



UNIVERSIDADE CATÓLICA PORTUGUESA

# Fundamentals of Customer Engagement

For Veterinarian Healthcare Providers in  
Portugal

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Católica Porto Business School

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Portugal

Final Work in Organisational Context presented to Universidade Católica  
Portuguesa in order to obtain the master's degree in Marketing

by

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# Abstract

This research provides a validated scale measuring an adjusted version of Kumar & Pansari's (2016) customer engagement (CE) scale. These adjustments to the original scale involved: (1) the splitting of the customer influence subscale into two separate ones, namely, customer influence with strong ties and customer influence with weak ties; and (2) the exclusion of the customer referral (incentivized) behavior dimension. The provided CE scale was developed and validated for veterinary healthcare providers operating in Portugal. This research adopts therefore the view of CE as a set of customer activities that individually contribute to firm performance along 4 dimensions: (i) customer purchases, (ii) customer knowledge, (iii) customer influence with strong ties, and (iv) customer influence with weak ties.

The adjusted CE scale test and validation relied on a sample of 296 customers of a particular veterinary healthcare group, OneVet Group, currently the market leader in Portugal. Complementary to the validation survey, respondents' individual sociodemographic and purchasing information was also retrieved from the firm's database.

The major findings were that the resulting validated scale with 16 items is highly reliable ( $\alpha=.942$ ) and has very good sampling adequacy values ( $KMO=.933$ ;  $p<.000$ ), explaining 84% of the total data variation. The results were also cluster analysed on respondents' CE subscales' scores which resulted on 3 major distinct CE profiles: (i) with high tendency to perform all types of CE activities, (ii) with low tendency to perform any type of CE activities, and (iii) with high tendency to perform purchases, but not the three remaining CE activities. Additionally, the clusters' average recency, frequency, monetary value (RFM) scores and variances were compared, however, no significant evidence was found regarding the

relationship between CE behaviours and RFM indices, i.e. customers' past purchases.

This research provides therefore a reliable and significant scale that fits the particularities of veterinary healthcare providers in Portugal, enabling them to accurately assess the connectedness among customers and with firms. Further, the present study also suggests several options for customer segmentation analyses in CE terms so that firms are able to identify customers' profiles and develop adapted strategies to maximise their contribution to firm performance.

Keywords: Customer engagement scale, Customer engagement clustering, RFM analysis.

Number of words: 7794

# Resumo

O presente estudo faculta uma versão ajustada e validada da escala de mensuração de engajamento do cliente (EC) sugerida por Kumar & Pansari (2016). Os ajustes à escala original envolvem: (1) a divisão da subescala da influência do cliente em duas separadas, nomeadamente, a influência do cliente com laços fortes e a influência do cliente com laços fracos; e (2) a exclusão da dimensão do comportamento de referências (incentivado) do cliente. A escala de EC providenciada foi desenvolvida e validada para os prestadores de cuidados de saúde veterinários que operam em Portugal. Esta investigação adota, portanto, a perspetiva segundo a qual o constructo de EC compreende um conjunto de atividades realizadas pelos clientes e que contribuem individualmente para a performance das empresas através de 4 dimensões: (i) compras do cliente, (ii) conhecimento do cliente, (iii) influência do cliente com laços fortes, e (iv) influência do cliente com laços fracos.

O teste e validação à escala EC ajustada recorreu a uma amostra de 296 clientes de um grupo particular de cuidados de saúde veterinários, OneVet Group, atual líder do mercado em Portugal. Em complemento ao inquérito de validação, alguns dados sociodemográficos e de compras individuais dos inquiridos foram também recolhidos com recurso à base de dados da empresa.

As principais conclusões indicam que a resultante escala validada com 16 itens é altamente fiável ( $\alpha=.942$ ) e tem valores de adequação de amostragem muito bons ( $KMO=.933$ ;  $p<.000$ ), explicando 84% da variação total dos dados. Adicionalmente, foi também desenvolvida uma análise de clusters segundo as pontuações de EC dos participantes, apontando para a existência de 3 grandes perfis de EC distintos: (i) com alta tendência para realizar todos os tipos de atividades de EC, (ii) com baixa tendência para realizar qualquer tipo de atividades

de EC, e (iii) com alta tendência para realizar compras, mas não as três restantes atividades de EC. Além disso, os valores médios e as variâncias dos índices de valor de recência, frequência e monetário (RFM) foram ultimamente comparados, contudo, não foram encontradas evidências significativas relativamente à relação entre EC e os índices de RFM, ou seja, as compras passadas dos clientes.

Esta investigação providencia, portanto, uma escala fiável e significativa que se ajusta às particularidades dos prestadores de cuidados de saúde veterinários em Portugal, permitindo-lhes avaliar com precisão a conexão entre os clientes e com as empresas. Além disso, sugere várias opções de análises de segmentação no âmbito dos comportamentos da tipologia EC, permitindo que as empresas possam identificar os perfis dos clientes e desenvolverem estratégias adaptadas para maximizar a sua contribuição para o desempenho da empresa.

Palavras-chave: Escala de engajamento do cliente, Segmentação segundo engajamento do cliente, Análise RFM.

Número de Palavras: 7794



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# Introduction

Most marketers recognise that firms must engage with customers beyond purchases. In addition, statistical evidence shows how strategies based on prioritising customers and their engagement leverage firm performance (e.g. Forbes, 2019). Nevertheless, the customer engagement (CE) concept remains poorly studied, especially in particular industries and markets other than the US. Individual industries and markets comprise specific particularities in terms of customer activities related to the CE concept, however, they are still not theoretically addressed, and firms still lack tools that empower them to empirically explore this concept.

This research aims to propose a theoretical framework of CE and a validated measurement scale for veterinary healthcare providers operating in Portugal. Additionally, it also presents a clustering analysis that aims to identify groups of customers who tend to enrol with distinctive types of CE behaviour. Further, these clusters' average and variances of recency, frequency and monetary (RFM) scores were compared to examine whether tendencies to perform different CE behaviour translate into different customer past value.

This thesis comprises 5 chapters. The "Literature Review" chapter addresses relevant literature concerning the CE construct, including the developments, of customer management, CE conceptualization, antecedents, and dimensions. Additionally, this chapter also suggests a theoretical CE framework for veterinary healthcare providers in Portugal and examines the present CE scales in the existing literature. The "Research Methodology and Scale Development" chapter describes the procedures of scale development, pre-testing, (including the linguistic analysis, reliability analysis and confirmatory factor analysis), and the implementation of the resulting scale in a large sample. The "Data Analysis"

chapter presents the results of the reliability analysis, confirmatory factor analysis and cluster RFM analysis, all applied to the larger scale sample. The "Discussion" chapter organizes a summary and a critical appraisal of the main results. Finally, in "Conclusions" chapter, the author discusses theoretical and managerial contributions of the study, also naming some underlying limitations and suggestions for future research.

# Chapter 1

## Literature Review

In the marketing discipline, customers are often seen as the main driver of a firm's profit growth. However, due to intensifying competition, technological developments and social media activities, firms cannot simply try to sell the right products and services to the right costumers. Firms should seek to also engage with customers in various ways, such as through referrals, feedback and social media interactions (Kumar & Pansari, 2016; Kumar, 2013).

