digital source selection and how these become internal enablers in terms of necessary competences of entrepreneurs in digital entrepreneurial activities. Closely related to information literacy is the concept of digital citizenship, which is having literacy skills to navigate efficiently and safely in a digital environment (Sussan and Acs, 2017). Hence, information literacy is a prerequisite to become a digital citizen.

Information literacy is defined as a set of cognitive skills which are used to evaluate information in an educated and effective way (Eshet-Alkalai, 2004). Information source selection is a significant part of information-seeking behavior (Julien and Michels, 2013). Intelligent and efficient access to relevant information sources are critical factors necessary for completing complex tasks – such as venture creation by an entrepreneur (Smeltzer, 1991). Purposeful information-seeking begins with the selection of information sources (Bronstein, 2010). Information sources selection is according to the extant literature determined by information literacy, information accessibility, information quality, and the complexity of the task to be performed (Bronstein, 2010; Lee et al. 2012; Durodolu, 2016; Gross and Latham, 2009; Mishra et al. 2010; Nikou et al. 2018). Moreover, previous studies have found that social norms have a direct impact on source selection as well as the usage of digital sources (Apuke and Iyendo, 2018; Constantinides and Holleschovsky, 2016; Schon et al., 2015). Thus, this chapter specifically looks at *what factors influence entrepreneur's digital information source selection and what is the role of information literacy?* Moreover, this analysis is conducted among a sample of entrepreneurs and how they use digital technology and what drives their selection of digital and online information sources to support their entrepreneurial activities. Before we consider information literacy and information source selection, we will briefly review the development of social media and the digital context, that started with the emergence of what was known as electronic commerce, that took the practice of

entrepreneurship by storm in 1990s. As a consequence, information is everywhere, and private citizens and businesses alike had to learn to deal with this avalanche of information in an informed way.

2 Social Media and Entrepreneurship

By the third quarter of 2019 Facebook had 2.45 billion and Instagram 1 billion monthly active users (www.statista.com), 1.6 billion users were accessing the WhatsApp messenger on a monthly basis, and Twitter averaged 330 million monthly active users. While Facebook, Instagram and WhatsApp, show no sign of decline Twitter showed a decline from its all-time high of 336 million in the first quarter of 2018. The average daily time spent using social media was the highest in the Philippines, with 4 hours per day. This is twice the time spent in the US of approximately 2 hours, which in turn is twice the time spent using social media in Finland. Social media is indeed big within the digital economy, and it should be of great interest to companies large and small.

Although, social media as a term was coined around 2003 and 2004 when MySpace and Facebook were created, companies have in general been slow to include social media into their operations. One reason is that firms have been quite uncomfortable with information about them being freely available (Kaplan & Haenlein, 2010) and continuously modified beyond their control. On the other hand, social media offers businesses efficient means by which consumers can be included into firm's development processes and therein become contributors and co-creators of value (Kao et al, 2016). Social media impact firm performance as it allows firms – even small start-up firms - to engage in timely and direct end-consumer contact at relatively low cost and higher levels of efficiency compared to more traditional communication tools (Parveen, et al, 2016). On an individual basis social media offer means by which a person can identify and enact entrepreneurial opportunities.

Entrepreneurship scholars have in the same vein been slow in applying a digital technology perspective to entrepreneurship, where social media would be seen as a key enabler or a platform or an ecosystem (Nambisan, 2017; von Briel et al, 2018). Yet, the numbers speak of volumes that should have caught the mandated attention also in entrepreneurship research. One would rightfully assume this would be the case especially since the field of electronic commerce, propelled by the introduction of the World Wide Web (WWW), had been an entrepreneurial Eldorado during 1990s. The dot.com industry went from boom to bust in just a few years at the turn of the millennium (Lindstedt, 2001; Kaplan, 2002). Electronic commerce created an unprecedented excitement in business over the endless possibilities of creating new business models that the world had seen nothing of before (Tapscott, 1996). Business was learning the basics of internet marketing, to build customer relationships, and create value in cyber space (Sterne, 1996; Brännback, 1997). A massive number of firms were created without necessarily viable business models or in particular revenue models (Drucker, 2002) – and it all did not end well. While new digital technology enabled all this entrepreneurial activity it did not change one

basic requirement – the need for any firm to be profitable, which a lot of start-up dot.com firms had to learn the hard way.

During the 1990s existing businesses, large and small, participated in the dot.com boom by creating an Internet presence through a webpage (Sterne, 1996; Brännback, 1997). However, very few firms had a very good understanding of what to do with an Internet presence or how to manage such a presence. The webpages contained information about the firm, its products and sometimes even contact information such as street addresses and phone numbers (!) but not always an e-mail address (Sterne, 1995). Most webpages were quite terrible in terms of user-interface design and usability. Not only was the technology to use in order to build a web-presence in its infancy, so were the skills by the users. But, since everybody – private persons and businesses – were rushing to create an Internet presence the web soon became quite crowded with available information of varying quality. It became important to be able to find information and to verify information sources and the accuracy of information.

A few years after the dot.com boom ended in a crash, the digital economy continued to evolve and social media developed from a platform called Web 2.0. In Web 2.0 content and applications were no longer created and published by individuals (as when creating an Internet presence). Instead they were continuously modified by multiple users in multiple ways, also known as User Generated Content. Kaplan and Haenlein (2010, p. 61) define social media as: “a group of Internet-based applications that build on the ideological and technological foundation of Web 2.0, and that allow for the creation and exchange of User Generated Content.” Wikipedia is an excellent example of a virtual encyclopedia, which is constantly modified. Sometimes the information is very accurate but often it is not and therefore Wikipedia is not, for example, accepted by many universities as a viable information source for academic theses work. Social media evolved as a result of the combination of technological (available hardware), economic (available tools that enabled UGC) and social (primarily young people with technical knowledge and skills to engage online) drivers.

