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Harnessing Customer Mindset Metrics to Boost Consumer Spending: A Cross-Country Study on Routes to Economic and Business Growth

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The relationship between customer mindset metrics (CMMs) and consumer spending has been extensively investigated at the consumer and firm level, but little is known about it at the national level, nor about how it differs between countries. Drawing on five publicly available datasets gathered in 10 European countries over 20 years, our study traces the connections between three CMMs – customer satisfaction, perceived service quality and loyalty intentions – and consumer spending, as well as examining the moderating cross-country effects of culture, socioeconomic factors, economic structure and political-economic elements. The results show that the CMMs significantly influence consumer spending in all the countries studied, with the effects most pronounced in societies with relatively low education levels, a dominant service sector, fewer barriers to business and international trade and a foundation of survival values rather than self-expressive values. Our findings suggest that CMMs can be used to boost not just business performance but also economic growth, and therefore have significant implications for policymakers as well as practitioners and companies.

Introduction

Consumer spending attracts considerable attention from scholars, managers and policymakers because of its huge significance in supporting business and industry, underpinning economic structures and driving economic change. In the UK, for example, spending by households makes up 60% of gross domestic product (GDP). It is therefore essential to understand what influences consumer spending, since even small changes can have substantial implications for businesses

and national economies alike (Fornell, Rust and Dekimpe, 2010). Reliable indicators of spending enable corporations to spot trends, predict changes and adjust their strategies accordingly, for example focusing on persuasive strategies if decreases are forecast and on distribution if increases are predicted (Fornell, Rust and Dekimpe, 2010; Ozturk and Cavusgil, 2019; Song *et al.*, 2018). They also allow decision-makers to adapt their policies and marketing processes accordingly (Ganong and Noel, 2019; Pan *et al.*, 2019).

Customer mindset metrics (CMMs) such as customer satisfaction, perceived service quality and loyalty intentions play a central role in this process of detecting trends. However, owing to a severe lack of studies on CMMs, there is a dearth

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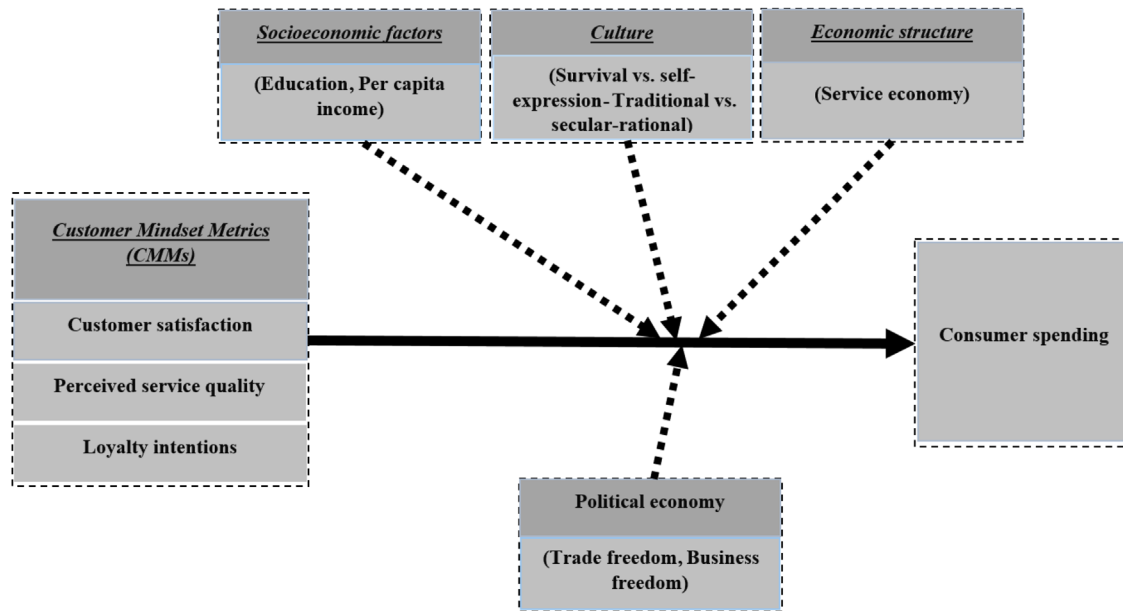


