A systematic review of consumer information search in online and offline environments

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Abstract

Purpose – The purpose of this study is to identify major themes and potential research opportunities in online and offline consumer search.

Design/methodology/approach – A systematic review was conducted based on 118 articles identified from prevalent journal databases. Keywords frequency analysis was carried out to identify the major themes. An inductive thematic analysis was carried out to verify the generated themes.

Findings – Results show that uncertainty, knowledge, perceived risk, price, experience and involvement are the major themes associated with consumer information search. Uncertainty, one of the major themes of offline search, has not been studied in the online search context. Similarly, the previous experience needs to be explored in the context of the offline search. Finally, potential research opportunities for future research has been summarized based on the retrieved themes.

Research limitations/implications – The systematic review provides an in-depth understanding on the current research on information search literature with future research directions.

Practical implications – This study helps retailers to understand the key elements that motivate consumers to perform external information searches from online and offline sources and to curate targeted information provision strategies to influence purchase decisions.

Social implications – Consumers with limited internet availability may access channels prior to decision-making. The themes identified in this study can aid policymakers to design affordable access to these channels.

Originality/value – This study adds to the sparse literature on systematic reviews on consumer search for online and offline channels.

Keywords Uncertainty, Knowledge, Experience, Online/offline search

Paper type Literature review
1. Introduction
Information search is an important activity as consumers try to reduce uncertainty and perceived risk before an actual purchase. They use multiple channels (online and offline) to gather information before making purchase decisions (Degeratu, Rangaswamy, & Wu, 2000; Jang, Prasad, & Ratchford, 2017).

Offline search can be performed either out-of-store or in-store. Books, pamphlets, magazine, newspaper articles, visiting different retail outlets and seeking the opinion of friends or relatives are some of the major sources for out-of-store information search whereas catalogues are popular in-store options (Singh, Ratchford, & Prasad, 2014; Tagashira & Minami, 2016; Westbrook & Fornell, 1979). In recent years, online information sources have become a popular alternative to traditional offline sources as they provide easy access to functional and price details (Sands, Ferraro, & Luxton, 2010). Past research has identified online advertisements, manufacturers’ web sources, dealer/vendor/retailer/company websites and social media as some of the influential online sources (Singh & Swait, 2017).

There has not been much research, barring a few that ventured into identifying the antecedents of offline and online information search. Kulviwat, Guo, and Engchanil (2004) determined that perceived benefits and perceived cost of search were the major determinants of online information search. Search costs, price dispersion, prior experience and knowledge are other determinants in the context of offline search (Maity, Dass, & Malhotra, 2014). Apart from these two major papers, there has not been any recent review on information search behaviour. Active information search shapes a consumer’s purchase intention significantly. Thus, research on the identification of the determinants of online and offline search is a promising area as suggested by past studies (van Rijnsoever, Castaldi, & Dijst, 2012; Verhoef, Kannan, & Inman, 2015). In this study, we seek to contribute to information search literature by reviewing and identifying major themes associated with consumers’ online and offline information search.

The paper is structured as follows. Section 2 outlines the method followed. Section 3 describes the major themes associated with search based on channels. Finally, we present the research implications and the scope for future research in Sections 4 and 5.

2. Identification and collection of literature
Systematic reviews focus on the “identification, evaluation and interpretation of relevant research questions or phenomenon of interest on a particular area” (Busalim & Hussin, 2016). The usage of systematic methods in reviewing articles minimizes bias and provides reliable results (Petticrew & Roberts, 2006; Snyder, 2019; Tranfield, Denyer, & Smart, 2003). We used a systematic and structured approach to identify the major themes of online and offline information search from extant literature. Our review process includes the various recommended stages, namely, research questions formulation, identification of studies from prominent databases, search strategy definition, data extraction and results (Han, Xu, & Chen, 2018; Nguyen, Leeuw, & Dullaert, 2018).

