Influence of social media and online reviews on university students’ purchasing decisions

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Abstract: The main purpose of this study is to investigate and gauge the influence of rating websites and social media on consumers’ purchasing behaviour and their choices. The present research considers a comparison between choosing a university and a restaurant by consumers based on using social media and online reviews. The study develops a multidimensional model to recognize the influence of online rating websites and social media on consumer purchasing decisions. Results reveal that information adoption and risk-taking are important factors towards consumer purchasing decisions. However, there is no significant relationship between demographic traits and consumer purchasing decisions based on the proposed model and findings. Moreover, the study confirms that long-term benefits outweigh the expediency of a decision when respondents were reviewing websites.

Keywords: social media; electronic word-of-mouth; e-WOM; online reviews; information adoption; risk; consumer purchasing decisions.

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Biographical notes: Mostafa Torabi is currently an Assistant Professor at Brandon University, Canada. He is a PhD candidate at Laurentian University, Canada and has several years of teaching, research, and industry experience in various areas of business. Also, he has published a number of articles and books in business fields including marketing and management information systems. His research and publications have garnered several awards.

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1 Introduction

Internet technology has exponentially expanded to become a major channel of communication, decision-making, research support, and other endeavours. The evolution of diverse customer technologies such as smartphones empowered the internet’s swift entry into our daily lives and applicability by different strata of the population, including age, needs, education and income. These developments enhanced and globalised information sharing by exchanging ideas and facilitating the selection of different services and products. The internet has drastically transformed consumers’ behaviour since it gives them the opportunity to interact and engage directly with suppliers, customers, products and services (Pappas, 2016; Zhang et al., 2019). With over a billion users interacting with websites such as Facebook and Twitter, the market has witnessed the expansion of online social networks as one of the most influential forces on consumers’ decisions (Mahmood and Sismeiro, 2017).

Today, people tend to compare their required goods and services in a network-like manner and consider any available resources particularly online materials such as rating websites to formulate an opinion and determine a final selection without restriction of time and place. Based on the importance of the service, consumers are more conscious in their attempt to mitigate their risk and arrive at a wise option rather than lose time or money. Word-of-mouth (WOM) and electronic word-of-mouth (e-WOM) have become very popular and common to transfer and share information among consumers with the view of learning and gaining more knowledge about products or services (Erkan and Evans, 2016). Online environments have expanded the reach of consumer viewpoints efficiently and in a short time beyond their friends and families. Thus, consumers are able to disseminate their opinions and knowledge about any products and services, and influence other consumer purchasing decisions globally (Cabosky, 2016; Thomas et al., 2019).

Social media have transformed users from passive to active consumers who generate content about products, services, and consumption experiences, thus having a profound influence on their behaviours (Duan and Dholakia, 2017). Indeed, user-generated content (UGC) about brands is progressively dominating the internet (Duan and Dholakia, 2017). As an important form of e-WOM, online reviews provided by e-commerce websites have played a significant role in contributing to consumers’ shopping experience (Hussain et al., 2018; Yan et al., 2016).

A plethora of studies have linked consumer behaviour and social media in a wide range of industries, including education, travel, finance and retailing. The main purpose of this study is to consider and measure the influence of rating websites on consumers’ purchasing behaviour and their choices. The study uses two proxies, the selection of a postsecondary education institution and the selection of a restaurant, to determine how social media and review websites are influencing respondents in their choices. The selection of an institution is generally seen as a decision that is likely to have long-term consequences on one’s career path, whereas the choice of a restaurant is generally seen as a spontaneous and impromptu decision with no lasting consequences. This research studies these two services as to see how respondents approach in different ways towards risk-taking and their purchasing decisions. This research is a new study in this area to consider essential elements in relation to buying decisions for two drastically different products with dissimilar outcomes. Both proxies provide abundant well-known websites
that rank colleges and universities (e.g., QS, Time Higher Education – THE and Shanghai Ranking) on the one hand, and the restaurant business (e.g., The World’s 50 Best Restaurants and Trip Advisor) on the other hand to allow consumers to make a selection based on factors such as quality, cost, location, facility and service. As a corollary, this study aims to clarify how the level of risk and the importance of either choices impact consumer decisions, and whether demographic attributes such as gender, age, disposable income, marital status, and the like are influencing their decisions. This study is an attempt to fill the gap in the literature by confronting respondents with two decisions of very different importance regarding the short and long-run benefits. This research considers information adoptions as one of the main factors regarding the impact on consumer purchasing decisions and how different dimensions of information have influence on information adoption. Moreover, risk-taking as a critical factor influences consumer perception and how people react concerning the risk for short-term and long-term consequences and outcomes. The study examines the significance of both, information and risk, and how they can contribute towards purchasing decisions. Furthermore, the research opens up a new venue for businesses as they should adapt their business strategies with customers’ demands and preferences, and employ social media to connect with their current and potential customers and build long-term relationships.

2 Literature review

2.1 Internet and social media

Internet users’ numbers are impressive. As an illustration, there are over 5 billion unique mobile device users in the world today, 4.5 billion internet users, and 3.5 billion social media users, a year-to-year expansion of 10% (Global Digital Report, 2019). According to the Pew Research Center (2018), 77% of Americans go online on a daily basis, 43% indicate they go online several times a day, while 11% of adults say they do not use the internet at all. Most Americans use Facebook and YouTube, but young adults are particularly heavy users of Snapchat and Instagram. Also, the proportion of individuals aged 16 to 74 in the EU-28 who ordered or purchased products or services over the internet for private use stood at 60% in 2018 (Eurostat, 2018).

