

The nexus between information and consumer confusion: Information provider vs information recipient

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Abstract

Purpose – The purpose of this study is aimed at analysing the contributors of consumer confusion from the perspective of both information providers and recipients.

Design/methodology/approach – Using Sri Lanka as a case study, this study demonstrates views of consumer confusion in terms of information and its contributors in light of the framework adopted by Lu and Gursoy (2015).

Findings – The results ascertain that too much, too similar and too ambiguous information from information providers' perspective have a significant impact on consumer confusion in the context of the inbound tourist industry in Sri Lanka. Most importantly, it is evident that the information recipients' knowledge and behaviour attributes, namely, internet experience, learning orientation, tolerance for ambiguity, price consciousness and requirement for cognition have no significant impact on consumer confusion. Furthermore, the quality and quantity of information provided are crucial for the minimisation or avoidance of consumer confusion.

Practical implications – The practical implications drawn from this study could influence all stakeholders of the inbound online tourism trade including managers, advertising executives and marketing experts in providing good quality information to promote tourism.

Originality/value – The contribution of this research is related to the analysis from a theoretical and an empirical perspective of both the information providers' and decision-making of recipients.

Keywords Consumer confusion, Electronic sources, Information provider and recipient, Tourism industry

Paper type Research paper

信息与消费者困惑之间的联系：信息提供者与信息接收者
摘要

研究目的：这项研究旨在从信息提供者和接受者的角度分析造成消费者困惑的因素。

调查设计/研究方法：以鲁和古尔索伊（2015）所采用的框架为基础，本研究以斯里兰卡为例，就有关信息及其贡献因素方面展示了消费者困惑的观点

调查结果：调查结果确定，就斯里兰卡入境旅游业而言，从信息提供者的角度来看，太多，太相似和太含糊的信息会对消费者混乱产生重大影响。最重要的是，很明显，信息接收者的知识和行为属性，即互联网体验，学习倾向，对歧义的容忍度，价格意识和认知需求，对消费者的困惑没有显著影响。此外，所提供信息的质量和数量对于最小化或避免消费者混淆至关重要。

实际意义：这项研究得出的实际意义可能会影响入境在线旅游业的所有利益相关者，包括管理人员，广告主管和营销专家，以提供高质量的信息来促进旅游业。

原创性价值：此项研究贡献与从信息提供者和接收者的决策的理论和经验角度进行的分析相关。

关键词：：消费者困惑，关键词，信息提供者和接收者，旅游产业

文章类型：研究论文

El nexo entre la información y la confusión del consumidor: proveedor de información versus receptor de información

Propósito : este estudio tiene como objetivo analizar a los contribuyentes de la confusión del consumidor desde la perspectiva de los proveedores de información y los destinatarios.

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Diseño/metodología/enfoque : *utilizando Sri Lanka como el caso, esta investigación demuestra puntos de vista de la confusión del consumidor en términos de información y sus contribuyentes a la luz del marco adoptado por Lu y Gursoy (2015).*

Hallazgos : *los hallazgos determinan que demasiada información, muy similar y demasiado ambigua desde la perspectiva de los proveedores de información tiene un impacto significativo en la confusión del consumidor en el contexto de la industria turística entrante en Sri Lanka. Lo más importante es que es evidente que los atributos de conocimiento y comportamiento de los destinatarios de la información, a saber, la experiencia de Internet, la orientación al aprendizaje, la tolerancia a la ambigüedad, la conciencia del precio y la necesidad de cognición no tienen un impacto significativo en la confusión del consumidor. Además, la calidad y la cantidad de información proporcionada son cruciales para minimizar o evitar la confusión del consumidor.*

Implicaciones prácticas : *las implicaciones prácticas derivadas de este estudio podrían influir en todas las partes interesadas del comercio de turismo en línea entrante, que incluyen gerentes, ejecutivos de publicidad y expertos en marketing para proporcionar información de buena calidad para promover el turismo.*

Valor de originalidad : *la contribución de esta investigación está relacionada con el análisis desde una perspectiva teórica y empírica tanto de los proveedores de información como de la toma de decisiones de los destinatarios.*

Palabras clave : *Confusión del consumidor, Fuentes electrónicas, Proveedor de información y destinatario, Industria del turismo*

Tipo de investigación *Trabajo de investigación*

1. Introduction

The ease of accessibility and the volume of information have made consumers “spoiled for choice” (Tjiptono *et al.*, 2014). Nevertheless, the availability of vast information that exceeds consumers’ processing limits causes difficulties by making consumers overwhelmed and confused (Tan and Kuo, 2019), an issue that is especially pertinent to the tourism industry. Purchase decision confusions arise because of persistent proliferation of products, growing adoption of product imitation strategies and increasing amounts of marketplace information (Persaud and Azhar, 2012); moreover, it is mostly associated with extremely turbulent industries with progressing competition and fast technological change (Turnbull *et al.*, 2000). Consequently, the development of the Internet and technological advancements over recent years has significantly influenced the tourism industry for both providers and consumers (Buhalis and Law, 2008; Getz and Page, 2016; Standing *et al.*, 2014). The industry is categorised as an experience economy (Stasiak, 2013), requiring intensive information search (Kang *et al.*, 2011) and crucial decisions being made prior to the trip. It is evident that trip planning is regularly full of uncertainty (Jeng and Fesenmaier, 2002). Thus, tourists often conduct rigorous search for information in the overwhelmingly information-rich online environment (Tan and Kuo, 2019), particularly on accommodation, travel destinations and fares, planning the itinerary and most importantly safety and security.

According to the World Travel and Tourism Council (2018), the direct, indirect and induced economic impact of the tourism industry has made it one of the world’s largest economic sectors. Tourism is the third largest economy in Sri Lanka with an unprecedented growth (Ministry of Tourism Development and Christian Religious Affairs, 2017). The providers of tourism goods and services offer excessive information about their services and products via the Internet (Yuan, 2019). As such, online browsing has now become a dominant mean of acquiring information related to tourism (Xiang and Gretzel, 2010; Xiang *et al.*, 2019) and is extensively used in developing nations primarily because of the affordability, speed and wide dissemination of information.