2.1 Research questions
Online consumer search is an under-studied area compared to offline consumer search. More importantly, very few studies have put the spotlight on the predictors of online information search. Furthermore, there is a lack of literature that compares the antecedents of online and offline information search. Hence, the objective of this study is to perform a systematic review of consumer information search in the context of both
online and offline channels. We examine three research questions to achieve this objective:

**RQ1.** What are the major themes associated with consumer search across channels (online and offline)?

**RQ2.** Are there differences in themes of consumer search across channels (online and offline)?

**RQ3.** What are the potential research opportunities in consumer search across channels (online and offline)?

We expect to unravel significant themes associated with consumer information search and also to provide a sense of direction for future research by answering these questions through a systematic review.

### 2.2 Method

#### 2.2.1 Data collection, search process, inclusion and exclusion criteria.

We searched for articles from a wide range of academic journals in Emerald, Elsevier, EBSCO, JSTOR, Scopus, ProQuest, SAGE, Springer, Inderscience, Wiley Online Library and Taylor and Francis databases. Keywords such as “consumer search”, “online search”, “offline search”, “channel search”, “physical store search”, “social media search”, “retailer search”, “media search”, “interpersonal search” and “information sources” were used to filter relevant articles. The data was downloaded and added to Mendeley. Journals and books of other streams were removed from the data set. We considered only those articles with full text in English for the systematic review. A total of 300 articles were shortlisted at this stage after removing duplicates. To improve the relevancy of the articles, we filtered the selected publications by examining each of them based on the title, abstract, keywords and full text relevant to our research question (Han et al., 2018). We excluded conference publications, books and case studies. Review, conceptual and empirical papers that used secondary data sets were also removed and the final data set included 118 empirical studies that used primary data. Figure 1 shows the entire process involved in data collection. The finalized data set included articles dated 1961 to 2018 from reputed journals.

Next, the articles were imported to NVivo from Mendeley for analysis. Relevance of the identified articles was cross-checked and a total of 118 articles on consumer search with high impact factor were retained in the data set. Of these, *Journal of Consumer Research* (n = 29 papers), *Journal of Marketing Research* (n = 17 papers), *Journal of Retailing* (n = 7 papers) and *Journal of Marketing* (n = 7 papers) were the top journals in terms of the number of articles. *Journal of Consumer research* has the highest number of articles on offline search (n = 27 papers). However, articles on online search were very few. *Journal of Retailing* had the maximum number of articles on online search (n = 3 papers). Similarly, very few studies had investigated the combined context of the online and offline search. The highest score for this category was for the *Journal of Interactive Marketing* (n = 3 papers).

#### 2.2.2 Keyword analysis and research themes.

We used keyword frequency analysis to get an overview of the topics from the final data set (Lamberton & Stephen, 2016). R statistical tool and R packages “tm” from CRAN were used for analysing the data files. In addition to this, an inductive thematic analysis, an effective approach for in-depth analyses of text data, was conducted by the authors to verify the themes (Guthrie, Petty, Yongvanich, & Ricceri, 2004; Krippendorff, 2004). Authors carefully read all the finalized
papers and assigned codes to highlight major findings. The codes were analysed to cull out search patterns, and finally, six research themes were generated. These themes matched with the themes that were generated using the software. Figure 2 illustrates the research flow.

3. Results
Table 1 shows the major keywords in offline and online search, which emerged from the keyword analysis. The major themes identified are the effect of the following variables on consumer information search, namely, uncertainty, knowledge, perceived risk, price, experience and involvement. Uncertainty was a major issue in offline search but was not in online search. Similarly, experience is present in online search studies but not in offline studies. The authors manually coded the studies independently. Disagreements were resolved post coding, and the themes were finalized. Interrater reliability was tested using Cohen’s Kappa criterion, and a value of 0.82 denoted that the results were reliable (Landis &
The themes were similar to the ones generated from the keyword analysis. Figure 3 shows the variables associated with the generated keywords from the studies.