While social media at first seemed to engage primarily digital natives (young people who were born into the digital world) (Tapscott, 1998) it soon proliferated across generations to include digital immigrants (those who were not born into the digital world) (Vodanovich et al, 2010, Brännback et al, 2017; Nikou, et al, 2018). Digital natives were usually highly skilled in using social media and other digital tools contrary to digital immigrants who were late adopters of social media and frequently struggled with using digital technologies. However, as pointed out in the introduction, being a skilled user of these technologies does not automatically imply the possession of skills to access, use, and evaluate the *information* these technologies contain. That is, it does not mean that the person is *information literate*. In a world which is filled with information overflow where the quality of the information can be challenged, information literacy skills and capabilities have become equally important with being a skilled user of technology.

Access to high quality, accurate, and timely information are vital for any business survival and growth (Machado, 2016; Popovič et al. 2016; Najat, 2017; Capella 2012; Nguyen, 2018; Constantinides and Holleschovsky, 2016; Mir, 2014). This is certainly the case also for practicing entrepreneurs. It includes information relevant for developing business strategy, processes and operations, market data and customer information, product information, legal information and information on policy concerning taxation to mention a few. Policy information is seen as critical for entrepreneurial success especially for start-up entrepreneurs (Capella, 2012; Akinso, 2018). Start-up entrepreneurs in particular are interested in finding information concerning governmental support mechanisms and information that can influence their choice of location. In most countries, governmental agencies offer a myriad of relevant and necessary information (e.g. business registration procedures) online, and the task for entrepreneurs is to find the right information (Li and Herd, 2017).

3 Information Literacy

Information literacy (IL) is a set of cognitive skills and competences to efficiently locate, use, and evaluate information tools as well as information sources to solve a given problem in an educated and effective way (Ciftci and Knautz, 2016; Eshet-Alkalai, 2004). These skills are not restricted to digital contexts but all information. The point here is that information literacy becomes particularly important in the digital economy where the volume of digital information is massive and constantly increasing. In the digital context, IL includes critical thinking and the capability to efficiently search, identify and evaluate Web-based data (Ng, 2012). IL is the ability in recognizing the need for information, accordingly identifying, locating, accessing, evaluating and employing the information responsibly to work-related performance, such as problem-solving and decision making (Kirton and Barham, 2005; Ranaweera, 2008). Information literacy has proven its significance for the organizational and entrepreneurial success as it ensures and enhances the performance of the organization's information collecting process (Kirton and Barham, 2005; Oman, 2001; Adeleke and Emeahara, 2016; Kim and Sin, 2011). Information literacy helps the individual to develop critical awareness, which enables them to interpret and make knowledgeable judgements about an information source regarding its accessibility and quality. However, with a lack of efficient quality assurance mechanisms this may in some cases lead to a reluctance to use digital information sources.

Previous research has found that IL is dependent on digital information source selection (Nicholas et al., 2000; Singh et al., 2011; Odede and Nsibirwa, 2018). Digital information sources selection is impacted by how efficiently information seekers can access the needed information to perform a certain task or their ability to evaluate the relevance of the information sources based on the type of task at hand. (Bawden, 2008; Hosier, 2015; Kim and Sin, 2011). This in turn is determined by the source characteristics. Low IL skills hinder the use of electronic sources (Lozanova-Belcheva, 2013) and has been shown to be one of the reasons for not

engaging in online collaboration or, for example, using online government services (Kirui and Kemei, 2014).

Accessibility is a multi-dimensional characteristics of information sources. This includes the amount of effort required from the user and the amount of time it takes for the user to find necessary information, which in turn is determined by availability (24/7), convenience, comprehensiveness, easy to use, familiarity, understandability, whether it is free to access or not (Bronstein, 2010; Agarwal, 2011; Haase and Franco, 2011; Case, 2012; Popoola and Okiki, 2013; Woudstra et al., 2016). Most people tend to use an information source that require the least effort and risk-taking for them and that are impersonal. For example, Susanto and Aljoza (2015) found that perceived ease of use (easy navigation, quick response, fit interface, and accessible anywhere anytime), and perceived usefulness (information completeness, reducing cost, saving energy, saving time, and useful information) are the most critical to an individual's decision to use online government service.

The quality of information sources is one of the decisive criteria for selecting the digital information sources (Bronstein, 2010; Kim and Sin, 2011; Marton and Choo, 2002; Zhang, 2013). Quality of an information source is determined by the relevance, reliability, credibility, consistency, trustworthiness, and authoritativeness (Pierce, 2008; Babalhavaeji and Farhadpoor, 2013; Zhang, 2013). Some studies indicate that the quality of the information source is more important than accessibility (Bronstein, 2010; Kim and Sin, 2011).

Finally, the type of task will impact Xie and Joo (2010) information source selection. These can be complex of simple routine- like tasks such as information for product or company searches, government information, news information Bronstein (2010).

An interesting aspect of technology adoption in information seeking behavior and the use of social media is that it appears to be influenced by social norms (Thompson et al, 1991; Brännback et al, 2017; Nikou et al, 2018). An individual's opinion and decision to use for example online government services is influenced by the expectations and recommendations of surrounding people, like co-worker, friends, and family (Garcia et al, 2012). That is, users are highly influenced by their peers. That is, if peers access certain information sources online or use social media in their operations this behavioral pattern seems to spread among peers (Xie and Joo, 2010; Kuhn and Galloway, 2015).