One of the advantages of the internet is that it enables businesses to reach a worldwide customer population, so that customers can survey, select, and purchase products and services from businesses around the world (Tengilimoglu et al., 2017; Vinerean et al., 2013). As well, online social networks have profoundly changed the distribution of information by making it faster and easier to absorb (Park et al., 2019). Social media have definite advantages as they help to connect businesses to consumers, develop relationships and underpin those relationships in a timely manner and at a low cost. The unique aspects of social media and their immense popularity have transformed marketing practices such as advertising and promotion. In addition, social media have influenced consumer behaviour from information acquisition to post-purchase behaviour such as dissatisfaction statements and loyalty intentions (Barkha and Sajal, 2019; Duan and Dholakia, 2017; Vinerean et al., 2013).

The Web 2.0 technology allows users to interact and collaborate with each other in a social media dialogue as creators of UGC in a virtual community, in contrast to the first generation of Web 1.0-era websites where people were limited to passive viewing of
content, with no interaction. Some examples of Web 2.0 features include social networking sites and social media sites such as Facebook and Instagram (Jahan and Kamal, 2020; Liang et al., 2018; Tengilimoglu et al., 2017). Consumers increasingly use comments posted on platforms such as Facebook and Twitter to evaluate products and services prior to making a final purchase (Yan et al., 2016).

As heavy users of social media, students play an important role in any market growth. Choosing a university is a complicated decision that embraces a variety of personal and institutional factors. Students are affected by various elements, involving the provision of online information, such as ranking, reputation, location, costs and friends (Kanonire, 2017; Qureshi, 2018). Typically, when searching for a suitable program of study in a desirable institution, students look for available online information either from the institution itself or review websites (Dao and Thorpe, 2015). With respect to this study, universities totally depend on attracting a talented student pool to remain solvent and to stay at the forefront of a highly competitive education market. To achieve that goal, institutions exhibit their competitive advantages in terms of uniqueness, employers’ interests, and former graduates’ distinguished achievements (Choudaha, 2017).

The same can be said about the food and beverage industry which strives to attract more consumers from the younger generations to ensure their market share and profitability. Since students consider many factors such as price, quality, and proximity before choosing a restaurant, managing young ‘weird’ consumers’ needs, along with other segments, requires special attention (Bubel, 2016). Thus, providers have to understand the impact of social media to have an effective influence on their consumers and serve them better. A few corporate social networking websites already allow consumers not only to exchange information about products or services, but also to engage in co-creating value in online experiences with offline outcomes, with both current and potential consumers (He et al., 2013; Lopez and Castaño, 2019). This idea allows corporations and service providers to know their mistakes and improve their quality and market share through understanding customers’ expectations and opinion without spending huge amounts of money and time (Vinerean et al., 2013; Zhang et al., 2019).

2.2 WOM and e-WOM

WOM communication refers to informal, person-to-person communication between a perceived non-commercial communicator and a receiver regarding a brand, a product, an organisation, or a service. Previous research unveiled the positive association between WOM referrals and new customer acquisition. Thus, spreading positive WOM enables businesses to develop their market share with enhancing brand awareness (Huete-Alcocer, 2017; Konuk, 2019). WOM is not always positive; sometimes it is emotion-loaded and has negative outcomes leading to product harm crises, warnings or rumours about products or services (Duan and Dholakia, 2017; Loureiro and Kaufmann, 2018). Compared to positive WOM, negative WOM may have greater impact and eventually sabotage companies (Liu and Lopez, 2016).

WOM influences the consumer’s purchasing behaviour. Prior research uncovered that one dissatisfied customer tells nine other people about the experiences that resulted in the dissatisfaction. However, satisfied customers release their story to an average of five other people. This is especially important in the service sector (Jham, 2018).
As an advanced method of communication, e-WOM developed a worldwide access and opportunity for people around the world to share their experiences and ideas with other people about any products and services via the internet and various channels of social media (Cabosky, 2016; Loureiro and Kaufmann, 2018; Singh and Ajay, 2019). E-WOM influences the consumers’ buying behaviour through the online exchange of customers’ opinions and experiences about product/services using social media (Hussain et al., 2018). By facilitating e-WOM, social media have significantly changed the balance of marketing communication from companies to consumers (traditional advertising) to consumers-to-consumers’ mode (Liu and Lopez, 2016). Social media consumer-to-consumer exchange is a relatively new type of online WOM. This kind of sharing information has transformed the way people share their information and opinions about any subjects such as choosing bank services, selecting a physician or a professor, and selecting video games, restaurants and hotels (Park et al., 2019). E-WOM can take many forms, the most important one being online reviews. E-WOM appears to be particularly significant for experience products and services. These are goods or services whose quality cannot be evaluated easily prior to consumption (Loureiro and Kaufmann, 2020). In such cases, the opinion of other consumers who share their experiences in online reviews offers information from a source that is perceived to be more independent and reliable than the company’s (De Pelsmacker et al., 2018). The e-WOM process starts when consumers identify their needs or desires in the actual state, and problem recognition and advertising are the best sources to help customers recognise their problems and accomplish their needs. After the problem recognition, consumers look for the information from internal or external sources. At this stage, e-WOM permits consumers to compare the alternatives about product or services after information seeking. Also, at the final stage of purchase decision which includes product or services choice, brand choice, and retailer selection, e-WOM mitigation of risk perception has a great impact on consumers’ decision. E-WOM extends to effects consumer behaviour because the purchasing process continues in the post-purchase stage as expectations of the customers indicate the post purchasing which meets the satisfaction level (Hussain et al., 2018; Loureiro and Kaufmann, 2020).