Consumer confusion, irrespective of the industry, is increasingly being reported in developed nations such as the UK, Germany, France, the USA and The Netherlands as well as transitional economies such as China, South Korea and India (Leek and Kun, 2006).

Countries in the South Asian region including Sri Lanka are no exception. Therefore, cognisance and knowledge on factors of *consumer confusion* and cognitive psychology (Scott, 2020) are significant for successful marketing. This is because confused consumers are less likely to make sensible and rational buying decisions and to select products offering the best value for money or the best quality (Huffman and Kahn, 1998; Jacoby and Morrin, 1998; Mitchell and Papavassiliou, 1997). This phenomenon is highly emphasised in the tourism industry because of the increased complexity in the tourism information landscape and the growing diversity in channels available (Gretzel et al., 2019).

The results of application of the structural equation model carried out by Walsh et al. (2007) supported the three dimensions of *similarity, overload and ambiguity* as having a significant impact on *consumer confusion*, as well as on decision postponement and loyalty behaviour. Lu and Gursoy (2015) focused on the tourism sector and recommended a theoretical “prototype” signifying the outcomes of online tourism information confusion of consumers and antecedents by integrating the perspectives of both information providers (namely online tourism marketers) and information receivers (namely consumers). Similarly, this study explored in detail, a comprehensively integrated framework to gain awareness of the three types of *consumer confusion* because of *too much, too similar* and *too ambiguous* information from information providers’ perspective and five individual difference variables, namely, *learning orientation, internet experience, price consciousness, tolerance of ambiguity* and *need for cognition*. Latter mentioned behaviours are prone to predispose consumers, making them confused in the context of the tourism sector in Sri Lanka. Tourism is one of the strongest drivers of trade and prosperity in the developing island nation of Sri Lanka. However, the areas of *consumer confusion* has neither been explored nor researched in a Sri Lankan setting. Therefore, a study of this nature would aid in developing better online marketing strategies to boost trade. The tourism industry in Sri Lanka has now moved from an oligopoly market to a polypoly market. Indeed, the findings will be applicable to other polypoly markets and could be used in oligopoly markets. Furthermore, this research will provide material for future research in the field of tourism.

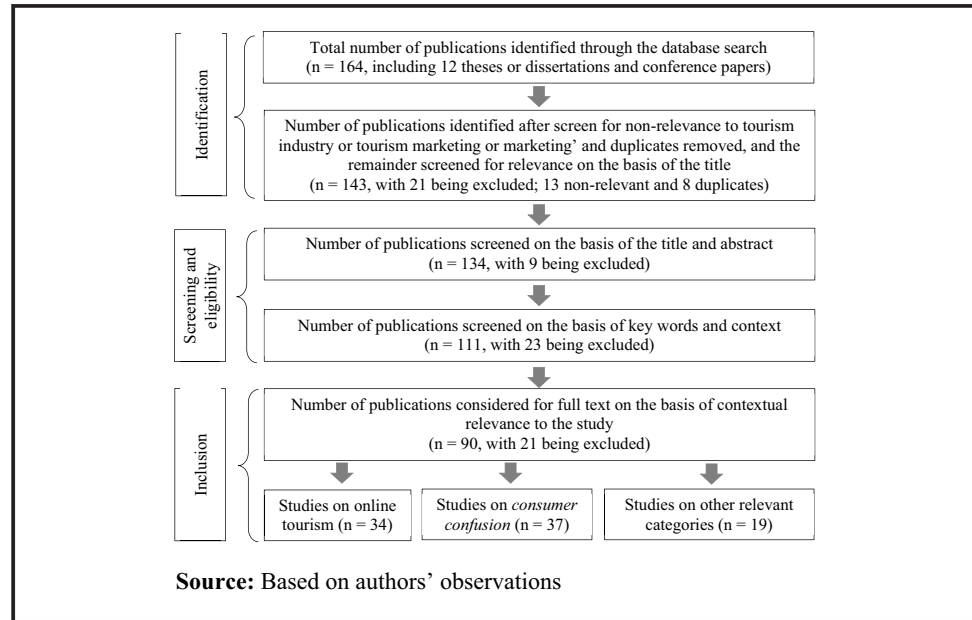
The rest of the paper is structured as follows. Section 2 describes the literature review, while Section 3 presents data and methodology. Section 4 assesses the empirical hypothesis and test results, while Section 5 presents the concluding remarks. Finally, Section 6 highlights the practical implications, while Section 7 focuses attention on research limitations and future directions.

2. Literature review

For this research, a systematic literature search on studies pertaining to *consumer confusion* from the perspective of information providers and information receivers published from 1974 to 2019 was carried out. During the search, a special emphasis was given to online tourism. Multiple electronic databases such as JSTOR, SAGE Journals, ScienceDirect, ProQuest, Wiley Online Library, Emerald and Taylor & Francis Online were the primary database sources searched for literature published in English. The search terms used were as follows: (tourism OR tourism industry OR tourism in Sri Lanka OR tourism industry in Sri Lanka OR online tourism OR tourism marketing OR eTourism OR outbound travel OR inbound travel OR social media OR consumer confusion OR information provider OR information recipient OR similarity confusion OR overload confusion OR ambiguity confusion OR learning orientation OR internet experience OR tolerance of ambiguity OR need for cognition OR price consciousness OR customer behaviour OR customer psychology). Figure 1 summarises the search strategy applied.

A total of 152 full text online publications were identified. An additional search was conducted for theses or dissertations and conference papers in a total of 12 publications. Both titles and abstracts were examined and were disregarded as follows:

Figure 1 Search strategy and classification of publications



- it was not related to tourism industry or tourism marketing or marketing ($n = 13$); and
- it was a duplicate of an existing article ($n = 8$). This process excluded 21 publications.

Information and data from the remaining were screened on the basis of the title, abstract and key words, which eliminated 32 publications. A total of 90 publications were considered in the study based on contextual relevance; however, these were categorised under three main topics, namely, online tourism, *consumer confusion* and other (which encompassed customer behaviour and psychology, information technology and Big Data and branding).