### 3.1 Effect of perceived risk on consumer information search

Perceived risk is related to the consumer’s perception of uncertainty about the consequences of a purchase. Consumers engage in higher information search prior to product purchase as they believe that this will reduce risk (Chaudhuri, 1998; Dowling & Staelin, 1994; Liu, Hsieh, Lo, & Hwang, 2017; Mourali, Laroche, & Pons, 2005). Lower levels of perceived risk lowers search benefits, and therefore, the amount for search is reduced (Srinivasan & Ratchford, 1991). Thus, consumers’ extent and duration of search varies for different categories of risk.

Consumers may not restrict themselves to personal sources but may search from multiple external sources (online and offline) to reduce financial or performance risk (Srinivasan & Ratchford, 1991). Similarly, emotional risk (others’ evaluation of self on the usage of the products) makes them refer to several online or offline sources before and during the purchase of an innovative product. However, they may stop searching due to information overload when they perceive high functional risk (risk due to functionality or appearance of products) (Zhang & Hou, 2017). This is contradicted in another study where functional risk is measured using items relating to financial and performance risk. In this case, the functional risk seems to increase the propensity to search (Dholakia, 2001).

Socioeconomic risk (risk of social or economic injury) influences shoppers to look for offline personal sources such as word-of-mouth (WOM) and opinion (Perry & Hamm, 1969).

![Figure 2. Research method](image)

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Offline</th>
<th>Frequency</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>1,406</td>
<td></td>
<td>788</td>
</tr>
<tr>
<td>Price</td>
<td>1,157</td>
<td></td>
<td>995</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>1,096</td>
<td></td>
<td>618</td>
</tr>
<tr>
<td>Experience</td>
<td></td>
<td></td>
<td>731</td>
</tr>
<tr>
<td>Involvement</td>
<td>816</td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>675</td>
<td></td>
<td>–</td>
</tr>
</tbody>
</table>

Table 1. Frequency matrix for search literature
While seeking symbolic benefits, social risk induced the use of search for information from personal sources (peer, spouse and salesperson) rather than objective sources. This seems true for high-risk scenarios and early trials where the consumer preferred to rely on personal sources (Midgley, 1983). Necessities that evoke negative emotions (e.g. tampons or blades) increase information search when compared to other necessities. Similarly, perceived risk is greater for luxuries when compared to necessities (Chaudhuri, 1998).

Recent research also shows that consumers prefer to search more from online sources. Manufacturer and dealer websites, bulletin boards and travel websites are popular commercial and non-commercial online sources for products such as automobiles and travel. When compared to offline sources, the breadth of search is comparatively greater for online sources, which, in turn, leads to efficiency gains for experienced consumers who go back to online sources (Ho, Lin, & Chen, 2012a; Klein & Ford, 2003; Kulkarni, Ratchford, & Kannan, 2012; Xiang, Magnini, & Fesenmaier, 2015).

### 3.2 Effect of uncertainty on consumer information search

Uncertainty is the “difficulty consumers possess in choosing from alternatives due to lack of sufficient information” (Driscoll & Lanzetta, 1965). Uncertainty has been studied only in the offline context. Researchers have explored the effect of multiple dimensions of uncertainty on information search (Figure 3). This includes knowledge, choice, evaluation, categorization and brand uncertainty (Moorthy, Ratchford, & Talukdar, 1997; Ozanne, Brucks, & Grewal, 1992; Shiu, Walsh, Hassan, & Shaw, 2011; Urbany, Dickson, & Wilkie, 1989). In most situations, uncertainty increases consumers’ information search.

Consumers with higher choice and knowledge uncertainty engage in extensive information search from various sources for non-sensory products. When knowledge uncertainty (uncertainty regarding information about alternatives) is low, choice uncertainty (uncertainty about which alternative to choose from) increases the usage of information sources such as trade sources, consumer reports, consulting friends or relatives. Consumers’ information processing capabilities also impact their search choices. For
instance, while shopping for grocery consumers may find it cumbersome to evaluate label information such as additives or ingredients. This is referred as evaluation uncertainty. When consumers face evaluation uncertainty, they forego search and may abandon shopping. For sensory products such as apparel, consumers find it difficult to choose from alternatives. In such cases, consumers who do not face evaluation uncertainty search more (Shiu et al., 2011; Urbany et al., 1989).