2.3 Consumer behaviour and online reviews

The advancements in information and communication technologies and particularly the internet have opened up new opportunities for businesses and consumers to share information among themselves. In this context, online reviews, a special form of e-WOM, have emerged as a new communication medium and have become increasingly popular among citizens (Thomas et al., 2019). Reviews or comments posted on the internet by consumers and experts are based on their personal experiences and the evaluation and expert analysis of a product/service (Hussain et al., 2018). Nowadays, people are influenced by e-WOM in positive and negative ways because customers prefer to review other customer’s opinions before make a decision (Hussain et al., 2018; Loureiro and Kaufmann, 2018). According to the growth of online reviews and e-WOM, consumer behaviour can change quickly by accessing review websites and convey ideas and information to other people through social media. People read comments or reviews posted by different people about pros or cons of products/services on websites, and after obtaining the information from e-WOM forums, customers’ purchasing behaviour is influenced in the selection of product/service (Hussain et al., 2018). Today, online
reviews are among the most influential sources of information for consumers when forming a purchase decision and present substantial benefits to them. Most importantly, they enable geographically scattered consumers to share independent point of views on products and services, helping them to reach informed purchase decisions. Furthermore, online reviews also maintain pivotal value creation potential for businesses. As a source of product and service development, companies can enhance revenue and foster long-term relationships, thus also playing a momentous role in the marketing efforts of companies (Thomas et al., 2019). Previous research unveiled that information created by consumers, such as online reviews, is more persuasive than information generated by marketers, since consumers do not have a special interest and are then independent and more plausible (Thomas et al., 2019). Behavioural traits such as perceived risk and opinion leadership can influence consumer behaviour in significant ways. As an illustration, opinion leaders have now increased their influence on the marketplace in the advent of social media since it has been proven that the volume of online reviews is closely related to sales (Hussain et al., 2018; Shi and Wojnicki, 2014). Online reviews can reduce the perceived risks by consumers and develop their degree of satisfaction as well as their capability of making decisions. There are several elements that reduce the perceived risk of buying online. For instance, consumers who are highly informed about a product or service might be more confident to buy it online, as knowledge can compensate for a lack of contact with the product. Likewise, purchasing a product or service from a familiar brand might lessen the perceived risk of buying online, as consumers realise what to expect from a familiar brand. Although brand familiarity and product expertise mitigate the perceived risk, privacy and security concerns increase it (Liang et al., 2018; Nepomuceno et al., 2014; Ventre and Kolbe, 2020; Yang et al., 2016).

In terms of social media and consumer satisfaction, consumers are now active in posting comments or product reviews on major social media websites such as Amazon, TripAdvisor, Twitter, RateMyProfessor, etc. This is a form of crowdsourcing. Through rating websites and social media, individuals are more likely to submit online ratings when they are either not satisfied or very satisfied. Positive ratings enhance posting rate, whereas negative ratings diminish posting. In addition, less-frequent posters are more positive, while more-active posters are more negative and unveil distinction behaviour (Loureiro and Kaufmann, 2020). Such reviews can include various modes such as personalised reviews or reviews from experts as well as descriptive or ratings from 1 to 5. According to the correlation between positive and negative reviews and their effects on volume of sales, companies can adjust their approach to draw the most benefits from consumer involvement (Moriuchi, 2018).

2.4 Introducing the background of the hypotheses

Online reviews are critical factors to allow people to access a variety of information and reviews to pick their product or service. There are many factors that influence consumer purchasing decisions, and reviews through social media application and review websites provide this opportunity for people to encounter information and ideas that impact their final buying decisions. Information has a pivotal role in making decisions, particularly in an online environment. Social media enable people to access information and reviews about any products and services promptly and spread out across the globe. Information
has different aspects that correlate with customers’ information adoption. Some related studies released that social media and online reviews impact consumer buying decisions. These tools and applications provide more information and options for potential buyers to compare their choices and select the best ones that match their demands. Several studies demonstrated that information dimensions including quality and quantity of information have direct relationship with information adoption and can influence consumer purchasing decisions (Erkan and Evans, 2016; Hussain et al., 2018; Loureiro and Kaufmann, 2020; Singh and Ajay, 2019; Thomas et al., 2019). Also, people with different demographic traits can react in varied ways in their consideration of online information and reviews towards their final purchasing decisions. Moreover, some studies have revealed how risk-taking and risk aversion impact consumer purchasing decisions and how people with different attributes react differently towards taking more or less risk (Nicolau and Sellers, 2019; Reniers et al., 2016; Rundmo and Nordfjærn, 2017; Sohaib et al., 2018). The following applied factors will be further elaborated in this study: information dimensions and information adoption, risk and risk-taking and demographic traits.