2.1 Consumer confusion

Increasingly in the tourism industry, consumers are swamped by a myriad of opportunities to choose, the cumulative complexity of products and services and availability of similar products, services and information (Matzler and Waiguny, 2005). According to Lu and Gursoy (2016), in online hospitality evaluations, the three categories of dissatisfaction, namely, *similarity*, *overload* and *ambiguity*, are instigated by conflicting, contradicting and complicated information. Research conducted by Cowan (2010) in psychology and Day (2011) in marketing have proposed that humans have a limited capability to manage information and that an unwarranted amount of data would hinder the quality of the decision made by the individual. Consequently, consumers may find it challenging in making purchase-related decisions because comprehending information is difficult. Moreover, consumers heavily rely on peers and expert critics in processing information. Nevertheless, reviewers with false identities and deceiving motives generate a perception of deception (Franklin *et al.*, 1992), which further adds to the *consumer confusion* and dissatisfaction.

Empirical evidence has highlighted that *consumer confusion* is associated with noteworthy consequences of economic relevance to corporations such as cognitive dissonance (Mitchell and Papavassiliou, 1999), postponement of decision (Huffman and Kahn, 1998; Jacoby and Morrin, 1998; Walsh *et al.*, 2007), negative word of mouth (Turnbull *et al.*, 2000), dissatisfaction (Foxman *et al.*, 1990), decreased trust and diminished loyalty (Walsh *et al.*, 2007). Consumer sovereignty assumes that consumers have access to satisfactory and

adequate information about the products and services. As such, consumers are able to comprehend information to make an informed choice (Walsh and Mitchell, 2010). Nevertheless, the circumstances are contrary when consumers are confused. *Confusion proneness* could be defined as how frequently or easily consumers experience a state of confusion or as the general tolerance of consumers for processing too much, ambiguous or similar information that negatively affect the information processing and decision-making abilities (Walsh et al., 2007). In particular, in the travel and tourism trade, *consumer confusion* would ultimately affect the visit to a destination and consumers' recommendation to others. As stated by Lu et al. (2016), *consumer confusion* has three unique dimensions: *similarity confusion*, *overload confusion* and *ambiguity confusion*.

2.1.1 Similarity confusion. Occurs when consumers are presented with products or services with attributes that are alike or qualities with identical branding, leading to the inaccurate evaluation of brands. Advertisements and commercials, especially of emerging corporates, tend to deliver similar messages. *Similarity confusion proneness* is defined by Walsh et al. (2007) as the propensity of consumers to think that different merchandises in a product category are visually and functionally similar. This definition applies to the service sectors such as tourism. Similarly, *confusion proneness* can be triggered by stimuli akin to one the consumer has experienced and learned in the past. Marketing-related cases comprise interpersonal communications, advertisements (Keller, 1991; Kent and Allen, 1994; Poesz and Verhallen, 1989) and atmosphere of the store or produces that are identical (Bregman et al., 2001; Foxman et al., 1992; Jacoby and Morrin, 1998; Kapferer, 1995; Kohli, 1997; Loken et al., 1986).

2.1.2 Overload confusion. Arises when consumers are given abundant product and service information where processing of data for consumers become complicated, leading to unsuccessful attempts in making optimal purchase decisions. Consumers possess restricted cognitive abilities; when the stimuli passes a certain threshold, it overwhelms and confuses consumers (Jacoby et al., 1974; Jacoby et al., 1974). Although consumers who come across sufficiently rich information can experience information anxiety, they are more often than not unable to halt information overloading them (Keller and Staelin, 1987; Malhotra, 1984; Mitchell and Papavassiliou, 1997). Consumers tend to seek for new and fresh information. Walsh et al. (2007) define *overload confusion* as "consumers' difficulty when confronted with more product information and alternatives than they (consumers) can process to get to know, to compare and to comprehend alternatives." Empirical researches (Ahuja and Webster, 2001; Eveland J and Dunwoody, 2001; Tremayne and Dunwoody, 2001) validated that the Internet may possibly cause overload of information and incomprehension among its users, exclusively among those with limited or zero familiarity with the medium.

2.1.3 Ambiguity confusion. Transpires when consumers existing knowledge is disturbed through compulsion to reevaluate or revise their existing beliefs or knowledge about a product or service. This gives rise to the importance of quality of information matters rather than quantity. Commonly, unclear nature, contradictory nature and the complicating attribute of products are the major causes for ambiguity confusion (Yujing Gong et al., 2019; Walsh and Mitchell, 2010). When elevated levels of ambiguous information are observed by consumers, they become anxious with uncertainties as to what information to believe. The additional processing required to acquire further information to reduce the ambiguity, along with the increases in anxiety and uncertainty, amount to a reduction in consumers' satisfaction. Furthermore, ambiguous product or service information can result in consumers being unable to evaluate and use product features. This is, in addition to being negatively correlated with perceived user friendliness (Liu and Park, 2015), a significant dimension of quality for consumers linked with customer satisfaction (Morgan and Hunt, 1994).

2.2 Information providers

Transferring of information comprises the information provider and information recipient. The information provided is primarily segregated into three categories, namely, *too much information*, *too similar information* and *too ambiguous information* (Hussinger and Pacher, 2019). The tourism sector being a widely discussed and rapidly growing industry has now become an important topic among critics and researchers (Kim *et al.*, 2017). The application of technology eases the tasks in almost all industries from both the perspective of consumers and service providers, and is thus seized by industries globally. In addition to playing a vital role in connecting sellers and buyers, technology has empowered tourism experiences by increasingly assisting travellers to co-create value during all stages of travel (Buhalis, 2019).

The abundant availability of information gives a wide range of choice for consumers to make conclusive decisions (Fong *et al.*, 2018). Because of the multiple sources of information consumers come across, when information appear identical to each other (*similar information*), a large quantity of information could make the comprehension complicated for the consumer (*too much information*). Consumers might encounter confusing and contrasting information, which could make decision-making complicated (*too ambiguous information*).

