

Journal of Marketing Management

ISSN: 0267-257X (Print) 1472-1376 (Online) Journal homepage: https://www.tandfonline.com/loi/rjmm20

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To cite this article: Robert Grant , Rodney J. Clarke & Elias Kyriazis (2007) A review of factors affecting online consumer search behaviour from an information value perspective, Journal of Marketing Management, 23:5-6, 519-533, DOI: 10.1362/026725707X212801

To link to this article: https://doi.org/10.1362/026725707X212801

Published online: 01 Feb 2010.

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JOURNAL OF
MARKETING
MANAGEMENT

A review of factors affecting online consumer search behaviour from an information value perspective

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Abstract The use by consumers of the internet as a means of purchasing products and services seems to have fallen short of expectations that arose with consumer access to the internet. Evidence from online sales continues to show low conversion ratios, from enquiry to sale, in many online buying situations. As researchers search for answers to this problem several authors have proposed that the consumer information search process is not well understood when it comes to the internet. We review the literature on consumer information search behaviour focussing on information source utility, personal factors and product factors affecting consumer search behaviour and identify factors that limit the perceived value of online information in complex consumer buying decisions. We identify consumer frustrations from information that is inaccurate, poorly presented, insufficient or of dubious credibility and acts as an information roadblock, what then happens to their online search? We also argue that research in the context of subjectively evaluated "experience" type products e.g., recreational equipment, apparel, recreational travel, etc. will contribute to marketing theory through better understanding the complexity of consumer needs.

Keywords Consumer online search, Behavioural factors, Literature review

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JOURNAL OF MARKETING MANAGEMENT, 2007, Vol. 23, No. 5-6, pp. 519-533
ISSN0267-257X print /ISSN1472-1376 online © Westburn Publishers Ltd. doi:10.1362/026725707X212801

INTRODUCTION

Sales from the internet have fallen short of expectations that arose with rapid consumer adoption in the late 90's. Traditional distribution channels were expected to suffer as consumers migrated to online purchasing due to the easier access to product/service information. Companies flocked to the new way of doing business expecting to boost sales and increase profitability by adding customer value through lowering information search and acquisition costs (Klein 1998). Surprising many practitioners and academics alike the conversion ratio, from enquiry to sale, has not met these early expectations and continues to disappoint online (Shim et al. 2001). This problem has been approached from two research perspectives, firstly from a technology adoption model, where researchers examined consumer attitudes to technology use as a basis for understanding online purchasing. Another major research stream has been that of clickstream modelling which uses analysis of prior behaviour as a means to predict online purchase. Clickstream modelling has focussed predominantly on single website analysis for search type products e.g., CDs and books. It has not addressed the complexity associated with multiple information source use for other types of products or services. While these research streams have informed our understanding of consumer behaviour online, several authors such as Klein (1998), argue that past research focus has been on standardised items such as CDs and books which are classified as high in "search" properties as they are easily found by consumers. In this situation, vendors typically have a focus on providing basic consumer information access rather than on customer utility. Specifically Ratchford, Lee and Talukdar (2003) have proposed that research move beyond this technology facilitated information access approach to online information offerings, and re-examine the fundamental purpose behind consumer information search which is to provide knowledge of product/service options as a basis for evaluation and subsequently reducing purchase choice anxiety. The emphasis on technology as a focal research point has led authors such as Wind and Mahajan (2002), Urban (2003 p 5), and Porter (2001) to call for a return to a focus on the satisfaction of human information needs in online consumer behaviour. We agree with this call for further research regarding the needs of the consumer especially in terms of their information needs during the search stage of the consumer buying process. We approach this review from the traditional approach of focusing on the existing conceptual frameworks and theories used by marketers in their investigation of consumer information search behaviour (Beatty and Smith 1987) where the consumer has identified a need and has begun their pre-purchase search to satisfy their purchase specific information needs.