When consumers are not able to classify products based on their pre-defined set of expectations, they experience “categorization uncertainty”. A feature like hands-free phone technology may be available in both luxury and economy car variants. When facing a choice between such variants, the consumer may be unable to distinguish the product category. Consumers with categorization uncertainty engage in higher depth of search and gather information from multiple sources (Ozanne et al., 1992).

Consumers also turn to external information sources when they are not sure about the utility of the brand (brand uncertainty) or when they cannot choose from a set of brands (relative brand uncertainty). In the case of an automobile purchase, if the consumer experiences brand uncertainty they may visit retail outlets to investigate product features further. They also explore more when they face relative brand uncertainty (Brands A and B offer similar product features) (Moorthy et al., 1997).

3.3 Effect of involvement on consumer information search
Involvement is “a person’s perceived relevance of the object based on inherent needs, values and interests” (Zaichkowsky, 1985). Highly involved consumers search extensively (Bloch, Sherrell, & Ridgway, 1986; Punj & Staelin, 1983). In the context of consumer search product, enduring, purchase and ego involvement have been investigated by researchers (Chaudhuri, 2000; Smith & Bristor, 1994; van Rijnsoever et al., 2012).

Enduring product involvement (“the degree to which the product relates to the self and/or the hedonic pleasure received from the product”) motivates consumers to refer a number of external sources. Consumers who are not highly involved disregard both market and personal sources (Warrington & Shim, 2000). Product involvement increases the perception of risk in the purchase. Hence, consumers prefer to search various offline sources of information before purchase (Chaudhuri, 2000). These include catalogs, magazine ads, articles, discussions with salespersons or friends and store visits on regular basis (Bloch et al., 1986; Lin & Chen, 2006). They may also use both online and offline sources for gathering information and comparing products (van Rijnsoever et al., 2012). However, online search experience plays an important role in increasing search activity, irrespective of consumer involvement levels (Mathwick and Rigdon, 2004).

Purchase involvement (involvement of the individual in the purchase activity) also increases external search effort (media search, retailer search, interpersonal search and neutral sources) (Beatty and Smith, 1987; Smith and Bristor, 1994). Similarly, WOM has a significant positive influence on consumers’ purchase involvement for services (Voyer and Ranaweera, 2015). Of all the various involvement categories, only ego involvement (product importance to individual’s self-concept, values and ego) has a significant negative impact on total search effort.

3.4 Effect of knowledge on consumer information search
Knowledge is “the amount of product experience and familiarity consumers have before the occurrence of external search” (Alba and Hutchinson, 1987). Very few studies have investigated the effect of knowledge in online search.
Consumers’ prior knowledge has a negative impact on external search. For example, consumer awareness of dealer information and model specific knowledge results in lower external search for automobiles. Specific product knowledge gained from everyday product usage decreases information search, while general product-class knowledge increases information search from various external sources. Consumers gather information from sources including friends, sales-persons at dealerships, books or magazines and test-driving experience before purchase of new cars (Punj and Staelin, 1983; Srinivasan and Agrawal, 1988). However, consumers’ confidence on pre-existing knowledge decreases the amount of online information search for electronics (Rose and Samouel, 2009).

Consumers’ prior knowledge includes two dimensions – subjective (“what individuals perceive that they know”) and objective knowledge (“what is actually stored in memory”). Subjective knowledge increases the tendency to request opinions from dealers, whereas objective knowledge results in an increased examination of attributes information. For instance, consumers gather information on product attributes and alternatives, indicating a greater search efficiency for electronics (Brucks, 1985). Consumers with higher subjective knowledge use critics and publication information sources before the purchase of wine in-store (Barber, Dodd, and Kolyesnikova, 2009). Similar to offline search, consumers’ subjective knowledge has a positive impact on online information search as they spend long hours in gathering information from websites or social media (Gallant and Arcand, 2017).

