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**The new voice and exit: An empirical analysis of determinants of online voice and exit
and eWOM on public services**

Master Thesis

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Listing of Abbreviations

CFA	Confirmatory Factor Analysis
CFI	Comparative Fix Index
EVLN	exit, voice, loyalty and neglect
eWOM	electronic word of mouth
RMSEA	Root Mean Square Error of Approximation
WOM	word of mouth
UK	United Kingdom
VIF	Variable Inflation Factor

1 Abstract

The thesis presents an empirical study of the relationships between electronic word of mouth (eWOM) and its determinants with voice and exit on public services. Utilising the similar theoretical foundations of eWOM, voice, and exit, ten hypotheses were formulated to investigate the relationships between eWOM and selected determinants (satisfaction, tie strength, altruism, and opinion seeking) with exit and voice. The thesis then presents evidence from an online survey of Malaysian and UK TripAdvisor users on their experiences with heritage management in their respective home countries. The thesis finds that a majority of eWOM determinants (except tie strength) have a positive relationship with voice; we find some evidence that opinion seeking has a positive relationship with exit, while tie strength has an inverse relationship with exit. Overall the results tend to corroborate the inference that eWOM and its determinants have a stronger relationship with voice relative to exit. This thesis has several implications for public service providers seeking to anticipate, monitor, and manage voice and exit with the increasing availability of online feedback platforms for citizens.

2 Introduction

The expression of satisfaction for public services is considered an important safeguard of governance and accountability (Alawneh et al., 2013). According to Hirschman (1970), the manifestation of this satisfaction can be distilled into two individual concepts: Voice and Exit. Voice is considered as an economic activity, of an effort to try to address a deteriorating relationship between a firm and an individual through communicated feedback; while exit is a political one, indicating a withdrawal from the relationship altogether. These concepts represent early thoughts as to the range of recourses available to citizens in the face of dissatisfaction with public services. Faced with deteriorating quality levels in a public provider's treatment of public goods and services, citizens either voice their dissatisfaction directly towards the providers themselves or seek to exit and withdraw from the service altogether.

However, with the advancement of technology and changing social norms, additional avenues have been made available to citizens to address dissatisfaction towards public services: through electronic word of mouth (eWOM). Citizens can share opinions, experiences, and knowledge through an ever-increasing number of platforms. While eWOM has traditionally found more use in the realms of private consumption (e.g., e-commerce, product reviews, and social media), the increasing presence of public services online has opened up opportunities for citizens to engage in eWOM activity of these services (McKnight & Chervany, 2001; Rogge et al., 2017). For better or worse, citizens can now engage with each other with their thoughts on public services, which may in turn influence other citizens' perceptions of those services. The lines between eWOM and online voice and exit are increasingly blurred and the relationship between these activities is more nuanced than ever. When a citizen complains on a public platform to peers, is the person expressing online voice towards the provider as well? Can is on online threat of exit, shared between a private citizen to another, the same as an outright exit of a public service? Is there a predictable sequence between eWOM to voice?

Answering these questions is increasingly important considering the incoming expansion of e-government services provided by countries, which will likely exponentially increase the availability of eWOM engagement and online voice and exit on public services as well (Nulhusna et al., 2017). Governments should learn to understand, predict and manage these activities to safeguard the ideals of accountability, transparency, and dedication towards quality improvements in public service delivery.

In learning how to understand, predict and manage these eWOM activities, the literature in this area is rich with empirical research on the determinants of eWOM. Many studies have identified factors moderating eWOM propensity, ranging from the strength of personal networks to internal emotional reactions. While exit and voice studies have explored the determinants of both activities (e.g., Dowding and John (2012), Campbell et al., (2007)), the literature in this area is nascent. Additionally, little research was observed in exploring the distinction between online voice and exit with their offline counterparts. The thesis seeks to address this lacuna by exploring the various similarities between exit, voice and eWOM, and the ensuing relationships between the determinants of the three concepts. The research question the thesis seeks to answer is: *“Does eWOM and determinants of eWOM increase the likelihood of citizens expressing online voice and intention to exit of public services?”*

In answering the research question, the thesis implemented an empirical study on the relationships between eWOM and its determinants on the voice and exit activity of heritage site management. Firstly, the literature on exit, voice and eWOM were reviewed, with a focus on the similarities between their theoretical foundations and determinants. Using the identified and shortlisted determinants, 10 separate hypotheses were formulated to test the relationship between the concepts. A survey was developed and implemented with local citizens who have visited and engaged in eWOM activity of publicly managed heritage sites in the UK and Malaysia. The survey responses were then used to validate the hypotheses formed to determine the relationships between eWOM and its determinants on voice and exit.

3 Literature Review

In answering the research questions posited above, the literature review was organised in the following structure: Firstly, the definitions and major elements of exit, voice and eWOM were outlined. Secondly, the relevance, importance and contributions of both the fields of exit and voice, and eWOM towards public services were explored. Thirdly, the theoretical bases of exit, voice and eWOM were considered, with special reference towards the similarities between each of the concepts. Fourthly, the notable empirical studies exploring the relationships between exit, voice and eWOM with their determinants were considered.

3.1 Introducing and Defining Exit, Voice and eWOM

This subsection is aimed at providing working definitions for the main elements of the thesis as well as to highlight the most seminal publications exploring each of the elements.

3.1.1 Hirschman's Exit and Voice

Albert O. Hirschman's publication "Exit, voice, and loyalty: Responses to decline in firms, organisations, and states" (1970) is noted as one of the most prominent originators in the field of citizen reactions to public services (Barry & others, 1974; Dowding & John, 2012). Hirschman indicated that there were two main reactions when citizens experienced deteriorating quality levels in public services. Individuals would either express voice, exit the service all together, or a combination of the two. Hirschman additionally considered the interplay of relationships between the two actions, situations where they manifest, as well as the effect of a third compounding variable: Loyalty. It is noted that the thesis does not comprehensively consider the effect of loyalty in the analysis, which is noted by the literature as an acceptable approach (e.g., (Jachtenfuchs & Kasack, 2017; Morse & Keohane, 2014)

Exit was noted by Hirschman as an 'economic' response: A customer, in the face of dissatisfaction towards a product or service, uses market forces to signal their dissatisfaction by discontinuing their relationship with it, as well as putting into motion a process to possibly induce improvement from the firm of the product or service.

Hirschman notes that exit is neat (in that an exit response is binary), impersonal (in that one may exit without an actual, in-person confrontation), and is indirect (in that any subsequent improvement by the firm is fully attributed to market forces)

An important point to note about Hirschman's exit is how it is attributed to a subsequent improvement in quality. In the private sector, customer exit from a product or service usually is in tandem with a drop in revenue, especially when there is competition in the market. Customers, dissatisfied with a particular firm's performance, can 'vote with their feet' by simply shifting their purchasing power to a rival. The firm's suffering such an exodus would have to take note of the resulting loss in revenue and either implement corrective actions or suffer further losses.

While exit is considered as an economic action, voice was considered as a political one. Customers exercise voice as an attempt to introduce change to a dissatisfying situation. They can do so either by individual or collective appeal to the management of the firm, petition to a higher authority for a change in management, or through the mobilisation of public protests and demonstrations. Voice is considered by Hirschman as a political action as it is a fundamental tenet of any political system, where constituents articulate their interests, opinions, and ideas to potentially enact changes. Hirschman considers that voice can be effective in alerting the management of a firm to decreases in quality in proportion to its volume. In comparison to exit, Hirschman considers voice as more costly and complex. The magnitude of voice which every individual can afford is predicated on their respective bargaining powers. Individuals would find that their power to use voice is diminished when they increasingly spread their usage of different products and services.

Additionally, Hirschman notes that voice's relationship with exit is multifaceted: Voice can act as a residual of, an alternative of, and a combination with exit. These relationships are considered in sequence:

Voice can function as a *residual of exit* when it is the only remaining option for individuals whenever exit is unavailable. As explored previously, this may happen in an oligopolistic or monopolistic situation in certain social organisations (e.g., the State).

Voice can function as an *alternative to exit* when both options are available, but individuals weighing both options chooses the former over the latter. Hirschman states that this decision is made by a consideration of the relative effectiveness of voice: if individuals are adequately convinced that exercising voice would result in improvements, they might delay exit.

Voice when *combined with exit* poses several challenges due to the subjectivity of quality. Hirschman notes that a change in quality, which is the main factor for the expression of voice or exit, are perceived differently between individuals. This is because different individuals would have different appreciations of quality norms. For example, individuals with high consumer surpluses would have more to lose if the relevant product or service deteriorates in quality. As a result, those individuals are the ones which would most likely express voice until they exercise exit. Similarly, more price-conscious consumers would exit to lower-priced, lower-quality substitutes at the same time. This would result in the gradual deterioration of products and services. As such, a combination of exit and voice is needed to prevent an overreliance on either response.

3.1.2 Evolution of Hirschman's Exit and Voice

Although many authors praise Hirschman for his initial elucidation of the 'obvious' concepts and relationship of Voice, Exit and Loyalty, they note that several of his initial explorations were too simplistic. For instance, Barry et al., (1974) noted that Hirschman's consideration of voice as a binary option (to voice or not to voice) was incomplete. Barry notes that individuals have a choice of volume: that they can choose to exercise a large amount of voice or a smaller amount of it, and that they must consider and balance the associated costs of voice. Most importantly, Barry et al., (1974) considered additional relationships between exit and voice, positing that the choice between exit and voice should be seen as a matrix of options, instead of a scale. Individuals, faced with dissatisfaction, consider two distinct choices: one between exit and staying, and the second between voice and silence. Individuals making the decision to exit also make a cost-benefit analysis regarding alternatives and the likelihood of the original firm's improvement. Parallels can be drawn with literature on the individual's consideration of internal and external costs when expressing dissatisfaction towards public services (Van de Walle, 2018).

Barry et al., (1974)'s 'matrix of options' seems to have indirectly influenced authors such as Rusbult (1983), who developed the most influential model advancing Hirschman's original idea: the Exit, Voice, Loyalty, and Neglect (EVLN) model. Rusbult (1983) developed the EVLN model as an analytical framework in the context of social psychology to investigate reactions within settings, such as employment and romantic relationships, categorising responses based on two vectors of evaluative criteria: destructive versus constructive, and active versus passive. The EVLN

framework has been used in relation to citizen satisfaction with public services by authors such as Lyons et al., (1992). Lyons et al., explored responses within the EVLN framework and their relationship with three main elements: the citizens' prior satisfaction with the public service, the citizens' investment previously made in their community as well as the citizens' awareness of acceptable alternatives to the public service.

Other authors have supplemented Hirschman's work by expanding the concepts of voice and exit. For instance, Tiebout (1956) illustrated (theoretically) of a form of exit in relation to public services. Where there are several local catchment areas in a single State, these areas would compete for households by offering public services at different rates or quality levels. Citizens would thus 'vote with their feet' for their preferred public service offering, by moving to the relevant catchment area.

Dowding and John (2008, 2012) provided a comprehensive update to Hirschman's model. Dubbed the three voice, three exit and loyalty framework, they outlined various possible exit and voice options. In relation to exit, they indicate that individuals may exit by physically relocating from the jurisdiction or catchment area of one public service provider to another, exit by moving from services provided by public institutions to that of private producers, and exit by moving from one public provider to another public provider. In relation to voice, citizens may express voice individually, where they can submit personal complaints about a public good which they have experienced. Citizens may also do this collectively, either through actions such as voting, or joint action such as public campaigns and marches. Dowding and John additionally note the classification between vertical and horizontal voice provided by O'Donnell (1986). Citizens may express vertical voice when they direct their feedback to the providers of the public services, or horizontally by expressing their opinions and frustrations to other members of society (similar to that of eWOM).

Dowding and John (2008, 2012) additionally provide empirical evidence (in education, local government, and utility provision) illustrating the relationship of satisfaction as a modulator of voice and exit. In line with conventional wisdom, they indicate that citizen voice and exit activity is positively correlated with dissatisfaction: the more dissatisfied individuals are, the more likely they would express voice and exercise exit. However, citizens may still exit from state-provided services even when satisfied, illustrating a possible correlation to studies on cognitive biases with satisfaction explored earlier. For example, they found evidence that citizens' satisfaction with a particular public service might not be connected with objective indicators of the service's quality levels (Dowding & John, 2008). This is similar to findings by Parasuraman et al., (1985) and

Gronroos (1990) when they explored the concept of perceived quality and the subjectivity of satisfaction in relation to public services.

3.1.3 Online Exit and Voice

An important, yet nascent category of exit and voice research is the expression of exit and voice through the medium of the internet. With the increasing availability of internet connectivity and the spread of digital platforms, the power of exit and voice has been strengthened, particularly in the private sector (Hoffman et al., 2004).

Exit opportunities for instance have been strengthened by the expansion of options for consumers, allowing them to compare, contrast, and ultimately abandon firms for others (Kucuk, 2008). This phenomenon is illustrated in the Net Libertarian Model advanced by (Johnson & Post, 1996). Johnson & Post posited that users are provided with a more legitimate selection mechanism for products and services in cyberspace, as compared with physical markets, thus providing them with greater accessibility to exit opportunities. Kucuk (2008) also explores the impact of the internet on determinants to exit. In his research, he identifies that consumers may now decide to exercise exit for reasons aside from dissatisfaction with the firm's products and services. Other determinants of exit enabled by the internet include ideological or brand identity reasons.