Figure 1. Research model [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/1467-8851.12596)]

of understanding of which specific metrics drive consumer spending. CMMs' significance to national economies is also poorly understood: while some scholars have explored the role of customer satisfaction at country level (Agag and Eid, 2020; Baghestani and Williams, 2017; Fornell, Rust and Dekimpe, 2010; Golovkova *et al.*, 2019; Yeung *et al.*, 2013), few have explored the wider relationship between CMMs and economic structure. Of the studies that have been conducted in this area, some have related customer satisfaction to macroeconomics while also investigating its impact on national consumption. For example, Yeung *et al.* (2013) adopted an asymmetric growth model to assess how variations in the American Customer Satisfaction Index (ACSI) related to changes in US consumer spending.

Understanding the precise nature of the relationship between CMMs and consumer spending at the national level – and how this relationship is affected by cross-country differences – is a complex but important research challenge. Firms' ability to understand CMMs, accurately measure them and then improve them in the light of differing cultures, socioeconomic contexts, economic structures and political-economic factors is key to enhancing consumer spending. Furthermore, this paper argues that the significance of this challenge stretches beyond the boardroom to the political

sphere, since boosting consumer spending can benefit entire economies as well as individual firms.

Consequently, this study explores the relationship between three CMMs – customer satisfaction, perceived service quality and loyalty intentions – and consumer spending in 10 European countries. It addresses two central questions: (1) Can CMMs act as significant predictors of consumer spending in different societies? and (2) Does the effect of CMMs on consumer spending differ across various societies and, if so, what causes these variances?

Our research model (shown in Figure 1) builds on and extends those used in previous studies (e.g. Agag and Eid, 2020; Fornell, Rust and Dekimpe, 2010; Kumar, Dalla Pozza and Ganesh, 2013; Petersen *et al.*, 2018; Yeung *et al.*, 2013). It includes four control factors: consumer confidence, income, debt and inflation. To enable understanding of cross-country variances in the links between CMMs and consumer spending, we also examine the role of four critical moderators: culture (i.e. survival vs. self-expressive societies and traditional vs. secular-rational societies); socioeconomic factors (i.e. education and per capita income); economic structure (i.e. service economy); and political economy (i.e. trade freedom and business freedom). These moderators are consistent with prior research and theories examining customer

satisfaction at the macro level (e.g. Baghestani and Williams, 2017; Morgeson *et al.*, 2011; Seiders *et al.*, 2005; Yeung *et al.*, 2013) and enable a rich understanding of how CMMs' relationship with consumer spending is influenced by particular national contexts.

Literature review

Customer mindset metrics

In the search for the most effective ways for brands to build long-term success and achieve outstanding results, scholars have shifted their attention towards evaluating the customer–brand relationship. CMMs are key to this. Dynamic and continuously evolving, they are considered as measures of consumers' hearts and minds (Palmatier *et al.*, 2013; Petersen *et al.*, 2018; Srinivasan, 2015), enabling marketers to gain and analyse customer information in order to improve performance. CMMs capture how customers feel about their relationship with a brand, product and/or service (Gupta and Zeithaml, 2006; Rubera and Kirca, 2017; Srinivasan, Vanhuele and Pauwels, 2010). Positive metrics indicate that a consumer has a strong relationship with a brand (Petersen *et al.*, 2018), enhancing both purchase intentions (Alnawas and Aburub, 2016; Dash, Kiefer and Paul, 2020) and behaviour (Bolton, 1998; Gustafsson, Johnson and Roos, 2005). Recent developments also suggest that CMMs are a vital tool in relationship marketing (Srinivasan, 2015; Sun and Kim, 2013). Although there is a gap in knowledge regarding how CMMs are converted into profitability at the customer level (Petersen *et al.*, 2018), there is broad agreement that they help brands build successful relationships with consumers and enhance performance. Their use does not instantly improve sales or profits, but can indicate whether marketing is moving customers in the right direction (Keller and Lehmann, 2006) and may also highlight performance achievements or issues (Srinivasan, Vanhuele and Pauwels, 2010), especially since early signals found when deciphering data may help forecast future performance (LaPointe, 2005).