A paper by Morgan on Forbes (2019) revealed some evidence underlining the importance of customer prioritisation and customer engagement for firms, as follows:

- Customer-centric<sup>1</sup> firms are 60% more profitable than firms that are not;
- 90% of global executives using data analytics report that they have improved their ability to deliver a great customer's experience;
- Customers are likely to spend 140% more after a positive purchase experience than customers who report negative experiences;
- Firms that provide an emotional connection<sup>2</sup> with customers outperform their competitors' sales growth by 85%;
- Customers pass brand positive experience word-of-mouth to an average of 9 people, but they brand negative experience word-of-mouth to 16 people in average, more than double;
- 77% of consumers have more favourable opinions about brands they seek and apply customer feedback.

<sup>1</sup> Customer centricism- "Ideology is to serve a portfolio of customers and business is based on relationships", where firms are "extremely focused on customer relationships and customer profitability" (Kumar, 2008).

<sup>2</sup> Emotional connection- positive psychological state driven by positive cognitive and affective evaluations of consumption activities (Bagozzi et al. 1999)

This chapter aims to summarise the existing literature on the Customer Engagement (CE) construct, antecedents, dimensions, and measurement scales. It also proposes a theoretical framework of CE for veterinary healthcare providers.

## 1.1. The Developments of Customer Management

The customer management approach development over the years is notorious as firms have emerged at different phases of marketing focuses. These developments can be split into three time-bounds: until the 1990s, between the late 1990s and early 2000s, and post-early 2000s (Pansari & Kumar, 2017).

Until the 1990s, firms typically focused on customer transactions (Morgan and Hunt 1994), adopting a short-term oriented approach with a strong focus on performance (Dwyer et al., 1987). As firms aimed at increasing their profitability, the metrics generally used corresponded to past customer value, share-of-wallet, recency, frequency and monetary value (RFM) (Pansari & Kumar, 2017).

From the late 1990s until the early 2000s, the firms' focus changed from a transactional marketing to a relational marketing approach. During this period, the main organisational objectives were to build positive long-term relationships between firms and customers and to promote customer satisfaction and loyalty by offering higher quality products and services (Morgan & Hunt 1994; Berry 1995; Homburg & Geirging, 2001). To this end, firms rather focused on promoting costumers' trust and commitment (Morgan & Hunt, 1994).

From the early 2000s to the present day, businesses have emerged in an environment strongly marked by developments in digital technology, demanding customer needs and improved business technological capabilities (Pansari & Kumar, 2017). Academia and managers have agreed that organisations cannot

focus solely on customer loyalty and profitable satisfaction. Instead, they must focus on nurturing sustainable competitive advantages and satisfying levels of differentiation. The organisational focus has evolved from relationship marketing to the aspiration to engage with customers in every possible way- the CE stage. To achieve these goals, firms should focus on supporting customer satisfaction and positive emotions (Kumar, 2008; Pansari & Kumar, 2017).

## 1.2. Conceptualizing Customer Engagement

The concept of engagement has been widely discussed with different meanings in numerous contexts. For example, it has been used in the disciplines of sociology, political science, psychology and organisational behaviour (Brodie et al., 2011). In the business world, engagement is typically understood as a contract. In the marketing field, however, engagement is discussed as a customer's activity towards the firm and is associated with CE (Pansari & Kumar, 2017).

The concept of CE also does not support an agreed conceptualisation (Pansari & Kumar, 2017). Practitioners and academics often advocate different perspectives (Vivek et al., 2017). For example, Sedley (2010), who took a practical, organisational approach, defines CE as activities that facilitate "repeat interactions that strengthen the emotional, psychological or physical investment a customer has in a brand". Wagner et al. (2006), who took a more academic and theoretical approach, defines CE as the "intensity of customer participation with both representatives of the organization and with other customers in a collaborative knowledge exchange process".

The lack of consensus regarding the conceptualisation of CE highlights its multidimensionality (Pansari & Kumar, 2017). CE comprises psychological (cognitive and affective) and behavioural dimensions (Brodie et al., 2011). The cognitive and affective elements of CE include customers' experiences and feelings. Based on experiences with firms' offerings and activities, customers build connections with organisations. The behavioural elements of CE include customers' participation with and without purchases. Through intense participation, customers (potential and current) build relationships based on experience with the brand (Vivek et al., 2012).

Conceptualisations and measurements of CE can be categorised into four perspectives as found in the literature: (i) intrinsic motivations, (ii) psychological mind states, (iii) customer activities, or (iv) contributions to firms (Harmeling et al., 2016; de Oliveira Santini, et al. 2020). However, the first category neglects that customers may be extrinsically motivated (e.g. they engage with conversations on social media about a brand because they want to acquire recognition and likes) (de Oliveira Santini et al., 2020). Moreover, according to some other authors (e.g. Bemmaor, 1995; Manski, 1990), psychological mind states, such as intentions, are imperfect predictors of consumer behaviour as they tend, for example, to overestimate actual purchases. This suggests that the second approach out of the four referred to above is flawed to measure constructs that add value to firms' performance. Instead, an accurate CE approach should comprise customer activities as behaviours that influence and contribute to firm performance (de Oliveira Santini et al., 2020). Therefore, due to this reasoning, the present study will focus next on the third and fourth perspectives only.

## 1.3. Customer Engagement Antecedents

According to Pansari & Kumar (2017), complete and efficient business strategies require firms to understand the CE antecedents. The CE framework provided by these authors begins with marketing activities such as advertising and promotions that raise awareness of the firm's goods and services. After evaluating the offerings and their needs, consumers eventually proceed with a purchase, having therefore a product or service experience. The perception built on that experience influences customer perception of satisfaction and the level of positivity of their emotions. When customers turn satisfied and have positive emotions toward a brand/firm, they progress into a CE stage.

The development of satisfaction and positive emotions requires the formation of a relationship between a customer and a firm. For this, the intrinsic characteristics of trust and commitment must emerge (*ibid*). The relevance of customer trust and commitment for forming positive customer-firm relationships has been well established by existing research on Relationship Marketing (e.g. trust-commitment theory of relationship marketing developed by Morgan & Hunt (1994)). Therefore, the present research does not offer a proposition related to these variables.

### 1.3.1 Customer Satisfaction

According to the expectation-disconfirmation theory, customers are satisfied when they perceive that performance after consumption exceeds their pre-consumption expectations (positive disconfirmation). On the other hand, if the

perceived performance undoes the consumer's expectations, customers turn dissatisfied (negative disconfirmation) (Lewin, 1938; Oliver, 1980).

Customer satisfaction involves customer responses that may be cognitive, affective, emotional, social and physical towards firms, products and services (Verhoef et al., 2009). Satisfied customers tend to adopt positive behavioural responses toward the firm (Kumar et al., 2014), predominantly customer purchases (Pansari & Kumar, 2017), which positively influence business outcomes (Vavra, 1997). Existing research suggests that customer satisfaction upholds a measurable positive influence on purchase intentions (Bolton & Drew, 1991), customer retention (Mittal and Kamakura 2001), and financial performance (Anderson et al., 1994; Keiningham et al., 1999).