CONSUMER INFORMATION SEARCH BEHAVIOUR

To review the literature on consumer information search behaviour we group the literature into three research streams, (a) information source utility, which focuses information content and format issues online and offline, (b) personal factors that lead to different search behaviour for a common product, and (c) product factors that will lead to different behaviour by a consumer in the context of different products. By doing so it enables us to identify gaps in our knowledge and also suggest possible research directions.

Information source utility

To organise our review of this literature we adapt the framework for information source utility used by Xiao and Dasgupta (2002) who identified the main online information utility factors as content, accuracy, currency and format of information together with user friendliness. They base their analysis upon the premise that the consumer is a rational decision maker employing primarily cognitive processes in the tradition of Stigler's (1961) concept of information economics where consumer search activity is examined from a cost/benefit perspective. We consolidate Xiao and Dasgupta's (2002) variables into the two distinct topic areas, (1) *information content,* which deals with breadth and depth of content, information characteristics, accuracy and currency, and (2) *information format* dealing with the communication effects and convenience of medium access.

Information content utility

A key characteristic of websites is their ability to carry massive amounts of information with search utility derived from internal hyperlinks as well as search functions (McGaughey and Mason 2003) within the site. This enables vendors to offer breadth and depth of information relating to their product that is simply not feasible in offline information offerings such as brochures and promotional material. This type of information utility is magnified by the ability to offer further links to external information sources. This expanded search feature caters for the information preferences of consumers who become engaged in a "reactive" rather than their initial planned search across sites where Yiloski (2004) calls this behaviour "heuristic search" typical for products of greater complexity or importance. Unfortunately, this ability to access seemingly endless amounts of information of varied formats has actually compromised the utility of online information for many consumers as the sheer magnitude of information available online presents the very real problem of information overload (Lee and Lee 2004). It raises the serious research question of when information overload occurs and the effects of this overload on consumer search behaviour. Information overload is exacerbated by inconsistent information online arising from the often deliberate strategy (Spink and Gunnar 2001) of many online vendors to structure information regarding products in a manner that does not allow easy comparison with competitor offerings. This is done in many situations to avoid price-only comparisons. Unfortunately for the consumer this often frustrates their search efforts by presenting them with non-standardised information. Spink and Gunnar (2001) point to the consumer need for standardised information to enable comparisons across sites and user-friendly interactivity for clarifying uncertain points. A classic example often cited to illustrate this consumer frustration is the difficulty in comparing mobile phone service plans, a veritable nightmare for consumers.

A potentially major utility of online information is the flexibility that vendors have to update their offerings in real time ensuring accuracy of information that is not available in offline hard copy information sources such as brochures and other promotional material because of the speed with which they become redundant as prices change and stock levels are exhausted. This theoretical utility has not however been tested in practice and anecdotal evidence suggests that consumers are often frustrated and very annoyed when they receive incorrect factual information regarding basic pricing and availability from on-line sources. Logic suggests that this should not be happening with advances in how current information can be easily presented in real time by linking website information offerings to inventory and other back office systems that can account for exchange rate fluctuations and other

uncontrollable factors.

Another aspect of information utility that has received research attention is the relative value of "objective" versus "subjective" information from online or offline information sources. Objective information is characterised as factual "search" type information such as prices, product specifications, etc. while subjective information tends to have more personal, "experience" based qualities and subject to personal taste interpretations such as wine, restaurants and travel experiences. Several authors (Ratchford, Lee and Talukdar 2003; Klein and Ford 2003; Yoon and Kim 2001) have shown that consumers have distinct preference for online sources for "objective" information, and a distinct preference for offline information sources when dealing with "subjective" information types. A possible reason for using offline "subjective" information may be possibly due to the higher perceptions of risk attached to using information from often obscure, unidentified sources and thus limiting the value derived from such online sources. To address this consumer concern, Klein (1998) calls for the development of ways to communicate these subjective "experience" type product properties in an objective "search" like manner. This standardisation of product attribute descriptions is thought to reduce the associated consumer risk in using these information sources. We also support the need for understanding consumer use and perceptions of the value role of "subjective" online information. Further, we contend that a further examination of consumer search behaviour is required in situations where online information does not meet their needs. What do they do then? Will they turn to more trusted off-line sources of subjective information such as friends, colleagues, professionals? Do they then return back to on-line sources for verification or do they stay "offline"? Surprisingly, this iterative process of switching between online and then off-line information sources to achieve the information utility they seek has received no research attention and constitutes a major research gap.