2.3 Information recipients.

Information recipients' knowledge and behaviour patterns have a major impact on the level of confusion (Liu and Park, 2015). Lu and Gursoy (2015) posited five individual characteristic variables, namely, *learning orientation*, *internet experience*, *tolerance of ambiguity*, *need for cognition* and *price consciousness*, which would critically influence consumers' attempt to process online information. Although information provided by the service provider is complicated or confusing, the decision made by the consumer can be rational and optimal if the consumer has expertise knowledge and the ability to comprehend the information received.

The variables under information recipient is presented as where each one of them individually access the consumers ability to surf the Internet, ability to learn new aspects and to perceive positively in uncertain situations. Knowledge of the consumer plays a vital role in the decisions made in any given situation and support in keeping *consumer confusion* minimal. The consumer competency is crucial in making rational decisions, especially in industries such as tourism (Cohen *et al.*, 2014; Smallman and Moore, 2010).

2.3.1 Internet experience. Internet provides numerous benefits for consumers. For example, some benefits are comparing different product and service categories, providing instantaneous access to the latest information, interacting with current and previous users of diverse tourism products and making numerous bookings online (Zhang, 2015). High-tech advancement in the modern world makes it convenient for individuals to have access to the Internet (Vila and Kuster, 2011). Access to the Internet has now become an essential part of life, although its quality may vary widely. Consumers with the Internet have first-hand knowledge, which is an advantage compared to all individuals who lack access.

The ability of the Internet to host a large amount information has a high probability of creating an information overload, thus affecting the behaviour of consumers and their decisions. Whelan and Teigland (2013) stated that this condition is created when customers are offered an excessive quantity of information in a short time span, which could exceed the processing capacity of individuals, particularly if they are unfamiliar with the source of information.

2.3.2 Learning orientation. Signifies an individual's concern and commitment to develop the skills, knowledge and proficiency by obtaining and sharing information. When confronted

with difficult circumstances, persons with a sound learning orientation will observe blunders such as lack of advantageous feedback and prospects for learning, thus regularly increasing their effort to develop new skills and knowledge (Yaping Gong *et al.*, 2009). Moreover, these individuals seek out complex and challenge-driven tasks. It would allow individuals to develop new capabilities, learn from their own mistakes and avoid repeating them (Jolly and Thérin, 2007). Similarly, individuals attempt to use unfamiliar domains that could provide them with the most appropriate learning potential. Therefore, individuals with a strong learning orientation tend to possess the skills and hunger to continuously learn. Such individuals will search new ways to improve knowledge and skills, which could help them in future. Learning orientation is not limited to learning the new but understanding the behaviour of others. Pressurised situations change the ability to make rational decisions, therefore the ability to make sensible choices despite the situation they are in is an important aspect to consider (Szulanski, 1996).

2.3.3 Tolerance for ambiguity. Indicates how an individual could perceive and process information in relation to a stimuli or ambiguous situations when burdened with a collection of complex, unfamiliar or incongruent clues (Brendel *et al.*, 2016; Triki *et al.*, 2012). Researchers argued that people with high tolerance for ambiguity are more likely to effectively manage stress and make the right decisions in swiftly changing, unclear environments. These individuals will react well to a new, different and unpredictable situations with slightly visible discomfort; moreover, they are receptive and more adaptable to change (Stanley Budner, 1962).

2.3.4 Price consciousness. Is the extent to which the customer is concerned about how much to pay, i.e. customers' inclination to pay a lower price. Previous studies have suggested that the availability of price information increases the price consciousness of consumers. Value-oriented positioning strategies such as price discounts make the price a more notable factor to consumers and increase the price consciousness in the minds of the consumers. The availability of price information encourages consumers to focus on price attributes and inspires them to additional search for lower prices (Lynch and Ariely, 2000). However, discovering the finest deal could be laborious, i.e. it necessitates intense search efforts because value comparisons of diverse tourism products are generally needed (Cox, 2015; Ong, 2015).

2.3.5 Need for cognition. Is how far an individual engages in and enjoys the process of cognitive evaluation. Individuals who engage in cognitive information processing attempt to realise the surrounding environment through the acquisition of information (Cacioppo and Petty, 1982). When customers make choices, they desire to possess relevant knowledge; hence, customers search to obtain pertinent information that can aid them assess the alternatives. Nevertheless, because of dissimilarities in characters and temperaments, people process and evaluate information on differing levels of cognition and thus react differently (Haugtvedt *et al.*, 1992). The want for cognition certainly affects people's inclination to entirely assign attention to a continuing cognitively stimulating task (Lord and Putrevu, 2006) and negatively influences the tendency to avoid, distort or disregard new information (Venkatraman *et al.*, 1990).

Sri Lanka has now become an international inbound tourist hotspot and the use of online marketing have grown over the years with the development of information and communication technology (Jayathilaka *et al.*, 2020). Therefore, understanding *consumer confusion* better in the context of tourism sector in Sri Lanka would aid in developing better online marketing strategies to boost the trade. This study has two research questions:

- RQ1. What are the bottlenecks to promote e-tourism in Sri Lanka?
- RQ2. What are the most critical features expected by the users?

3. Data and methodology

3.1 Data

The research adopted a cross-sectional deductive approach and data were collected using an enumerator-administered structured questionnaire.[AQ3] Information related to the level of *consumer confusion* in the tourism industry was gathered, including confusion reduction strategies followed by those consumers to avoid confusion. Therefore, the study focused on international inbound tourists and the survey was conducted in public places frequented by international inbound tourists in Colombo (Western province), Dambulla (Central province) and Galle (Southern province) districts in Sri Lanka. Public places included malls, beaches, hotels and roads that were habitually roamed by international inbound tourists. The reliability and validity of measurement tools was ensured through a pilot study conducted on 50 international inbound tourists. The finalised survey instrument was used to gather data from a total of 197 respondents during March 2019.

A two-stage cluster sampling plan was deployed, where a simple random subsample of elements was selected within each of these groups. The clusters were developed based on the international tourist arrivals to Sri Lanka in 2017. Countries were clustered based on the region, specifically, North America, Latin America, Western Europe, Eastern Europe, Africa, Middle East, East Asia, South Asia and Australia. To decide the sample size, the number of tourist arrivals in 2017 was proportioned against the total international tourist arrivals of the same year. [Table 1](#) lists the statistical representation of the sample by their region of residence.