While CMMs have been studied extensively since the 1980s under the marketing paradigm, the theory behind them has been somewhat neglected. Petersen *et al.* (2018), reviewing more than 40 CMM studies from 1989 to 2016, found that most had focused on only one metric, primarily

satisfaction, and argued that this weakness should be addressed by simultaneously considering multiple metrics to understand their various impacts on customer behaviours and their relative importance to profitability. Moreover, different CMMs capture different aspects of firms' relationships with customers and do not all influence outcomes in the same way (Garbarino and Johnson, 1999; Petersen *et al.*, 2018).

The present study therefore uses multiple CMMs to avoid the previously identified weakness of single-metric studies, and to capture a full and accurate picture of their impacts. Three particular metrics – customer satisfaction, perceived service quality and loyalty intentions – were suggested by Petersen *et al.* (2018), all of which were deployed in their own research. These encompass attitudes (i.e. customer satisfaction), perceptions (i.e. perceived service quality) and intentions (i.e. loyalty intentions), and emphasize behavioural and profitability signals. Moreover, they are directly relevant to consumer spending, which is the final outcome of our research model. In selecting these three CMMs, the present study builds directly on the work of Petersen *et al.* (2018) and extends it with the addition of cross-country moderators.

Customer satisfaction. Customer satisfaction has a long history in the marketing field and is regarded as an essential concept in both theory and practice (Howard and Sheth, 1969). Oliver (1997) describes it as a 'fulfilment response' (p. 13), whereby customers judge whether a product or service, or a particular feature of them, has provided a level of fulfilment they find pleasurable. It is a major focus of strategic marketing (Bond, Fink and Ross, 2001) since it can enhance performance, profitability and a firm's unique selling point (Anderson and Mittal, 2000; Helgesen, 2006; Otto, Szymanski and Varadarajan, 2020; Yeung and Ennew, 2000). While some marketing scholars have argued that customer satisfaction is not a sufficient indication of customer loyalty (e.g. Hallowell, 1996), others (e.g. Garbarino and Johnson, 1999) place it among the factors driving motivation for future relationships with brands. It has been shown to positively affect purchase intentions (e.g. Kumar, 2002), positive word-of-mouth (WOM) (e.g. Parasuraman, Berry and Zeithaml, 1991; Parasuraman, Zeithaml and Berry, 1988), profitability (e.g. Anderson, Fornell and Mazvanchery, 2004),

customer retention (e.g. Mittal and Kamakura, 2001) and firm equity and value (e.g. Aksoy *et al.*, 2008).

At the national level, satisfaction has also been shown to be an important factor in various indicators. Its relationship with spending can be moderated by factors such as income, education and level of competition (Yeung *et al.*, 2013). Country-level differences can also drive variations in satisfaction level (Ogikubo, Schvaneveldt and Enkawa, 2009), while different layers influence how customers perceive and react to past purchase experiences, and how the economy contributes to the satisfaction index (Morgeson *et al.*, 2011).

Perceived service quality. Perceived service quality, one of the top three metrics used in fast-moving consumer goods (Anselmsson and Bondezon, 2015), is defined as customers' assessment of the overall superiority or excellence of the service they received (Zeithaml, 1988), reflecting the gap between their expectations and their perceptions of the actual performance levels they experienced (Parasuraman, Zeithaml and Berry, 1985). One approach to measuring it is to use SERVQUAL (Srinivasan, 2015), a multi-item scale that measures the difference between expectations and perceptions (Zeithaml and Parasuraman, 2004).