2.5 Information dimensions and information adoption

The quality of information on the review website posted by customers has a considerable role in helping other consumers to choose the best possible option, reduce its cost, and enhance its benefits. People who encounter e-WOM in social media need to appraise the information in order to use it properly for their ideal purchase aims (Erkan and Evans, 2016). Perceived quality of information has a huge impact on consumers’ buying behaviour in many areas; consumers compare the information from several sources and distinguish between high-quality and poor-quality information (Filieri and McLeay, 2013; Hussain et al., 2018). As one of the main dimensions of quality of information, timeliness refers to information that is updated and most recent. In comparison to the traditional WOM, online reviews are available 24/7 (Filieri et al., 2018). Timeliness relates to the novelty and recentness of online reviews, thus demonstrating the current state of a product or service (Thomas et al., 2019). Timeliness is closely concerned with completeness, since only the consistent updating of online reviews contributes comprehensive information. Previous research also proposed that timeliness plays a significant role regarding the credibility of information, particularly in the context of the internet (Thomas et al., 2019). Hence, it is hypothesised that:

H1 There is a positive relationship between information timeliness and customers’ adoption of information from online reviews.

As another aspect of quality of information, information relevance points to the extent to which a review is applicable to and beneficial for a task at hand and depends on different customers’ needs in specific situations (Filieri and McLeay, 2013). Online reviews are relevant if they provide the kind of information that a customer is looking for. For instance, some international students might look for language facilities or particular programs, and social media can assist them to access more appropriate information in these matters. It is therefore hypothesised that:

H2 There is a positive relationship between information relevance and customers’ adoption of information from online reviews.
Information accuracy is another important dimension of information quality. Accuracy mainly refers to the reliability and correctness of online reviews and represents a considerable influencing factor thereof. Prior studies, particularly in the context of social media, have frequently conceptualised accuracy within the central route of persuasion and confirmed it as a meaningful factor of argument quality. Consumers perceive reviewers on review websites as independent evaluators who provide correct information about products and services. Accuracy plays a crucial role when consumers deliberately deal with the content of online reviews.

The accuracy of information depends on consumers’ perceptions that the information is precise, correct, trustworthy and plausible (Filieri and McLeay, 2013; Thomas et al., 2019). It is therefore hypothesised that:

H3 There is a positive relationship between information accuracy and customers’ information adoption of information from online reviews.

Quantity has been frequently applied as a peripheral cue in connection with online reviews and is thus a well-established and important factor in both the e-commerce and social media literature (Filieri and McLeay, 2013). This factor refers to the number of online reviews that are available for a specific product or service on a review website (Filieri and McLeay, 2013). A large quantity makes online reviews more observable (Cheung and Thadani, 2012) and contributes to the verification of individual online reviews, constituting an important factor in the context of peripheral cues. Previous research also provides empirical evidence that review quantity has a positive impact on the perceived credibility of online reviews. According to this, consumers perceive a great number of reviews as a salient information cue that catches their attention. Moreover, review quantity seems to be associated with some kind of legitimising function, according to which the consistency of many reviews increases their reliability and thus also their credibility (Thomas et al., 2019).

The research in e-WOM has found contrasting results regarding the influence of the number of reviews on consumers’ purchasing intentions. Some scholars concluded that information quantity influences the adoption of information from online reviews by less-savvy consumers and low-involved consumers. Others have determined that the quantity of online reviews has an impact on sales of books, games and movies (Hussain et al., 2017). In contrast, gathered data from BizRate.com, an online price comparison website, and found that it is the percentage of positive reviews rather than the total number of reviews that influences the probability of repurchase behaviour. A study concluded that it is not simply the number of reviews that affects sales but also the competency of promotion, the type of product, and the frequency of visualisation on other e-commerce websites (Filieri and McLeay, 2013; Thomas et al., 2019). It is therefore hypothesised that:

H4 There is a positive relationship between information quantity and customers’ adoption of information from online reviews.

Product/service ranking is another element that can impact consumer selection based on social media and online reviews. Different rating websites apply various scales for building rankings which are graphically illustrated using a number of stars. For example, Tripadvisor.com employs a five-point scale from 1 (terrible) to 5 (excellent) to rate accommodations. On Booking.com, passengers can adopt a scale from 1 to 10 (terrible to
excellent). The ranking or number of stars represent the average customer’s evaluation of specific product or service and summarise the proportion of positive, neutral and negative reviews. The majority of studies have investigated the influence of online reviews and e-WOM played by either positive or negative reviews. In reality, consumers do not read only positive or negative reviews; rather they may use summary statistics like rankings to find out the proportion of negative and positive reviews for a specific product or service (Chang et al., 2015; Filieri and McLeay, 2013; Thomas et al., 2019). It is therefore hypothesised that:

**H5** There is a positive relationship between product/service ranking and customers’ adoption of information from online reviews.

Information understandability refers to readability and ease of understanding, as well as language and semantic expressions used by reviewers. Online reviews are easy to read and understand if the information presented in them is judged as clear, logical and understandable. On the other hand, the use of technical words, dialect, or jargon might weaken a review’s clarity. Therefore, the clarity of reviews may influence customers’ adoption of information from online reviews (Filieri and McLeay, 2013). It is hypothesised that:

**H6** There is a positive relationship between information understandability and customers’ adoption of information from online reviews.