### 1.3.2 Customer Positive Emotions

Consumer emotions represent a psychological state driven by cognitive and affective evaluations of consumption activities (Bagozzi et al., 1999) and might be classified as positive, neutral or negative (Watson et al., 1988). Some positive emotions correspond to enthusiasm, pleasantness and freedom of expression that create positive expectations (Pansari & Kumar, 2017).

Compared with neutral and negative emotions, positive emotions stimulate more positive evaluations on products and services (Isen et al., 1982), triggering more positive actions toward the providing firm/brand. Thus, positive emotions precursor CE behaviour (Pansari & Kumar, 2017) as when joining email programs and following social media accounts (Kumar et al., 2014), discussing the brand online and offline (Fedorikhin et al., 2008), providing feedback (Nyer, 1997), and making referrals (Baumeister et al., 2007). Pansari & Kumar (2017) suggest that

the behaviour induced by positive emotions is mainly associated with indirect contribution such as feedback and word-of-mouth.

## 1.4. Customer Engagement Dimensions

Firms' performance improvement requires consideration of all CE activities (Brodie et al., 2011). When firms fail to do so, there can be an incomplete assessment of customer's value (Kumar et al., 2010), leading to an incorrect allocation of resources (Verhoef et al., 2009). Moreover, this misapprehension might also lead to false estimates and assessments of returns to marketing actions (Rust et al., 2004), because CE affects marketing metrics (Gupta et al., 2004). Also, it is imperative to develop and implement strategies focusing on CE (Brodie et al., 2011), as they are associated to sales growth (Neff, 2007), superior competitive advantage (Sedley, 2008) and profitability (Voyles, 2007).

The lack of consensus on engagement and CE conceptualization is also reflected in the distinctive existing CE conceptual models. However, regardless of the inconsistencies, most studies agree that firms allocate resources for promoting CE beyond purchasing (Pansari & Kumar, 2017), that is adopting a wider definition of CE, rather than just customers' purchasing activity.

Pansari & Kumar (2017) define the CE "as the mechanics of a customer's value addition to the firm, either through direct or/and indirect contributions". Direct contributions (with direct impact on firm performance) refer to customer purchases, and indirect contributions (with indirect impact on firm performance) correspond to customer incentivized referrals, conversations about the brand, and providing feedback/suggestions to the firm. The authors also suggest that CE dimensions are generated by customers' trust, commitment, satisfaction and

positive emotions towards the firm/brand. Also, customers' CE are influenced by contextual moderators, namely the industry type, the firm type, the product involvement, the product value, and the product convenience.

Van Doorn et al. (2010) define CE as "customers' behavioural manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers such as WOM activities, recommendations, helping other customers, blogging and writing reviews". The authors also provide a conceptual model that comprises customer-based antecedents (e.g. customer satisfaction, trust), firm-based antecedents (brand characteristics, firm reputation) and context-based antecedents (e.g. competitive factors and social factors). The framework also includes CE consequences regarding the customer (e.g., cognitive and attitudinal responses), the firm (e.g., financial, reputation, product), and others (e.g., consumer welfare, economic surplus).

#### 1.4.1 Customer Purchasing Behaviour

Customer purchasing behaviour comprises purchases, repurchases and additional purchases through up-buying and cross-buying (Pansari & Kumar, 2017). One possible metric for measuring this construct is known as the Customer Lifetime Value (CLV) (Kumar et al, 2010). It corresponds to "the present value for future profits generated from a customer over his or her life of business with the firm" (Pansari & Kumar, 2017). CLV represents customers' profitability during their lifetime with the firm (Kumar et al., 2010). Firms focus here is to maximise customer profitability in the long term (Pansari & Kumar, 2017).

Although considering customer purchases alone is insufficient, it upholds several benefits for firms (Kumar et al., 2010). Customer purchases raise

profitability, revenues and market share, directly influencing firm performance (Pansari & Kumar, 2017). Gupta et al. (2004) proved that CLV positively influences firm value. Additionally, the focus on customers purchases helps marketers to develop appropriate marketing activities with the vision of increasing future profitability (Kumar, 2008), accurately evaluating the long-term value of marketing efforts (Kumar et al., 2010). It also supports the assessment of individual customer profitability, provides structured means for cash flow forecasting, and provision diagnosis on the future health of firms (Kumar et al., 2010). Moreover, customer purchases are associated with efficient resource allocation (Venkatesan et al., 2004). For example, Kumar (2008) proved that at IBM, by reallocating resources based on customer purchases (while maintaining the level of marketing investment), firms' revenues increase by \$20 million.

#### 1.4.2 Customer Influencing Behaviour

Customer influencer behaviour is defined as the "customer's behaviour to influence other customers, that is increasing acquisition, retention, and share of wallet through word of mouth (WOM) of the existing customer as well prospects" (Kumar et al., 2010). WOM corresponds to spontaneous propagations of information that can be positive and/or negative (Hennig-Thurau et al., 2004) and is typically viewed as a promotional tool (Bone, 1995). According to Anderson (1998), positive WOM consists of "relating pleasant, vivid, or novel experiences; recommendations to others; and even conspicuous display". Positive WOM is related to customer engagement and contributes positively to firm performance (Kumar et al., 2010) and firm reputation (Aggarwal et al., 2012). De Matos & Rossi (2008) propose that satisfied and committed customers tend to have positive

WOM performance. Baker et al. (2016) has also proved that emotions (positive, neutral and negative) increase the retransmit of WOM intentions.

One metric sometimes used to measure customer influence is the customer influence value (CIV). Customers contribute with CIV when they voluntarily generate WOM about the firm/brand/products. CIV increases (decreases) when customers contribute with positive (negative) WOM in their network and convince (dissuade) others to become customers and/or to make additional purchases (Kumar et al., 2010).

The interest in understanding WOM, which generates customer influence, has risen due to the decline in traditional marketing efficiency (Trusov et al., 2009). WOM and customer influence strategies are considered highly effective in terms of product diffusion and adoption (Van den Bulte et al., 2007), acquiring new customers and adding more long-term value than traditional communication (Trusov et al., 2009; Villanueva et al., 2008). Therefore, WOM and customer influence strategies stimulate more firm's sales and marketing efforts than traditional ones (Keiningham et al., 2007). A comparative study on the effects of WOM marketing versus traditional marketing substantiated the ability of WOM strategies to overcome customer resistance, estimating that "each outbound referral sent out is worth approximately \$.75 per year in increased advertising revenue" for networking sites (Trusov et al., 2009). Additionally, WOM and customer influence strategies involve low costs and fast delivery (especially over the Internet). Therefore, many firms have facilitated environments that ease WOM and customer influence, for instance, by promoting online brand communities where customers voluntarily taken on customer service and provide support to others (ibid).

Marketers' attention has also been drawn to the customer influence channel of social media (Gupta et al., 2018). As customers feel the need for information to help support their purchasing decisions, they often turn to social media before

purchasing products and services (Dessart et al., 2016). The sense of need for information is associated with customers aiming to reduce the uncertainty and risk inherent in their purchases, which leads them to search, compare and evaluate information (Chiang et al., 2017). Social media communication can be particularly advantageous for firms as the resulting customer influence can extend beyond a customer's close social network, creating a ripple effect across a broad group of customers (Hogan et al., 2003). Consequently, it can significantly affect other behaviours through (a) increased persuasion and conversion of prospects into customers, (b) continued product usage by customers (Katz & Shapiro, 1985), and (c) changes in their share of wallet (Kumar et al., 2010).