The questionnaire covered all variables from the conceptual framework. Each variable has a minimum of one question to a maximum of nine questions. The mean value of the variables was obtained to analyse the responses, and both the linear and multiple linear regressions were analysed to develop the relationship between the variables. The method of questionnaire design and the regression formulas are explained as follows.

3.2 Questionnaire design

The questionnaire had two sub-sections, which carried a total of 64 questions. The purpose of the first section was to acquire the background information about the respondent. This section had eight questions, which covered a few basic background information about respondents, particularly gender, nationality, frequency of visiting Sri Lanka, purpose of the visit, usage of Internet as a source of information, type of information accessed and the level of education. In this section, the respondent was required to answer multiple choice or open-ended questions. The second section of the questionnaire contained all variables (*too similar information*, *too much information* and *too ambiguous information* from the information providers' perspective; *Internet experience*, *learning orientation*, *tolerance for*

Region	Total	(%)	Sample
North America	104,375	5	10
Latin America	6,482	1	1
Western Europe	680,901	32	64
Eastern Europe	161,967	7	14
Africa	12,703	1	1
Middle east	95,581	5	9
East Asia	444,310	20	42
South Asia	518,085	24	48
Australia	92,003	5	8
Total	2,116,407	100	197

Source: Based on statistics of [Sri Lanka Tourism Development Authority \(2018\)](#)

ambiguity, price consciousness and need for cognition from the information recipients' perspective; and finally, the types of consumer confusion, namely, overload confusion, similarity confusion and ambiguity confusion) as per the conceptual model.

The complete set of questions was constructed in the form of a five-point Likert scale questionnaire, where the respondent was asked to select his or her personal response to each question. The final section comprises five reduction strategies identified by Lu and Gursoy (2015); these are to "clarify the purchase goal, share/delegate the purchase, abandon the purchase, seek additional information, and rely on familiar information sources." The work carried out by Walsh et al. (2007) on scale development, validation and application in assessing consumers' confusion proneness and its three dimensions, namely, similarity, overload, and ambiguity provided the overall basis for measuring the variables. The options under each variable were derived through 15 exploratory interviews with international inbound tourists, and the questionnaire was pre-tested among 50 respondents prior to the final field testing.

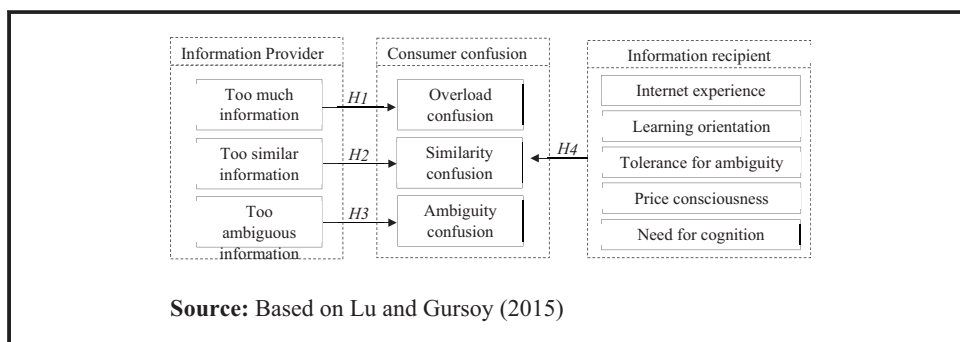
3.3 Profiling variables

In addition to Section 3.2, profiling variables for the study were obtained through eight questions that gathered few primary details about the respondent. The questions were either open-ended or multiple choice ones. The respondents being inbound international tourists, it was important to know the home country of the tourist and the purpose of travel. Moreover, the information searches pertaining to the method and purpose were gathered through structured questions.

3.4 Research framework and hypothesis

Four hypotheses are derived based on the 13 propositions [1] highlighted in Lu and Gursoy (2015), and a comprehensive model of antecedents and outcomes of consumer confusion were developed. Figure 2 presents the model, which is organised with four hypotheses and antecedents of two general groupings, the information provider's perspective and the information recipient's perspective. The information providers' perspective comprises too much information, too similar information and too ambiguous information, and the information recipients' perspective comprises five individual difference variables, namely, internet experience, learning orientation, tolerance for ambiguity, price consciousness and need for cognition. Tourist characteristics, namely, gender, nationality, and level of education, as well as tour-related characteristics such as frequency of visiting Sri Lanka, purpose of the visit, usage of Internet as a source of information and type of information accessed, were used as independent or control variables in the model. Although information on confusion reduction strategies was gathered, the current model does not

Figure 2 The research framework of the study



include the generic confusion reduction strategies proposed by [Mitchell and Papavassiliou \(1997\)](#) and [Lu and Gursoy \(2015\)](#), namely, clarify the buying goals; sharing/delegating the purchase; abandoning the purchase; seeking additional information and relying on familiar online information sources.

The main hypotheses are summarised as follows:

- H1. $\gamma_1 > 0$: Availability of “too much information” will positively impact overload confusion of online tourism websites.
- H2. $\alpha_1 > 0$: Availability of “too similar information” will positively impact similarity confusion of online tourism websites.
- H3. $\theta_1 > 0$: Availability of “too ambiguous information” will positively impact ambiguity confusion of online tourism websites.
- H4. $\beta_1, \beta_2, \beta_3, \beta_5 > 0$; $\beta_4 < 0$: Consumers’ internet experience, learning orientation, tolerance for ambiguity and need for cognition will positively influence consumer confusion and price consciousness will negatively influence consumer confusion.

3.5 Variable analysis and validity

The conceptual model contains four different subsections, namely, information provider, information recipient, types of *consumer confusion* and *consumer confusion* reduction strategies. To validate the applicability of different subsections, the study calculated Cronbach’s alpha to verify the internal consistence. As mentioned above, data collected were analysed using both linear regression and multiple linear regression. A total of nine regressions were analysed, with one being a multiple regression, while the rest were linear. Multicollinearity was verified using variance inflation factor (VIF) and tolerance to ensure that the independent variables were not highly correlated to each other.