Additionally, researchers have noted the impact of the social dimension of the internet as a determinant for exit. Grønmo & Ölander (1991), through a case study on the banking sector in Finland, identified that the internet has enabled consumers to self-organise, lead and join consumer movements to boycott and exit markets. The authors note that the connectivity of the web and identification with peers through online platforms is a strong determinant of both the intention and the ability to organise collective exit. This effect was also noted by Krishnamurthy & Kucuk (2009) in their investigation of consumer activity on anti-branding websites. Krishnamurthy & Kucuk identified that the tendency of collective exit through such anti-brand websites was a composite function of dissatisfaction triggers (dissatisfaction towards the product/service, the firm, and ideological misalignments) and the social understanding and support provided through such networks.

Voice opportunities and relative power have also been enhanced by the internet. Many firms and institutions provide platforms and feedback options to users to collect valuable consumer information and sentiment (Fornell & Wernerfelt, 1987; Rezapakhsh

et al., 2006). In turn, this has enabled the empowerment of consumer voice through the provision of a direct channel between the user and the firm, leading to increased voice (Andresen, 1999). As explored earlier with exit, the organisation of boycotts and increasing their visibility is much more efficacious through the enabling functions of technology, especially the internet (Garrett, 1987). Where previously users may feel silenced and alienated by the relative insignificance of their voice (Allison, 1978), the internet has enabled individuals to take affirmative actions to voice complaints. This is important as markets (both public and private) governed by only exit might lead to a situation where the market does not incorporate the collective norms and values of its users (Nunziato, 2000); voice is important in the online context as a balancing force to exit, allowing firms and institutions to understand and react to dissatisfaction, in line with Hirschman's original ideas.

Similar to exit, the social features of the internet have been a contributing factor towards voice. In Hagel's (1999) investigation of the leisure travel market, he finds that consumers originally not considering voice when faced with dissatisfaction may ultimately resort to it because of the connection they feel with the communities in online platforms. Studying the online discussion of clothing brands and products, Banister & Hogg (2001) found that individuals are more likely to engage in online voice, especially when they found peers with which they were able to engage in discussions on the ideological and symbolic aspects of the product in question.

3.1.4 Electronic Word of Mouth

As opposed to exit and voice, which are directed primarily towards the provider of the good or service in question, Electronic Word of Mouth (eWOM) is mostly directed to peers and the public at large. Hennig-Thurau (2004) provided one of the most often referenced definitions of eWOM. He defines eWOM communication as "any positive or negative statement made by potential, actual and former customers about a product or company via the internet." (Hennig-Thurau et al., 2004, p. 39). The main components of eWOM are the communicator, the stimulus, the receiver, and the response of the eWOM (Cheung & Thadani, 2010).

The literature identifies several main differences between eWOM and 'traditional' word of mouth (WOM). Firstly, eWOM communication offers far greater speed of diffusion and can scale much greater as compared with WOM. (Cheung & Thadani, 2010). Secondly, eWOM communication allows for omnidirectional information exchange in an asynchronous fashion (Hung & Li, 2007) as opposed to the unidirectional nature of

WOM. Thirdly, by virtue of its digital, text-based format archived online, eWOM communication, unlike WOM, is persistent and easily re-accessible. Fourthly, eWOM communication allows for easier observation, quantification, and measurement as compared to WOM (J. Lee et al., 2008). Lastly, the digital format of eWOM complicates the message receiver's ability to ascertain the communication's source and content credibility.

Despite the differences in eWOM and WOM, it has been noted that the determinants of both are similar, due to their underlying theoretical foundations (Balaji et al., 2016; Festinger, 1957). Studies in this area have developed several frameworks in categorising these determinants. For example, Balaji et al., (2016) segmented identified determinants in the literature into individual determinants (generally internal factors such as the individual's emotional regulation), contextual determinants (generally external factors such as the relationship between the individual and the firm) and social network determinants (generally the ties and relationships between the individual and their peers). Several meta-analyses seeking to tie together the extensive empirical studies in this area have also developed separate categorisations of eWOM determinants (e.g., Hong et al., (2017) and Ismagilova et al., (2020)). These determinants are considered further in the following sub-section (Determinants of exit, voice and eWOM)

The literature has also made several key distinctions in eWOM activity. Ismagilova (2019) for example categorised eWOM behaviour into eWOM providing (the creation and generation of eWOM-related content and engagement) and eWOM seeking activities (activities involving the search and engagement with others to obtain eWOM). In relation to eWOM providing activities, authors such as Alwash et al., (2019), Ananda et al., (2019) and Ismagilova et al., (2020) distinguished between a deep and shallow eWOM providing behaviour, where the former involves activities with a higher level of effort, intention, and engagement (such as the creation of eWOM content in the form of reviews and comments) and the latter involving activities with a lower degree of intensity (such as social media check-ins and reactions).

3.2 Exit, voice, eWOM and public services

This subsection is aimed at exploring the importance and relevance of exit, voice and eWOM on public services. This includes the interactions between the State and the citizen in the face of exit, voice and eWOM in response to the quality or perceived quality of public services.

The application of exit and voice is both an important factor and a contradiction in certain situations. One of these situations is related to a function of the State: public services. Public services display several attributes akin to a monopolistic/ oligopolistic market: Hirschman (1970) for instance states that the distinguishing characteristics between private and public goods are that the latter is consumed by all individuals within a specific jurisdiction and that there can be no real exit from a public good. Other authors posit similar views: Lake and Baum (2001) considered States as possessing a natural monopoly within certain fundamental areas of production, due to their ability to employ legitimate violence against the individual; Van de Walle (2018) notes the forced nature of many public goods as delivered by a single, monopolistic supplier. If one were to consider the delivery of public services as such, a 'full exit' as hypothesised by Hirschman would never be possible, in that citizens can never truly exit an essential service which is uniquely provided by the state, such as utility generation or waste disposal.

Counter-intuitively, Hirschman (1970) theorises that such a 'no-exit' situation may be superior to situations with the possibility of a limited exit. Just as in the example of the Nigerian Railway Corporation, the availability of exit-competition would weaken the potency of voice, without providing a counterbalancing threat to the organisation's longevity. Consumers, frustrated with the inefficiency of the Corporation, would only have recourse to a silent exit. The Corporation, faced with such an exodus, would suffer none of the consequences to their survival as they would still receive State funding for providing an essential public service. As such, there might be instances where the management in so-called 'lazy monopolies' would have an interest in creating exit opportunities for those that would be the most active in expressing voice. Even for public services where exit is theoretically possible, Hirschman argues that 'true' exit might not be possible. For instance, although citizens may exit from the public education sector through the availability of private education, that citizen's life would still be affected by the quality of public education in general, as he/she would still reside in the same society.

This scenario led Hirschman to indicate several conditions in which a no-exit situation would be superior to a limited exit alternative: Firstly, the situation must be such that exit would be ineffective as a mechanism to improve quality, but would still drive the conscious individuals, likely to express voice, away. Secondly, the situation must be such that voice could be effective as a mechanism to improve the quality of the organisation if the individuals were locked in with the organisation.

As such, for public services to flourish, there would ideally be a mix of voice and exit. Ackerman (2004) for instance indicates that exit and voice (in addition to co-governance) is important in ensuring accountability for public services. Pierre and Roiseland (2016) outlined several benefits for the exercise of exit and voice in the context of public services. Firstly, they offer individuals the opportunity and ability to select the most desired provider of public goods. Citizens can exercise their opinions and choices by voting individually, collectively, or with their feet. Secondly, as the providers of public goods now find themselves in a competitive market due to the availability of citizen choice through exit and voice, said providers start to develop specialisations. For instance, there would be a need for educational institutions to find niches in the arts, the sciences, and other topics to accommodate the diverse needs of society. This allows individuals to utilise exit and voice to ultimately receive the form of service best suiting their needs. Thirdly, the exercise of exit and voice would entail that the management of public services and institutions constantly improve and reform their level of service delivery and improve interactions between themselves and individuals.

Additionally, studies have indicated that the exercise of voice and exit is integral in garnering executive attention to improve services. Pierre and Roiseland (2016) and Warren (2011) have indicated that governmental leaders perceive the expression of voice as a potent means of influence, capable of triggering anticipatory behaviour of management. Citizens are able to pressure their representatives at a psychological level to improve the quality of public services through voice.

In relation to eWOM, the majority of studies in this area have been focused on commercial applications in areas such as customer loyalty, product recommendations, and ecommerce (Gümüş & Bal, 2016; Hennig-Thurau et al., 2004; Yoo et al., 2013). However, some authors have studied the application of eWOM in the context of public service offerings.

Nulhusna et al., (2017) explored the importance of public feedback, in the form of eWOM to facilitate, improve and disseminate e-government services. Similar to the relevance of trust in facilitating online transactions in a commercial context (McKnight & Chervany, 2001), the institutional trust of citizens is integral towards the success of public services, especially those offered in online settings. As illustrated in the United Nations' e-Government Survey, one of the most important factors influencing the adoption of e-government usage is public trust (United Nations, 2014). As eWOM is a strong influence on public trust (Bhattacharjee, 2001), the management of eWOM and its overall sentiment is integral in ensuring the success of e-government services.

The application of eWOM analysis to improve public services have also been explored by authors such as Kowalshi et al., (2020). As democratic governance is made more effective when citizen feedback is integrated within the delivery of public services (Fung, 2015), eWOM is increasingly important to decision-makers in the public sector. Unlike traditional WOM, eWOM on public services is easier to capture, process, and analyse. eWOM represents an important resource to support public administrators to ensure equity in service distribution (Kroll, 2017) and increase public involvement in the decision-making process of the State (Mergel et al., 2016). The application of eWOM in improving public services can be seen in the realms of public services such as crime identification and traffic management (Rogge et al., 2017).

Additionally, eWOM authors have sought to study the application and determinants of individuals and their motivations to advance public goods. Cheung and Lee (2012) explored the concept of information sharing as a ‘public good phenomenon’. In line with the definition of public goods (Cabrera & Cabrera, 2002), eWOM has the capability as a resource to benefit individuals within a community, but by its nature, does not deplete proportionally to its use.

3.3 The theoretical foundations of exit, voice and eWOM

This subsection is aimed at exploring the theoretical bases which were used in the initial formulation of the theories surrounding exit, voice and eWOM. Parallels between the theoretical foundations of exit, voice and eWOM were highlighted to illustrate the similarities and differences between the elements.

3.3.1 Satisfaction, exit, voice and eWOM

A key starting point which ties exit, voice and eWOM together is the concept of satisfaction and the alignment of expectations. Hirschman himself noted, in describing exit, that it was a response when “... the customer who, *dissatisfied* with the product of one firm, shifts to that of another...” (Hirschman, 1970, p. 15), and voice as “... a principal way for the individual member to register his *dissatisfaction* with the way things are going in these organisations...” (Hirschman, 1970, p. 76).

The consideration of satisfaction and quality is a complex one, especially for public services (as opposed to public goods) (Bigne et al., 2003). It is to be noted that although the terms ‘public goods’ and ‘public services’ were used interchangeably, there is a distinction between goods and services. The former, or rather tangible goods, allows for the concepts of quality and satisfaction to be clearly defined. Quality, in this instance, was defined as the “degree of excellence of the product based on objective standards” (Bigne et al., 2003, p. 421), while satisfaction of the individual is defined as the “degree of fulfilment of prior expectations” (Bigne et al., 2003, p. 421). However, the concept of quality is different for services. Services are intangible, produced and experienced immediately, and are experienced differently based on the internal characteristics of the individual (Gronroos, 1990). Perceived quality, the difference between the service perceived by its recipient and the service quality level expected, is therefore more relevant for understanding satisfaction with services (Parasuraman et al., 1985).

As such, it has long been noted that increased satisfaction is not always a function of direct improvements with the quality of public services. This is due to the subjectivity of experiences (as explored earlier in relation to the concept of ‘perceived quality’), as well as the cognitive biases experienced by users of public services (Andersen & Hjortskov, 2016). To illustrate, Van de Walle (2018) considers several such biases:

Firstly, the Expectancy Disconfirmation theory. For both goods and services, satisfaction and dissatisfaction are posited to be related to the level and directionality of the non-conformity of expectations, being the variance between pre-experience expectations and post-performance of the experience. (Andreassen, 1994; Dröge et al., 1996). As such, citizens may have unrealistic expectations of public services, approaching them with individualistic demands, which in turn biases their satisfaction levels when unmet, and leads to either potential exit or voice.

Secondly, the Halo Effect, which posits that individuals’ overall impression of public services may bias their evaluation of specific instances of the service itself. As such, citizens may highly rate specific public services, but regard the overall quality of the public sector as low (Goodsell, 1994; Kelly & Swindell, 2003).

Thirdly, the role of direct experience. It is observed that individuals which might not have directly experienced a particular public service still tend to form opinions about that service. (McGill & Iacobucci, 1992). Individuals might have formed a view about the service quality of public services through hearsay and expectations, which biases their eventual satisfaction levels towards the services.

The disconnect between satisfaction and quality and cognitive biases tend to lead towards dissatisfaction towards public services. This is consequential considering the voice and exit actions that may be taken by citizens. Citizens have increased access to complaint mechanisms, formal or otherwise (e.g., social media platforms) and can vote with their feet and leave the service altogether (Tummers et al., 2013). Additionally, when citizens act on their dissatisfaction (whether rightfully or otherwise), there are significant material, cognitive and emotional costs (Van de Walle, 2018), which may eventually jeopardise the relationship between the citizen and the State (Guy et al., 2014).