According to de Bruyn & Lilien (2008), trust plays a major role on customers' decisions and may also explain differences on the influence of distinctive personal sources when performing WOM. Trust is directly correlated with social strength, defined as "the strength of an interpersonal ties... a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services that characterize the tie" (Granovetter, 1973). "Strong-ties sources are perceived as more credible and trustworthy than weak-ties" (de Bruyn & Lilien, 2008), being more likely to reduce more potential risks and to have a major positive effect on individual brand purchase intentions (ibid). However, their impact on WOM recipients' intention to retransmit WOM is found to be modest (Baker et al. 2016). In contrast, according to the 'strength of weak ties' theory (Granovetter, 1973), weak social ties tend to be highly effective in disseminating information, despite suffering from low trust. Overall, tie strength has been found to be a major explainer of WOM communications' influence and findings show that it has a particular prominent influence throughout the awareness stage of customers' purchasing processes (de Bruyn & Lilien, 2008).

### 1.4.3 Customer Knowledge Behaviour

Customers contribute to the firm's customer knowledge when they provide product feedback/suggestions to the firms (Kumar, 2013; Kumar et al., 2010). Customer knowledge is critical as it can confer ideas for product, service, or process innovations and improvements (Kumar & Bhagwat, 2010) and contributes to knowledge development (Kumar & Pansari, 2017). One metric reported to have been used for this dimension is the Customer Knowledge Value (CKV) (Kumar et al., 2010).

When customers participate and interact with the firm and employees in service creation and delivery processes, their perceptions of the service quality and their behavioural outcomes (e.g. service usage and WOM) are enhanced. This way, customer participation and interaction in these processes also improve firms' outcomes, namely efficiency, revenues and profits (Bolton et al. 2009). Additionally, customer knowledge also opens doors for lower costs and successfully introduces new products to the market (Athaide et al., 2003; Chandy et al., 1998; Henard et al., 2001). Customer inputs enable firms to better understand their preferences (Joshi & Sharma, 2004), which is critical to the success of new products (Cooper et al., 2007). Customer preferences knowledge ground firms' ability to develop personalised marketing at the individual level and send relevant content to selective audiences (Pansari & Kumar, 2017). Personalisation is crucial as it "fundamentally appeals to people to be dealt in a one-on-one basis" (Barlow, 1992), fostering customer return on investment (Pansari & Kumar, 2017). Further, since new products account for a 40% to 75% failure rate (Stevens & Burley, 2003) and development costs are significantly high, minimising the failure rate is critical (Kumar et al., 2010). Customer knowledge indirectly influences firm performance and value network system (Brodie et al., 2011; Vargo et al., 2008; Pansari & Kumar, 2017). Several firms have created

environments that foster co-creation with consumers (Hoyer et al., 2010). For example, Ben and Jerry entered a sponsored competition that encourages customers to contribute new ideas for "the best new flavour" (Kumar et al., 2010). Also, highly engaged iPhone users have contributed with suggestions that increased the product usefulness, usability and utility, expanding Apple customers network (Van Doorn et al., 2010).

#### 1.4.4 Customer Referral (Incentivized) Behaviour

Customer referral behaviour is associated with the acquisition of new customers through formal referral programmes that firms initiate (Kumar et al., 2010). These programmes enable customers to gain financially and simultaneously help the firm as well (Van Doorn et al., 2010). The concept of referral behaviour is considerably similar to WOM behaviour, but the underlining difference is that referral behaviour comprises monetary incentives, promoting extrinsic motivation, whereas WOM behaviour is performed by customer own willingness, being intrinsic motivated (Kumar et al., 2010).

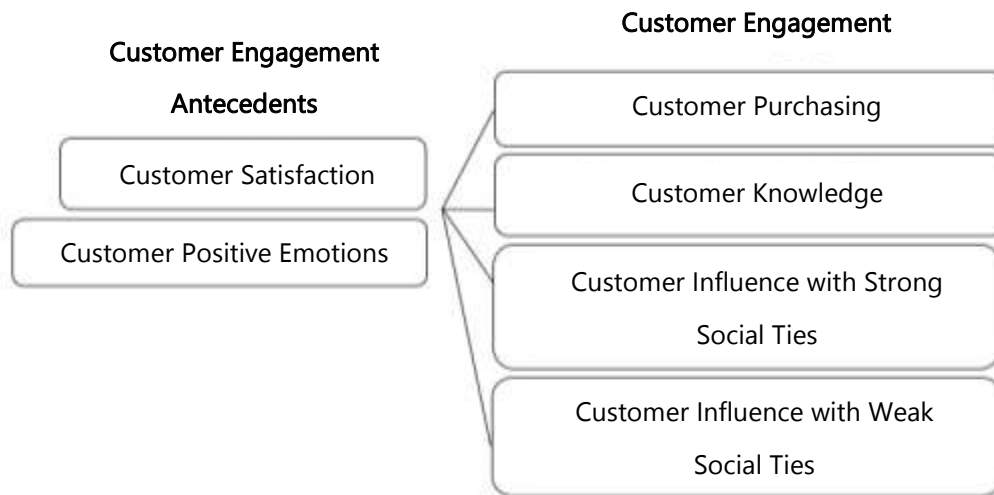
The advantages of referrals are also substantially similar to the WOM ones. Referred customers reveal higher profitability than non-referred ones (Schmitt et al., 2011) and enable firms overcoming consumers resistance to traditional marketing channels (Kumar et al., 2010; Kumar, 2013).

## 1.5. Proposed Theoretical Framework of Customer Engagement for Veterinary Healthcare Providers in Portugal

The present study proposes a theoretical framework that comprises two stages, as presented in Figure 1. Based on the key theoretical components, (1) the customer engagement antecedents stage considers customer satisfaction and positive emotions. Moreover, the (2) customer engagement stage considers CE as a second-order construct comprising the following dimensions: customer purchases, customer knowledge, customer influence with strong social ties, and customer influence with weak social ties.

Customers incentivized referrals, theoretically stressed as relevant, are not overlooked as a non-important dimension. However, it is believed that these are not a common practice among the industry under study. Hence, this dimension was excluded from the provided CE theoretical model.

Further, the provided framework adds strength tie as the disjointing factor of customer activities, separating the customer influence with strong ties dimension from the customer influence with weak ties dimension. Indeed, these two types of activities have different implication in terms of firm performance. On one hand, customer influence with strong ties elevates customer purchases, that is, direct contribution. On the other hand, customer influence with weak ties leads to the reinforcement of WOM retransmission, a type of indirect contribution.



**Figure 1:** Proposed theoretical framework of customer engagement for veterinary healthcare providers

## 1.6. Proposed Customer Engagement Measurement Scales

Engagement creates deeper, more meaningful and longer-lasting interactions between firms and customers (Van Doorn et al., 2010; Kumar et al., 2010). Executives have acknowledged the importance of interacting with customers through engagement (EIU, 2007). However, the lack of a unified basis makes it difficult to understand how to measure it (Paruthi & Kaur, 2017). Table 1 summarizes the literature’s provided scales on customer engagement with the context, scale dimensions and place of testing.