Increases in perceived service quality have been linked to increases in a firm's overall worth, influencing profitability, market share, brand value and stock value. For example, perceptions of quality are positively related to shareholder and firm value (Pahud de Mortanges and Van Riel, 2003; Srinivasan, 2015). Moreover, investors consider that actual brand quality is less important than perceptions of it (Frieder and Subrahmanyam, 2005). Performance can also be improved by innovation and quality assessment, whether as a result of expert ratings of quality (Tellis and Johnson, 2007) or of customer responses to new products (Srinivasan *et al.*, 2009).

Loyalty intentions. Loyalty intentions occur when customers are so committed to a product or service that they disregard influences or marketing efforts that might usually lead them to switch brands (Joudeh and Dandis, 2018; Srinivasan, 2015). Largely impacted by customer satisfaction (Anderson and Sullivan, 1993; Szymanski and Henard, 2001), they have traditionally been

measured through repurchase intentions and repeat purchases. Their significance was highlighted by Gupta, Lehmann and Stuart (2004), who noted that increasing customer retention by just 1% could raise a firm's value by 5%. Many CMMs can be used to indicate consumer loyalty (Agustin and Singh, 2005). Previous studies have noted their positive connections with loyalty intentions (Szymanski and Henard, 2001) and loyalty behaviour (e.g. retention, cross-purchase and wallet sharing) (Kumar, Dalla Pozza and Ganesh, 2013; Petersen *et al.*, 2018).

In broad terms, customer satisfaction and perceived service quality influence consumers' evaluation of their relationship with a firm; their experiences and perceptions lead on to loyalty intentions; and these, in turn, play a critical role in determining their willingness to engage with the firm in future (García-Fernández *et al.*, 2018; Joudeh and Dandis, 2018).

Consumer spending

Consumer spending is the amount of money individuals and households spend on goods and services (Lee *et al.*, 2021; Voss, Godfrey and Seiders, 2010), encompassing essential spending such as rent and mortgage payments, and discretionary decisions such as investments and house purchases (Curtin, 1982). It is a fundamental concept in economic theory and a significant factor in an economy (Fornell, Rust and Dekimpe, 2010), generally accounting for between half and two-thirds of total economic expenditure (Nisar and Prabhakar, 2017). Its significance in forecasting and investment planning (Kourtesopoulou *et al.*, 2019) makes it of interest to public policymakers, investors and marketers (Fornell, Rust and Dekimpe, 2010).

Since consumer spending can change direction at any point (Muellbauer, 1994), influenced by factors as diverse as tax changes and the weather (Gelardi, 2013; Murray *et al.*, 2010), organizations may shun long-term marketing decisions in favour of strategies that generate short-term sales (Grande, 2006; Tzavlopoulos *et al.*, 2019). These continuous changes and developments, alongside noticeable increases in disposable income, have helped drive changes in the significance of and motivations for consumer spending (Dittmar, 2005; Lee *et al.*, 2021).

Customer mindset metrics at the national level

While the literature contains a wealth of evidence regarding the outcomes of CMMs for individual brands and corporations, transferring this knowledge to the national and international level is less well understood. Cross-border trade in markets with different cultures, languages and norms is not just an operational and logistical challenge; it also requires deep understanding of customers' cultural needs, and ongoing evaluation of satisfaction levels against customers' needs and behaviours (Morgeson *et al.*, 2011). Other national-level influences such as socioeconomic factors, economic structure and political-economic factors also affect consumers' perceptions, experience, satisfaction and buying behaviour. Factors including wealth, education, political influence and subculture may influence competition, policy and market freedom (Morgeson *et al.*, 2011).

Even measuring satisfaction in cross-cultural environments is complex, since consumers with broadly equivalent levels of satisfaction may not respond uniformly to identical surveys (Iacobucci *et al.*, 2003; Smith and Reynolds, 2002; Steenkamp and Baumgartner, 1998). Despite the complexities involved, evaluating customer satisfaction is vital for firms wishing to replicate domestic success in cross-border contexts, given their constant quest to increase sales and profitability (Cooper, 2019) and to keep customers happy and loyal (Yee, Guo and Yeung, 2015).