In summary, our review of this literature has found a major limitation of online information source utility which requires further research i.e., the potential for information overload and information discrepancy which may result in further search or search termination owing to frustration with the search process (Ozanne, Brucks and Grewal 1992), which we have no basis to think will be different online. Further, to capture the reality of many consumers information search behaviour where both online and offline information sources are used for product searches and do not restrict themselves to online sources only, we identify a clear gap in the literature with minimal research regarding information search patterns and value of these combined information sources. This iterative search process is especially important when examining information utility on line for products that are "subjective" in nature and will be discussed in greater detail later in the paper.

Information format utility

The ability of online vendors to offer consumers varied information format options such as print, audio, graphic and audio-visual material for consumers and even interpersonal contact by audio link or instant messaging type applications has the greatest potential for delivering customer value as it allows consumers choice of their preferred information format. In off-line settings there has been a rich tradition of examining information format preference, but there has been limited research regarding online information format preferences (Jones, Pentecost and Requena 2005). This lack of research may result from network carrying constraints of the internet which affect consumer access to desired information formats provided by

vendors with quality limitations resulting from narrow bandwidth. Nonetheless, assuming these technical limitations are temporary, several authors have used laboratory settings to examine the potential of virtual reality experiences delivered over networks. Notably, Li, Daugherty and Biocca (2001) found that virtual experiences approximate "personal" experience when dealing with products such as bed linen, laptops, rings and watches. Similarly, Klein (2003) used experiments to show that virtual reality experiences can deliver "experience" type information to consumers thus providing great promise for online vendors.

In their seminal work examining the difference in communication effects using online information delivery and print, Jones and Pentecost (2005) find that consumer recall ability was better achieved by print sources and further that consumer recognition was superior in online information exchanges. This offers vendors the opportunity to serve information sources best suited to the desired effect as well as catering to consumer preferences in high involvement and experience purchases where multiple sources and extended search processes may be employed. Their research has highlighted a gap in our knowledge where researchers need to understand the apparent complementarity of: (1) the different information source formats e.g., print, video, audio etc, and (2) multi-modal access of information offerings where consumers can skip between on-line and offline sources in their pursuit of information which has differing communication effects and consequently differing utility for the consumer.

In summary, we find significant research gaps in our understanding of information format utility to consumers. This is an area rich in research opportunity especially the examination of consumer preferences for information type when considering the type of good or service being sought. We propose a need for research into format effects for "search" and "experience" based products given apparent differences in communication effects online and offline for an understanding of consumer information search behaviour. In doing so we need to recognise the potential for multi-modal i.e., online and offline search, and relationships between different formats online and offline. We also add a cautionary note to the study of information utility where another major factor affecting the utility of online information is the concern consumers have about the source credibility of online information sources (Peterson and Merino 2003; Ratchford, Lee and Talukdar 2003). Unlike offline information sources which can be readily identified through the existence of a physical presence e.g., stores, offices etc, the virtual existence of many online vendors may leave consumers sceptical about online information from sources without a physical presence. This consumer concern is a general "devaluing" factor of online information utility and should be dealt with in any future research.

Personal factors affecting consumer search behaviour

As consumers are unique and their behaviours are varied, examination of personal factors affecting information search behaviour offline has attracted considerable researcher attention. There is however limited online research in this area and we therefore use literature that predates the internet as the personal needs and characteristics that we deal with are not likely to be different online from the offline research context. For this review, we have reviewed literature relating to effects of (1) cognitive factors, such as product knowledge, (2) individual skills in search and information processing, (3) personal involvement with the desired product reflected by motivation and risks relating to the purchase, and (4) personality factors such as risk aversion and perceived self–efficacy, that are likely to affect search behaviour on-line.