Context	Authors	Definition	Number of Items and Dimensions	Place of Testing
Customer engagement (as contribution for firms)	Kumar et al. (2019) Pansari & Kumar (2017)	Customer engagement is driven by trust, commitment, satisfaction, and positive emotions.	Theoretical Customer engagement dimensions comprise customer purchases, social influence, referrals, and knowledge.	Not tested
Brand engagement	Sprott et al. (2009)	A generalised tendency to include brands as a part of the self-concept.	8 items for 1 dimension of Brand engagement in self-concept ( $\alpha=.94$ )	United States
Customer engagement	Kumar & Pansari (2016)	Levels of connectedness among customers and between customers and the firm.	16 items for 4 dimensions of purchases (CLV), referrals (CRV), influence (CIV) and knowledge (CKV) ( $\alpha=.879$ )	United States
Customer engagement marketing	Harmeling et al. (2016)	Firm's deliberate effort to motivate, empower, and measure customer contributions to marketing functions.	7 items for 3 dimensions of experiential engagement initiative, self-transformation, and customer engagement ( $\alpha=.8$ )	United States
Consumer-brand engagement in social media	Hollebeek et al. (2014)	A consumer's positively valenced brand-related cognitive, emotional, and behavioural activity during or related to focal consumer-brand interactions	10 items for 3 dimensions of cognitive processing, affection, and activation ( $\alpha=.823$ )	Majority of participants were European descendent.

Customer Engagement	Vivek et al. (2014)	The level of the customer's (or potential customer's) interactions and connections with the brand or firm's offerings or activities, often involving others in the social network created around the brand, offering or activity	10 items for 3 dimensions of Consumer attention, enthused participation and social connection Composite reliabilities=.83-.86	United States
Customer engagement in brand online communities	Dessart et al. (2016)	Customer engagement is a multi-dimensional concept that may have different foci (e.g., brand and brand community)	22 items for 7 dimensions of enthusiasm, enjoyment, attention, absorption, sharing, learning, and endorsing ( $\alpha=.88$ )	Majority of participants were from UK.
Customer brand engagement for phone service providers	Leckie et al. (2016)	A consumer's positively valanced brand-related cognitive, emotional, and behavioural activity during or related to focal consumer-brand interactions. (Adopted by Hollebeek et al. (2014)).	28 items for 7 dimensions of customer involvement, participation, self-expressive brand, cognitive processing, affection, activation, brand loyalty (CR $\geq .60$ )	Australia

**Table 1:** The context, authors, definition of customer engagement, number of items and dimensions and place of testing of the existing customer engagement scales

As evidenced in Table 1, none of the scales addresses the CE dimensions proposed in this research for veterinarian healthcare providers. Also, except for Hollebeek et al. (2014), Dessart et al. (2016), and Leckie et al. (2016) that are focused on particular contexts and industries, the other scales were developed for a general industry context. Also, from the generalized studies, only Vivek et al. (2014) have empirically tested the suggested scale, namely for a particular brand (Apple products) and retail shopping context. Brodie et al. (2011) have recognised that providing a universal engagement scale applicable for all brand and product categories has the disadvantage of being too generic and not capable of fully capturing the specific experiential qualities. This seems to be the case for the veterinarian healthcare industry.

Moreover, none of the referred scales was tested in Portugal. Indeed, CE is formalised and measured only in the United States (Gupta et al., 2018). The existing research stresses the importance of understanding better cultural factors in CE (ibid). Cultural backgrounds affect expectations, perceptions, choices, intentions, behaviour (Hofstede, 1991), tastes and preferences, and emotional responses to a stimulus (Russell and Pratt, 1980). Kumar & Pansari (2016) have proved that these factors impact customer lifetime value, which suggests that they should be considered when designing CE frameworks and scales (Gupta et al., 2018).

With the purpose of filling up the research gap identified above, the present study proposes a particular CE measurement scale and its validation for the veterinary healthcare industry operating in the Portuguese market.

# Chapter 2

## Research Methodology and Scale Development

The present study suggests a framework on CE for the veterinarian healthcare industry as this construct remains underexplored for this context. The elaboration of this framework resorted to interviews with OneVet's marketers which provided important information regarding the customers' activities that contribute to customer engagement value and insights on the current practices of the firm and its industry.

This chapter aims to provide a comprehensive measure of CE for the industry under research considering the constructs identified in the proposed framework. To do so, the used methodology followed the further steps: scale development (item generation), pre-test (item purification), and confirmatory scale analysis (scale validation); as suggested by Churchill (1979).

### 2.1. Scale Development

The survey items to measure Customer Purchasing, Customer Knowledge and Customer Influence were adapted and refined from Kumar & Pansari (2016). As shown in the previous chapter, this scale is the one that better serves the study as it follows the same perspective on CE and considers common dimensions.

Kumar & Pansari (2016) developed an extensive set of items with the help of literature review and feedback from experts and executives. The proposed customer purchase scale measures "the attitudes and behaviours of the

customers toward a customer's current and future purchase of the brand". The customer knowledge scale captures "the extent to which a firm facilitates its customers to share feedback on its products and services with the firm and among customers, and to participate actively in designing products and services". Finally, the customer influence scale analyses "whether customers discuss this brand on various platforms". The items are to be measured on a five-point Likert scale (1= "strongly disagree"... 5= "strongly agree"). The Cronbach's alpha coefficients for all three dimensions ranged between .80-.90 and the overall Cronbach's alpha for the CE measure was .79. This scale was refined and tested on customers of a mobile service provider in a US city.

Customer influence items were also added designators for weak and strong social relationships suggested by de Bruyn & Lilien (2008) ( $p < 0.05$ ). Their research identified the means of tie strength for each designator by using the Frezen and Davis's (1990) social strength scale ( $\alpha = 0.93$ ). De Bruyn & Lilien study was tested in U.S. with no focus on any particular industry in the study.

Moreover, some items were adapted to the context of the study. For example, references to products were modified to services; and "owning the products" was changed to "enjoying the services". Once repetitive items were generated, item collection was interrupted (Griffin & Hauser, 1993). The initial scale comprehended 36 items whose categorization was validated by OneVet's marketers.

## 2.2. Pre-test

### 2.2.1 Linguistic Analysis

The Kumar & Pansari (2016) scale and the designators of strength ties suggested by de Bruyn & Lilien (2008) were all originally written in English. As suggested by Harzing & Maznevski (2002), the scale was translated to Portuguese, while “preserving and maintaining the meaning of the original”. The translation was conducted by the author of this research (a native Portuguese speaker) by means of successive back translating checks.

The 36-item questionnaire was firstly piloted to guarantee the quality of the translation, comprehension and logic. The questionnaire administration was conducted in-person to better understand individuals’ doubts, perceptions, and overall behaviour. The test pool was composed of 20 individuals who were customers of veterinarian healthcare providers in Portugal. 12 of the participants were female (60%) and 8 were male (40%). Their ages ranged between 21 and 63 years.