Information completeness is described as the extent to which information is of adequate breadth, depth, and scope for the task at hand. Subsequently, a customer may judge a review as complete based on the degree to which information from online reviews is comprehensive for buying a product/service. Such online reviews may discuss the main features of a product or service that customers intend to purchase it. The more exhaustive information in online reviews is, the higher the likelihood that customers will adopt information from online reviews will be (Cheng and Ho, 2015; Kuan et al., 2015; Liu and Park, 2015; Thomas et al., 2019). It is therefore hypothesised that:

**H7** There is a positive relationship between information completeness and customers’ adoption of information from online reviews.

Value-added information is the extent to which information is valuable and provides benefits from their use. Marketing communications are generally aimed at emphasising the positive sides of a product or service while trying to conceal or to shadow the negative aspects. However, online reviewers express both the positive and the negative aspects of product/service. This permits customers to obtain a more comprehensive and critical description of a particular product/service by facilitating the understanding of their relative strengths and weaknesses. Therefore, by reading online reviews, customers may explore facets that were not considered before. Customers may assimilate information from online reviews because they are useful and profitable for their decision-making process (Filieri and McLeay, 2013; Hussain et al., 2018). It is therefore hypothesised that:

**H8** There is a positive relationship between value-added information and customers’ adoption of information from online reviews.
2.6 Risk and risk-taking

Risk is the potential of gaining or losing something of value. Values such as physical health, social status, or financial wealth can be gained or lost when taking risk resulting from a given action or inaction planned or not planned. Risk can also be defined as the intentional interaction with uncertainty. Uncertainty is a potential, unpredictable and uncontrollable outcome; risk is a result of action taken in spite of uncertainty. Risk is an appropriate term for exploring risk potential in quantitative as well as qualitative risk assessments. Risk perception is the subjective judgment people make about the severity and probability of a risk and may vary from person to person. Any human’s effort bears some risk, but some are much higher than others (Rundmo and Nordfjærn, 2017; Sohaib et al., 2018). Many health behaviour theories suggest risk perceptions to be a central precedent of risk-taking behaviour. The finding of a study suggested that people’s risk appraisals vary depending on their mindset (Keller and Gollwitzer, 2017). Risk in social media comprises different types of risk such as exposure of personal information, source risk, psychological risk, etc. Social media provide abundant information and some of the information can be risky and offer a risk-taker an appealing environment. Many studies demonstrated that the perceived risk is higher in an online environment as compared to offline environment (Sohaib et al., 2018).

Loss aversion refers to people’s tendency to prefer avoiding losses to acquiring equivalent gains. For instance, it is better to not lose $100 than to find $100. Studies suggested that losses are as powerful, psychologically, as gains and people react more strongly to losses than to gains when compared with their reference points. In other words, the rage that people feel when losing a $100 bill is greater than the pleasure of finding a $100 bill; although the amount is the same in both situations, the negative outcome is greater than the positive feeling. The importance of loss aversion will be increased when the outcome will create long-term consequences (Nicolau and Sellers, 2019).

Do demographic traits like gender and age play important roles on social media to influence consumer behaviour? Many women are more risk averse, especially financially, than some of their male counterparts. A study applied data from the Federal Reserve System’s survey of consumer finances to conclude that women are relatively more risk averse in their asset holdings than single men or married couples and that many women perceive themselves to be less inclined to take risks (Montford and Goldsmith, 2016; Filippin and Crosetto, 2016). At the same time, studies indicate that the gender gap is narrowing in most activities and endeavours (Sohaib et al., 2018). As with gender, age differences in risk perception have also been established. Several studies unfold that young people assess hazards to be lower than older people and the former also take more risks (Rundmo and Nordfjærn, 2017). Taking risks includes behaviour that at the same time involves the chance of a beneficial outcome as well as possible negative or adverse consequences. Risk-taking behaviour increases during adolescence, in association with heightened sensitivity to feelings and a still immature ability to self-regulate, making adolescence a period of high susceptibility to the unfavourable outcomes of risk-taking. Older-age individuals are more concerned with a better balance between one’s awareness to reward and regulatory control, increased perception of risk and risk-taking behaviour (Reniers et al., 2016).

Broadly speaking, people tend to take safer decisions rather than riskier ones particularly in long-term and significant issues.
Hence it is hypothesised that:

H9 There is a significant relationship between gender and risk-taking.
H10 There is a significant relationship between age and risk-taking.
H11 There is a significant relationship between marital status and risk-taking.
H12 Students prefer the less risky option of choosing a university compared with choosing a restaurant.
H13 Information adoption has a significant impact on consumer purchasing decisions.
H14 Risk-taking has a significant impact on consumer purchasing decisions.
H15 Demographic traits have a significant impact on consumer purchasing decisions.

In short, social media and e-WOM allow people around the world to share their opinions and experiences, and derive benefits from the concealed information about any product or service. Online review is a continuous approach toward picking a product among similar products, and quality and quantity of information play a vital role to consider a product or service. By investigating social media, online reviews, information adoption, and risk-taking, this study proposes a research model to identify the impact of website reviews on consumer purchasing decisions and discrepancy in choosing between a low-risk and a high-risk product/service.