Cognitive factors affecting consumer search behaviour

The need of consumers to satisfy their information needs relating to product knowledge is the primary motivator for consumer information search. In offline settings, Punj and Staelin (1983) identified a U shaped relationship between an individual's level of product or category knowledge and the extent of their information search. They found searchers with low levels of knowledge may be unaware of what they need to look for and were as a result limiting their search activity. Where consumers have high prior knowledge their search activity is also limited as further search is not thought to offer them any benefit. Unfortunately, research activity in consumers search online is still in early stages and knowledge of a consumer's product knowledge levels is a key in understanding what information they need to most effectively add value to their search. For example, a searcher with low knowledge levels may instigate a search with a few key words, vendors must be able to link with these key words and provide further information of "value" which will encourage continued search. The type of product being offered also has an effect on consumer search behaviour with Johnson et al's (2004) analysis of panel data showing surprisingly low search volume for standardised or "search" type products e.g., CDs and books, online. The differences between "search" and "experience" type products e.g., apparel, fashion, recreational travel, which are hard to evaluate online will be dealt with in the section of this paper dealing with product factors. However, Moorthy, Ratchford and Talukdar (1997) pointed to the importance of "internal" search or experiential knowledge in dealing with hard to evaluate product attributes and the need for vendors to supplement such "internal" consumer knowledge with credible information in cases where it is lacking. Such "internal" knowledge is particularly important for experience type products (Moore and Lehman 1980) where consumers are more likely to rely on internal search for qualitative/experience type attributes. This need for consumers to supplement "internal" information sources with "external" ones is an under researched area in online applications.

It points to the need to investigate the behaviours of consumers who reach a point in their online search where the information does not satisfy their needs, what do they do next? Do they terminate the online search totally, or do they supplement it with offline sources and then return?

This remains a major gap in our understanding. We will deal with these questions further in the following sub-section as there is a strong likelihood of interaction between personal product knowledge needs and the "experience" product types that we advocate using for researching complex information search.

Personal skill factors affecting consumer search behaviour

The literature on the effect of personal skills on information search behaviour falls into the three areas of:

(a) *Technology skills* refers to the consumers ability to engage with varied electronic networks and data processing technologies and are a key factor in achieving Hoffman and Novak's (1996) state of "flow" where consumers become so engrossed in the search process that they block out any other distractions until they achieve their desired information needs. This research area, though theoretically attractive has received very little empirical validation.

(b) *Search skills* which refer to the consumer's knowledge regarding information access. These search skills allow consumers to find desired resources faster and determine amount of search done by individual consumers. Kiel and Layton

(1981) identify education as a key factor affecting search skills and this leads to more efficient search behaviour. Schmidt and Spreng (1996) conceptualise search skill as minimising cognitive costs for a searcher, and therefore raising the level of benefits achieved in information economics terms. Yet little investigation has occurred examining the relationship between consumers search skill ability and overall information value achieved in their search.

(c) *Information processing skills* relate to the ability of consumers to extract and process information that will satisfy their information needs. Offline researchers in this area have focussed on consumer learning based on experience with different types of information source over time (Bennett and Mandell 1969). In online situations, Johnson, Bellman and Lohse (2003) and Murray and Häubl (2007) have identified consumer preferences for sites they regard as favourites owing to the ease of information access and subsequent processing they refer to this effect as "cognitive lock-in." Once customers are comfortable with a site they tend to return regularly to it as it has less processing costs than retrieving information from new sites.

It is evident that by examining the technology, search and processing skill levels of their consumers, vendors can better identify and provide information offerings which add real value to the consumer decision making process and consequently increase consumers overall search activity online. The benefits of doing so for vendors are apparent in achieving both customer value delivered through information service, as well as the expectation of repeat business through positive reinforcement.