4 The Study

Based on the literature review above we developed a model (Figure 1) to empirically explore the relationship of information literacy and digital source selection among entrepreneurs.

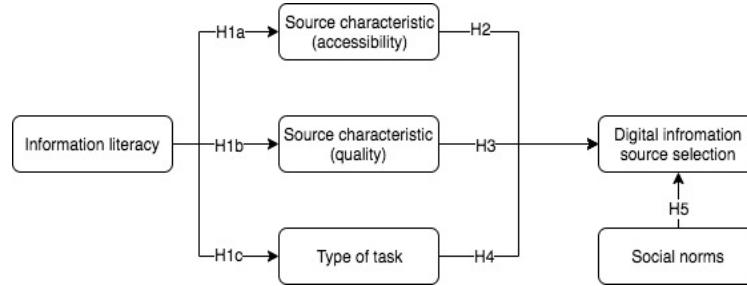


Figure 1. The research model

The initial assumption is that there is a direct link between information literacy and digital information source selection (Hypothesis 1). However, a review of the literature reveals that two dimensions of source characteristics (accessibility and quality) as well as type of task may play a mediating role (Hypotheses 1a, 1b, 1c, 2, 3, 4). Moreover, previous research show that technology adoption and in particular decision to use social media is directly impacted by social norms (Brännback et al, 2017; Nikou et al, 2018) and that peers impact entrepreneurial behavior in digital environments (Kuhn and Galloway, 2015). We therefore assume that social norms have a direct effect on digital source selection (Hypothesis 5). The following hypotheses were formed and tested.

H1: *Information literacy skills of an entrepreneur have a positive effect on selecting digital information sources*

H1a: *Information literacy skills of an entrepreneur have a positive effect on the choice of digital information sources based on the accessibility of the sources*

H1b: *Information literacy skills of an entrepreneur have a positive effect on the choice of digital information sources based on the quality of the sources*

H1c: *Information literacy skills of an entrepreneur have a positive effect on the choice of digital information sources based on the type of task*

H2: *Accessibility of the information sources has a positive effect on selecting digital information sources*

H3: *Quality of the digital information sources has a positive effect on selecting digital information sources*

H4: *Type of task has a positive effect on selecting digital information sources*

H5: *Social norms have a positive effect on selecting digital information sources*

4.1 Survey instrument and data collection

The main focus of our study is to explore whether the identified factors (i.e., information literacy, information sources' characteristics (accessibility and quality), type of tasks, and social norms) influence the entrepreneurs' digital information source selections. For data collection, a survey instrument was developed on the basis of established measures of constructs from different information behavior

literature of social norms (Ayeh et al. 2013; Gracia et al. 2012; Moghavvemi et al. 2012); information literacy (Kurbanoglu et al. 2006); source characteristics which include source accessibility and quality (Attuquayefio and Achampong, 2014; Bronstein, 2010; Xie and Joo, 2010); type of task (Bronstein, 2010); and finally the dependent variable information source selection (Ayeh et al. 2013; Kumar and Sam-path, 2008; Lin and Lu, 2011). We slightly modified some of the items to make them contextually relevant for the analysis. A seven-point Likert scales were used to measure the items, where “1 indicates strongly disagree and 7 indicates strongly agree”.

A questionnaire was distributed online among Finnish entrepreneurs in August 2019. Respondents were invited to provide their replies in the course of four weeks and a reminder was sent after two weeks.

The questionnaire consisted of questions on the participants’ demographic background, their frequency and self-reported proficiency in the use of digital tools and digital information sources. Out of 873 distributed questionnaires, we obtained 151 responses. After excluding incomplete responses, the final dataset consisted of 145 valid and usable responses.

To ensure that the dataset did not suffer from non-response bias and to determine whether there are significant differences between the two-invitation wave, we performed a non-bias test (Henry, 1990). We compared those who responded within the first 15 days (early respondents) with those who responded during the last two weeks before the survey was closed (late respondents). Only three of the 69 items in the questionnaire had significant mean differences ($p < .001$), thus the data set did not contain non-response bias. We also performed a common method bias test to establish that the validity of the research results. We used the Harman’s one-factor test (via a principal component factor analysis) (Podsakoff and Organ, 1986). Results showed that no factor accounted for more than 50% (23.18%) of the variance, thus, common method bias was not an issue in the study.

4.2 Sample Characteristics

The total sample consisted of 145 entrepreneurs in Finland; 27% female, and 73% male entrepreneurs. The average age was 40.35 years with the oldest born in 1952 and the youngest in 1998. The majority of the ventures were limited liability companies (79%) and 80% of the respondents were native Finnish citizens. A majority (74%) hold at least a bachelor’s or master’s degree, 11% of the respondents have attended college but had not graduated, and only 7% hold a high school diploma or equivalent.

5 Results

Most respondents reported an extensive daily use of digital tools such as smart phones, laptops, and a constant online presence on Internet. The most used digital information sources were search engines and social media; 80% used Google, Bing, or Yahoo several times a day, and 70% used social media (Facebook, Instagram,

Twitter, LinkedIn, Youtube). However, only 3% reported using online governmental websites i.e. the least used digital sources.

The result also showed that most of the respondents considered themselves as very proficient with Internet skills (Mean = 7), including searching information through search engines, downloading/sending a file, opening an attachment, sharing and asking information on social media and navigating information on Website. Respondents thus perceived themselves as very proficient in using search engines for finding and locating digital information (Mean = 7), following by accessing organizational/institutional websites, online newspapers, and social media (M = 6), and online governmental websites and forum (M = 5). That is, based on their own perception of their skills they were information literate.