Similarly, satisfaction plays a large role with eWOM. eWOM authors have noted the linkages between the theory of cognitive dissonance with eWOM. This theory, originating from Festinger (1957), posits that a misalignment between the initial expectations of a particular product or service with the experience of its eventual performance causes a dissonance within the individuals' cognitive system. Individuals attempt to address this dissonance either internally, through a change in beliefs or attitude, or externally. This external model of dissonance correction takes the form of actions such as disseminating eWOM following positive or negative experiences. This is in line with the Expectation Disconfirmation theory in exit and voice, as well as satisfaction in public services studies noted previously (Andreassen, 1994).

The Information Adoption Model seeks to explain how individuals can experience similar stimuli (in the form of eWOM content) and yet react differently due to their internal differences in perceptions and experiences (Chaiken & Eagly, 1983). Drawing from the Elaboration Likelihood Model, scholars in this field explain that computer-mediated communications affect individuals' behaviour and reactions based on two factors: central influences and peripheral influences (Bhattacharjee & Sanford, 2006; Sussman & Siegal, 2003). Central influences relate to the quality of the arguments in the eWOM's content, for example in relation to its persuasiveness, accuracy and relevance. Peripheral influences include elements that are only indirectly related to the eWOM's content, such as the source's perceived credibility and attractiveness of the communicator (Petty et al., 1983; Sussman & Siegal, 2003). These two influences help the receiver evaluate the eWOM's information usefulness, which in turn informs whether the information is adopted or otherwise.

3.3.2 Community, exit, voice and eWOM

Although not explicitly stated, social-community theories were used by authors in the exit and voice field to explain why individuals express exit or voice. Hirschman alluded to the role of community and groups as a modulating factor in whether individuals choose to make their voices heard or to exercise exit. In exploring situations where voice is preferred over exit, Hirschman noted: "... exit is ordinarily unthinkable ... from such primordial groupings such as family and state ... [and] the principal way for the individual member to register his dissatisfaction with the way things are going in these organisations is ... to make his voice heard." (Hirschman, 1970, p. 76). The relative strength of relationships between members in certain groups influences the decisions of individuals in exercising exit or voice. In the case of groups and organisations with stronger ties between members (such as families), voice is privileged over exit. Hirschman notes that this is the effect of loyalty as a factor in play, stating: "loyalist behaviour...[is] a generalised concept as a penalty for exit... [and] the individual feels that leaving a certain group carries a high price with it." (Hirschman, 1970, p. 98).

Later authors have built on such ideas to postulate a social-community theory to explain exit and voice. Campbell et al., (2007) posited a social-capital theory to understand the effect of groups and networks on how individuals choose to exercise exit or voice, as well as its impact on satisfaction. Campbell et al., (2007) indicated that there are multiple, distinct forms of social capital based on the forms of groups and organisations joined by the individual. Based on this theory, there is an inverse relationship between the amount of social capital an individual has with the likelihood of exercising exit in the face of dissatisfaction. Conversely, if an individual has a high level of social capital, they would be more likely to voice collectively instead. Dowding and John (2008) agreed, indicating that social capital, in the form of local networks or ties, leads to a higher likelihood of voice relative to exit.

Additionally, Haenlein and Kaplan (2012) posited an abandoned-current customer relationship theory as a possible modulator for exit and voice. Based on this theory, a strong relationship between a customer abandoned by the firm and a current customer implies greater information sharing, decision making and homogeneity between the two parties. In the event of abandonment by the firm, stronger reactions (in relation to exit or voice) are elicited when the abandoned customer has a stronger relationship with the current customer.

Social-community theories have played a large role in explaining the occurrence and nuances of eWOM. To illustrate, the Social Support theory advanced by scholars such as Cohen and Wills (1985) and Oliver (1980) explores the social networks and support

which are relied on by individuals in response to positive or negative events. The support from social networks serves as defence mechanism for individuals, particularly during negative events, for their emotional and psychological well-being (Cutrona & Russell, 1987). Three main factors determine the ability of a social network in providing support to individuals. Firstly, the structure of the network, including its size and hierarchy. Secondly, the perceived ability of the members of the network in providing social support. Thirdly, the actions taken by members in the past in providing social support (Balaji et al., 2016). Based on this theory, individuals seek to not just improve the quality of products and services through eWOM, but also to obtain social support from peers to address the dissonance and disconfirmation of expectations.

Additionally, Social Network theory has been utilised to illustrate the effect of relationships between member-peers of a community and the spread of eWOM. The theory visualises these relationships as a series of nodes and ties to illustrate the interdependence between individuals within the community (Wasserman et al., 1994). Shared traits such as demographical attributes or preferences are often common within these networks, leading to increased interdependence and peer influence between connected individuals (Lin & Heng, 2015; Wasserman et al., 1994). As a result, eWOM providing, seeking, and relying activities are increased due to the strong network effects of these communities (Aral & Walker, 2011; Oestreicher-Singer & Sundararajan, 2012).

Identification theories have also been used by authors in explaining why individuals create and provide eWOM. In regards to organisation-individual identification, individuals who perceive a high sense of connectedness with an organisation generally would develop their self-identity around that organisation. (Mael & Ashforth, 1992). When this form of self-identity is strong, individuals' intention to separate with the organisation when dissatisfied decreases, while the intention to provide positive recommendations (in the form of WOM or eWOM) when satisfied increases. (Cable & Judge, 1996). Bhattacharya and Sen (2003) similarly postulated that, based on Social Identity theory, individuals with a high level of involvement in an organisation or product become a supporter of them, increasing the likelihood of eWOM providing due to a higher level of connectedness with that organisation or product.

3.3.3 Additional theories of eWOM

It is noted that the field of eWOM has conceptualised several theories explaining eWOM activity which have not been explored extensively by authors in the exit and

voice field. These theories could potentially serve a role in enriching the understanding on why individuals seek to exercise voice and exit.

To illustrate, the Social Exchange theory explored by authors such as Bock et al., (2005) and Kankanhalli (2005) posits that individuals have egotistic motivations, and seek to materialize these motivations either through tangible or intangible returns. A form of intangible return is reputation and recognition. The perception of the opportunity to advance one's recognition amongst peers has been linked heavily in explaining why individuals engage in eWOM behaviour (Cheung & Lee, 2012). It can be assumed that individuals with a higher motivation to acquire reputation and recognition may seek to engage in exit and voice behaviour, especially where the exercise of voice or exit is public (i.e., collective voice activity (Dowding & John, 2012)). Depending on the overall sentiment of a community towards the public service or the State in question, a public display of voice or exit may serve as a perceived 'badge of status' for individuals to obtain recognition from their peers.

Additionally, principistic motivation theories have been used by authors in explaining altruistic behaviours exhibited by individuals when engaging in eWOM activity (Cheung & Lee, 2012). Principlism has been defined as a motivation towards a set of moral principles (e.g., utilitarianism or compassion) (Batson, 1994). This motivation manifests in a behavioural intention to act in accordance with these 'higher principles' and explains why individuals seek to engage in eWOM activity. Individuals may feel more inclined and obliged to support and assist others, especially from the same community, by contributing their personal stories, opinions and knowledge (Dholakia et al., 2004). This moral obligation stemming from internal principles causing individuals to view their experiences and knowledge as a public good, and engenders a motivation to benefit others by contributing them to advance their communities (Mowday et al., 1979). Similarly, it could be theorised that some individuals may exercise voice and exit due to an inherent set of principles. Individuals may view their act of voice or exit as a mechanism to support their communities in improving deteriorating public services.

3.4 Determinants of exit, voice and eWOM

This subsection is aimed at exploring the various possible determinants of exit, voice and eWOM from existing empirical studies. These determinants are usually drawn from the theoretical foundations explored earlier and were used to formulate hypotheses in

answering the thesis' research question. Where relevant, this subsection will draw comparisons between the determinants of exit, voice and eWOM

3.4.1 Determinants of exit and voice

In considering the determinants of exit and voice, Dowding and John (2012) represent a good starting point. In their analysis of the literature, approximately 14 determinants can be identified (not accounting for duplicate determinants in different contexts and demographical/ socio-economic variables). Additionally, a forwards search from 2012 for empirical studies on exit and voice has yielded 17 additional determinants. These determinants are listed in Table 1: Listing of determinants from exit and voice empirical studies Table 1, along with their relationship with exit and voice and the corresponding empirical studies testing these relationships. These determinants have been categorised into their study contexts (public provider, organisational/ commercial, relationship, or general) as well as if there were external or internal determinants. A determinant is deemed external if it was deemed a factor outside the control of the individual exercising voice and or exit (i.e., environmental), and internal if was a factor within the control of the individual (i.e., cognitive) (Dickerson, 1993).

From the analysis of identified empirical studies, a majority of determinants (>70%) are external in nature, ranging from considerations of intervention intensity of an organisation (Ma et al., 2015) to the level of transparency / corruption displayed by the State (Gurgur, 2016; Kaufmann et al., 2019). This is especially so for empirical studies in public provider-related contexts, where more than 75% of identified studies were geared towards analysis of external determinants.

Trends emerge from the studies listed which corroborates with the theoretical foundations explored previously. As expected, satisfaction plays a large role in determining voice or exit activity in the context of the provision of public service, commercial products, or within relationships. Hirschman's hypothesised trade-off between exit and voice can be seen within studies such as Withey and Cooper (1989), Leck and Saunders (1992) and Lee and Whitford (2006). To illustrate, Leck and Saunders (1992) found that individuals' satisfaction work and pay was negatively correlated with exit activity, but positively correlated with voice activity, even accounting for organisational loyalty as a variable. The effect of corruption and transparency (both arguably perception-based factors as measurements of both are based on perception rather than actual evidence), on voice (Gurgur, 2016; Kaufmann et al., 2019) lends credence to the direct experience theory. This line of reasoning indicates

that although individuals might not have direct experiences with corruption and transparency in public services, the perception of such impacts their satisfaction with the services, leading to a corresponding increase or decrease in voice activity (Goodsell, 1994; Kelly & Swindell, 2003).

Counter-intuitively, studies have indicated the inverse relationship between satisfaction and voice. While voice (or specifically, private voice (Campbell et al., 2007)) is generally exercised in the face of dissatisfaction (Dowding & John, 2012; Hirschman, 1970), studies have indicated if prior satisfaction with a particular good or service was high, voice is more likely to manifest (compared with exit) in the face of subsequent dissatisfaction (Leck & Saunders, 1992; Withey & Cooper, 1989).

A second trend aligning with the theoretical foundations explored is the effect of community-based relationships on voice and exit. To illustrate, Campbell et al., (2007) identified social capital as a factor which influences both voice and exit. In their study, a higher level of social capital was attributable to an increased level of collective voice activity, relative to exit. Similarly, Haenlein and Kaplan (2012) found that greater levels of tie strength between a current and an abandoned customer resulted in greater voice activity, and reduced exit intentions.

Internal/ External	Context	Determinant	Relationship between determinant with exit and or voice	Reference(s)
Internal	General	Satisfaction/ Dissatisfaction	Higher dissatisfaction ▶ Higher exit Higher satisfaction ▶ Higher voice	Withey and Cooper (1989) Leck and Saunders (1992) Lee and Whitford (2006)
External	Organisational/ Commercial	Unionisation	Presence of unionisation ▶ Lower exit	Freeman and Medhoff (1984) Miller and Mulvey (1991)
Internal	Organisational/ Commercial	Pay/ Income	Higher pay ▶ Lower exit	Freeman and Medhoff (1984) Miller and Mulvey (1991)
External	Organisational/ Commercial	Permanent contracts	Presence of permanent contracts ▶ Lower exit Presence of permanent contracts ▶ Higher voice	Lee and Whitford (2006)
External	Organisational/	Alternatives	More alternatives ▶ Higher exit	Maute and Forrester (1993)

Internal/ External	Context	Determinant	Relationship between determinant with exit and or voice	Reference(s)
	Commercial Public Sector		More alternatives ▸ Lower voice	
External	Organisational/ Commercial	Monopoly/ Competition	Stronger monopoly ▸ Higher voice Lower competition ▸ Lower voice	Fornell and Bookstein (1987)
External	Organisational/ Commercial Relationship	Barriers to exit	Higher barriers to exit ▸ Lower exit	Maute and Forrester (1993)
External	Relationship	Lock in	Stronger lock in ▸ Higher voice	Van Vugt et al., (2003)
Internal	Relationship	Dependence	Weak dependence ▸ Higher exit Strong dependence ▸ Higher voice	Van Vugt et al., (2003)
External	Public Provider	State expenditure	Lower state expenditure ▸ Higher voice	Schaltegger and Kuttel (2002)

Internal/ External	Context	Determinant	Relationship between determinant with exit and or voice	Reference(s)
External	Public Provider	Taxes	Higher property taxes ▶ Higher voice Higher sales taxes ▶ Higher exit	Schaltegger and Kuttel (2002)
Internal	Organisational/ Commercial	Tie strength	Higher tie strength ▶ Higher voice Higher tie strength ▶ Lower exit	Haenlein & Kaplan (2012)
Internal	Public provider	Social capital	Higher social capital	Campbell et al., (2007)
External	Public provider	Corruption	Higher corruption ▶ Lower voice	Gurgur (2016) Kaufmann et al., (2019)
External	Public provider	Local revenue mobilisation	Higher local revenue mobilisation ▶ Higher exit	Gurgur (2016)
External	Public provider	Empowerment	Higher empowerment ▶ Lower exit	Bejou (2013)
External/ Internal	Organisational/ Commercial	Relationship between organisation and individual	Better relationship ▶ Higher voice	Ma et al., (2015)