Personality factors affecting consumer search behaviour

Considerable research has been conducted in the field of consumer behaviour to determine the effects of personality factors on consumer search in the interests of perceived risk management. Researchers have identified *risk aversion* as the fundamental reason behind information search. Risk aversion is a consumer's natural predisposition to avoiding losses e.g., financial, performance, social through purchase activity (Bauer 1967, Cox 1967, Jacoby and Kaplan 1972). Consumer risk aversion is thought to affect the volume of their search behaviour (Kahneman and Taversky 1979) but has only been examined in offline situations (Beatty and Smith, 1987, c.f. Conchar et al 2004) however, there is no evidence of such research in online search behaviour. Some fundamental questions exist for the role of the internet for highly risk averse people, are online sources capable of providing enough assurance to satisfy all their information needs, or is there a need for consumers to supplement gaps with offline sources. Other fundamental issues that need investigation may be the extent to which the varied information format and content utilities provide added value for highly risk averse consumers. Our limited knowledge of what is a fundamental driver of search behaviour is an area which offers considerable research opportunity.

The literature regarding personal factors affecting information search is scant; we have drawn out three factors that seem worthy of attention from the literature. These personal factors are:

(a) *Optimum stimulation levels (OSL)* reflect an endogenous personal need for information with clear links to levels of search activity as well as preferences for different types of sources. The four instruments used by Steenkamp and Baumgartner (1992) to derive their weighted score of optimum stimulation levels seem effective with clear links to preferences for variety, avoidance of

repetition and lower risk aversion. A practical consideration however is the need to gather data for classifying searcher OSL levels to enable information offering customisation, which is likely to be a serious operational challenge.

(b) *Perceived self efficacy* also affects search behaviour (Mourali, Laroche and Pons 2005), positively associated with need for personal sources based on preference for interpersonal contacts and negatively associated with need for cognition based on preference for self reliance. Whether this represents a converse to OSL based on a preference for a fast and easy solution rather than seeking further stimulation is an open question and the relative efficacy and relationship between the two measures requires comparative testing. This individual characteristic does not however operate in isolation and we can expect interaction with product factors (Conchar et al 2004) based on the relative meaning of a product for a given consumer.

(c) The final personality type factor that we have identified is the *need for closure* scale (Webster and Kruglanski 1994) which suggests differences in preferences for information source types as well as volumes of search. Again, there is an open question of how this relates to the other personality variables identified in the literature, is it for example the converse of OSL and if so, what are the similarities between it and perceived self efficacy?

As evidenced by the scarcity of research in this area, we suggest further investigation of many of these themes may improve our understanding of consumer search behaviour online. Personality factors are enduring and have been found to affect search behaviour offline, further research is needed to examine if they have similar effects in online search settings.

Personal involvement affecting consumer search behaviour

The level of personal involvement with the purchase of a product is based on the importance of that product to the consumer and reflects the level of perceived risk for a given consumer (Laurent and Kapferer 1985). Risk is multidimensional with Jacoby and Kaplan (1972) suggesting elements of financial, performance, physiological, psychological and social risks in a product specific hierarchy for each consumer. Chauduri (2000) collapses the dimensions into two components of (a) functional risk (financial, performance and physiological) and (b) emotional risk (psychological and social) and shows the link between types of risk and distinctly different consumer information preferences which may differ between individual consumers for a common product. For example a motor sport enthusiast may purchase a sports car for its performance and primarily seek information dealing with specifications and so forth to manage perceived functional risk, on the other hand, a wealthy person may purchase the same car for ego gratification based on reflected image and inform their decision with more subjective or opinionated information. For a vendor to provide appropriate information to each of these potential buyers they will need to be aware of the different motivations for purchase and resultant information source utility differences between the two customers.