5.1 Measurement Model

We used confirmatory factor analysis (CFA) to examine the measurement model. The measurement model has been validated by performing the convergent validity and the discriminant validity tests. For examining the convergent validity, we adopted three criteria: Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) (Hair et al. 2018). Cronbach's alpha is used for assessing the reliability of the measurement and the value is recommended to be and equal or greater than .70 (Cronbach, 1951; Hair et al. 2018). Composite reliability was assessed and all the CR values were above the recommended value of .70, ranging from .871 to .909 (Hair et al. 2018). Average variance extracted is a measure that reflects the convergence among a set of items in a latent construct. The value of AVE is recommended to be greater than .50 (Hair et al. 2018; Henseler, 2015). Table 1 shows the results of composite reliability, AVE, the Cronbach's alphas and item loadings were above the recommended level (> .70) in general and for both groups.

Table 1: Construct reliability and validity

Constructs	Items	Loadings	α	CR	AVE
Information literacy	IL1	.88	.873	.904	.612
	IL2	.87			
	IL3	.79			
	IL4	.75			
	IL5	.76			
	IL6	.73			
Digital information source selection	DISS1	.85	.882	.909	.588
	DISS2	.71			
	DISS3	.70			
	DISS4	.71			
	DISS5	.79			
	DISS6	.82			

	DISS7	.77			
Source accessibility	SCA1	.77	.859	.905	.704
	SCA2	.89			
	SCA3	.86			
	SCA4	.80			
Source quality	SCQ1	.73	.819	.871	.576
	SCQ2	.79			
	SCQ3	.81			
	SCQ4	.78			
	SCQ5	.70			
Social norms	SN1	.87	.811	.888	.725
	SN2	.88			
	SN3	.81			
Type of task	TOT1	.87	.828	.887	.664
	TOT2	.73			
	TOT3	.90			
	TOT4	.75			

Note: AVE = Average Variance Extracted; CR = Composite Reliability; α = Cronbach's Alpha

The square root of the AVE was measured for the discriminant validity assessment. Table 2 shows the square root of the AVE values for all constructs, indicating that the obtained values were greater than the correlations among them, thereby confirming discriminant validity (Hair et al. 2018).

Table 2: Discriminant validity

Constructs	SCA	IL	SCQ	SN	DSS	TOT
Source accessibility	.839					
Information literacy	.579	.782				
Source quality	.616	.492	.759			
Social norms	.456	.472	.412	.851		
Digital source selection	.713	.541	.534	.561	.767	
Type of task	.680	.561	.592	.507	.709	.815

5.2 Structural Model

To assess the path coefficients, we used SmartPLS 3.0. The SEM results showed that the digital information source selection explained by a variance of 69%, indicating that the predictors explained a large amount of variation. Type of task, sources' accessibility, and sources' quality were explained by variance values of 32%, 34%, and 24%, respectively.

Contrary to previous research results no direct link between Information literacy and digital source selection was found (H1). Instead results showed that information literacy has a positive direct effect on both source characteristics, such that it has a significant effect on source accessibility ($\beta = .58, t = 8.841, p = .001$), as well as significant effect on source quality ($\beta = .49, t = 7.176, p = .001$). Thus, both H1a and H1b are supported by the model. Moreover, information literacy was found to have a positive significant effect on type of task ($\beta = .56, t = 8.426, p = .001$), thus H1c is also supported by the model. Results also showed that source accessibility has a direct relationship with digital information source selection ($\beta = .32, t = 3.591, p = .001$), thus H2 is supported by the model.

However, contrary to findings in previous studies source quality had no significant effect on digital information source selection, thus H3 was supported. The path relationship between type of task and digital information source selection was found to be significant (H4), in other words, type of task was positively associated with digital information source selection ($\beta = .51, t = 5.524, p = .001$). Finally, consistent with previous research findings, there is a positive and direct relationship between social norms and digital information source selection ($\beta = .17, t = 2.404, p = .01$), thus H5 was also supported by the model, (see Figure 2).

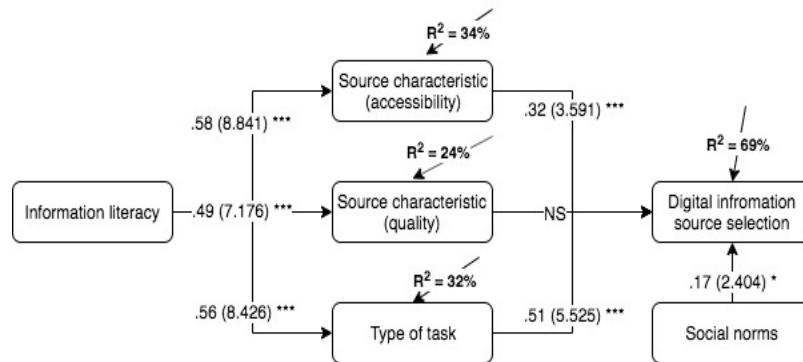


Figure 2. Structural results

5.3 Mediation test

As we did not find a direct path between information literacy and digital information source selection, we performed a mediation test. First, we assessed the results of total indirect effects and found significant indirect effects ($\beta = .45, t = 8.193, p < .001$). This result indicates that we also need to assess the specific indirect effects to see if there are any mediation effects and through which constructs. The results of specific indirect effects showed that the relationship between IL and digital information source selection is mediated through source accessibility ($\beta = .18, t = 3.428, p < .001$) and type of task ($\beta = .29, t = 4.583, p < .001$). However, source

quality has no mediation role in this path relationships. Thus, we concluded that the path between IL and digital information source selection is partially mediated through source characteristics (i.e., accessibility) and type of task (see Table 3).