Internal/ External	Context	Determinant	Relationship between determinant with exit and or voice	Reference(s)
External	Organisational/ Commercial	Firm intervention	Greater firm intervention ▶ Higher voice	Ma et al., (2015)
External	Organisational/ Commercial	Market share	Larger market share ▶ Lower voice	Beard et al., (2015)
External	Public provider	State performance	Higher State performance ▶ Higher voice	Kaufmann et al., (2019)
External	Public provider	Transparency	Higher transparency ▶ Higher voice	Kaufmann et al., (2019)
Internal	Public provider	Community engagement	Higher community engagement ▶ Higher voice	Ahmadov & Sasse (2016)
Internal	Public provider	Assimilation	Higher assimilation ▶ Higher voice	Ahmadov & Sasse (2016)
Internal	Organisational/ Commercial	Presence of ideas	Presence of ideas ▶ Higher voice	Tucker & Turner (2015)
External	Organisational/ Commercial	Leadership openness	Higher leadership openness ▶ Higher voice	Tucker & Turner (2015)

Internal/ External	Context	Determinant	Relationship between determinant with exit and or voice	Reference(s)
External	Organisational/ Commercial	Grievance mechanisms	Stronger grievance mechanism ▸ Higher voice	Tucker & Turner (2015)
External	Organisational/ Commercial	Leadership involvement	Stronger leadership involvement ▸ Lower exit Stronger leadership involvement ▸ Higher voice	McClellan et al., (2013) Lam et al., (2016)
External	Organisational/ Commercial	Frequency of change	Higher frequency of change ▸ Higher voice Higher frequency of change ▸ Higher exit	Akhtar et al., (2016)
External	Organisational/ Commercial	Impact of change	Higher impact of change ▸ Higher voice Higher impact of change ▸ Higher exit	Akhtar et al., (2016)
Internal	Relationship	Conflict avoidance	Higher conflict avoidance ▸ Lower voice	Park & Nawakitphaitoon (2018)

Table 1: Listing of determinants from exit and voice empirical studies

3.4.2 Determinants of eWOM

In considering the determinants of eWOM, the thesis relies on the meta-analysis conducted by Ismagilova et al., (2020), which analysed 51 studies on determinants of eWOM providing behaviour to identify 20 determinants. These determinants were segmented into four categories, and are listed in Table 2, along with their relationship with eWOM providing behaviour and corresponding empirical study:

Firstly, perceptual conditions, which represent subjective and objective factors influencing the individual's focus on information and what type of information do they seek to provide. (Palka et al., 2009). Secondly, consumption-based conditions, which represent factors influencing the nature and level of consumption of goods and services by the individual. (Chu & Kim, 2011; Palka et al., 2009). Thirdly, personal conditions, which represent internal factors of the individual which may affect consumer behaviour. (Luarn et al., 2015; Palka et al., 2009). Fourthly, social conditions, which represent external factors involving the network and community the individual is in, and their relationship with that network/ community (Luarn et al., 2015; Palka et al., 2009).

Here some similarities can be noted with the relationships between exit and voice with their determinants. For example, tie strength has been shown to positively increase eWOM tendencies, in the form of check-ins through social media (Luarn et al., 2015) or online brand-related engagement (Wolny & Mueller, 2013). Additionally, the relationship between determinants related to perceptions and trust and eWOM were comparable to the determinants of transparency and corruption explored previously. Filieri et al., (2015), Frassetto et al., (2015) and Horng (2016) similarly identified that individuals' trust in specific web eWOM services, ranging from recommender platforms to virtual communities had a direct, positive correlation with eWOM providing behaviour.

It is noted that customer satisfaction was positively attributed to eWOM in studies such as Luarn et al., (2015), while dissatisfaction was also positively attributed to eWOM in studies such as Lii and Lee (2012). These seemingly paradoxical results draw attention to the fact that the framing of eWOM in such studies are either positive or negative in sentiment, while voice and exit in response to dissatisfaction are generally negative in nature.

3.4.3 Comparing exit, voice and eWOM determinants

Overall, the relationships between eWOM and its determinants seem to indicate that eWOM is more similar to voice as opposed to exit. This can be seen from its relationship with networks (higher network/ community ties were similarly attributed to higher voice activity (Ahmadov & Sasse, 2016; Campbell et al., 2007; Haenlein & Kaplan, 2012)), perception towards transparency (higher corruption/ lower transparency was similarly attributed to lower voice activity (Gurgur, 2016; Kaufmann et al., 2019)) as well as loyalty (Higher loyalty increases voice activity relative to exit (Dowding & John, 2012; Hirschman, 1970)). A line of analysis is considered by the thesis is the exploration of relationships between eWOM and its determinants on both exit and voice to determine if similar relationships could be identified.

Notably, the effect of determinants such as assimilation on exit and voice is similar to that of homophily and eWOM. Increased cultural and demographical similarities within communities translate into lower exit activity and higher voice activity in the face of dissatisfaction. Ahmadov and Sasse (2016) found migrants with more common ground between their communities post migration, participated in more collective voice activities (such as voting). Similarly, when homophily (defined as the level to which individuals within a group or community share similar characteristics (Rogers & Bhowmik, 1970)) is high amongst peers in online communities, eWOM activity is correspondingly higher. Chu and Kim (2011) for example found that online shoppers were more likely to engage with each other through virtual messages on social media if they shared similar socio-economic characteristics. This effect was explained by Price and Feick (1984): when individuals share similar attributes, the ease of communication increases due to shared experiences and terms of reference, which thereby increases their propensity to engage with each other. A similar justification can be seen in Ahmadov and Sasse (2016) where the individuals were more likely to engage in community-based voice activities, presumably as they were more comfortable with each other.

While we can see a pattern emerging between voice and exit activity with eWOM propensity, a notable difference between the determinants (or at least the studies of determinants) between exit and voice with eWOM is that many exit and voice studies focus on external-based factors, such as market conditions and the existence of grievance mechanisms. In contrast, a majority of the identified eWOM empirical studies

identified focused on internal-based determinants, such as brand attitude or commitment.

Internal/ External	Category	Determinant	Relationship between determinant with eWOM	Reference(s)
Internal	Perceptual conditions	Opinion seeking	Higher opinion seeking ▶ Higher eWOM providing behaviour	Hennig-Thurau et al., (2004) Huang et al., (2013) Kucukemiroglu and Kara (2015)
External	Perceptual conditions	Information usefulness	Higher information usefulness ▶ Higher eWOM providing behaviour	Bobkowski (2015) Frasquet et al., (2015) Huang et al., (2013)
Internal	Perceptual conditions	Perceived risk	Higher perceived risk ▶ Lower eWOM providing behaviour	Song and Sun (2011) Tirunillai and Tellis (2012) Zhang and Lv (2010)
Internal	Perceptual conditions	Trust in web eWOM services	Higher trust in web eWOM services ▶ Higher eWOM providing behaviour	Filieri et al., (2015) Frasquet et al., (2015)

Internal/ External	Category	Determinant	Relationship between determinant with eWOM	Reference(s)
				Horng (2016)
External	Perceptual conditions	Economic incentive	Higher economic incentive ▶ Higher eWOM providing behaviour	Hansen and Lee (2013) Hennig-Thurau et al., (2004) Yoo et al., (2013)
Internal	Consumption- based conditions	Involvement	Higher involvement ▶ Higher eWOM	Cui et al., (2014) Song and Sun (2011) Wolny and Mueller (2013)
Internal	Consumption- based conditions	Customer satisfaction	Higher customer satisfaction ▶ Higher eWOM (positive) Higher customer dissatisfaction ▶ Higher eWOM (negative)	Lii and Lee (2012) Luarn et al., (2015) Ziegele and Weber (2015)
Internal	Consumption- based	Loyalty	Higher loyalty ▶ Higher eWOM	Gumus and Bal (2016)

Internal/ External	Category	Determinant	Relationship between determinant with eWOM	Reference(s)
	conditions			Lee et al., (2013) Son et al., (2012)
Internal	Consumption- based conditions	Brand attitude	Higher brand attitude ▶ Higher eWOM	Rialti et al., (2017) Yeh and Choi (2011)
Internal	Personal conditions	Altruism	Higher altruism ▶ Higher eWOM	Cheung et al., (2015) Cui et al., (2014) Luarn et al., (2015)
Internal	Personal conditions	Affective commitment	Higher affective commitment ▶ Higher eWOM	Jin et al., (2010) Li and Chang., (2016)
Internal	Personal conditions	Normative commitment	Higher normative commitment ▶ Higher eWOM	Jin et al., (2010) Li and Chang., (2016)

Internal/ External	Category	Determinant	Relationship between determinant with eWOM	Reference(s)
Internal	Personal conditions	Opinion leadership	Higher opinion leadership ▶ Higher eWOM	Bobkowschi (2015) Kucukemiroglu and Kara (2015)
Internal	Personal conditions	Self enhancement	Higher self-enhancement ▶ Higher eWOM	Cheung and Lee (2012) Hennig-Thurau (2004) Kim (2017)
Internal	Social conditions	Influence of others	Higher influence of others ▶ Higher eWOM	Chun and Kim (2011) Hansen and Lee (2013) Shan and King (2015)
External	Social conditions	Information influence	Higher information influence ▶ Higher eWOM	Wu et al., (2016)
Internal	Social conditions	Tie strength	Higher tie strength ▶ Higher eWOM	Luarn et al., (2015)

Internal/ External	Category	Determinant	Relationship between determinant with eWOM	Reference(s)
				Niu et al., (2010) Wolnh and Mueller (2013)
Internal	Social conditions	Homophily	Higher homophily ▸ Higher eWOM	Saleem and Elhahi (2017) Chu and Kim (2011)
Internal	Social conditions	Reciprocity	Higher reciprocity ▸ Higher eWOM	Cheung and Lee (2012) Horng (2016)
Internal	Social conditions	Community identity	Higher community identity ▸ Higher eWOM	Tseng (2014) Yoo et al., (2013)

Table 2: Listing of determinants from eWOM empirical studies, adapted from Ismagilova, E., Rana, N. P., Slade, E. L., & Dwivedi, Y. K. (2020). A meta-analysis of the factors affecting eWOM providing behaviour. European Journal of Marketing

4 Hypothesis development

From the literature review above, this section explores several hypotheses revolving around testing the connections between eWOM and its determinants with voice and exit activity.

4.1 eWOM on exit and voice

As explored previously in the theoretical foundations section, multiple similarities exist between eWOM and voice activity: Authors from both fields have pointed towards similar theories on why individuals seek to express exit, voice and eWOM, in relation to expectation disconfirmation and community/social identity-based theories. Additionally, the thesis has outlined several additional theories explaining eWOM which could be extended to exit and voice activity tendencies (i.e., social identity and principlism).

It is however noted that based on an exploration of empirical studies on the relationship of exit, voice and eWOM with their determinants, eWOM activity is theorised to be more similar with voice as opposed to exit. As such, the thesis formulates the following hypotheses:

H1: Increase in eWOM tendency leads to an increase in voice tendency for public services

H2: Increase in eWOM tendency leads to a decrease in exit tendency for public services

4.2 eWOM determinants on exit and voice

This sub-section subsequently seeks to explore several hypotheses specifically on eWOM determinants and exit and voice. The selection criteria for these determinants from those in the existing literature are explained in the methodology section of the thesis.

4.2.1 Satisfaction on exit and voice

While the thesis has explored the role of satisfaction in exit and voice-related literature (see section 2.31) above, satisfaction has also been explored in parallel by eWOM studies, mostly from a managerial/ commercial standpoint. Satisfaction was seminally defined by Oliver (1980) as a condition materializing based on a positive fulfilment of consumption expectations. Similar to exit and voice studies, eWOM/ marketing authors viewed this fulfilment of expectations as a range of perceptions, creating the concept of a 'zone of tolerance' whereby expectations of fulfilment exist (Oliver et al., 1997; Parasuraman et al., 1993).

As explored previously, many empirical studies have documented the link between satisfaction with exit, voice and eWOM. From the initial thesis of Hirschman (1970) to subsequent authors such as Withey and Cooper (1989), Leck and Saunders (1992) and Lee and Whitford (2006), many empirical studies have replicated the effect of satisfaction on voice and exit. Similarly, studies within eWOM contexts have also explored the effect of satisfaction with eWOM providing behaviour (e.g., Lii and Lee (2012), Luarn et al., (2015), Ziegele and Weber (2015)). A key difference lies in some exit and voice studies considering the effect of prior satisfaction of individuals in the face of current dissatisfaction when explaining a resulting voice-exit trade-off (Leck & Saunders, 1992; Withey & Cooper, 1989).

While the thesis expects that exit, voice and eWOM would all decrease with a higher level of satisfaction, key interest also lies in distinguishing prior with current satisfaction and focusing on the latter. As such, the thesis formulates the following hypotheses:

H3: Decrease in satisfaction towards a public service increases voice activity

H4: Decrease in satisfaction towards a public service increases exit activity

4.2.2 Tie strength on exit and voice

Tie strength was notably first defined by Granovetter (1973) as an intersection between time, emotional and intimate feelings, and reciprocity of a particular relationship. WOM and eWOM scholars have since expanded upon this definition. Haythornthwaite (2002)

and Steffes and Burgee (2009) note that the concept represents a quantifiable element representing the links, interactions, and the motivations for such interactions between two entities.

As explored previously, tie strength represents an empirically proven factor for eWOM providing behaviour. Luarn (2015) found that social conditions, including tie strength, represents the most critical factor in individuals' decision to engage in eWOM providing behaviour. The perceived communal identity and relationship between individuals in a community played a large role in decision making and individuals' motivation to share information in Brown and Reingen's study (1987). In relation to exit and voice, some authors have considered the effect of tie strength and similar metrics as a determinant of exit and voice activity. Ahmadov & Sasse (2016) identified that community engagement among migrants increased the likelihood of participation in elections or community action. Campbell et al., (2007) found that membership in groups, and the ensuing political/education-oriented/hobbies-oriented social capital gained as a result of that membership, was positively correlated with increased individual and collective voice. It is however noted that there were no identified studies indicating a positive relationship between tie strength and exit, but the thesis theorises that an increased sense of belonging in a group would correspondingly reduce exit tendencies, especially in relation to voice (Campbell et al., 2007).