3.5 Effect of price on consumer information search
Price is one of the major themes that influence consumer search. Consumers search for information from external sources to seek better prices (Carlson and Gieseke, 1983; Mehta, Rajiv, and Srinivasan, 2003; Putrevu & Lord, 2001; Ratchford, Lee, & Talukdar, 2003). The amount of search increases as consumers look for products within a particular price range. Consumers choose known brands with an average price when they are unable to find products within the expected price range (Duncan and Olshavsky, 1982). They also tend to leverage perceived price dispersions by searching for coupons, promotional offers/deals and price comparisons of different companies (Putrevu & Ratchford, 1997; Seock & Bailey, 2008).

There exist differences in online and offline consumers in the salience of information types for price search. Ratings are taken into consideration by internet users, while recommendations are preferred by offline consumers (Kulkarni et al., 2012). Price has a smaller impact on online sources when compared to offline stores (Degeratu et al., 2000). However, consumers with increased price consciousness preferred WOM information online when compared to traditional sources (Scarpi, Pizzi, & Visentin, 2014). Price also has a positive impact on consumers post-purchase online review intentions. Reviews from retailer websites and social media are used by consumers whenever product prices are higher (Moriuchi & Takahashi, 2018).

3.6 Effect of previous experience on consumer information search
Previous shopping experience, experience with the product or the internet, influences the consumers’ information search. Previous experience with product enhances familiarity. Familiarity aids consumers in evaluating multiple alternatives from different sources. Using familiar search sources based on previous shopping experiences may reduce search efforts (Broilo, Espartel, & Basso, 2016).

Highly educated and net-savvy consumers prefer to search online (Dutta & Das, 2017). However, while they rely on the internet for easy access to information, they look for other sources with increasing experience with the internet (Kukar-Kinney, Ridgway, & Monroe, 2009;
In the case of search goods, retailer and manufacturer websites were found to be reliable. Other consumers and neutral sources were found suitable for experience products (Bei, Chen, & Widdows, 2004). Consumer search less number of pages online for an experience product, however they spend a lot of time on these pages (Huang, Lurie, and Mitra, 2009).

### 3.7 Other factors

Demographic and psychographic factors influence search behaviour. Age, life-stage, education and personality traits may influence the number of search alternatives used. Older, less-educated women were found to use fewer cues while searching (Schaninger & Sciglimpaglia, 1981). Gender and cross-cultural factors may also reveal differences in the type of source referred. For example, when compared to English shoppers, French shoppers preferred to talk to the salesperson while buying gifts (Goodwin, Smith, and Spiggle, 1990). Men used heuristic strategies and used less number of sources in-store, whereas women searched more extensively (Laroche, Saad, Cleveland, & Browne, 2000). Younger consumers are also comfortable using the online environment to search for information (Burke, 2002). While it offers lowered search costs, prior use is a significant predictor of using the internet for search (Jepsen, 2007). Interestingly, when compared to digital nativity, high information literacy is a determinant of the usage of the internet as a source of information (Çoklar, Yaman, and Yurdakul, 2017).

Consumers’ perceived need for information and the availability of the information from the channel was important in choosing the channel. Positive reinforcement of the channel choice influenced the consumers to repeat searches on these channels (Westbrook & Fornell, 1979). The consumer’s perception of the usefulness of a retail channel in providing information influences the number of times they search and subsequently purchase. This effect is pronounced for non-store purchases (Kim & Lee, 2008). Website quality could be an influential factor. When the consumer has a positive attitude towards a website, they search more from that site and are inclined to purchase from the same (Ho, Kuo, & Lin, 2012b). In certain scenarios, consumers choose online sources as an additional resource for obtaining information. For instance, while choosing used cars, consumers tend to use online sources only as a complementary resource to visiting the dealer (Singh et al., 2014).