Table 3: Mediation test results

Relationship	Std Beta	Std Error	t-value	Significance
IL → SCA → DISS	.176	.051	3.428	.001
IL → SCQ → DISS	-.013	.028	.487	.626
IL → TOT → DISS	.287	.063	4.583	.001

Note: DISS = Digital information source selection; IL = Information literacy; SCA = source characteristic (accessibility); SCQ = source characteristic (quality); TOT = Type of task

6 Discussion

We have in this chapter taken the view that social media is a ubiquitous information system and a digital infrastructure. In contrast to traditional information systems social media is less predefined, less bounded, and less controllable (Vodanovich, et al. 2010; Kaplan & Haenlein, 2010; Nambisan, 2017). These characteristics will impact entrepreneurial opportunities, decisions, actions, and outcomes. We have also said that social media transforms the nature of uncertainty in entrepreneurial processes and how entrepreneurs cope with uncertainty. Social media will impact the entire entrepreneurial process and offer an efficient means for creating a market orientation, supporting market access, innovation, and ultimately firm success (Renko et al, 2009).

But it is not only the digital technology which is important here. In this chapter our focus has been on an aspect, which refers to the ability to use technology and leverage the full potential benefits from such technology, namely *information literacy*. The underlying argument here is that while social media offer a huge potential in saving costs related to managing a firm's customer base, which includes distribution and communication costs – those savings require specific skills and competences in the form of information literacy. Nambisan (2017) raises a number of interesting research questions with respect to creating a digital technology perspective within entrepreneurship research, which refer to digital infrastructure. One such question is why does the use of social media by some entrepreneurs and not others lead to different cognitive and behavioral (entrepreneurial) outcomes? How does the collective characteristic of social media impact the collective nature of entrepreneurial agency and thereby the entrepreneurial processes and outcomes? Intuitively, we can say that information literacy certainly will be an element in providing an informed answer.

In this chapter we have restricted the discussion to information literacy only, as we are very much aware of the fact that *literacy*, which used to mean whether a person knew how to read and write, today has taken multiple forms. Along information literacy we also have media literacy and digital literacy, which could prove relevant in this context as well. However, we have deliberately chosen to

restrict this discussion to information literacy only to underline *the necessity to be able to access information, use information and evaluate information*. We have stated it multiple times that even if digital technology is available and individuals own smart phones, ipads, and laptops – it does not always mean that the same individual is information literate.

For example, information systems research distinguish between digital natives and digital immigrants, where the former are users who have grown up in a digital world and the latter started using systems at some stage in their adult life. While this categorization is somewhat rough and therefore has been criticised there are clear differences between these groups of users – that also should impact their use of social media as an external enabler and digital infrastructure of entrepreneurial activities. It is argued that digital natives are using technology differently and that they think and process information fundamentally differently from digital immigrants (Vodanovich, et al. 2010; Brännback, et al. 2017; Nikou, et al. 2018a; Nikou, et al. 2018b). As educators and researchers in universities we can certainly agree to such an observation.

For the purpose of this chapter we conducted an exploratory study among Finnish entrepreneurs. While our analysis does not distinguish between the digital native entrepreneurs and the entrepreneurs who are digital immigrants – the reported age range 1952-1998, indicate that the sample would include both categories. Consequently, subsequent analysis would include potential gender differences and age differences – as we know from previous research that the use of information systems and social media is indeed gendered (Brännback, et al. 2017; Nikou, et al. 2018a; Nikou, et al. 2018b). The assumption would be that there will be differences in information literacy with respect to digital information source selection. Moreover, it is highly likely that the industry in which the entrepreneurs operate in will have an impact. The study was based on a survey where respondents conducted a self-assessment of their information literacy. This is of course problematic as this is a highly subjective measure – and not surprisingly the respondents considered themselves highly information literate. This is consistent with self-reported assessments, where people in general tend to over estimate their competencies. However, there are some interesting deviations already in this small sample, which calls for additional analysis. For example, results revealed that the quality of the digital information source had no impact on digital information source selection (H3). Previous research show quite clearly that quality is far more important than accessibility (H2). In this study, that was not the case.

In subsequent studies specific measures of digital literacy and media literacy should be included. Different research methods would also be welcome, where for example log-information of the user's actual use of social media or netnography (virtual ethnography). One of the arguments in this chapter has also been that information literacy is important for firm success especially where social media plays an important role. This, of course, calls for studies which include measures of firm performance both with respect to firm growth and profitability, – in

growth/decline of number of served customers, revenue growth, reduction of costs, and profitability.

References

- Adeleke D.S., & Emeahara E.N. (2016). Relationship between Information Literacy and Use of Electronic Information Resources by Postgraduate Students of the University of Ibadan. *Library Philosophy and Practice (E-Journal)*.
- Agarwal N.K. (2011). Information Source and its Relationship with the Context of Information Seeking Behavior. *iConference*.
- Akinso A. (2018). Successful Strategies for the Survival of Business Owners in Nigeria. Walden Dissertations and Doctoral Studies Collection. Walden University.
- Alvarez G.J., Raeside R., & Jones B. W. (2006). The importance of analysis and planning in customer relationship marketing: Verification of the need for customer intelligence and modelling. *Database Marketing & Customer Strategy Management*, 13(3), 222–230.
- Apuke, O., & Iyendo J. T. (2018). University students' usage of the internet resources for research and learning: forms of access and perceptions of utility. *Computer Science. Information Science. Heliyon*, 4 (12).
- Attuquayefio, S., Achampong, A., & Aryeetey, I. (2014). Extending TAM with social norm to model students' intentions to adopt ICT. *European Scientific Journal*, 10 (14), 435-446.
- Ayeh, J. K., Au, N., & Law, R. (2013). Predicting the intention to use consumer-generated media for travel planning. *Tourism Management*, 35, 132-143.
- Babalhavaeji F., & Farhadpoor M.R. (2013). Information source characteristics and environmental scanning by academic library managers. *Information Research*. 18(1).
- Bauer T., & Erdogan B. (2011). Organizational socialization: The effective onboarding of new employees. In: Zedeck S., Aguinis A., Cascio W., Gelfand M., Leung K., Parker S., & Zhou J. (Ed.), *Handbook of I/O Psychology* (51-64). APA.
- Bawden, D. (2008). Digital Literacies: Concepts, Policies and Practices. In: Lankshear C. & Knobel M. (Eds.). *Origins and Concepts*. New York: Peter Lang, 17-32.
- Borgatti S., & Cross R. (2003). A Relational View of Information Seeking and Learning in Social Networks. *Management Science*, 49(4), 432-445.
- Boyles, T. (2012). 21st century knowledge, skills, and abilities and entrepreneurial competencies: A model for undergraduate entrepreneurship education. *Journal of Entrepreneurship Education*, 15, 41-55.
- Brännback, M. (1997). Is the internet changing the dominant logic of marketing? *European Management Journal*, 15(6), 698-707.