On the basis of feedback provided by the respondents, some of the items were reworded to make them more personalized. For instance, “I am part of this brand and mention in my conversations” was reworded to “I feel like I am part of this brand and mention it in my conversations”. Duplicate items were eliminated, reducing 36 items to 20.

## 2.2.2 Reliability Analysis

Following Churchill (1979) suggestions, scale purification requires an initial reliability and internal consistency examination. In this study, construct reliability was assessed through an analysis on the Cronbach's alpha coefficients. To do so, a pilot test was conducted by analysing the responses to the 20-item survey. 87 responses were collected from 47 individuals who identified as females (54,02%), 38 as males (43,68%), and 2 individuals as "other" (2,30%). The average age is 47,14 years (44,15 for females, 51,45 for the males, and 35,5 for the "other" sample).

Based on the results, to improve construct reliability a total of 3 items were removed. After removing these items, the registered Cronbach's alphas for all the subscales were all greater than .70, indicating high reliability (Hair et al. 2013). Also, the overall scale reliability was .947. The Table 2 summarizes the resulting reliability statistics.

Constructs	Initial items	Items removed	Items maintained	Cronbach's $\alpha$
Customer Purchases	5	1	4	.866
Customer Knowledge	4	0	4	.923
Customer Influence with strong ties	5	1	4	.879
Customer Influence with weak ties	6	1	5	.910

**Table 2:** List of initial, removed and maintained items and Cronbach's alpha per dimension

### 2.2.3 Confirmatory Factor Analysis

A confirmatory factor analysis was also conducted on the 17-item scale by using a principal component analysis, Oblimin rotation, fixed number of factors set to 4, and with a minimum factor loading criteria set to .50. The rotation selection followed Kumar & Pansari (2016) who concluded that component correlations existed, albeit low to moderate. Similar results were obtained using the Promax rotation.

The Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) (KMO = .905) shows that the sample is appropriate for factor analysis with "very good" MSA values (Pereira et al., 2020). The results of the Bartlett's test of sphericity were significant ( $\chi^2$  (n=87) = 1220,363; df=120; p<.001), suggesting the factor analysis is valid for the components.

All communalities were greater than .50, ensuring an acceptable level of explanation. Furthermore, the 4-factor model presents a factor solution that explains 79.7% of the total variation in the data.

1 item was removed from further analysis as it loaded on a different factor than its underlying factor.

Factor 1 includes the items CI:ST2 to CI:ST5, referring to customer influence with strong social ties. Factor 2 includes the items CK1 to CK4, referring to customer knowledge. Factor 3 includes the items CP1 to CP5, referring to customer purchase. Factor 4 includes the items CI:WT2 to CI:WT5, referring to customer influence with weak ties. The factor loadings are presented in Table 3.

The results of the factor loadings give evidence that the component of customer influence with strong ties loads on the opposite factor of the customer influence with weak ties' component, substantiating that these should be disjointed.

Items	<i>Factor Loadings</i>			
	1	2	3	4
<b>Customer Purchases</b>				
CP1			.926	
CP2			.682	
CP3			.749	
CP5			.766	
<b>Customer Knowledge</b>				
CK1		-.705		
CK2		-.896		
CK3		-.899		
CK4		-.898		
<b>Customer Influence with Strong Ties</b>				
CI:ST2	.605			
CI:ST3	.763			
CI:ST4	.532			
CI:ST5	.520			
<b>Customer Influence with Weak Ties</b>				
CI:WT2				-.655
CI:WT3				-.704
CI:WT4				-.506
CI:WT5				-.967

**Table 3:** List of factor loadings resulting from the confirmatory factor analysis on the pre-test sample

### 2.3. Measuring Customer Engagement on a Larger Scale

The refined set of items was then administered through an online survey to OneVet’s customers across 19 brand unities between January and February 2022. Participants were identified after purchasing services and agreeing on the General Data Protection Regulation in force in Portugal and contacted via OneVet’s marketing email. Respondents were encouraged to answer an online survey in

exchange for becoming eligible to win a monetary prize. Customers were informed of some issues such as research goal, terms of privacy and confidentiality, etc. The questionnaire contained 5 pages with a total of 16 items which were randomly ordered. Responses were only submitted when participants answered all the questions.

Beside the CE scale items, participants were additionally asked about their age. More information on customer demographic and purchases was retrieved and analysed from OneVet's customer database.

### 2.3.1. Sample

A total of 818 individuals were contacted, however, only 209 responded to the survey (response rate= 25,55%). Regarding participants' gender, 55,50% of the sample is composed of females, 43,06% is male, and 1,44% as "other" gendered. The average age was about 44,14 years old. Finally, 10,53% customers were customers from units located in Vila Real, 39,71% in Porto, 9,57% in Aveiro, 16,75% in Coimbra, 18,66% in Lisbon, and 4,78% in Setúbal.

# Chapter 3

## Data Analysis

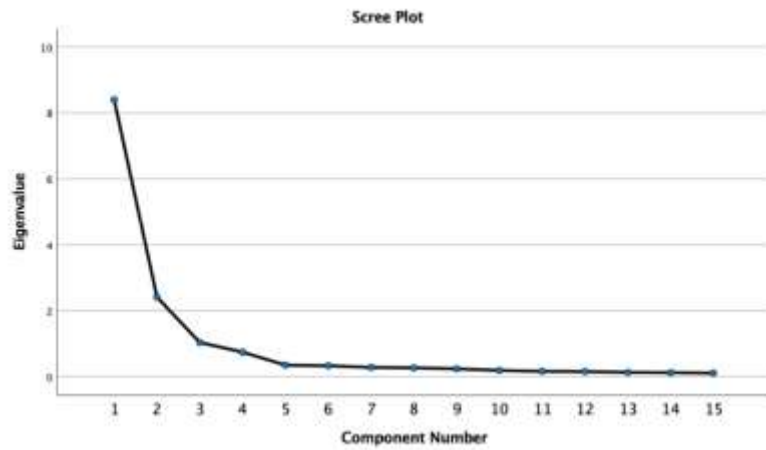
### 3.1. Reliability Analysis

The reliability analysis results of the CE scale application to a larger sample show that all factors' Cronbach's alphas are higher than .90 (customer purchases registered  $\alpha=.917$ , customer knowledge registered  $\alpha=.909$ , customer influence with strong ties registered  $\alpha=.932$ , and customer influence with weak ties registered  $\alpha=.953$ ). The overall Cronbach's alpha is .942 for the 4-factor scale.

### 3.2. Confirmatory Factor Analysis

The 16-item scale was also submitted to a confirmatory factor analysis that used the same procedure as the one performed in the pre-test phase: principal components analysis, Oblimin rotation, fixed number of factors set at 4, and with a minimum factor loading criterion set at .50. The results were found to be similar when Promax rotation was used.

The Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) supports sample adequacy with "very good" values (KMO=.933) (Pereira et al., 2020). Moreover, the results of Bartlett's test of sphericity indicate that the confirmatory factor analysis is valid ( $\chi^2 (n=209) = 3293.068$ ;  $df=120$ ;  $p<.000$ ). The results for all communalities are greater than .70. The sum of the loading communalities shows that the model explains 83.7 percent of the total variation in the data. As illustrated in Figure 2, the resulting scree plot corroborates that the model should comprise 4 factors. The factor analysis results are presented in the Table 4.