Information search behaviour for high involvement products will be further affected by the level of hedonism or utility associated with the product's use. This effect has been examined offline by Babin, Darden and Griffin (1994) who found that consumers shopping for highly hedonic products derive gratification from the search process effectively adding to the volume of consumer search process based on lower perceived time costs (Ratchford, Lee and Talukdar 2003) of the search

process. With the diverse format options available to online vendors the opportunity to view search as "play" is a recently identified opportunity to add further consumer value in a search process (Mathwick and Rigdon 2004). For example, a consumer contemplating a highly desired recreational travel experience may seek vicarious gratification from information search beyond that required to meet their cost benefit requirements in selecting the provider of the experience. A confounding element is that high levels of involvement may result in lower levels of search where a consumer has engaged in extended search (Bloch, Sherrel and Ridgeway 1986) out of intrinsic interest prior to engaging in purchase directed information search.

In summary, to understand consumer needs for information source types and volume, a vendor needs to identify the consumer's primary motivation for purchase, as well as the interaction between potentially search-inflationary hedonic elements of the search process and potentially deflationary effects of extended search preceding purchase directed search. Overlaying this is a need to understand the effects of online information content and format utilities relative offline information content and utilities and identify complementarity effects of the two modes.

Product factors in consumer search behaviour

Our review so far has examined (1) the information source utility factors, and (2) the personal factors affecting consumer search behaviour. In doing so, we have noted that differences in product characteristics affect search behaviour. We will now review the differences between "search" and "experience" products to highlight these differences in consumer search behaviour. Following this we review the stimuli that consumers may need in information search for services with particular attention to consumer needs for assurance or comfort to manage their perceived purchase risks. In doing so we will further show the need for consideration of information utility, personal and product factors to achieve an understanding of consumer information search online.

"Search" products e.g., CD's, books etc.

The majority of online information search studies have been done with "search" type products which tend to be standardised with strong expectations of performance based on prior experience. Buying a book from Amazon.com or a local bookstore makes no difference in the use of a book from a common print and binding process with all others in its edition. Similarly, a CD purchased from CD Now online or a local music store will have much the same effect on a given appliance, limiting differentiation by vendors to price, product range, possession and/or preferred mode of shopping (Keen, Wetzels, de Ruyter and Feinberg 2004). The limited semantic complexity between offerings, differentiated on clear and objective information, lowers consumer cognitive search costs and resulting search activity, especially for low involvement products like books and CD's. A clear illustration of the surprisingly low rates of search for books and CD's is Johnson et al's (2004) clickstream analysis of panel data showing average web page visitations of marginally above one single site and falling over time for a household in an "active" month. Search for air tickets (still highly standardised the same seat, service and aircraft type will result for a given flight regardless of booking agent) approaches almost two web page visitations, again falling over time, presumably with growing product and search experience, reflecting higher risk associated with higher cost. Such data fits well with the internet's utility, identified earlier in this paper, for objective or catalogue search rather than subjective information that is open to interpretation.

Declining search patterns is not however an argument against the need for deeper investigation of search behaviour as the reduction in systematic error achieved by Park and Fader (2004) by applying clickstream analysis to two websites of a given type suggests otherwise. If increased structural complexity results in better predictive ability for semantically simple "search" products, knowledge of semantic complexity may improve search value for both "search" as well as more complex "experience" which this paper advocates researching.

"Experience" products e.g., wine, restaurants, travel experiences

The greater product complexity that this paper wishes to address begins to show in the studies that have been done on online information search by people buying cars (Kirmani and Baumgartner 2000; Klein and Ford 2003; Ratchford, Lee and Talukdar 2003; Yoon and Kim 2001) where both search and experience elements are found. To satisfy their information needs, consumers require objective search type data on specifications and performance as well as subjective information on the experience of driving the car and opinions of design aesthetics or the overall "image" of the car. A key feature of subjective or opinionated information is what Darby and Karni (1973) classify as having "credence" properties, which places trust and credibility of information at the forefront of consumer information needs when evaluation of products and services prior to purchase is a problem. To highlight the complexity of such credence based information we will now briefly discuss the variety of consumer need stimuli required in the purchase of service type products characterised by their intangible nature.