Brännback, M., Nikou, S., & Bouwman, H. (2017) Value Systems and Intentions to interact in social media: The digital natives, *Telematics and Informatics*, 34(4), 365-381.

Bronstein, J. (2010). Selecting and using information sources: source preferences and information pathways of Israeli library and information science students. *Information Research: An International Electronic Journal*, 15(4), 1-15.

Byström, K. (2002). Information and information sources in tasks of varying complexity. *Journal of the American Society for Information Science and Technology*, 53 (7).

Campbell, D., & Cook, R. (2010). An experiential market research analysis: a partnership between teaching and library faculty. *Journal of Business & Finance Librarianship*, 15 (3), 171-178.

Capella A. (2012). Translating ideas into action: The policy entrepreneur role at the public policy process. Madrid: XXII World Congress of Political Science – “Re-ordering Power, Shifting Boundaries”. International Political Science Association.

Carroll, A. J., Hallman, S. J., Umstead, K. A., McCall, J., & DiMeo, A. J. (2019). Using information literacy to teach medical entrepreneurship and health care economics. *Journal of the Medical Library Association: JMLA*, 107(2), 163-171.

Case O.D. (2012) Looking for information: A survey of research on information seeking, needs and behavior (3rd Ed.). UK: Emerald.

Ciftci, T., & Knautz K. (2016). *Information Facebook Users*. In: Knautz K., & Baran K. S. (Ed.), *Facets of Facebooks: Use and Users*. Germany: De Gruyter (115-145).

Constantinides, E., & Holleschovsky N. (2016). Impact of Online Product Reviews on Purchasing Decisions. In *Proceedings of the 12th International Conference on Web Information Systems and Technologies*, 1, 271-278.

Cooney, M., & Hiris, L. (2003). Integrating information literacy and its assessment into a graduate business course: a collaborative framework. *Research Strategies*, 19 (3), 213-232.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297-334.

Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30 (5), 674–695.

Durodolu, O. (2016). Technology Acceptance Model as a predictor of using information system' to acquire information literacy skills. *Library Philosophy and Practice (e-journal)*, 1450.

Eshet-Alalai, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of educational multimedia and hypermedia*, 13(1), 93-106.

Fatoki, O. (2014). The financial literacy of micro entrepreneurs in South Africa. *Journal of social sciences*, 40(2), 151-158.

Feldmann, L., Kaylor, B., & O'Neill, T. W. (2015). The business model canvas as a platform for business information literacy instruction. *Reference Services Review*, 43 (3), 450-460.

Gracia, D., Ariño, L., & Blanco, C. (2012). Understanding the influence of social information sources on e-government adoption. *Information Research*, 17 (3).

Gross, M., and Latham, D. (2009). Undergraduate Perceptions of Information Literacy: Defining, Attaining, and Self-Assessing Skills. Florida State University Libraries.

Haase H., & Franco M. (2011). Information sources for environmental scanning: do industry and firm size matter?'. *Management Decision*, 49 (10), 1642-1657.

Hair, J.F., Risher J. J., Sarstedt, M., & Ringle, C. (2018). When to use and how to report the results of PLS-SEM. *European Business Review*, 31 (1), 2-24.

Heilbrunn S., & Kushnirovich N. (2008). The impact of policy on immigrant entrepreneurship and businesses practice in Israel. *International Journal of Public Sector Management*, 21(7), 693-703.

Henry, G. T. (1990). *Practical Sampling. Applied Social Research Methods Series*. Newbury Park, CA: Page.

Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science*, 43 (1), 115-135.

Hosier A. (2015). Teaching information literacy through “un-research”. *Communications in Information Literacy*, 9(2), 162-135.

Jones, N., Borgman, R., & Ulusoy, E. (2015) Impact of social media on small businesses. *Journal of Small Business and Enterprise Development* 22(4), 611-632

Julien, H., & Michels, D. (2013). Source selection among information seekers: Ideals and realities. In *Proceedings of the Annual Conference of CAIS/Actes du congrès annuel de l'ACSI*.

Kao, T. Y., Yang, M. H., Wu, J.T.B., & Cheng, Y.Y. (2016) Co-creating value with consumers through social media. *Journal of Service Marketing*, 30(2), 141-151.

Kaplan, A. M., a& Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, 53 (1), 59-68.

Kaplan, P.J.(2002) F'd Companies, spectacular dot-com flameouts. Simon & Schuster, NY.

Kim, K., & Sin, S. J. (2011). Selecting quality sources: bridging the gap between the perception and use of information sources. *Journal of Information Science*, 20 (10), 1-12.