3 Research method

3.1 Research instrument, sample and data collection

A survey was developed to assess how respondents approached and applied online reviews and social media with the view of adopting information from different dimensions, including quality and quantity of information such as information timeliness, information accuracy, and information quantity to make purchasing decisions. All questions were setup on a seven-point Likert-type scale (1 = entirely disagree to 7 = entirely agree). In addition, there were some categorical questions on demographic characteristics, online shopping, and other related questions. After receiving ethical approval from the institution, the survey was placed on the RedCap website and left active for approximately one month. It was expected that each survey would take a maximum of 15 minutes to complete.

The study used a convenient non-probability sampling technique to collect primary data from respondents. The sample population consisted of 150 students at a public university in Canada. Excel, SPSS, and SmartPLS were applied to treat the collected data and test the proposed hypotheses.

3.2 Conceptual research model

Inspired by the existing literature and study of the impact of e-WOM and online reviews on consumer purchasing decisions, this study developed a conceptual research model (Figure 1) based on information adoption, risk-taking, and demographic trait dimensions to measure how these impacted purchasing decisions.
Information adoption encompasses the quality and quantity aspects of information and how these elements can influence purchasing decisions. In this current fast-moving world, people tend to obtain information from a range of methods and sources and then share it with each other locally and globally. In terms of calibre and volume of information, these factors play a vital role in shaping and altering consumers’ best final decision. According to the previous studies regarding information adoption including Erkan and Evans (2016), Filieri and McLeay (2013), Hussain et al. (2018) and Thomas et al. (2019), as well as expanding the review of literature to achieve research objectives, this study applied this factor towards develop a conceptual research model.

Risk-taking is another factor that is considered in this study. In the real world, we cannot neglect the importance of risk to make any decisions. According to the importance of a particular product or service, people tend to respond differently based on their personalities to risk-taking and risk aversion while making a buying decision. Literature review and previous studies such as Filippin and Crosetto (2016), Nicolau and Sellers (2019) and Sohaib et al. (2018) unveiled that risk-taking and risk aversion can impact on consumer purchasing decisions and people’s response in different ways towards selecting a product/service based on their perceived risk, demographic traits, importance of product/service regarding short-term or long-term consequences, and so on.

Demographic traits are broad and general aspects that lead people to behave differently in specific situations. The study considered respondents’ demographic characteristics and correlated some aspects of demographic traits to risk-taking. Therefore, the following model was developed based on the three aforementioned factors having a possible influence on the dependent variable, purchasing decision.
3.3 SmartPLS SEM (partial least squares structural equation modelling)

The variance-structural equations model is a comprehensive statistical approach to test hypotheses about the relationships between the observed and latent variables. This method can be applied for complex models and small samples without normality requirement. The SmartPLS technique was used to develop the required model and test how variables fit the model (Hair et al., 2017). According to the results and relationships between independent and dependent variables, it shows that there is no significant relationship between demographic traits and purchasing decisions (0.041). However, the above model revealed that there is a significant relationship between information adoption, risk-taking and purchasing decisions (0.546, 0.622). Hence, in the final proposed research model, the demographic traits factor was eliminated as an influential factor towards consumers’ purchasing decisions. This research applied demographic traits to unfold the supplementary findings in addition to measure the correlation between demographic characteristics and risk-taking. Figure 2 portrays a model in which information adoption, including quantity and quality of information, along with risk-taking as a behavioural element creates a combination of technical and behavioural frameworks impacting consumers’ purchasing decisions.

Figure 2  Final research model

4 Results

The sample size of 150 consisted of 61% males, 39% females and 57% single respondents. About 40% of respondents had annual disposable income of below $10,000. Regarding their job status, about 69% of respondents were working along with their studies. The majority of respondents (about 60%) were enrolled in a bachelor or master’s degree, particularly in business programs. 30% of the respondents ranged in age between 20 and 24. Approximately 50% used social media to do online shopping monthly at least once a month, whereas the rest used it sporadically. WOM was their preferred method to choose their university. They indicated that their choice was particularly based on quality of education, tuition fees and distance from home.
As for the survey itself, the reliability test was performed with the Cronbach’s alpha and the composite reliability (CR). All variables included in the model turned out to be \( > .70 \), thus making the survey reliable to test the proposed hypotheses (Table 1).

### Table 1  
Reliability

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<tr>
<th>Variable</th>
<th>Cronbach’s alpha</th>
<th>Composite reliability (CR)</th>
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<tbody>
<tr>
<td>Information accuracy</td>
<td>0.79</td>
<td>0.871</td>
</tr>
<tr>
<td>Information completeness</td>
<td>0.754</td>
<td>0.845</td>
</tr>
<tr>
<td>Information relevance</td>
<td>0.842</td>
<td>0.889</td>
</tr>
<tr>
<td>Information quantity</td>
<td>0.731</td>
<td>0.821</td>
</tr>
<tr>
<td>Information timeliness</td>
<td>0.897</td>
<td>0.922</td>
</tr>
<tr>
<td>Product/service ranking</td>
<td>0.743</td>
<td>0.855</td>
</tr>
<tr>
<td>Information understandability</td>
<td>0.826</td>
<td>0.867</td>
</tr>
<tr>
<td>Value-added information</td>
<td>0.774</td>
<td>0.832</td>
</tr>
<tr>
<td>Risk-taking</td>
<td>0.716</td>
<td>0.822</td>
</tr>
<tr>
<td>Purchasing decisions</td>
<td>0.775</td>
<td>0.844</td>
</tr>
<tr>
<td>Total</td>
<td>0.832</td>
<td>0.887</td>
</tr>
</tbody>
</table>

### 4.1 Test of hypotheses

According to Table 2, all hypotheses will be confirmed with the exception of Hypothesis 15 since the result is below 2. The acceptable value (95% c.l.) should be \( \geq 1.96 \) and in this case, the result is 1.077, then this hypothesis is not supported. This confirms what was already found out in the first proposed model, that there is no significant relationship between demographic traits and purchasing decisions.