A few recent studies investigate cross-channel search behaviour. Consumers who searched on the internet spent more in physical stores in most product categories (Sands et al., 2010). Chandrasekaran, Srinivasan, & Sihi (2018) find that unlike emotional content, informational content of television advertisements increased online brand search. The major findings and gaps in research themes have been presented in Table 2.

### 4. Implications

#### 4.1 Research and theory implications

The systematic review contributes to search literature by unravelling the major antecedents of online and offline information search. A number of potential research opportunities have been identified from the themes. The role of uncertainty on online information search needs to be investigated. Product uncertainty (dimensions: performance, description and fit), one of the major determinants of information search, has been overlooked by previous researchers (Dimoka, Hong, & Pavlou, 2012; Hong & Pavlou, 2014). An empirical investigation is required to check whether consumers’ perceived risk differs for product and service information search (Zhang & Hou, 2017). The effect of perceived risk on consumers’ preferences and usage of interpersonal information sources needs to be examined (Mourali et al., 2005). Researchers may explore the patterns and trends used by consumers to consult offline and online sources for the purchase process (Gallant & Arcand, 2017). Empirical
<table>
<thead>
<tr>
<th>Themes</th>
<th>Findings</th>
<th>Major gaps identified</th>
</tr>
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</table>
| Uncertainty| • Knowledge uncertainty decreases the amount of offline information search because of the higher costs of search. Choice uncertainty increases the number of brands considered (Urbany et al., 1989). Knowledge and evaluation uncertainty decrease search intention whereas choice uncertainty increases search intention (Shiu et al., 2011)  
  • Higher level of categorization uncertainty limits the breadth of search (Ozanne et al., 1992)  
  • Amount of search increases with individual brand uncertainty. Consumers try to gather brand information from various sources including TV/radio/newspaper advertisements, magazine reports, salespersons and dealers. The total amount of search increases with relative brand uncertainty. Consumers rank the brands in the consideration set and gather information in a particular order and not in a random order (Moorthy et al., 1997)  
  • P1: Uncertainty is positively related to offline information search                                                                                       | • The impact of uncertainty on online information search has not been explored                                                                                       |
| Perceived risk | • Higher the socioeconomic risk involved in the purchase decision, greater the importance and usage of information sources (Perry & Hamm, 1969)  
  • Products prone to social risk (e.g. men’s clothing) may require greater external information search mainly from personal sources including peer referents (Midgley, 1983)  
  • Results show the linkage between perceived risk and search through intervening variables of benefits and evoked-set size. Perceived risks have smaller effects on search effort (Srinivasan & Ratchford, 1991)  
  • Consumers with higher product-category risk try to reduce the riskiness of a set of purchase tasks by gathering information from various sources (retailer, media, interpersonal and introspection). Consumers gather information regarding product price, quality rating in a product class and the product-specific risk increases information search. Consumers with higher acceptable risk seek more product information when compared to others (Dowling and Staelin, 1994) | • Very few studies exist on the relationship between perceived risk and online information search                                                                 |
|            |                                                                                                                                                                                                                                                                     | • Formation of antecedents of information search contexts in a combined fashion (online and offline) is understudied |
Perceived risk is positively related to the level of search conducted for different product categories (Chaudhuri, 1998). Functional risk influences consumers’ propensity to seek product-related information prior to purchases. Social risk does not influence consumers’ information seeking for product purchases (Dholakia, 2001).

Financial risk is not related to consumers’ preference for interpersonal sources. Even though consumers perceive performance risk, they will not necessarily favour personal sources (Mourali et al., 2005).

Functional risk affects on-going search negatively and does not have an impact on pre-purchase search. Emotional risk positively affects on-going and pre-purchase information search (Zhang & Hou, 2017).

P2: Perceived risk is positively related to offline information search and online information search.

Product involvement is positively related to an ongoing search. Enduring involvement in a product class is strongly and positively related to the propensity to engage in ongoing search (Bloch et al., 1986).

Purchase involvement is positively associated with external search efforts. Ego involvement is not associated with total search effort (Beatty & Smith, 1987).