3.6 Regression analysis

Linear regression is a model used to explain the relationship between two fitting variables in a linear equation with regard to observed data. One variable is considered to be the explanatory or an independent variable, with the other being the dependent variable. The following are the four regression equations:

$$OCon = \gamma_0 + \gamma_1 TMin + \epsilon_1 \quad (1)$$

where *overload confusion* (*OCon*) is the summation of the average of travel booking websites to choose, that are considered confusing and offering *too much information*; *TMin* is the average value of *too much information* presented by online sources:

$$SCon = \alpha_0 + \alpha_1 TSin + \epsilon_2 \quad (2)$$

where *similarity confusion* (*SCon*) is the summation of the average of difficulties to differentiate online travel booking websites because these typically look similar to online travel booking websites that are nearly impossible to compare. *TSin* is the average value of the *too similar information* provided by online sources:

$$ACon = \theta_0 + \theta_1 TAin + \epsilon_3 \quad (3)$$

where *ambiguity confusion* (*ACon*) is the summation of the average of insufficiently informed by online travel booking, often vague, confused because of frequent updates or often confused. *TAin* is the average value of the three areas (*too much information*, *too similar information* and *too ambiguous information*). Services such as hotels and airlines often offer various features that make comparison difficult. When looking for information, consumers

rarely feel that they are sufficiently informed; moreover, when searching for certain services, they require the help of service assistants to understand them:

$$CCon = \beta_0 + \beta_1 IExp + \beta_2 LOri + \beta_3 TAmb + \beta_4 PCon + \beta_5 NCog + \epsilon_4 \quad (4)$$

where *consumer confusion* (*CCon*) is the average of *overload confusion*, *similarity confusion* and *ambiguity confusion*. *Internet experience* is denoted as *IExp*, *learning orientation* is denoted as *LOri*, *tolerance for ambiguity* is denoted as *TAmb*, *price consciousness* is denoted as *PCon* and *cognition* is denoted as *NCog*.

4. Results and discussion

Table 2 presents the reliability statistics of respondents. Analysis is based on primary data and it is necessary to calculate reliability for internal consistency. The most common measure of reliability is Cronbach's alpha value, which is used to determine whether the internal instruments are consistent (Cho, 2016; Cronbach, 1951). Generally, a reliability coefficient greater than 0.6 indicates considerable consistency (Hirata, 2019; Tsai, 2014).

Cronbach's alpha was tested for 11 variables, and the value being 0.743 indicated that the data collected are reliable to conduct the next level analysis (Table 2). Furthermore, as recommended by Field (2018), Cronbach's alpha coefficient and *Cronbach's alpha if an item is deleted* could be used to determine and exclude the element that is not contributing to the overall reliability of data. As per results, the test is robust such that even if a variable is eliminated from the test, Cronbach's alpha reliability would not significantly increase. This suggests that all elements in the questionnaire are significant and deleting any one element would lead to lowering Cronbach's alpha, an indicator of poor reliability.

Table 3 presents the simple linear regression results of the model. The coefficients of the regression test conducted show the results of 0.708, 0.669 and 0.631 for β values. Thus, it could be concluded that independent variables do have a significant impact towards dependent variables.

The relationship between the variables under the subsection information recipient; *internet experience*, *learning orientation*, *tolerance for ambiguity*, *price consciousness* and *need for cognition* are tested against *consumer confusion*. The *consumer confusion* is a subsection with three variables, i.e. *overload confusion*, *similarity confusion* and *ambiguity confusion*, while multiple regression was run to obtain the mean value of all three variables. Thus, the dependent variable was *consumer confusion* and independent variables were *internet experience*, *learning orientation*, *tolerance for ambiguity*, *price consciousness* and *need for cognition*.

Table 2 Internal consistency

Element	Observation	Number of items	Cronbach's alpha	Corrected item-Total correlation	Cronbach's alpha if item deleted
TMin	197	3	0.748	0.516	0.686
TSin	197	3	0.704	0.444	0.697
TAin	197	3	0.738	0.547	0.681
OCON	197	3	0.733	0.719	0.658
SCON	197	2	0.803	0.651	0.690
ACON	197	4	0.711	0.702	0.662
IExp	197	4	0.848	0.684	0.670
LOri	197	5	0.734	0.608	0.676
TAmb	197	4	0.692	0.499	0.689
PCon	197	2	0.773	0.527	0.687
NCog	197	5	0.695	0.733	0.664

Source: Authors' calculations

Table 3 Regression results

Variables	Model 1 (Overload confusion)	Model 2 (Similarity confusion)	Model 3 (Ambiguity confusion)	Model 4 (Consumer confusion)
<i>TMIn</i>	0.708** (0.313)			
<i>TSIn</i>		0.669*** (0.069)		
<i>TAIn</i>			0.631*** (0.062)	
<i>IExp</i>				0.184 (0.150)
<i>Lori</i>				0.222* (0.131)
<i>TAmb</i>				0.130 (0.119)
<i>PCon</i>				-0.034 (0.035)
<i>NCog</i>				0.514*** (0.142)
Constant	1.289 (1.047)	1.250*** (0.248)	1.321*** (0.222)	-0.107 (0.431)
R-Squared	0.02	0.321	0.343	0.329
Observation	197	197	197	197

Notes: *** Significant at 1% level; **significant at 5% level; *significant at 10% level. Standard errors in parentheses

The coefficients of the regression test conducted for *H1* shows a value of 0.708 and it is significant at 1%. Therefore, it is evident that the dependent variable, *overload confusion*, has a significant impact from the independent variable, *too much information*. The figure denotes a positive value, and as such, it is evident that *too much information* provided by the information provider could lead to *consumer overload confusion* by 0.70%, and hence supporting *H1*.