Based on the values of Table 3, there is no significant relationship between age, marital status and risk-taking. Hence, Hypotheses 10 and 11 will not be accepted. However, the results confirm that there is a significant relationship between gender and risk-taking and therefore Hypothesis 9 will be accepted (\( r = 0.23, P < 0.05 \)).
### Table 3  
Correlation between demographic traits and risk-taking

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Gender</th>
<th>Total risk</th>
<th>Marital status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Pearson correlation</td>
<td>-.063</td>
<td>-.079</td>
<td>.468**</td>
</tr>
<tr>
<td></td>
<td>Sig. (two-tailed)</td>
<td>.462</td>
<td>.352</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Pearson correlation</td>
<td>-.063</td>
<td>1</td>
<td>.239**</td>
</tr>
<tr>
<td></td>
<td>Sig. (two-tailed)</td>
<td>.462</td>
<td>.004</td>
<td>.013</td>
</tr>
<tr>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total risk</strong></td>
<td>Pearson correlation</td>
<td>-.079</td>
<td>.239**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (two-tailed)</td>
<td>.352</td>
<td>.004</td>
<td>.713</td>
</tr>
<tr>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td>Pearson correlation</td>
<td>.468**</td>
<td>-.210*</td>
<td>.031</td>
</tr>
<tr>
<td></td>
<td>Sig. (two-tailed)</td>
<td>.000</td>
<td>.013</td>
<td>.713</td>
</tr>
<tr>
<td>N</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Notes: **Correlation is significant at the 0.01 level (two-tailed).
*Correlation is significant at the 0.05 level (two-tailed).

### Table 4  
Risk-taking and choosing a university/restaurant

<table>
<thead>
<tr>
<th>Risk-taking</th>
<th>Impact coefficient</th>
<th>T-test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing university</td>
<td>0.08</td>
<td>12.79</td>
<td>0.00</td>
</tr>
<tr>
<td>Choosing restaurant</td>
<td>0.2</td>
<td>8.45</td>
<td>0.04</td>
</tr>
</tbody>
</table>

### Table 5  
Results of hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Information timeliness</td>
<td>Supported</td>
</tr>
<tr>
<td>H2 Information relevance</td>
<td>Supported</td>
</tr>
<tr>
<td>H3 Information accuracy</td>
<td>Supported</td>
</tr>
<tr>
<td>H4 Information quantity</td>
<td>Supported</td>
</tr>
<tr>
<td>H5 Service ranking</td>
<td>Supported</td>
</tr>
<tr>
<td>H6 Information understandability</td>
<td>Supported</td>
</tr>
<tr>
<td>H7 Information completeness</td>
<td>Supported</td>
</tr>
<tr>
<td>H8 Value-added information</td>
<td>Supported</td>
</tr>
<tr>
<td>H9 Gender and risk-taking</td>
<td>Supported</td>
</tr>
<tr>
<td>H10 Age and risk-taking</td>
<td>Not supported</td>
</tr>
<tr>
<td>H11 Marital status and risk-taking</td>
<td>Not supported</td>
</tr>
<tr>
<td>H12 Choosing university/restaurant</td>
<td>Supported</td>
</tr>
<tr>
<td>H13 Information adoption -&gt; purchasing decision</td>
<td>Supported</td>
</tr>
<tr>
<td>H14 Risk-taking -&gt; purchasing decision</td>
<td>Supported</td>
</tr>
<tr>
<td>H15 Demographic -&gt; purchasing decision</td>
<td>Not supported</td>
</tr>
</tbody>
</table>
From Table 4, there is a discrepancy between choosing a university and restaurant among respondents in terms of risk-taking; results indicate that respondents bear less risk in choosing a university rather than a restaurant. Therefore, Hypothesis 12 will be accepted and based on the above values, it confirms that students prefer the less risky option in choosing a university compared to choosing a restaurant.

Table 5 presents a synthesis of the directions of the 15 hypotheses.

5 Discussion

Many individuals rely on reviewing rating websites to make their purchasing decisions. In this research, a model has been developed to measure the influence factors on information adoption and purchasing decision by university-age students and the level of risk impacting their choices. Organisations such as universities can identify the importance of online reviews, and how students as main target of education system choose a particular university by employing social media and e-WOM. This research attempted to fill a gap in the literature by determining the students’ information adoption from online reviews through developing a new conceptual model based on previous studies and employing new factors to recognise information dimensions to adopt information and risk-taking and how they impact purchasing decisions.

5.1 Demographic traits and purchasing decisions

Demographic characteristics such as age, gender, marital status and other personal traits were considered in the research. When the first proposed model was developed, the relationship among these factors and purchasing decisions indicated there was no significant relationship among demographic traits and consumer purchasing decisions. In addition, the correlation among three demographic traits, namely age, gender, marital status and risk-taking (Table 3 – Pearson correlation) corroborated the results of previous studies in that women were more risk averse than men when juggling with purchasing decisions (Filippin and Crosetto, 2016; Montford and Goldsmith, 2016). By contrast to another recent study (Reniers et al., 2016), this study found no significant relationship between age and marital status and risk-taking. This may be explained by a young sample whose living arrangements were largely single or in a loose and temporary relationship. As indicated in the review of literature, it has been firmly established that older individuals tend to be more risk averse than younger ones (Rundmo and Nordfjærn, 2017).