**Figure 2:** Confirmatory factor analysis resulting scree plot

Items	<i>Factor Loadings</i>			
	1	2	3	4
<b>Customer Purchases</b>				
CP1			.951	
CP2			.917	
CP3			.891	
CP5			.673	
<b>Customer Knowledge</b>				
CK1		.791		
CK2		.907		
CK3		.837		
CK4		.930		
<b>Customer Influence with Strong Ties</b>				
CI:ST2				-.791
CI:ST3				-.684
CI:ST4				-.874
CI:ST5				-.464
<b>Customer Influence with Weak Ties</b>				
CI:WT2	.892			
CI:WT3	.970			
CI:WT4	.848			
CI:WT5	.867			

**Table 4:** List of factor loadings resulting from the confirmatory factor analysis on the larger scale sample

Item CI:ST5 was kept in the scale as its absolute loading value is very close to .50 and it contributes to the improvement of the sampling adequacy and reliability indices. Furthermore, when using Promax rotation, this item coefficient exceeded .50 (0.52). None of the other items accounted for possible loading problems. The final scale is presented in Appendix 1.

### 3.3. Clustering Analysis

The objective of this cluster analysis is to identify possible groups of individuals according to their customer engagement profile in order to possibly provide effective techniques and policies appropriate to each of these groups, maximising the firm's performance (Sottomayor, 2016). The average reference value for the subtests' scores is 3.80, meaning that values under 3.80 represent individuals that present lower than average levels of engagement with the brand.

A hierarchical procedure was firstly followed to obtain the number of cluster and centroids. This analysis used the Euclidean distances and average linkage between groups method for the construction of the clusters. The selected variables corresponded to the mean scores of each subscale. Also, there was no need to normalise the variables, because all the CE items were developed to be measured in 5-point Likert scales.

The resulting Dendogram showed that the CE segmentation should consider 3 clusters. The same results were obtained by using Ward method with Euclidean distance and by using Centroid clustering with Squared Euclidean distance.

Secondly, a non-hierarchical cluster analysis was applied by using the k-means method in order to find the optimal clusters. This test used the mean scores of

each subscale as selected variables. The results were obtained after repeating the procedure in different orders until the solution stabilized (Pereira et al. 2020). The ANOVA table demonstrated that the variable customer influence with strong ties and customer influence with weak ties are the main contributors for clusters' separation. Cluster 1 is composed of 91 individuals and is characterized by having tendency for high levels of all types of CE activities. Cluster 2 is composed of 41 individuals and is characterized for low tendency to perform all types of the CE activities. Cluster 3 is composed of 77 individuals and reveals high tendency to perform customer purchases, but low tendency for all the remaining CE activities.

	Cluster 1	Cluster 2	Cluster 3
Customer Purchase	4.76	3.39	4.30
Customer Knowledge	4.07	2.66	2.35
Customer Influence with Strong Ties	4.70	2.67	3.96
Customer Influence with Weak Ties	4.53	2.16	3.49

**Table 5:** Final cluster centers results

### 3.4. RFM Analysis per Cluster

The RFM index is used to calculate and analyse customer value. This index comprehends three parameters: recency (R), frequency (F) and monetary (M). The recency parameter measures how recent are customer s' latest purchases. The frequency parameter measures how often are customers' purchases. The monetary parameter measures the total expenditure of customers' purchases.

When combined, these values can be assigned to customers, enabling customer segmentation according to their purchases' value (Rumantir et al., 2015). These parameters are related with customer value as "customers who purchased more recently are more likely to purchase again than are customers who purchased further in the past", "customers who have made more purchases in the past are more likely to respond than are those who have made fewer purchases", and "customers who have spent more (in total for all purchases) in the past are more likely to respond than those who have spent less" (IBM, 2021).

The RFM analysis conducted in this study intended to compare the variances and means of the RFM scores between clusters in order to analyse whether the different tendencies to perform CE behavior are translated into distinctive pastime purchase value.

The RFM indexes were computed into five categories, where individuals with the combined RFM score is 555 account for the highest combined levels of recency, frequency, and monetary. The categorization followed a division by quintiles. For the comparison of each of these indexes between clusters, a variance analysis (ANOVA) and a Tukey post hoc test. Both tests were set at the significance level of 0.05.

The results show that there are no significant differences between any of the parameters between clusters as all the significance values were higher than .05. Therefore, no conclusions can be withdrawn.

# Chapter 4

## Discussion

The present research provides information on CE behaviour in the particular case of the veterinary care industry in Portugal. The developed scale proved to be valid on a larger scale with very good results in terms of scale reliability and ability to explain variations in the data. Moreover, the results were significantly analogous in the analyses for pre-testing and validation using a larger sample as well as when using different statistical methods. Furthermore, even though the pre-test and larger scale samples consist of convenience scales, the results indicate a very good sampling adequacy for both analyses. Therefore, it can be concluded that the developed and validated scale is significantly robust.

As for the inclusion of social strength as a disjoint factor from the customer influence factor, this consideration was introduced mainly due to the different outcomes resulting from customer influence behaviour involving strong ties and weak ties. The pre-test and larger scale results highlight that these customer activities should be separated as they load on opposing factors in the confirmatory factor analyses.

The cluster analysis provides a deep understanding of how different groups of customers tend to behave differently in terms of CE. The identification of the number of clusters and behavioural characteristics was consistent after using different analytical methods and reordering the data, supporting the robustness of the results.

The RFM didn't lead to any significant conclusion, not leading this research to make any conclusion relating CE behaviour and pastime customer value. However, it is recognised that RFM is predominantly related to purchases and,

therefore, this index is highly may be limited, because, for example, customers might be highly engaged and contributing mostly indirectly, but their RFM scores might be low. Moreover, the RFM scores may be inflated as customers may have more than one pet, making appointments in a row, which will, in accounting terms, count as several purchases, but, through the customers' view, only as one. These limitations are further discussed in "Limitations" subchapter.

# Chapter 5

## Conclusions

### 5.1. Theoretical contribution

Overall, firms must learn to engage with customers in every way possible to promote firm profitability and sustainable competitive advantage. To do so, they must also measure and evaluate their customers' engagement status. The aim of this study is to provide a CE measurement tool for firms operating in the veterinary healthcare sector in Portugal. To this end, it has adapted and extended Kumar & Pansari's (2016) original CE scale by removing the customer reference subdimension and introducing the customer influence divided into two different subdimensions according to the inherent strength ties.

A key contribution of this research is the validation of the scale for the context under study. The very good results, following the application of the developed scale to a wider sample, show that the scale is highly reliable and significant for the context at issue. Furthermore, this study fills the gap in existing CE scales by considering strength tie as a disjointing factor in the customer influence dimension, bridging and validating the valuable insights provided by the literature on WOM in a CE-focused study. The clustering analysis allowed to conclude that there is evidence that, in this particular context, customers can be assigned to different segments according to their CE behavioural differences towards firms, i.e. depending on their behavioural contribution to firm performance. However, no further correlation with customers' purchase history could be established as no significant results were obtained from the RFM analysis.