The primary idea addressed by *H2* is to determine whether the availability of *too similar information* affects *similarity confusion* among consumers in online tourism trade. Regression results, which were statistically significant, proved that the average value of the *too similar information* provided by online sources increased the *similarity confusion*. Accordingly, it indicates that *too similar information* provided by the information provider could lead to *consumer similarity confusion* by 70%, and hence supporting *H2*.

The third regression model was developed to determine how far the availability of *too ambiguous information* affects *ambiguity confusion* among consumers who use tourism-related websites. The results indicate that the dependent variable *ambiguity confusion* has a significant impact from the independent variable *too ambiguous information*. On an average, *too ambiguous information* provided by the information provider could lead to *consumer ambiguous confusion* by 0.631%. These results align with the conceptual framework; however, the last model's results depicted that only *need for cognition* and *tolerance for ambiguity* have significant positive impacts on *consumer confusion*.

According to theoretical evidence provided previously, there is an impact on *consumer confusion* from both the information providers' and information recipients' perspective. The outcomes agree with the research findings of [Lu and Gursoy \(2015\)](#), [Walsh et al. \(2007\)](#) and [Walsh and Mitchell \(2010\)](#). It can be concluded that, the information provider can influence *consumer confusion* by providing *too much information*, *too similar information* and *too ambiguous information*. The behaviour and knowledge attributes of consumers affect *consumer confusion*. Finally, according to the findings, seek for additional information, share or delegate the purchase decision, rely on familiar information sources and clarify the purchase goal are identified as the most common coping strategies among the research sample, whereas abandoning the purchase was rarely followed.

In summary, the main bottlenecks in practicing online tourism in Sri Lanka are supply and availability of information through websites. The service providers can limit and improve the quality of information provided. Accordingly, the effectiveness of information disseminated could be improved. The study proved that *too much information*, *too similar information* and *too ambiguous information* from the information providers' perspective lead to *overload confusion*, *similarity confusion* and *ambiguity confusion* in the context of the tourism sector

in Sri Lanka. As such, this study supports the findings of [Lu and Gursoy \(2015\)](#), [Walsh et al. \(2007\)](#) and [Walsh and Mitchell \(2010\)](#).

5. Conclusion

This study provides a direct link between *consumer confusion* and information dissemination and processing. Compared to other industries, the tourism sector holds a significant importance to address the issue of *consumer confusion*. The findings can be useful particularly in a developing nation such as Sri Lanka where tourism industry is booming and significantly contributes to the macro-economy. The findings further illustrate that *too much information*, *too similar information* and *too ambiguous information* positively influence consumers *overload confusion*, *similarity confusion* and *ambiguity confusion*. Moreover, the study demonstrates that the information recipients' knowledge and behaviour influence attributes such as *internet experience*, *learning orientation*, *tolerance for ambiguity*, *price consciousness* and *need for cognition*, and these attributes have no significant impact on *consumer confusion* among inbound international tourists to Sri Lanka. Furthermore, the quality and quantity of information provided play a noteworthy role. It can be concluded that providing quality information can not only help the consumers finalise the purchase decision but can also be a critical factor in determining consumer satisfaction. The paper contributes to the literature of the tourism industry marketing and information science by observing the two integrated perspectives that contribute to *consumer confusion*. The model provides prospects for the researchers who are keen in online tourism to empirically examine the extent to which each of the three confusion dimensions are strongly linked to individual difference variables and examine which confusion reduction strategy is adopted more frequently for each confusion dimension.

6. Practical implications

A comprehensive understanding of information confusion, particularly in online tourism, will aid in clarifying its relationship to information providing and processing. In general, tourism industry has a significant importance in addressing the issue of *consumer confusion* because it is a growing industry in Sri Lanka. The [Lu and Gursoy \(2015\)](#) conceptual model adopted in this study will assist all stakeholders in the tourism industry, especially in the context of Sri Lanka and developing nations. Consequently, it will enable to recognise factors that cause confusion among consumers' searching for online information on travel and tourism, as well as strategies that could be applied in addressing pertaining issues. The findings derived from the study denote that confusion among consumers of online tourism products and services have a significant influence from the information providers' perspective. Therefore, the findings will provide tourism marketers with a clearer insight on how to improve quality and quantity (the amount) of information to be disseminated online for product differentiation from any competing alternatives. Moreover, the findings will assist to develop more strategised online target-marketing communications. Accordingly, segmenting the online tourism market and concentrating on e-marketing efforts on one or few segments will create competitive advantage among the rivalries, which would ultimately benefit both the information provider and information receiver.

The digital revolution has had a direct influence on both travel and tourism industry ([Pencarelli, 2019](#)) and contributed to the industry's supply chain ([Jalilvand et al., 2019](#)). Moreover, *Big Data* will continue to enhance digital technologies in tourism and hospitality ([Mariani, 2020](#)). Therefore, both the tourism and information technology industries should be geared toward a better and stronger nexus. Therefore, this paper would add valuable insights to the literature of information science and the tourism industry marketing by further solidifying the two integrated perspectives of *consumer confusion*, namely, information provider and information receiver. Moreover, the tourism industry places an increasing importance on innovation and evolution as economic factors that have an impact on the industry ([Cater et al., 2000](#)) either positively or negatively. Hence, the major theoretical

contributions of this research would permeate economic geography in the context of the tourism industry, enabling researchers to better identify the significant factors that lead to online *consumer confusion*. This would facilitate for greater innovation in the industry. The findings, as mentioned above, support the conclusions of [Lu and Gursoy \(2015\)](#). Moreover, [Walsh et al. \(2007\)](#) and [Walsh and Mitchell \(2010\)](#) confirm that *too much information*, *too similar information* and *too ambiguous information* positively influence consumers' *overload confusion*, *similarity confusion* and *ambiguity confusion*.