Purchase involvement is a multidimensional construct. To avoid low construct reliability, it was deemed appropriate to use the purchase risk facet of purchase involvement and eliminate other measures. Results show that consumers with higher purchase risk engaged in greater external search (Smith & Bristor, 1994).

Hedonic aspect of involvement is directly related to information search. The impact of the importance dimension on information search is not direct and is mediated by perceived risk (Chaudhuri, 2000).

The extent of use of information sources is higher for consumers with high/low involvement and with weak brand commitment and high involvement with strong brand commitment. However, low involvement with strong brand commitment results in a lower extent of use of information sources.

- Extant research has made little attempt to investigate the role of involvement as an influencing factor, which triggers the online and offline search.
- Only a few studies exist on the determination of its impact on online information search.

Table 2.
Themes | Findings | Major gaps identified
--- | --- | ---
involvement consumers with strong band commitment are less likely to be influenced by sources of brand information (Warrington & Shim, 2000)
- Perception of play will be higher in high product involvement information search contexts when compared to low involvement conditions (Mathwick & Rigdon, 2004)
- Enduring product involvement is positively related to the use of online and offline information sources (van Rijnsoever et al., 2012)
- P3: Involvement is positively related to offline information search, online information search, offline and online information search

Knowledge
- Prior stored knowledge is positively related to external information search (Moore & Lehmann, 1980)
- There are two components of prior knowledge: specific product knowledge and general product-class knowledge. Specific product knowledge causes lesser external search whereas general product-class knowledge results in more external search (Punj & Staelin, 1983)
- Subjective knowledge is positively related to search variability and negatively related to search for retailer evaluations. The inappropriateness of search is less strongly related to consumers’ subjective knowledge. Search variability increases for consumers with higher objective knowledge (Brucks, 1985)
- Positive relationship is found between objective knowledge/expertise and total search time. An inverted U relation exists between subjective knowledge/expertise and total search time (Klein & Ford, 2003)
- Men with lower subjective knowledge gather information from the retail clerk for assistance compared to other sources while buying wine offline (Barber et al., 2009)
- Amount of online consumer information search decreases with an increase in consumers’ prior knowledge (Rose & Samouel, 2009).
- Product knowledge has a significant effect on duration, cycles and alternatives. There exists a negative relationship between
- The effect of knowledge on online and offline channels require further attention as not much studies exist on this relationship.
knowledge and intensity of the decision-making process (Karimi, Papamichail, and Holland, 2015)
- Subjective knowledge has a positive impact on the proportion of time spent online conducting information searches using personal information sources (Gallant & Arcand, 2017)
- $P4$: Knowledge is positively related to offline information search, online information search, offline and online information search

**Price**
- More search helps consumers to acquire products at lower prices, thereby increasing the purchased quantity (Carlson & Gieseke, 1983)
- Amount of search is higher for greater perceived price dispersion (Putrevu & Ratchford, 1997)
- Price has a smaller impact on consumer choices and online information search when compared to traditional supermarkets (Degeratu et al., 2000)
- High search segment engages in greater price comparisons of products when compared to others (Putrevu & Lord, 2001)
- Consumers with higher price sensitivity actively search across brands to find lower prices (Mehta et al., 2003)
- Consumers spend significant time gathering price information from online sources (Ratchford et al., 2003)
- Search increases with sticker price and internet substitute the time spent in price negotiation with the dealer (Ratchford, Talukdar, and Lee, 2007)
- Price consciousness will significantly increase online information search (Seock & Bailey, 2008)
- Price is negatively related to the use of online and offline information sources (Kulkarni et al., 2012)
- Consumers rely on online price comparison sites to gain price information and later evaluate prices and shop at offline stores (Bodur, Klein, and Arora, 2015)
- Price consciousness results in more WOM communication online than offline (Scarpi et al., 2014)
- The effect of price on consumers' online and offline information search has not been captured much by the researchers