Service product information stimulus needs

The intangible nature of services presents an evaluation challenge for consumers in pre-purchase search Berry (1980) and the associated literature illustrates differences in stimulus needs. Murray's (1991) test of service marketing theory confirmed the utility of personal independent sources in a distinctly different search process for consumers making higher risk decisions. One of their findings was the potential for vendors to add customer value by offering access to such word of mouth for customers in a buying process. However such information sources have qualified value for consumers (Bansal and Voyer 2000) based on personal factors such as search skills and the searcher's perceived risk interacting with perceptions of the word of mouth provider's perceived expertise and relationship with the searching consumer. As a result, vendors wishing to offer similar or surrogate information, for example from independent experts, will have to account for different source values for individual consumers as well as the relative utility of online and offline.

Beyond the higher risk relating to service purchases we have alluded to other situations where particular stimulation types may add substantial consumer value by reducing risk of a purchase. Two key areas are those of (a) high involvement taste based services and (b) those where particular sensory stimulation may be important. For example in a high involvement taste based service, such as a highly desired African Safari, how does a consumer identify a safari operator that offers an appropriate level of adventure for encounters with potentially dangerous wildlife? One person's adventure travel experience may be bone chilling terror for another as a matter of taste requiring taste congruency with interpersonal sources or advocate or non advocate sources that provide comfort for the given consumer and whether these are preferred online or offline. Sensory stimuli on the other hand are important for retailers (Hill 2001) (a form of service) selling some types of products online. Apparel is a classic

experience type product making it far harder to deal with online since a consumer may seek reassurance from the feel of a shirt's cloth or asking an accompanying friend "does my bum look big in this?" In other cases tactile, olfactory or gustatory stimulus may be valued e.g. a chef may prefer direct contact for quality assurance from retailers of seafood or other fresh produce they buy when cooking for people that are important to them. A major limitation of online information exchanges, virtual reality notwithstanding, is the lack of such sensory stimulation and if people are to move more to online search the deficiency needs to be addressed. Similarly the issue of credibility is a vexed one online with lack of credibility associated with many typically anonymous online personal sources (Ratchford, Lee and Talukdar 2003) frustrated by the commercial interest associated with advocate sources like principals and intermediaries. In such cases understanding the factors in consumer information source choices outlined in this paper will enable better service delivery for more complex products and services.

In summary, we suggest research into online information search beyond "search" type products to "experience" based products. In particular, we argue that with online vendors offering "high experience" goods and services which Gilmour and Pine (1998) view as semantically complex, typically high involvement and non-standardised and importantly high in perceived consumer risk, there is a clear lack of understanding of the information needed by consumers wishing to effect purchase online. Such research into experience type products, in the form of high involvement hedonic services with high credence properties, may facilitate far deeper understanding for both simple and complex products.

FUTURE RESEARCH DIRECTIONS

Our examination of factors revealed that the literature exploring online consumer search behaviour is still in its early stages of development. Clickstream modellers have given us some insights to search behaviour but are typically restricted to search type products with a focus on a single website's information offering. The valuable insights into consumer behaviour developed by these researchers lacks understanding of consumer behaviour complexity for "experience" type products, especially where search may be multi-modal. Our review of the literature indicates that the online context for 'experience' type goods brings in many factors that were not an issue in offline situations such as information content issues leading to information overload and varied format issues. Further, the manner in which consumers interact and use a new technology is a serious factor affecting search behaviour based on cognitive, personal skill, personality and personal involvement factors of each individual consumer. A final concern is the difficulty of providing "credence" type information over the internet. These conditions, unique to the internet, need to be included in new conceptualisations of consumer search online. The reality that many consumers do not and will not use online sources exclusively for their information search must be included in new conceptualisations as well. This is a necessary departure from the viewpoint taken by clickstream modellers who view consumers search behaviour as being limited to typically single website online interactions.

To develop an understanding of the complex interactions between relative information source utilities online, personal factors and product factors that are the basis of consumer information search will require drawing on research methods that explore not only consumer behaviour but psychological and socio-cultural

underpinnings of the behaviour. This will enable an understanding of both structural and semantic complexity of behaviour and possibly clarify some of the apparently contradictory factors within, for example, the psychological personal factors identified in this paper.

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