There are several practical implications of the study for online tourism marketers who wish to address *consumer confusion*. It is important that online tourism marketers identify the sources of *consumer confusion* whether it is *too much*, *too similar*, *too ambiguous* or different combinations of these. Therefore, firstly, examining the online presence and content of the website is beneficial for both minimising *consumer confusion* and differentiating tourism products and services that are being marketed. Secondly, as mentioned above, there are crucial aspects such as quality of information and the volume of decision-relevant information. Decision-making, which is an ongoing process, involves numerous contextual influences. A comprehensive understanding of the six types of vacationers such as habitual, rational, hedonic, opportunistic, constrained and adaptable ([Decrop and Snelders, 2005](#)) will facilitate striking a balance between the decision on quality and the quantity of information to be generated and disseminated among online customers. Therefore, destination marketers should continue to provide quality and concise information ([Ku and Chen, 2015](#)) while studying the types and depth of information sought by the types of vacationers to reduce *overload confusion*. Thirdly, as mentioned elsewhere, tourism industry has now become more or less a polypoly market. Consequently, differentiating the websites from other information overwhelming ones is important to decrease *similarity confusion*. In addition to the coping strategies highlighted in the current study, another two are adopted by online customers, which includes summarising ([Saxena and Lamest, 2018](#)) and indicating preferences for shortcuts provided by the experts ([Stanton and Paolo, 2012](#)). The provision of concise, relevant, accurate, precise, up-to-date and timely information will prevent customers from having to deal with *overload confusion* and focus time and energy on coping strategies.

[Bawden et al. \(1999\)](#) and [Bawden and Robinson \(2009\)](#) emphasised the essentiality for individuals and organisations to exercise control to deal with *information overload*. Moreover, *ambiguity confusion* could be avoided through quality management of information. Substantiating the same, [Inversini and Buhalis \(2009\)](#) stated that information quality is one of the imperative topics in information entropy. According to [Lu and Gursoy \(2015\)](#), the avoidance of *ambiguity confusion* could be achieved by ceasing the use of misrepresentative or ambiguous words, sentences, terms or descriptions in the content of websites while providing important links that consumers will find necessary to finalise purchase-related decisions.

The current study further demonstrated that the information recipients' *internet experience* and *learning orientation* affect *consumer confusion* more than *tolerance for ambiguity*, *price consciousness* and *need for cognition*. It requires a stringent and focused online communication strategy to cater to online consumers who are at diverse levels of aptitudes. [Paraskevas et al. \(2011\)](#) validate that an apposite website design aids the search engines' web crawlers or spiders in the alphabetical listing of pages, and fitting keywords stimulate an optimum ranking in search engines. As such, search engine marketing contributes immensely to the overall online communication strategy. Moreover, online consumers mainly adopt the filtering and withdrawal strategies to cope with information overload ([Savolainen, 2007](#)). Consequently, clearly understanding about how tourists respond to information overload will even enable serving customers, primarily those with limited or zero familiarity with the internet (*internet experience*) and *learning orientation*. Moreover, post-purchase behaviour of customers, i.e. travellers sharing and exchanging their travel experience ([Buhalis et al., 2011](#)), could be observed to further improve online marketing.

7. Research limitations and future research directions

The study provides several remarkable insights, but it entails limitations. The theoretical model was adopted from previous literature of empirical studies and existing theories in the field of online tourism. However, it has been noted by the authors (Lu and Gursoy, 2015) of previous scholarly publications that the research cannot confirm nor disconfirm the validity of the propositions. This is because the model has not been empirically tested. The study provides a fundamental idea and directions for future research on online tourism, particularly developing nations, even though it empirically tested the model only partially.

The study is limited to three districts frequented by inbound international tourists. Therefore, the authors of the current study caution the generalisation of findings to inbound local tourists. Future research could expand the scope of the study to incorporate local tourists as well. In addition, future studies could be developed to capture different types of vacationers, namely, habitual, rational, hedonic, opportunistic, constrained and adaptable to get a wider and better understanding *consumer confusion* from the perspective of both the information providers and information receivers.

Another limitation is that the study only encompassed the five (5) individual characteristics as highlighted by Lu and Gursoy (2015) that might instigate confusion among online consumers. There could be other variables with a high probability to contributing to *customer confusion*. Therefore, future studies could investigate other probable variables that had not been utilised in the current study.

The study has assessed the information providers' (tourism marketers) perspective through perceptions built by the information receivers (consumers). Nevertheless, in future research studies, it would be valuable to gain insights into information providers' perception of information disseminated by information providers themselves, which would facilitate in validating the propositions of the model.

Note

- 1 The 13 propositions are, P1: As the amount of available online tourism information increases to an excessive level that an individual is incapable of processing, consumers' overload e-confusion is likely to occur; P2: As increasingly similar online tourism information is generated to an excessive level that an individual is incapable of processing, consumers' similarity e-confusion is likely to occur; P3: As more ambiguous online tourism information is provided to an excessive level that an individual is incapable of processing, consumers' ambiguity e-confusion is likely to occur; P4: After controlling for characteristics of the trip and characteristics of tourists, the stronger the level of consumers' prior Internet experience, the lower the possibility of them experiencing online similarity, overload and ambiguity confusion; P5: After controlling for characteristics of the trip and characteristics of tourists, the higher the level of consumers' learning orientation, the lower the possibility of them experiencing online tourism similarity, overload and ambiguity confusion; P6: After controlling for characteristics of the trip and characteristics of tourists, the lower the level of consumers' tolerance for ambiguity, the lower the possibility of them experiencing online tourism similarity, overload and ambiguity confusion; P7: After controlling for characteristics of the trip and characteristics of tourists, the higher the level of consumers' price consciousness, the lower the possibility of them experiencing online tourism similarity, overload and ambiguity confusion; P8: After controlling for characteristics of the trip and characteristics of tourists, the higher the levels of consumers' need for cognition, the lower the possibility of them experiencing online tourism similarity, overload and ambiguity confusion; P9: As consumers' online tourism similarity, overload and ambiguity confusion increase, consumers are likely to clarify the buying goals; P10: As consumers' online tourism similarity, overload and ambiguity confusion increase, consumers are likely to share/delegate the purchase; P11: As consumers' online tourism similarity, overload and ambiguity confusion increase, consumers are likely to abandon the purchase; P12: As consumers' online tourism similarity, overload and ambiguity confusion increase, consumers are likely to seek additional information; P13: As consumers' online tourism similarity, overload and ambiguity confusion increase, consumers are likely to rely on familiar online information sources.

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