The thesis thus expects that an increase in tie strength within a community would translate into increased voice, but lower exit. As such, the thesis formulates the following hypotheses:

H5: Increase in tie strength in an online community increases voice activity

H6: Increase in tie strength in an online community decreases exit activity

4.2.3 Altruism on exit and voice

Altruism was notably defined by Engel (1995) in the social psychology field as an objective of increasing the welfare and utility of others, regardless of a reward. Although there is some debate in the field on the existence of true altruism, especially when certain motivators are accounted for (Maner et al., 2002), authors in the eWOM

field have observed the effects of empathy for others and having satisfaction in helping others on eWOM providing behaviour.

It was found that individuals are capable of displaying altruistic motives by sharing their experiences and knowledge with others online, especially if the individual has been integrated within a particular community (Baethge et al., 2016). In studying engagement with an online feedback system in China, Cui et al., (2014) found that altruistic motives were one of the strongest predictors of providing products online reviews. However, Luarn et al., (2015) observed that altruism did not increase motivation for individuals to engage in eWOM providing behaviour (through social media check-ins), surmising that checking-in activity was not the form of social interaction covered by past studies.

Comparatively, although studies in the exit and voice field have not specifically identified altruism as a determinant, the thesis theorises that altruism may influence exit and voice activity due to the effect of community/ social identity. Studies identifying factors such as tie strength (Haenlein & Kaplan, 2012) and social capital (Campbell et al., 2007) as determinants of voice allow us to hypothesise that individuals within these groups may have altruistic motivations for expressing voice. These individuals may have engaged in activities such as collective voice and voting due to a motivation of increasing the welfare and utility of others, consistent with the definition of altruism. Conversely, it is assumed that a lower sense of altruism would lead to a higher tendency to exit the situation, as there is no motivation to obtain an improved situation for the community or the organisation.

The thesis thus expects that an increase in altruism would lead to an increase in voice activity, and a decrease in exit activity. As such, the thesis formulates the following hypotheses:

H7: Increase in altruism increases voice activity

H8: Increase in altruism decreases exit activity

4.2.4 Opinion seeking on exit and voice

Opinion seeking was defined by Sundaram et al., (1998) as obtaining advice to solve issues and problems. Opinion seekers search for information from other peers to make informed decisions, especially in unfamiliar contexts (Flynn et al., 1996; Reynolds & Darden, 1971). Authors in the eWOM field have identified a relationship between the propensity to ask for opinions and providing their own opinions. Sun et al., (2006)

found that the line between opinion seeking and opinion leadership (the propensity to provide one's opinion to influence others) to be blurred. A higher tendency to seek opinions on internet platforms was found to translate into a higher likelihood of providing opinions on the same platforms as well. Kucukemiroglu and Kara (2015) similarly found that individuals' opinion seeking behaviour led them to become more confident, resulting in an increased likelihood of sharing and engaging more with others online. Hennig-Thurau et al., (2004) also found that customers exhibited post-purchase advice-seeking behaviour where they sought to engage with the community online to acquire new skills, knowledge, and experience. Customers with a higher level of this behaviour would subsequently engage in greater eWOM activity as well.

Comparatively, the thesis was not able to identify exit and voice studies which attempted to investigate the relationship between opinion seeking with exit and voice. However, applying the logic that community engagement and social ties were a predictor of voice (Ahmadov & Sasse, 2016; Campbell et al., 2007), individuals that were more likely to engage with their community in the form of opinion sharing and seeking would likely participate in voice activity as well, especially when they had benefited from the voice of others. Conversely, individuals who were less likely to seek for opinions and engage in the community would be more likely to exercise exit in the face of dissatisfaction.

The thesis thus expects that an increase in opinion seeking would lead to an increase in voice activity, and a decrease in exit activity. As such, the thesis formulates the following hypotheses:

H9: Increase in opinion seeking increases voice activity

H10: Increase in opinion seeking decreases exit activity

5 Methodology

This section outlines the steps taken to test the hypotheses above, including the sampling and data collection approach, measures, and analytical approach.

5.1 Sampling and data collection approach

The study surveyed TripAdvisor users based on their experiences visiting publicly managed heritage sites in UK and Malaysia to assess their exit and voice intentions along with affinity with selected eWOM determinants. The following section outlines the reasoning and steps behind this approach.

In selecting an appropriate public service as the context of the study, three considerations were taken into account: the definition of public services/ goods by Samuelson (1954), examples from the exit and voice literature, such as Paul (1992) and Dowding and John (2012), and the availability of online eWOM directed towards such services.

Firstly, Samuelson's (1954) definition of a public good is characterised by two concepts: non-excludability and non-rivalry in consumption. This represents services offered by the State that did not exclude any citizen from consuming the service, and whose usage by citizens does not limit others from future usage.

Secondly, services from multiple exit and voice literature were considered. These examples ranged from healthcare provision to education services to maintenance of public infrastructure. These services were cross-referenced and shortlisted based on Samuelson's definition of public goods. Shortlisted services were then considered in terms of the availability of online feedback and opinions on the services. Said feedback should be publicly available in sufficient quantity to allow for a robust sample. Additionally, the users of the service engaging in eWOM providing behaviour should be contactable with requests to participate in the study.

Taking the above into consideration, the public service of maintenance of national heritage and tourism sites was selected for the context of this thesis. This selection is in line with existing studies such as Ennew and Schoefer (2003) and Gomez (2018), which have treated tourism management and management of national heritage sites as a form of public service. Additionally, several existing platforms such as Google reviews, Trip Advisor and Yelp represents a rich base of users providing eWOM in relation to

publicly managed sites. Although education, transportation and healthcare services are featured on said platforms (in the form of reviews on schools, transportation hubs and hospitals), feedback on such services are usually rare and sporadic. Comparatively, feedback on publicly managed tourism and heritage sites range from hundreds to tens of thousands, depending on the popularity of the site.

In selecting an appropriate online platform for the study, two considerations were taken into account: firstly, the platform should feature a sufficient sized pool of eWOM, and the platform allows for individual users to be contacted to be surveyed for the study. TripAdvisor was selected due to the number of reviews available on the platforms, and had an inbuilt messaging system with users through profiles. Additionally, users on TripAdvisor usually specified their nationalities, which allows for identification of local citizens. Google reviews did not allow for private messaging and thus was not considered as a platform for the study.

In selecting the study participants, local citizens in UK and Malaysia providing reviews from 2020 to 2018 on national heritage sites were selected for the study. UK and Malaysia were selected for language (as a large population of both countries speak English and use it as the medium of communication in their reviews) and comparative purposes between European and South-East Asian countries to control for demographical and cultural variables (Ahmadov & Sasse, 2016; Escobar et al., 2015). Additional care was taken to ensure that the study participants were local citizens, as the country of residence have been shown to impact an individual's exit and voice activity (Ahmadov & Sasse, 2016; Escobar et al., 2015). A time range of three years was selected to set a bound on the study and to ensure compatibility. This also allowed for the individuals selected to recall their experiences with the sites in question to more accurately indicate their exit or voice intentions.

In selecting the national heritage sites for the study, the national heritage listing codified by the Malaysian government (heritage.gov.my) and the History England's heritage listing (historicengland.org.uk) were relied upon to ensure that the sites in question were managed by the respective States. The top five sites from each country with the largest number of reviews on Trip Advisor were selected to ensure a sufficient pool of individuals for the study.

Relying on these parameters, a total of 2325 individuals were included in the scope of the study. When the individuals were identified, metrics such as their username, review data, review rating, number of contributions (eWOM), the number of users they follow, are followed by and number of forum posts were recorded. The summary characteristics of the individuals contacted for the study can be found in Table 3. The response rate of

Malaysian citizens contacted for the study was 17.6%, while the response rate of UK citizens was 14.8%. It is noted that for certain sites, the number of reviewers fitting the parameters were low (e.g., only 18 reviewers for the National Mosque and Taman Negara in Malaysia). Overall, the total response rate was 14.8%.

In selecting the survey mechanism, multiple Google survey forms were created, categorised by the country, site as well as the review rating provided. All questions on control, dependent and responding variables were made mandatory to increase the effective response rate. Customised messages (based on the subject's nationality and site reviewed) were templatised and sent to the users using Trip Advisor's messaging system to reduce the number of survey questions and increase response rates. Batches of messages were sent periodically due to the existence of Completely Automated Public Turing test to tell Computers and Humans Apart (CAPTCHA) test on TripAdvisor.

In consideration of the physical, informational, psychological and interactional privacy requirements of online survey users, guidance from Cho and LaRose (1999) was adopted. As the study required mapping of review profiles to survey respondents, users had to agree to provide their TripAdvisor username before proceeding in the study, which was deleted afterwards from the dataframe post analysis to ensure the anonymity of respondents. Other than responses gathered from users' self-declarations through the study's survey, only publicly gathered data from users' TripAdvisor activities were obtained from the platform itself, which poses lower risk of serious privacy violations (Cho & LaRose, 1999).

Nationality	Site	Users identified (#)	Users responding (#)	Response rate (%)
Malaysian	Central Market	146	19	13.2
	Islamic Arts Museum	42	8	19.0
	National Mosque	18	2	11.1
	National Museum	50	13	26.0
	Taman Negara	18	6	33.3
Sub Total (Malaysian)		272	48	17.6

Nationality	Site	Users identified (#)	Users responding (#)	Response rate (%)
UK	Blenheim Palace	718	88	12.2
	Maritime Greenwich	131	21	16.0
	Place of Westminster	93	22	23.7
	Royal Botanic Gardens	596	83	13.9
	Tower of London	513	81	15.8
Sub Total (UK)		2052	295	14.4
Total		2324	343	14.8

Table 3: Number of users identified for scope of study by nationality and site

5.2 Measures

The measures explored by the study were categorised into three parts: demographical measures as control variables, exit and voice measures as responding variables, and eWOM determinant measures as dependent variables.

In relation to demographical measures, considerations from existing exit and voice empirical studies such as Withey and Cooper (1989), Leck and Saunders (1992), Lee and Whitford (2006) and Dowding and John (2012) were relied upon. Major demographical factors identified for inclusion were: education level, household income level, age, and gender. For education, the International Standard Classification of Education 2011 (UNESCO, 2012) was relied upon. For household income level, the respective countries' classification of income bands were relied upon: in the UK, the national percentile points for total household income before and after-tax was used (HM Revenue and Customs Department, 2021); in Malaysia, the national household income and expenditure classification was used (Department of Statistics Malaysia, 2020). Dummies for all demographical measures were used in the subsequent analysis.

For exit and voice measures, the three exit three voice framework outlined by Dowding and John (2012) was relied upon. This framework, explored earlier, allows the study to comprehensively capture the range of exit and voice intentions of individuals. For exit, individuals' propensity towards Tiebout exit (exit from all similar public services in a boundary, but not the entire State), provider exit (exit from the public service in question, but open to other public providers of the service within the State) and public exit (complete exit from public providers altogether) were measured. For voice, individuals' propensity towards individual voice (direct feedback to the public provider), collective voice through voting and collective voice through pressure politics were measured.

For eWOM determinant measures, the meta-analysis performed by Ismagilova et al., (2020) was relied upon. To ensure adequate scoping of the study, one determinant from each of the four categories of conditions identified by Ismagilova et al., (2020) (perceptual conditions, consumption-based conditions, personal conditions and social conditions) were selected. The determinant selected were statistically significant (only 16 of the 20 determinants were found to be significant), and had the largest relative correlation effect size between the determinant and eWOM providing behaviour. This selection method allowed the study to scope the length of the survey to ensure consideration of all categories of determinants and that the survey was a reasonable length to increase response rates.

The thesis notes the impact of response biases of participants through surveys (Rosenman et al., 2011). Researchers have identified that survey respondents sometimes fall prey to multiple behavioural biases when answering survey questions seeking to measure variables based on self-assessments, mainly because they seek to appear more socially desirable than they are (Paulhus, 1991). To limit the effect of response biases, the study has implemented two measures recommended by the literature:

Firstly, a minimum of two temporal sets of observations for each variable was requested from each participant (Rosenman et al., 2011). This was done by measuring each dependent and responding variable through the average score of three questions. Based on the selected determinants, an analysis of the respective studies' survey questions measuring the determinants was conducted. Questions were grouped and duplicates were identified, with three questions per determinant to be included in the final survey. Responses were measured based on a 5-point Likert scale, ranging from "highly disagree" to "highly agree".

Secondly, where possible, the study sought to capture observable proxies of variables where available. For eWOM, satisfaction and tie strength, proxies were relied upon instead of survey questions due to the availability of metrics that could represent the determinants. eWOM was measured based on the individual's number of contributions averaged by the number of months the individual first joined the platform. This approach was adopted by studies such as Hennig-Thurau et al., (2004, p. 48), where a user's "number of comments written on opinion platforms" was used as an equivalent metric. Tie strength was measured by the average amount of followers, people followed, and forum posts the individual engaged with, averaged by the number of months the individual first joined the platform. This approach was adopted by studies such as Kalampokis et al., (2013) and Gilbert and Karahalios (2009), where an individual's interactions with their peers through messages, tagging and following one another were found to be adequate predictors of tie strength. Satisfaction was measured by the rating left on the site visited by the individual.

Excluding demographical questions, a total of 12 questions were posed to each user engaged through the survey. The complete list of questions can be found in Appendix 1: Survey Questionnaire.