5.2 Information adoption and purchasing decisions

Information quantity and quality play a significant role in consumers’ purchasing decisions and information adoption. The results of this study found a relationship between information timeliness, relevance, accuracy, value-added, and quantity and information adoption. Similarly, other studies done by Filieri and McLeay (2013) and Thomas et al. (2019) regarding online reviews corroborated these research findings. In other words, consumers consult social media to obtain timely information when choosing a product or service.
Volume of information from online reviews is a significant factor from respondents’ perspective to adopt information to make a buying decision. Information that is ranked, easily understandable, not too technical, complete, and that presents a value-added in terms of advantages and disadvantages is more likely to lead to a purchasing decision. These characteristics on information quality are also supported by a previous study done by Erkan and Evans (2016) about the impact of e-WOM in social media on consumers’ purchasing decisions.

5.3 Risk-taking and purchasing decisions

Many factors and questions are part of the process of choosing a product or service. Risk is a significant part of the continuum. Some individuals have a DNA built for risk-taking whereas others seem to be allergic to uncertainty. On the other hand, many are more comfortable with a lower threshold of risk knowing fully well that the expected benefits will be commensurate. In line with previous research, females were found more risk averse than males (Filippin and Crosetto, 2016; Montford and Goldsmith, 2016).

The main point of this study was to find out whether the importance of a decision led to a more conservative and less risky decision. The study confirmed that long-term benefits outweighed the expediency of a decision when respondents were reviewing websites and conformed the previous study (Nicolau and Sellers, 2019). In this case study, respondents bore less risk in choosing a university as a long-term and important decision in comparison with picking a restaurant as a short-term and spontaneous service with little long-term consequence.

5.4 Overarching implications

Social media are of strategic importance in just about every aspect of our personal and professional life when it comes to making choices either of products, services, etc. Businesses should adapt their business strategies with customers’ demands and preferences, and employ social media to connect with their current and potential customers and build lasting relationships. According to the research outcomes, information quality and quantity influence as information adoption dimensions impact on students purchasing decisions and it could lead to choose different services based on the various information provided to them. Marketing managers should particularly be aware of the leading role of information dimensions and seek to take advantage of the information adoption to rise review validity foster their benefits. In addition, the study disclosed that risk-taking influences consumer purchasing decisions and people behave differently when choosing a service depending on the level of importance of the service and its short and long-term outcome. Results of the research unveiled that online reviews are important to students and impact their purchasing decisions. Based on the overall findings of the study, it is important for organisations like universities to recognise how consumers perceive and evaluate the reliability of online reviews, and particularly, to know what factors determine review credibility from the consumers’ point of view. These consumer-oriented visions are of particular importance to businesses with a strong market orientation.
6 Conclusions

This study developed a model to find out whether demographic characteristics, information adoption, and risk-taking had any effect on purchasing decisions when consumers were reviewing websites. Two situations were tested: one with a highly consequential outcome and another with rather minor importance. As two different and important economic sectors, the education and food/beverage industries strive to attract more consumers through various methods, social media being the primary one since young people are heavy users of internet technology and do share their ideas and reviews through e-WOM along with other common and more traditional modes. Results indicated that demographic attributes were not significant whereas information adoption (quality and quantity) was key. A gender differential was found in terms of risk-taking.

This study was an attempt to fill the gap in the literature by confronting respondents to two decisions of marked importance. On the one hand, students spend an incredible amount of time selecting a university hoping that it will make a difference for their career path. For young people, that decision is almost larger than life, as they network through social media and scrutinise website reviews to make the best-informed decision, whether rational or not. On the other hand, students are also challenged to make safe, affordable, and healthy food choices to match their purse and lifestyle. However, the decision to eat at a particular patron’s venue is one that is made on the spur of the moment whose consequence will normally not last more than a couple of hours. Respondents indicated they take much less risk for a decision of long-term consequence.

7 Limitations and further research

This research encountered some limitations that influenced the results. The model potentially can include other dimensions including behavioural factors. Another significant, but inevitable, limitation inviting caution about the results overgeneralisation is that there are perceptional differences in the respondents’ answers to the questionnaire, which may cause bias in their answers. Time constraint and access to a larger sample are also to be noted. As the world of digital connection evolves exponentially, there will always be a need for additional studies examining new attitudes and perceptions, at the theoretical level, and subsequently, at the practical and managerial level for policy makers.

The sample of this study was relatively homogeneous and thus, it would be interesting for further research to stratify respondents into age brackets or generational categories and see whether demographic traits play a bigger role on information adoption, risk-taking, and purchasing decisions. Marketers would also gain in knowing which technological devices consumers use to access website reviews. They could possibly customise their advertising presentations to match the best assets of the devices, whether a smartphone app, a tablet, a computer browser, or a built-in smartphone browser. Lastly, another study could employ other behavioural traits such as opinion leadership and attitude towards change to test consumer purchasing decisions.
References


Influence of social media and online reviews