Kinley, K., Tjondronegoro, D., Partridge, H., & Edwards, S. (2014). Modelling users' web search behaviour and their cognitive styles. *Journal of the Association for Information Science and Technology*, 65 (6).

Kirton J. & Barham L. (2005). Information literacy in the workplace. *The Australian Library Journal*, 54 (4), 365-376.

Kirui E., & Kemei P. (2014). Usability of E-Government Services in Developing Countries. *International Journal of Computer Trends and Technology (IJCTT)*, 15 (3), 102-107.

Kotler, P. (1967). *Marketing Management: Analysis, Planning and Control*. Prentice-Hall.

Kuhn, K. M., & Galloway, T. L. (2015) With a little help from my competitors: Peer networking among artisan entrepreneurs. *Entrepreneurship Theory and Practice*, 39(3) 571-600.

Kuma, G. T., & Sampath, B. T. (2008). Use of electronic information sources by the academic community: a comparative study. Proceedings of the 6th International Caliber 2008, From Automaton to Transformation, University of Allahabad, Allahabad, February 28-29, INFLIBNET, Ahmedabad, 529-40.

Kurbanoglu, S. S., Akkoyunlu, B., & Umay, A. (2006). Developing the information literacy self-efficacy scale. *Journal of Documentation*, 62 (6), 730-743.

Kyung-Sun, K., & Sin, S. (2011). Selecting quality sources: bridging the gap between the perception and use of information sources. *Journal of Information Science* 20 (10), 1-12.

Lapinski M., & Rimal R. (2005). An explication of social norms. *Communication Theory*, 15(2), 127-147

Lee J., Paik W., & Joo S. (2012). Information resource selection of undergraduate students in academic search tasks. *Information Research*, 17 (1).

Li, J., & Herd, M. A. (2017). Shifting Practices in Digital Workplace Learning: An Integrated Approach to Learning, Knowledge Management, and Knowledge Sharing. *Human Resource Development International*, 20 (3), 185-193.

Li Y., Li Y., Pan Y., & Han H. (2019). Work-task types, stages, and information-seeking behavior of strategic planners. *Journal of Documentation*, 75 (1), 2-23.

Lilian, W., Bart, H., & Alexander, P. (2016). The quality versus accessibility debate revisited: A contingency perspective on human information source selection. *Journal of the Association for Information Science and Technology*, 67 (9), 2060-2071.

Lin, K.Y., & Lu, H.P. (2011). Intention to continue using Facebook fan pages from the perspective of social capital theory. *Cyberpsychology, Behaviour, and Social Networking*, 14 (10), 565-570.

Lindstedt, G. (2001). Boo.com och IT-bubblan som sprack (in Swedish: Boo.com and the IT-bubble which burst), Bokförlaget DN, Stockholm.

Lozanova-Belcheva E. (2013). The Impact of Information Literacy Education for the Use of E-Government Services: The Role of the Libraries. In: Kurbanoglu S., Grassian E., Mizrachi D., Catts R., & Špiranec S. (Eds), *Worldwide Commonalities and Challenges in Information Literacy Research and Practice*. ECIL 2013. Communications in Computer and Information Science, vol 397. Springer.

Machado, H. (2016). Growth of small businesses: a literature review and perspectives of studies. *Gest. Prod., São Carlos*, 23 (2), 419 - 432.

Marchant, K., & Siegel, M. (2014) Immigrant entrepreneurship in cities. World Migration Report 2015.

Marton, C., & Choo, C. W. (2002). A question of quality: the effect of source quality on information seeking by women in IT professions. Proceedings of the ASIST Annual Meeting, 65, 140-151.

Mason, M. (2017). The use of the internet and social media by young people. The Youth Justice Board.

Mir, A. A. (2014). Effects of Pre-Purchase Search Motivation on User Attitudes toward Online Social Network Advertising: A Case of University Students. *Journal of Competitiveness*, 6 (2), 42-55.

Mishra, M. (2007). *Ethical, Legal and Social aspects of Information and Communication Technology*. Conference: UGC sponsored Seminar on Ethics and Human Values.

Moghavvemi, S., Salleh, M., Zhao W., & Mattila, M. (2012). The Entrepreneurs Perception on Information Technology Innovation Adoption: An Empirical Analysis of the Role of Precipitating Events on Usage Behaviour. *Innovation-Management Policy & Practice*, 14 (2), 231-246.

Nambisan, S. (2017). Digital entrepreneurship: Towards a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*. 41(6), 1029-1055.

Najat, B. (2017). Importance of Customer Knowledge in Business Organizations. *International Journal of Academic Research in Business and Social Sciences*, 7 (11), 175 – 187.

Ng, W. (2012). Can we teach digital natives' digital literacy? *Computers & Education*, 59 (3), 1065-1078.

Nguyen, N. N. (2018). The role of government in the development of ethnic entrepreneurs: A qualitative study on Vietnamese ethnic entrepreneurs in Finland. Turku School of Economics: Master Thesis in International Business.

Nicholas, D., Williams, P., Cole, P., & Martin, H. (2000). The impact of the Internet on information seeking in the Media. *Aslib Proceedings* 52 (3), 98 - 114.

Nikou S., Brännback, M., & Widén, G. (2018a). The Impact of Multidimensionality of Literacy on the Use of Digital Technology: Digital Immigrants and Digital Natives. In: Li H., Pálsdóttir Á., Trill R., Suomi R., Amelina Y. (Eds). *Well-Being in the Information Society. Fighting Inequalities*. WIS 2018. Communications in Computer and Information Science, 907. Springer.