5.3 Analytical methods

The study seeks to measure the relationship between the eWOM determinants on exit and voice through a four-part analytical approach: Analysing the measurement validity of latent variables approximated using factors through Confirmatory Factor Analysis (CFA); Analysing collinearity between the independent variables (eWOM determinants); and performing separate multiple regressions to determine the relationship between the dependent and independent variables.

Firstly, the measurement and internal validity of variables developed through factors (variables estimated using three factors in the study include exit, voice, altruism, and opinion seeking) was tested using a CFA. This step was taken by studies such as Hennig-Thurau (2004) which estimated latent determinants through multiple factors (in the form of survey questions), in order to ensure that the measured variables accurately related to each latent variable to represent the data. In this step, the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) as well as the estimated coefficient loadings between the factors and their latent variables.

Secondly, collinearity between all the identified independent variables was investigated to determine if any variables should be dropped from the ultimate model to ensure best

fit. Collinearity is defined as the existence of correlation among independent variables, which affects their relationship with the dependent variable if the regressions were done individually instead of together (Diez et al., 2015). Collinearity was measured based on the computation of the Variance Inflation Factor (VIF) of the independent variables in a correlation matrix.

Thirdly, separate multiple regressions, controlling for the demographical variables explored previously, were performed to individually test the relationship between the dependent and independent variables. This analytical method has been used by empirical studies of exit and voice determinants such as Dowding and John (2012) and Leck and Saunders (1992).

6 Results

This section outlines the outcomes of the study, including the descriptive statistics of study participants and measures, and the results from the analytical tests explored in the previous chapter (measurement and internal validity tests, collinearity tests, and hypothesis testing through separate multiple regressions)

6.1 Descriptive statistics

Table 4 outlines the descriptive and summary statistics of the demographic profile of the sample. It is noted that the sample represents an adequate snapshot of the Trip Advisor platform community based on Trip Advisor's latest published TripBarometer containing demographical information on their users (TripAdvisor, 2016). Similar to TripAdvisor's findings, a large portion of users were above 35 years of age (more than 73% in our sample, more than 84% in TripAdvisor's findings), while the majority of users surveyed were male (more than 59% in our sample, more than 56% in TripAdvisor's findings). It should be noted that the samples obtained from TripAdvisor's platform may not be completely representative of the population at large, due to the higher concentration of highly educated (more than 45% of users surveyed in our sample possessed at least a Bachelor's education), medium-higher income individuals (more than 63% of users surveyed in our sample were in the 60th income percentile and above in their respective countries) who can afford to travel. As such, all demographical factors were used as control variables to account for socioeconomic factors in voice, exit and eWOM activities.

Variable	Categories	Percent of sample (%)
Age	18 – 24	7.0
	25 – 34	19.2
	35 – 44	23.0
	45 – 54	26.5
	55 – 64	18.4

Variable	Categories	Percent of sample (%)
	Above 65	5.8
Gender	Female	40.8
	Male	59.2
Education	Lower secondary and below	2.9
	Upper secondary	23.6
	Diploma/ Associate Degree	28.0
	Bachelor's Degree	39.1
	Master's degree and above	6.4
Income	Below RM 2,500 / Below GBP 1,325	19.5
	Between RM2,501 - 4,800 / Between GBP 1,326 - 1,650	16.9
	Between RM 4,801 - 7,100 / Between GBP 1,651 - 2,160	25.4
	Between RM 7,101 - 11,000 / Between GBP 2,161 - 3,050	19.5
	Above RM 11,000 / Above GBP 3,051	18.7

Table 4: Descriptive and summary statistics of study participant demographical profiles, N: 343

Table 5 outlines the measures used in the survey, as well as their descriptive statistics. Several points warrant interest and further discussion. Non-Likert based measures (eWOM and Tie Strength) displayed a high level of standard deviation, and a large difference between the median and mean, indicating a larger potential for outliers and variability in observations. From initial investigations, there is a large variation between the number of contributions certain users provide on the platform: the user with the

highest recorded number of contributions identified as part of the study provided an average of 1576 contributions per month, while almost a third of users had less than a contribution to the platform per month since their join date. Similar observations were found in relation to tie strength: the individual with the highest composite tie strength score had an average of 24 followers, users following and forum posts since their join date, while 23% of users surveyed did not have a single follower/ user following and/or forum post since their join date. The potential variability of observations of the two variables were addressed by variable transformation when the separate multiples regressions were performed.

Variable	Factor	Mean	Median	SD
eWOM	Contributions/ Month	15.5	2.2	98.9
Exit (Likert scale of 1: Strongly disagree to 5: Strongly agree)	Tiebout exit: Decide to not return to __, and will visit publicly managed tourism destinations only in other states	2.3	2.0	1.1
	Provider exit: Decide to not return to __, but open to other publicly managed tourism destinations in the state	2.3	2.0	1.1
	Public exit: Decide to not return to __, and will only visit privately managed (not government run) tourism destinations in the future	2.2	2.0	1.2
	Average exit intention	2.3	2.0	0.9
Voice (Likert scale of 1: Strongly disagree to 5: Strongly agree)	Individual voice: Provide negative face-to-face feedback to the state government or public operator directly due to its management of __?	2.4	2.0	1.3
	Consider voting against the state government or public operator due to its management of __?	2.3	2.0	1.1
	Consider signing a petition against the state government or public	2.2	2.0	1.1

Variable	Factor	Mean	Median	SD
	operator due to its management of ___?			
	Average voice intention	2.3	2.0	1.0
Satisfaction	Rating on site (between 5 to 1, with 5 being highest rating and 1 being lowest rating)	3.3	3.0	1.4
Tie Strength	Number of followers	8.9	0	44.2
	Number of users following	5.4	0	31.2
	Forum posts	21.1	0	87.6
	Average total tie strength/ Month	0.6	0.1	2.3
Altruism (Likert scale of 1: Strongly disagree to 5: Strongly agree)	I feel like I have a duty to transmit information which I find useful to other TripAdvisor users	3.1	4.0	1.2
	I feel good when my feedback helps other users on TripAdvisor make better decisions	2.8	3.0	1.0
	I feel good if other users on TripAdvisor will benefit from	2.9	3.0	1.0

Variable	Factor	Mean	Median	SD
	improvements as a result of my feedback, although I may not experience the improvements myself			
	Average altruism	2.9	3.0	0.7
Opinion seeking (Likert scale of 1: Strongly disagree to 5: Strongly agree)	I feel more comfortable making travelling decisions when I have gotten my contacts' opinions on them through TripAdvisor	2.6	2.0	1.1
	I tend to search for the latest online information before making decisions.	2.6	3.0	1.1
	I like to seek out reviews on TripAdvisor before I make a decision on travelling	2.6	2.0	1.1
	Average opinion seeking	2.6	2.7	0.7

Table 5: Descriptive and summary statistics of measures

6.2 Measurement and internal validity testing

This subsection details the use of multiple tests to determine the validity of measures used, particularly the latent variables with factors.

Four variables were assessed using CFA. The variables tested were exit, voice, altruism and opinion seeking. As a reminder, each of these latent variables was derived from exactly three factors through the survey. The CFA was performed in Rstudio, using the Lavaan package. The summary results of the CFA with major fit indicators can be seen in Table 6. The comprehensive results of the CFA on the latent variables, including their covariances and variances can be seen in Table 7.

From the summary results of the CFA, the goodness of fit indices (the CFI and the Tucker-Lewis Index) were above 0.9 (0.992 and 0.986 respectively), indicating that the model's internal validity was strong (Kline, 2015). Additionally, the model's RMSEA (0.004) was lower than Kline's (2015) close fit requirement of 0.05, indicating a low level of model misspecification. The p-value of the model chi-square is above 0.05 (0.0675), hence we do not reject the null hypothesis that the predicted model and observed model are equal, indicating good fit.

From the detailed results of the CFA, all factor variances were positive, indicating that the factors were acceptable (Kline, 2015). It is noted that there was an indication of possible covariance between exit and altruism, but the risk is mitigated with the relatively effect size of the covariance (at -0.001). Additionally, collinearity concerns between the two variables were dealt with in the following subsection.

In summary, from the tests above, the model's latent variables' measurement and internal validity are acceptable.

Number of observations: 343

Model test user model	
Test Statistic	43.070
Degrees of freedom	48
p-value (chi square)	0.675

User model versus Baseline model	
Comparative Fit Index	0.992
Tucker-Lewis Index	0.986
Root mean square of approximation (RMSEA)	
RMSEA	0.004
90% CI - Lower	0.002
90% CI - Upper	0.029
p-value RMSEA \leq 0.05	1.000
Standardised Root Mean Square Residual (SRMR)	
SRMR	0.029

Table 6: CFA Summary Results - Fit Indicators

	Estimate	Std Error	z-value	P(> z) (p-value)
Latent Variables				
Exit = ~				
Ex-Tiebout	1.000			
Ex-Provider	1.0941	0.091	11.391	0.000
Ex-Public	1.116	0.091	12.220	0.000
Voice = ~				
Voice-Collective Vote	1.000			

	Estimate	Std Error	z-value	P(> z) (p-value)
Voice-Pressure	0.962	0.062	15.461	0.000
Voice-Individual	1.087	0.069	15.769	0.000
Altruism (A)= ~				
A1	1.000			
A2	0.737	0.151	4.868	0.000
A3	0.467	0.121	3.864	0.000
Opinion seeking (OS) = ~				
OS1	1.000			
OS2	0.891	0.218	4.080	0.000
OS3	0.917	0.221	4.145	0.000
Covariances:				
Exit ~~				
Voice	0.562	0.065	8.597	0.000
Altruism	-0.001	0.045	-0.021	0.984
Opinion Seeking	0.094	0.039	2.450	0.014
Voice ~~				
Altruism	0.225	0.055	4.060	0.000
Opinion Seeking	0.264	0.055	4.773	0.000
Altruism ~~				

	Estimate	Std Error	z-value	P(> z) (p-value)
Opinion Seeking	0.147	0.047	3.113	0.002
Variances				
Ex-Tiebout	0.622	0.058	10.761	0
Ex-Provider	0.622	0.059	10.556	0
Ex-Public	0.481	0.052	9.22	0
Voice-Collective Vote	0.458	0.045	10.234	0
Voice-Pressure	0.381	0.038	9.899	0
Voice-Individual	0.439	0.046	9.535	0
SA1	0.872	0.118	7.386	0
SA2	0.674	0.075	9.005	0
SA3	0.922	0.077	11.976	0
OS1	1.028	0.095	10.799	0
OS2	0.946	0.085	11.16	0
OS3	0.93	0.085	10.989	0
Exit	0.581	0.085	6.814	0
Voice	0.746	0.09	8.336	0
Altruism	0.484	0.126	3.854	0
Opinion Seeking	0.214	0.076	2.825	0.005

Table 7: CFA Detailed Results - Latent variables, covariances and variances

6.3 Multicollinearity

This subsection details the usage of multiple tests to determine if there are any collinearity concerns between the various independent variables with the dependent variables.

To assess potential collinearity between the variables, a correlation matrix is constructed with all the variables within the scope of the study, indicating the relative strength of the relationships between the variables. It is noted that the control variables are included in this analysis to account for their moderating factors. The complete correlation matrix can be found in Table 9. It is noted all pairwise correlation coefficients between all variables are below 0.7, indicating a reduced risk of multicollinearity between the variables. Two pairwise correlations in the study are exceptions to this: Exit – Rating and Voice – Rating. A strong correlation between these variables were expected from the literature (higher dissatisfaction leads to greater exit and voice activity).

The VIF was also used as an additional multicollinearity test as recommended by the literature (Fox, 2015; Fox & Monette, 1992). As the study involves two dependent variables (exit and voice), separate VIF tests were conducted for both the dependent variables. The VIF indices can be found in Table 8. All VIF indices were below 5, the accepted threshold for multicollinearity findings (Fox, 2015; Fox & Monette, 1992).

Variable	Variable Inflation Index (VIF)
Age	1.18
Gender	1.07
Education	1.26
Income	1.30
Satisfaction	1.28
Tie Strength	1.25
eWOM	1.46

Variable	Variable Inflation Index (VIF)
Altruism	1.18
Opinion Seeking	1.15

Table 8: Variable Inflation Factors of study variables

	Age	Gender	Edu	Income	Sat	TS	eWOM	Exit	Voice	Al	OS
Age											
Gender	-0.16										
Edu	-0.2	-0.08									
Income	0.22	-0.14	0.33								
Satisfaction (Sat)	-0.08	0.08	0.1	0.06							
Tie Strength (TS)	-0.05	-0.06	0.15	0.08	0.27						
eWOM	0.02	-0.02	0.17	0.26	0.31	0.39					
Exit	0.08	-0.09	-0.03	-0.01	-0.79	-0.17	-0.21				
Voice	0.05	-0.12	-0.01	0.03	-0.75	-0.1	-0.01	0.68			
Altruism (Al)	-0.01	-0.08	0.06	0.06	-0.04	0.17	0.31	-0.01	0.24		
Opinion Seeking (OS)	0.05	-0.01	-0.09	-0.02	-0.3	-0.04	-0.04	0.14	0.37	0.2	

Table 9: Correlation matrix of variables

6.4 Hypothesis testing results

This section outlines the results of the separate multiple regression tests conducted in order to test the hypotheses formulated earlier.