## 5.2. Managerial contribution

After firms implement a survey with the provided scale, they will collect information on customers' tendency to perform all types of CE activities associated with the veterinary healthcare industry in Portugal. This will enable firms to understand the degree of CE with their brands, conduct customer segmentation analysis regarding their contribution to firm performance and develop tailored strategies for each customer segment. Furthermore, this research suggests that segmentation analyses should assign customers to a small number of segments (3), offering a practical technique.

Cluster 1 is composed of highly engaged customers for each CE dimension, corresponding to the individuals who tend to contribute the most to firm performance, both directly and indirectly. This is the most attractive customer group and, therefore, firms should aim to focus on enlarging this segment by promoting all types of customer engagement in order to fuel sustainable competitive advantage and high differentiation (Pansari & Kumar, 2017).

Cluster 2 is composed of individuals who are poorly involved with the firm, not contributing directly or indirectly to firm performance. This group of customers should be paid attention in order to increase their CE behaviour. To this end, firms should focus on supporting positive emotions and customer satisfaction (Pansari & Kumar, 2017).

Cluster 3 is composed of individuals who contribute primarily to firm performance through purchasing, i.e. direct contribution. As purchases alone are not sufficient, firms should seek to expand their contribution to include indirect contribution as well. Assuming that customers make purchases because they are satisfied, firms should focus on fostering positive emotions (Pansari & Kumar, 2017).

As evidenced in the existing literature, firms can develop strategies geared towards (1) stimulating purchases by focusing on customers who tend to transmit WOM to socially proximate individuals; and (2) stimulating information diffusion by focusing on customers who tend to transmit WOM to socially distant individuals. This study complements this knowledge, as the implementation of the provided scale allows firms to identify what customers are likely to perform customer influence and the strength of the relationship they share with their WOM recipients.

Furthermore, it is recognised that, in practical terms, implementing a 16-item scale may not be operationally feasible, so this study also suggests some lighter options for conducting CE analyses:

- 1) Firms can exclude the customer purchases subscale from the CE scale by resorting to their databases and calculate customer purchase value through numerous existing metrics such as CLV. This particular metric accurately predicts future customer activity and future profitability, however, requires in-depth information such as future marketing costs (Kumar et al., 2009), which were not available for the present study. The usage of these metrics enables firms to identify which customers contribute directly for firm performance (clusters 1 and 3) and which customers contribute poorly for firm performance, both directly and indirectly (cluster 2). However, the progressively competitive environment and the abundant advantages related to indirect contribution force firms to develop strategies that look beyond purchases. Therefore, this metric analysis should always be complemented with more studies on the other CE subdimensions.

- 2) Both types of customer influence activities correspond to the largest contributor to the separation of clusters. Thus, firms can aggregate the customer influence subscales by excluding the references of strength ties,

i.e., implementing the original customer influence subscale proposed by Kumar & Pansari (2016). When this subscale is solely used, firms can assign customers into two segments: (i) a segment where customers contribute directly and indirectly to the firm's performance (cluster 1) or (ii) a segment where customers do not contribute indirectly to the firm's performance (clusters 2 and 3).

### 5.3. Limitations

Regarding limitations, it is important to note that the scale provided was only tested using data from a single firm and it is desirable to replicate the analysis in other firms that operate in the same environment so that the results can be generalised. Further, although the sampling adequacy values are very good, the pre-test sample and the larger scale sample remain as convenience samples. Moreover, when not setting a fixed number of factors in the CFA, the analysis indicated that the total eigenvalues greater than 1.00 occur with only 3 factors, not 4. Additionally, as mentioned in the "Discussion" chapter, the computed RFM scores may be inflated, leading to false estimation of low engaged customers. Furthermore, RFM is only related to purchases and therefore does not consider indirect contribution, which is highly insufficient. It is a poor predictor of future customer activity and profitability (Kumar et al., 2009), which may not be a strong basis for strategy development.

## 5.4. Future Research

Firstly, future research may provide additional insights by testing the framework and scale provided over time in the veterinary healthcare industry in Portugal. It would be useful to analyse the time-varying effects of different organisational strategies, possibly as a result of segmented strategies, on CE itself, customer value and firm performance.

Secondly, it would also be interesting to examine other factors affecting the outcomes of the customer influence dimension, such as expertise (Bansal & Voyer, 2000) and perceptual affinity (Gilly et al., 1998), that are proved to influence WOM outcomes.

Thirdly, it would be very useful to investigate the main sources of customer engagement. Explicitly, similarly to customer loyalty which is related to the customer purchase dimension (Dick et al., 1994) and can be expressed through "deep commitment to a product, service, brand, or organization" (Oliver, 1999), future research could examined which of these categories (or other proposed ones) are major levels of CE attitude and repeated behaviour linked to.

Finally, future research could analyse the relative weight of each subdimension in the overall CE construct and develop a CE scoring system.

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# Annex 1

## Provided CE Scale

### **Compras do cliente**

CP1: Sinto-me satisfeito(a) com as minhas compras desta marca.

CP2: Vou continuar a comprar os serviços desta marca num futuro próximo.

CP3: As minhas compras desta marca fazem-me feliz.

CP5: Usufruir dos serviços desta marca faz-me feliz.

### **Conhecimento do cliente**

CK1: Dou feedback a esta empresa sobre os serviços por si prestados.

CK2: Dou sugestões para que esta marca melhore o seu desempenho.

CK3: Dou sugestões/feedback sobre os novos serviços desta marca.

CK4: Dou sugestões/feedback para o desenvolvimento de novos serviços desta marca.

### **Influência do cliente com laços fortes**

CI:ST2: Adoro falar da minha experiência com esta marca a pessoas de quem sou próximo(a) (por exemplo, cônjuge/parceiro, membros da família, melhores amigos e amigos pessoais).

CI:ST3: Discuto os benefícios que obtenho desta marca com pessoas de quem sou próximo(a) (por exemplo, cônjuge/parceiro, membros da família, melhores amigos e amigos pessoais).

CI:ST4: Sinto-me como se fosse parte desta marca e menciono-o nas minhas conversas com pessoas de quem sou próximo(a) (por exemplo, cônjuge/parceiro, membros da família, melhores amigos e amigos pessoais)

CI:ST5: Recomendo esta marca a pessoas de quem sou próximo(a) (por exemplo, cônjuge/parceiro, membros da família, melhores amigos e amigos pessoais)

### **Influência do cliente com laços fracos**

CI:WT2: Adoro falar da minha experiência com esta marca a pessoas que não me são próximas (por exemplo, colegas de trabalho, conhecidos e desconhecidos...)

CI:WT3: Discuto os benefícios que obtenho desta marca com pessoas que não me são próximas (por exemplo, colegas de trabalho, conhecidos e desconhecidos...)

CI:WT4: Sinto que faço parte desta marca e menciono-o nas minhas conversas com pessoas que não me são próximas (por exemplo, colegas de trabalho, conhecidos e desconhecidos...)

CI:WT5: Recomendo esta marca a pessoas que não me são próximas (por exemplo, colegas de trabalho, conhecidos e desconhecidos...).