Nikou, S., Mezei, J., & Brännback, M. (2018b) Digital natives' interactive behaviour on social media: Value systems and gender, *Telematics and Informatics*, 35(2): 421-435.

O'Reilly, C. (1982). Variations in Decision Makers' Use of Information Sources: The Impact of Quality and Accessibility of Information. *The Academy of Management Journal*, 25 (4), 756-771.

Odede, I. R., & Nsibirwa Z. (2018). Information Literacy Skills in using Electronic Information Resources. *Library Philosophy and Practice* (e-journal). 1947.

Oikiki, O. C. (2013). Availability of Information Resources for Research Output: Perception of Academic Staff Members in Nigerian Federal Universities. *International Journal of Computer Science and Telecommunications*, 4 (8).

Oman, J. (2001). Information literacy in the workplace. *Information Outlook*, 5 (6), 33-35.

Perkins, H. W. (2006). A Brief Summary of Social Norms Theory and the Approach to Promoting Health. Hobart and William Smith Colleges: Department of Anthropology and Sociology.

Pierce, R. (2008). Evaluating Information: Validity, Reliability, Accuracy, Triangulation. Research Methods in Politics. SAGE.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management*, 12 (4), 531-544.

Popoola, S. O., and Okiki, O.C. (2013). Information Availability and Utilization as Determinants of Creativity of Managers in Commercial Banks in Nigeria. *Journal of Information and Knowledge Management*, 3 (8).

Popovič A., Hackney R., Tassabehji R., & Castelli M. (2016). The impact of big data analytics on firms' high value business performance. *Information Systems Frontiers*.

Ranaweera, P. (2008). Importance of Information Literacy skills for an Information Literate society. Colombo, Sri Lanka: NACLIS 2008

Renko, M., Carsrud, A., & Brännback, M. (2009). The Effect of a Market Orientation, Entrepreneurial Orientation, and Technological Capability on innovativeness: A Study of Young Biotechnology Ventures in the US and in Scandinavia, *Journal of Small Business Management*, 47(3): 331-369

Rowlands, I. (2007). Electronic journals and user behaviour: A review of recent research. *Library & Information Science Research*, 29 (3), 369-396.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Sage: Newbury Park.

Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life". *Library and Information Science Research*, 17, 259-294.

Savolainen, R. (2008). Source preferences in the context of seeking problem-specific information. *Information Processing and Management*, 44 (1), 274-293.

Schon, J., Ristic, I., & Manning, J. (2015). When the Internet Becomes the Doctor: Seeking Health Information Online. In: Brann, M. (Ed.), Contemporary Case Studies in Health Communication: Theoretical and Applied Approaches (2nd ed.) (311-322). Kendall Hunt.

Singh D., Ogbonnaya C.O., & Ohakwe, J. (2011). Factors affecting the use of informationservices by international students. *Malaysian Continental Journal of Applied Science*, 6(3), 8-18.

Smeltzer, L. R., Van Hook, B. L., & Hutt, R. W. (1991). Analysis of the use of advisors as information sources in venture start-ups. *Journal of Small Business Management*, 29 (3), 10-20.

Smith R. E., Mackie M.D., & Claypool M.H. (2015). Social Psychology (4th Ed.). New York: Psychology Press.

Sterne, J. (1995). World Wide Web Marketing. John Wiley & Sons. New York.

Sterne, J. (1996). Customer Service on the Internet: Building relationships, increasing Loyalty and staying competitive. John Wiley & Sons. New York

Susanto T., & Aljoza M. (2015). Individual Acceptance of e-Government Services in a Developing Country: Dimensions of Perceived Usefulness and Perceived Ease of Use and the Importance of Trust and Social Influence. *Procedia Computer Science*, 72, 622 – 629.

- Sussan, F., & Acs, Z. J. (2017) The digital entrepreneurial ecosystem. *Small Business Economics*, 49(1), 55-73.
- Tao, D. (2009). Intention to Use and Actual Use of Electronic Information Resources: Further Exploring Technology Acceptance Model (TAM). AMIA 2009 Symposium Proceedings, 629- 633. American Medical Informatics Association.
- Tapscott, D. (1996). *The Digital Economy. Promise and peril in the age of networked intelligence*, McGraw-Hill, New York.
- Tapscott, D. (1998) *Growing up Digital. The rise of the net generation*. McGraw-Hill, New York.
- Thompson, R. L., Higgins C. A., & Howell, J. M. (1991). Personal computing: toward a conceptual model of utilization. *MIS Quarterly*, 15 (1), 125–143.
- Uski, S. & Lampinen, A. (2014). Social norms and self-presentation on social network sites: Profile work in action. *New Media & Society* 18(3). SAGE.
- Vodanovich, S., Sundaram, D., & Myers, M. (2010). Digital natives and ubiquitous information systems. *Information System Research*, 21(4), 711-723.
- von Briel, F., Davidsson, P., & Recker, J. (2018). Digital technologies as external enablers of new venture creation in the IT hardware sector. *Entrepreneurship Theory and Practice*, 42 (1), 47-69.
- Wise, S. (2013). The impact of financial literacy on new venture survival. *International Journal of Business and Management*, 8 (23), 30-39.
- Woudstra, L., Hooff B., & Schouten A. (2016). The quality versus accessibility debate revisited: A contingency perspective on human information source selection. *Journal of the Association for Information Science and Technology*, 67 (9), 2060-2071.
- Xie, I., & Joo, S. (2010). Selection of information sources: Accessibility of and familiarity with sources, and types of tasks. *Proceedings of the American Society for Information Science and Technology*, 46 (1), 1-18.
- Zhang, Y. (2013). The effects of preference for information on consumers' online health information search behaviour. *Journal of medical Internet research*, 15 (11), 234.