For hypothesis 1 (Increase in eWOM tendency leads to an increase in voice tendency for public services), the results of the multiple regression can be found in Table 10. From the results, eWOM has a statistically significant, positive relationship with voice ($\beta = 0.02$, $p = <0.001$). The results indicate that an increase in a single unit of eWOM (measured by the number of contributions per month since the user's join date on TripAdvisor) translated to a 0.4% increase in the user's intention to exercise voice (based on the 5 point-Likert scale in the survey). H1 was found to be validated.

It is noted that from observations on the dataset, several modifications were made to this model. Firstly, the measure of eWOM was truncated to a maximum of 60, due to the occurrence of extreme outliers in the dataset. Secondly, the user's rating (as found to be highly collinear with voice in the previous section) was added as an additional control variable. The resulting model had an adjusted R^2 of 0.619, where the base model (without the modifications) had a much poorer fit with an adjusted R^2 of 0.095.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
eWOM	0.02	0.222	0.01	0.02	<0.001
Rating	-0.56	0.003	-0.61	-0.51	<0.001
Nationality					
Malaysian	-	-	-	-	-
UK	0.02	0.09	-0.17	0.20	0.9
Age	-0.02	0.03	-0.07	0.03	0.5
Gender	-0.09	0.07	-0.22	0.04	0.2
Education	0.03	0.04	-0.05	0.10	0.5

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Income	0.01	0.03	-0.05	0.06	0.8
Residual standard error: 0.5902 on 335 degrees of freedom					
Multiple R-squared: 0.6275, Adjusted R-squared: 0.6197					
F-statistic: 80.61 on 7 and 335 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 10: Multiple regression testing results - H1

For hypothesis 2 (Increase in eWOM tendency leads to a decrease in exit tendency for public services), the results of the multiple regression can be found in Table 11. From the results, eWOM has a statistically insignificant significant, positive relationship with exit ($\beta = 0.003$, $p = <0.2$). H2 was found to be invalidated.

It is noted that from observations on the dataset, several modifications (similar to that of H1's regression model) were made to this model. The resulting model had an adjusted R^2 of 0.6337, where the base model (without the modifications) had a much poorer fit with an adjusted R^2 of 0.098.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
eWOM	0.003	0.003	0.00	0.01	0.2
Rating	-0.52	0.02	-0.56	-0.47	<0.001
Nationality					
Malaysian	-	-	-	-	-
UK	0.02	0.09	0.03	0.38	0.023

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Age	0.01	0.02	-0.03	0.06	0.6
Gender	-0.03	0.06	-0.16	0.09	0.6
Education	0.04	0.03	-0.03	0.11	0.3
Income	0.01	0.02	-0.04	0.06	0.8
Residual standard error: 0.555 on 335 degrees of freedom					
Multiple R-squared: 0.6412, Adjusted R-squared: 0.6337					
F-statistic: 85.51 on 7 and 335 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 11: Multiple regression testing results - H2

For hypothesis 3 (Decrease in satisfaction towards a public service increases voice activity), the results of the multiple regression can be found in Table 12. From the results, a statistically significant inverse relationship was observed between satisfaction and voice ($\beta = -0.43$, $p = <0.001$). This was in line with the central thesis of most of the exit and voice literature, where voice activity increases where dissatisfaction increases (Dowding & John, 2008; Hirschman, 1970). H3 was found to be validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Satisfaction	-0.43	0.02	-0.56	-0.47	<0.001
Nationality					
Malaysian	-	-	-	-	-

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
UK	-0.07	0.10	-0.07	0.12	0.5
Age	-0.02	0.03	-0.07	0.04	0.5
Gender	-0.10	0.07	-0.24	0.04	0.2
Education	0.05	0.04	-0.03	0.12	0.2
Income	0.04	0.03	-0.01	0.09	0.15
Residual standard error: 0.6261 on 336 degrees of freedom Multiple R-squared: 0.5795, Adjusted R-squared: 0.572 F-statistic: 77.19 on 6 and 336 DF, p-value: < 0.001 Note: N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 12: Multiple regression testing results - H3

For hypothesis 4 (Decrease in satisfaction towards a public service increases exit activity), the results of the multiple regression can be found in Table 13. Similar to the relationship between satisfaction and voice, a statistically significant inverse relationship was observed ($\beta = -0.51$, $p = <0.001$), albeit a stronger one compared with that of voice ($\beta = -0.43$ and -0.51 respectively). This indicated that while a decrease in satisfaction increased both voice and exit activity, the increase in exit activity was higher relative to voice activity. H4 was found to be validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Satisfaction	-0.51	0.21	-0.55	-0.47	<0.001

Nationality					
Malaysian	-	-	-	-	-
UK	0.19	0.09	0.01	0.36	0.034
Age	0.01	0.02	-0.03	0.06	0.6
Gender	-0.03	0.06	-0.16	0.09	0.6
Education	0.04	0.03	-0.03	0.11	0.2
Income	0.01	0.02	-0.04	0.06	0.6
Residual standard error: 0.5554 on 336 degrees of freedom					
Multiple R-squared: 0.6396, Adjusted R-squared: 0.6331					
F-statistic: 99.37 on 6 and 336 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; <i>LL</i> = lower limit; <i>UL</i> = upper limit.					

Table 13: Multiple regression testing results - H4

For hypothesis 5 (Increase in tie strength in a community increases voice activity), the results of the multiple regression can be found in

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Tie Strength	-0.10	0.05	0.02	0.15	0.05
Nationality					
Malaysian	-	-	-	-	-
UK	0.19	0.15	-0.10	0.48	0.2
Age	0.01	0.04	-0.07	0.09	0.8

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Gender	-0.24	0.10	-0.45	-0.03	0.025
Education	-0.01	0.06	-0.12	0.11	>0.9
Income	-0.01	0.04	-0.07	0.09	0.8
Residual standard error: 0.9499 on 336 degrees of freedom					
Multiple R-squared: 0.0323, Adjusted R-squared: 0.01502					
F-statistic: 1.869 on 6 and 336 DF, p-value: 0.08544					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 14. From the results, it was observed that there was a statistically significant negative relationship ($\beta = -0.05$, $p = 0.05$) between tie strength and voice. This indicated that stronger tie strength between a reviewer and their community in TripAdvisor (in the form of followers, users following and forum post engagement), their intention to exercise voice reduced. H5 was found to be invalidated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Tie Strength	-0.10	0.05	0.02	0.15	0.05
Nationality					
Malaysian	-	-	-	-	-
UK	0.19	0.15	-0.10	0.48	0.2
Age	0.01	0.04	-0.07	0.09	0.8
Gender	-0.24	0.10	-0.45	-0.03	0.025
Education	-0.01	0.06	-0.12	0.11	>0.9

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Income	-0.01	0.04	-0.07	0.09	0.8
Residual standard error: 0.9499 on 336 degrees of freedom					
Multiple R-squared: 0.0323, Adjusted R-squared: 0.01502					
F-statistic: 1.869 on 6 and 336 DF, p-value: 0.08544					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 14: Multiple regression testing results - H5

For hypothesis 6 (Increase in tie strength in a community decreases exit activity), the results of the multiple regression can be found in Table 15. From the results, it was observed that there was a statistically significant, inverse relationship between exit and tie strength ($\beta = -0.14$, $p = 0.003$). H6 was found to be validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Tie Strength	-0.14	0.05	-0.23	-0.05	0.003
Nationality					
Malaysian	-	-	-	-	-
UK	0.43	0.14	0.16	0.71	0.002
Age	0.04	0.04	-0.04	0.12	0.3
Gender	-0.18	0.10	-0.38	0.02	0.072
Education	0.00	0.06	-0.11	0.11	>0.9

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Income	-0.01	0.04	-0.09	0.06	0.7
Residual standard error: 0.8926 on 336 degrees of freedom					
Multiple R-squared: 0.06907, Adjusted R-squared: 0.05244					
F-statistic: 4.155 on 6 and 336 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 15: Multiple regression testing results - H6

For hypothesis 7 (Increase in altruism increases voice activity), the results of the multiple regression can be found in

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Altruism	0.33	0.07	0.19	-0.05	0.003
Nationality					
Malaysian	-	-	-	-	-
UK	0.43	0.15	0.16	0.71	0.002
Age	0.04	0.04	-0.04	0.12	0.3
Gender	-0.18	0.10	-0.38	0.02	0.072
Education	0.00	0.06	-0.11	0.11	>0.9
Income	-0.01	0.04	-0.09	0.06	0.7
Residual standard error: 0.9248 on 336 degrees of freedom					

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Multiple R-squared: 0.08273, Adjusted R-squared: 0.06635					
F-statistic: 5.051 on 6 and 336 DF, p-value: <0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 16. From the results, it is observed that there was a statistically significant, positive relationship between altruism and voice ($\beta = 0.33$, $p = 0.003$). A greater degree of satisfaction with helping others (especially within the community) translated into higher voice activity. H7 was found to be validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Altruism	0.33	0.07	0.19	-0.05	0.003
Nationality					
Malaysian	-	-	-	-	-
UK	0.43	0.15	0.16	0.71	0.002
Age	0.04	0.04	-0.04	0.12	0.3
Gender	-0.18	0.10	-0.38	0.02	0.072
Education	0.00	0.06	-0.11	0.11	>0.9
Income	-0.01	0.04	-0.09	0.06	0.7
Residual standard error: 0.9248 on 336 degrees of freedom					
Multiple R-squared: 0.08273, Adjusted R-squared: 0.06635					
F-statistic: 5.051 on 6 and 336 DF, p-value: <0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL =					

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
upper limit.					

Table 16: Multiple regression testing results - H7

For hypothesis 8 (Increase in altruism decreases exit activity), the results of the multiple regression can be found in Table 17. From the results, it was found that although there was a positive relationship between altruism and exit activity, the relationship was statistically insignificant ($\beta = 0.02$, $p = 0.8$). The null hypothesis (that altruism did not affect exit activity) could not be rejected. H8 could not be validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Altruism	0.02	0.06	-0.11	0.15	0.8
Nationality					
Malaysian	-	-	-	-	-
UK	0.47	0.14	0.19	0.75	0.001
Age	0.05	0.03	-0.03	0.12	0.2
Gender	-0.16	0.10	-0.36	0.04	0.11
Education	-0.02	0.06	-0.13	0.09	0.7
Income	-0.02	0.04	-0.10	0.06	0.6
Residual standard error: 0.904 on 336 degrees of freedom					
Multiple R-squared: 0.04524, Adjusted R-squared: 0.02819					
F-statistic: 2.653 on 6 and 336 DF, p-value: 0.01578					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL =					

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
upper limit.					

Table 17: Multiple regression testing results - H8

For hypothesis 9 (Increase in opinion seeking increases voice activity), the results of the multiple regression can be found in

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Opinion seeking	0.49	0.07	0.36	0.63	<0.001
Nationality					
Malaysian	-	-	-	-	-
UK	0.21	0.14	-0.06	0.48	0.12
Age	0.01	0.04	-0.07	0.09	0.8
Gender	-0.22	0.10	-0.42	-0.03	0.026
Education	0.01	0.05	-0.10	0.12	0.8
Income	0.01	0.04	-0.07	0.08	0.8
Residual standard error: 0.8869 on 336 degrees of freedom					
Multiple R-squared: 0.1564, Adjusted R-squared: 0.1414					
F-statistic: 10.38 on 6 and 336 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 18. From the results, a statistically significant, positive relationship between opinion seeking and voice activity was observed ($\beta = 0.49$, $p = <0.001$). This indicates

that an increase in opinion seeking propensity is positively correlated to voice activity. H9 was validated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Opinion seeking	0.49	0.07	0.36	0.63	<0.001
Nationality					
Malaysian	-	-	-	-	-
UK	0.21	0.14	-0.06	0.48	0.12
Age	0.01	0.04	-0.07	0.09	0.8
Gender	-0.22	0.10	-0.42	-0.03	0.026
Education	0.01	0.05	-0.10	0.12	0.8
Income	0.01	0.04	-0.07	0.08	0.8
Residual standard error: 0.8869 on 336 degrees of freedom					
Multiple R-squared: 0.1564, Adjusted R-squared: 0.1414					
F-statistic: 10.38 on 6 and 336 DF, p-value: < 0.001					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 18: Multiple regression testing results - H9

For hypothesis 10 (Increase in opinion seeking decreases voice activity), the results of the multiple regression can be found in

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
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Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Opinion seeking	0.18	0.07	0.04	0.31	0.01
Nationality					
Malaysian	-	-	-	-	-
UK	0.47	0.14	0.19	0.74	<0.001
Age	0.04	0.04	-0.03	0.12	0.3
Gender	-0.16	0.10	-0.36	0.03	0.11
Education	-0.01	0.06	-0.12	0.10	0.8
Income	-0.02	0.04	-0.10	0.06	0.6
Residual standard error: 0.8953 on 336 degrees of freedom					
Multiple R-squared: 0.06347, Adjusted R-squared: 0.04674					
F-statistic: 3.795 on 6 and 336 DF, p-value: 0.001132					
<i>Note:</i> N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.					

Table 19. From the results, a statistically significant, positive relationship was observed between opinion seeking and exit ($\beta = 0.18$, $p = 0.01$). A higher level of opinion seeking propensity increased exit activity. H10 was invalidated.

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
Opinion seeking	0.18	0.07	0.04	0.31	0.01
Nationality					
Malaysian	-	-	-	-	-

Effect	Beta (β)	SE	95% CI (LL)	95% CI (UL)	p-value
UK	0.47	0.14	0.19	0.74	<0.001
Age	0.04	0.04	-0.03	0.12	0.3
Gender	-0.16	0.10	-0.36	0.03	0.11
Education	-0.01	0.06	-0.12	0.10	0.8
Income	-0.02	0.04	-0.10	0.06	0.6

Residual standard error: 0.8953 on 336 degrees of freedom

Multiple R-squared: 0.06347, Adjusted R-squared: 0.04674

F-statistic: 3.795 on 6 and 336 DF, p-value: 0.001132

Note: N = 343. SE = Standard Error; CI = confidence interval; LL = lower limit; UL = upper limit.