Table 2. (continued)
future studies may investigate the effect of internet experience on consumers' intention to search for lower prices (Goldman & Johansson, 1978). Purchase experience through the internet has a positive impact on the usage of the internet for product information search (Shim, Eastlick, Lotz, and Warrington, 2001). Consumers with higher previous internet experience will use online sources for information search and purchase when compared to others (Park & Stoel, 2005). Presence of experience simulation and prior experiences increases the time spent on a website (Huang et al., 2009). Internet experience will decrease the relative importance of information sources (online and offline) for internet purchases (Cheema and Papatla, 2010). Experienced internet users do a larger proportion of total search on the internet when compared to others (Dutta & Das, 2017). Experience is positively related to offline information search, online information search, offline and online information search.

\[ \text{Experience} \]

<table>
<thead>
<tr>
<th>Themes</th>
<th>Findings</th>
<th>Major gaps identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Price has a positive impact on online review intentions (Moriuchi &amp; Takahashi, 2018)</td>
<td>Researchers have not captured the effect of experience on offline information search</td>
</tr>
<tr>
<td></td>
<td>( P5 ): Price is positively related to offline information search, online information search, offline and online information search</td>
<td>Studies on the relationship between experience and online and offline information search are sparse</td>
</tr>
<tr>
<td>Market experience</td>
<td>Market experience is positively related to consumer's propensity to search for lower prices (Goldman &amp; Johansson, 1978)</td>
<td></td>
</tr>
<tr>
<td>Purchase</td>
<td>Purchase experience through the internet has a positive impact on the usage of the internet for product information search (Shim, Eastlick, Lotz, and Warrington, 2001)</td>
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<tr>
<td>( P6 ): Experience is positively related to offline information search, online information search, offline and online information search</td>
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</table>

Table 2.

Investigation needs to be carried out to examine the impact of product and purchase involvement on online and offline information search (Rokonuzzaman, Harun, Al-Emran, & Prybutok, 2020; Smith & Bristor, 1994). Future studies may investigate the effect of internet experience on consumers' intention to use online and offline information sources for the search process (Cheema & Papatla, 2010). Furthermore, the role of price consciousness on consumers' preferences for traditional and online information sources needs to be explored (Scarpi et al., 2014). In addition, it remains unclear whether the impact of price on online information search differs with geographies (Moriuchi & Takahashi, 2018).

4.2 Practical and social implications

Findings of the current study have implications for retailers. Consumers' external information search plays a vital role in the shopper journey. Consumers of all age groups, irrespective of gender, engage in rigorous search before finalizing their purchase decision. Retailers need to provide adequate information in both online and offline channels to retain
existing consumers and to acquire new ones. Information provision strategies with respect to the identified themes may help retailers to reduce consumers’ risk perceptions, manage involvement levels, enhances product knowledge and also to provide the right information about price while taking into consideration the experience factors. Further, themes identified in this study will help policymakers to design policies for online and offline channels that will benefit consumers in decision-making.

5. Final considerations
The systematic review revealed major themes associated with online and offline consumer search. Perceived risk, uncertainty, involvement, knowledge, price and experience were the themes identified from the extent search literature. The results obtained are in line with previous studies (Beatty & Smith, 1987; Kulviwat et al., 2004; Maity et al., 2014). Findings reveal that uncertainty is one of the major themes in the offline channel and needs to be examined in detail for online consumer search. There has been limited effort to study the effect of experience in offline search context, even though there is appreciable research in online search context. The role of perceived risk, involvement, knowledge and price on online and offline information search needs to be explored. Even though several studies exist on external search, potential research opportunities have been identified from the themes across channels. An in-depth comprehension on the determinants of search and purchase process based on channels (online and offline) and product type can have a significant impact on the marketing strategy (Frasquet, Mollá, & Ruiz, 2015). Thus, we believe that this study enriches consumer search literature. Though we analysed the major themes in offline and online information search context, the interplay between identified themes and potential intervening variables was not studied in-depth, which can be construed as a limitation to our study. This limitation may be addressed by future studies.

References


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