Table 19: Multiple regression testing results - H10

A summary of all tested hypotheses and their results can be found in Table 20. It is noted that the strongest determinant of voice activity was opinion seeking (β : 0.49), while satisfaction was the strongest determinant of exit activity (β : -0.51). Tie strength was the only determinant found not to have a positive relationship with voice, contradicting initial hypotheses on the similar effects of community on eWOM and voice. Conclusive statistical evidence could not be found for the relationship between several determinants of eWOM on exit (tie strength, altruism and opinion seeking. In most cases, the effect sizes of eWOM determinants were greater for voice relative to exit, indicating additional evidence that voice was correlated with eWOM propensity. However, the results indicate that exit activity may not be negatively correlated with eWOM propensity, as there were positive relationships between eWOM determinants and exit activity.

Hypothesis	Beta (β)	Statistically Significant? ($\alpha: 0.05$)	Validated?
H1: Increase in eWOM tendency leads to an increase in voice tendency for public services	0.02	Y	Y
H2: Increase in eWOM tendency leads to a decrease in exit tendency for public services	0.003	N	N
H3: Decrease in satisfaction towards a public service increases voice activity	-0.43	Y	Y
H4: Decrease in satisfaction towards a public service increases exit activity	-0.51	Y	Y
H5: Increase in tie strength in a community increases voice activity	-0.1	Y	N
H6: Increase in tie strength in a community decreases exit activity	-0.14	Y	Y
H7: Increase in altruism increases voice activity	0.33	Y	Y
H8: Increase in altruism decreases exit activity	0.02	N	N
H9: Increase in opinion seeking increases voice activity	0.49	Y	Y
H10: Increase in opinion seeking decreases exit activity	0.18	Y	N

Table 20: Summary of hypothesis testing regression results

7 Discussion and Implications

From the results above, three main implications may be drawn for public providers in relation to managing exit and voice through insights gained from eWOM activity.

Firstly, a positive relationship between eWOM propensity and voice activity was observed in the study. As explored previously, both eWOM activity and determinants of eWOM translated into higher voice activity, with a notable exception being that of tie strength, despite the existing literature on the effect of similar factors on voice activity (Ahmadov & Sasse, 2016; Campbell et al., 2007; Haenlein & Kaplan, 2012). Although the relationship between tie strength and voice activity was seen to be negative in our study, it should be noted that tie strength was measured through observable proxy variables. Further considerations on this limitation were discussed in the following chapter. The study also indicates that the relationship between eWOM and exit is weaker than that of voice.

Overall, the study indicates that eWOM may be a precursor to voice activity and may prevent or delay exit activity. Individuals which are more likely to voice opinions online with their peers (either positive or negative feedback) are also more likely to express voice directly with the providers of public services as opposed to exiting the services. This form of voice can be either individually, or through collective action. This indicates that administrators and management of public services can use eWOM activities as a general indicator of subsequent voice activity. In encouraging individuals to express eWOM on public services either directly through prompts or by providing platforms, public service providers can also increase the likelihood that individuals signal displeasure with deteriorating public services directly to them. Management can also utilize this insight to encourage policy recommendations on the availability of public feedback mechanisms on public services to encourage eWOM and indirectly mitigate the existence of exit.

With the increase of e-government services, the importance of eWOM to ensure accountability in public services cannot be overstated (Nulhusna et al., 2017). As explored in the literature review, several authors have indicated that reliance on voice and exit is insufficient as an accountability mechanism. Ackerman (2004) argues that accountability of public institutions can be increased through the inclusion of citizen involvement “beyond exit and voice”. Where institutions have encouraged participation and engagement within communities, one can see a range of better outcomes such as greater transparency and more effective development projects. eWOM can enable this

as we can see from the literature the relationship between community building and eWOM. As put by Ackerman (2004), developing co-governance for accountability for public services should trust and actively involve citizens in the processes, and include measures to encourage organic feedback such as eWOM.

Secondly, the thesis' initial hypotheses on the inverse relationship between exit and eWOM were mostly invalidated. Additionally, most of the hypothesis tests on exit and eWOM determinants were inconclusive (not statistically significant) despite there being positive correlations between the two. This could be explained by the complex relationship between exit and voice itself. If we hold the thesis' proposition that eWOM and voice to be positively correlated, it stands to reason that the relationship between exit, eWOM and the determinants of eWOM are equally complicated. As explored previously in the literature review of exit and voice, voice can act as a residual of exit, as an alternative to exit, or in combination with exit (Hirschman, 1970). As a reminder, the study did not consider the effect of Hirschman's loyalty on voice and exit, which is an acceptable approach as explored in studies such as Jachtenfuchs and Kasack (2017), Morse and Keohane (2014) and Slapin (2009). The absence of measured loyalty might have explained the impact of eWOM and its determinants on exit, which defied expectations in the hypotheses. Further considerations on this limitation were discussed in the following chapter.

Alternatively, an inference may be drawn that in some instances, an increased propensity to express eWOM may lead to both increased voice and exit tendencies. This was explored in studies such as Dowding and John (2012) which observed the sequences of voice and exit on individuals. Some individuals (i.e., the 'noisy exiters') may participate in voice activities before they ultimately exit, especially where they see an individual benefit in exit. Hence, there might be groups of individuals that would engage in eWOM and voice activity but exit shortly thereafter if conditions do not appear to improve. Situations where a period of increased negative public eWOM on a particular public service followed by a period of silence may not always signal improving conditions, but rather an exodus of noisy exiters.

Overall, the relationship between exit and eWOM cannot be discounted. eWOM activity may serve as a warning mechanism for exit activity, especially regarding 'noisy exiters'. Public service providers should therefore treat feedback on public services seriously. Hirschman (1970) and Dowding and John (2012) indicated that individuals exiting services will generally not participate in voice activity in the future, which denies the public service in question the effect of future voice or exit to improve quality.

Individuals may also express eWOM and exit the public service altogether, skipping voice activity. Therefore, public service administrators should encourage and increase avenues for eWOM on public services and monitor eWOM on their respective services through existing channels to reduce exit activity on public services.

Thirdly, the impact of community and the goodwill between members online may have an important impact on exit and voice activity. Determinants such as altruism and opinion seeking are significantly related to the relationship between users in a community (see Baethge et al., (2016) for altruism and Hennig-Thurau et al., (2004) for opinion seeking). As explored in the theoretical foundations section, both determinants have a component in social identity and community network theories. Both determinants have a positive relationship with voice activity and a positive but relatively weaker relationship with exit activity. Additionally, increased tie strength was found to be correlated with weaker exit intentions, corroborating this line of reasoning. This may entail that individuals who are more assimilated, comfortable and empathetic towards others in their respective groups express a greater amount of eWOM, as well as be more likely to express voice, and to a lower extent exit.

This presents several implications for public service providers. Firstly, fostering community engagement within public eWOM platforms may lead to increased eWOM activity. As explored previously, an increased level of eWOM can serve as a useful accountability measure for public service providers as well as a gauge for potential voice and exit activity. Additionally, the creation of a healthy community within such platforms also may enable individuals to care for and interact with each other. This effect can be seen through physical communities observed by studies such as Ahmadox and Sasse (2016), where a greater sense of assimilation, interaction and community engagement amongst migrants translated into higher participation in voice activity and lower exit intentions.

This increased level of empathy and engagement on online platforms may embolden individuals to be more comfortable in voicing dissatisfaction when the quality of public services decreases, thereby increasing the likelihood of service quality preservation and reduced exits. Public providers may consider the conceptual user engagement framework developed by O'Brien and Toms (2008). Applications of challenge, feedback and motivation elements were found to be able to increase user engagement on technological platforms. Providers can introduce features such as a peer-based reward system for helpful engagement and milestones for contributions to encourage users on platforms to continually engage with one another. The increased engagement may result

in increased altruism and opinion seeking behaviour amongst the community, which may lead to greater eWOM and voice activity.

8 Limitations and future research directions

The study was conducted similarly with studies such as Dowding and John (2012) and Leck and Saunders (1992) to determine the relationship between determinants and exit and voice. However, several limitations should be noted to interpret the results of this thesis comprehensively and to inform future research.

Firstly, certain independent variables were measured through proxies as opposed to measures more frequently used in the literature. Tie strength for instance was measured in Haenlein and Kaplan (2012) and Luarn et al., (2015) through self-declared survey responses from respondents, but was measured in the study through the average number of followers, users following and forum posts from the respondent. Due to the general difficulty of measuring complex variables such as tie strength as well as the existence of comparable metrics, proxies were used instead of relying on self-declared responses which may not accurately reflect the true position of the respondent (Montgomery et al., 2000). Additionally, as the study involved measuring multiple determinants utilising factors in the form of survey questions, readily available proxy metrics were used to reduce the number of questions to encourage response rates. However, by adopting this approach, there are risks to the comparability of results between determinants as they are not on the same scale. Future research can consider the usage of proxies to measure other determinants through the collection of additional data and metrics on the respondents instead of relying on self-declared responses.

Secondly, there were notable outliers for several determinants. Determinants such as eWOM and tie strength had high standard deviation values, and analysis of the observations for each variable indicated several extreme outliers. For example, several TripAdvisor users had several hundreds of contributions per month, as compared to the mean of approximately two to three contributions per month. This posed a risk to the fit of the regression models used in analysing the determinants' relationship with exit and voice. To address this, variable modification techniques such as truncation (Diez et al., 2015) were applied. All regression models which employed this approach saw their adjusted R² improve, indicating better subsequent model fit. Future research should consider additional sampling considerations or building indices to better measure such variables and limit the effect of outliers on model fit.

Thirdly, similar with empirical studies utilising surveys as a data collection method, there is a risk of response bias in respondents' answers to questions. As explored in Rosenman et al., (2011), respondents may display positive or social desirability bias in

self-declared responses, especially when asked questions on traits such as altruism. This limitation was addressed by measuring such latent variables using factors from multiple questions, derived from similar studies. This may limit the effect of biases in the respondents' answers (Rosenman et al., 2011). Additionally, the study utilised a CFA to ensure that the individual factors were valid measures in relation to the latent variables.

Fourthly, the study considered only four determinants and their relationship on exit and voice separately. The study utilised separate multiple regressions controlling for the same demographical variables for hypothesis testing, similar to studies such as Dowding and John (2012). Alternative methods which consider all dependent variables in the same regression model have been noted in studies such as Ahmadov and Sasse (2016) and Devereux and Weisbrod (2006). Additionally, the study did not consider the moderating factor of loyalty, a consistent approach with studies such as Jachtenfuchs and Kasack (2017) and Morse and Keohane (2014). There is thus a risk that additional relationships between the determinants might not be observed due to this approach. Additionally, the determinants selected for the study was based on the highest effect-sized determinants from the meta-analysis by Ismagilova et al., (2020). This may constitute a limitation that determinants with a greater relationship with exit and voice were not explored in the study. Future research should expand upon the thesis to consider additional determinants and loyalty to more comprehensively consider the moderating factors between determinants on exit and voice.

9 Conclusion

The purpose of this study was to answer the research question: does eWOM and determinants of eWOM increase the likelihood of citizens expressing online voice and intention to exit public services. The study did so through an online survey of 343 TripAdvisor users who had visited publicly managed sites in Malaysia and the United Kingdom. This study has addressed the previously unexplored connections between the seemingly similar concepts of exit, voice and eWOM in an online context.

Some of the study's results were intuitive: most determinants of eWOM seem to have similar effects on an individual's propensity towards voice activity. The study found strong relationships between eWOM, satisfaction, altruism and opinion seeking with voice. This result corroborates the position of previous literature exploring the similar theoretical foundations of eWOM and voice (e.g., Van de Walle (2018) and Festinger (1957)) and of the empirical studies which considered similar determinants of eWOM and voice. This indicates that public service providers should pay close attention to eWOM on services within their jurisdiction as a precursor to voice activity, especially collective voice activity (Ahmadov & Sasse, 2016). The study also found that tie strength had a strong inverse relationship with exit activity, indicating that it may be an additional moderator of exit (in addition to Hirschman's loyalty). This insight may be of particular interest to public service providers seeking to mitigate the risk of exit activity within their communities. Interestingly, the study found positive relationships between altruism and opinion seeking and exit (albeit weaker in comparison to voice). This finding, while invalidating initial hypotheses, supported Hirschman's (1970) original thesis: that voice and exit are not necessary countering propositions, and may act in combination.

The study also attempted to quantify variables that were previously measured through self-declarations by respondents. With the increased proliferation of data and user engagement activity details on online platforms, there is a potential to gauge behaviour such as tie strength and eWOM propensity through action rather than words. This allows for public sector providers and other management to more accurately gauge human behaviour rather than rely on self-declared metrics.

Overall, the study's results can be seen to constitute evidence for one of the main theses of the study: that eWOM and voice are strongly correlated concepts. The study demonstrates similar relationships between many of the determinants of eWOM with that of voice. Additionally, the study indicates that there is evidence of a nuanced

relationship between eWOM and exit, like that between exit and voice. As such, the study serves as an exploratory model for future studies seeking to understand the relationship between exit, voice and eWOM. This is pertinent with the exponential increase in data and online platforms which blur the lines between the three activities citizens take in the face of dissatisfaction. This introduces an additional tool for public service providers in monitoring and managing dissatisfaction with their services, which will ultimately increase accountability and quality of public services.

10 References

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