Hypothesis development

The relationship between CMMs and consumer spending

High levels of customer satisfaction have been shown to increase loyalty, repurchase behaviours (Gustafsson, Johnson and Roos, 2005) and sales (Van Doorn, Leeflang and Tijs, 2013). Satisfied customers are also more likely to have a lower level of price sensitivity (Otto, Szymanski and Varadarajan, 2020) and a higher degree of willingness to pay (Homburg, Koschate and Hoyer, 2005). Sales staff find it easier to encourage them to purchase products or services (Mullins *et al.*, 2014; Petersen *et al.*, 2018), including during online interactions (Colicev *et al.*, 2018). Highly satisfied customers are also more likely to engage in favourable WOM (Luo and Homburg, 2007). The

combination of favourable WOM and the quality indicator often allows a firm to reduce its spending on marketing activities (Villanueva, Yoo and Hanssens, 2008).

As noted in the literature review, the CMMs of customer satisfaction, perceived service quality and loyalty intentions were selected as an appropriate focus for the present study partly because of their direct relevance to consumer spending. For example, firms' ability to encourage repurchasing is profoundly influenced by the degree of customer satisfaction and loyalty (Gustafsson, Johnson and Roos, 2005), while high CMM scores based on customer perceptions of brand quality can protect or improve the stability of cash flows (Aaker and Jacobson, 1994; Petersen *et al.*, 2018). Strong metrics for brand attitude, perceived quality, customer loyalty and customer satisfaction have also been shown to enhance sales, revenues, profits and the components of shareholder value (Srinivasan, 2015). In addition, CMMs are a useful tool for predicting short-term customer spending (Baehre *et al.*, 2021) and customer profitability (Venkatesan *et al.*, 2019).

Therefore, to confirm whether customer satisfaction, perceived service quality and loyalty intentions influence spending by consumers across countries, the following hypotheses are proposed:

- H1: Customer satisfaction is positively related to consumer spending across different societies.*
- H2: Perceived service quality is positively related to consumer spending across different societies.*
- H3: Customer loyalty intentions are positively related to consumer spending across different societies.*

Moderating cross-country effects

This study examines the moderating role of four major cross-country variables in the relationships between CMMs and consumer spending: culture (i.e. survival vs. self-expressive and traditional vs. secular-rational societies); socioeconomic factors (i.e. education and per capita income); economic structure (i.e. service economy); and political economy (i.e. trade freedom and business freedom). These choices are based on prior cross-country research that examined the effects of customer satisfaction at the national level (e.g. Morgeson *et al.*, 2011; Yeung *et al.*, 2013).

Culture. Culture has been defined as ‘the collective programming of the mind which distinguishes the members of one group or category of people from those of another’ (Hofstede, 1994, p. 4). It shapes individuals’ beliefs, norms and values, as well as who they are as consumers (Pizam *et al.*, 1997), influencing areas such as customer satisfaction and perceptions of quality (Reimann, Lünemann and Chase, 2008). Its particular relevance to satisfaction is driven by factors including its connection with consumer expectations (Donthu and Yoo, 1998) and individuals’ willingness to report dissatisfaction (Crotts and Erdmann, 2000) or make a complaint (Liu and McClure, 2001).

Hofstede’s (1983) study, which proposed five dimensions for cross-cultural research, has been the basis for many marketing studies. However, it has a number of limitations, including the date or period of the data collection and the fact that it focuses only on a particular number of countries (Morgeson *et al.*, 2011). Inglehart and Baker’s (2000) alternative set of dimensions, including survival vs. self-expressive societies and traditional vs. secular–rational societies, have subsequently been tested in studies with extensive datasets (Aksoy *et al.*, 2013; Morgeson *et al.*, 2011), and were therefore adopted for the present study.

Survival vs. self-expressive societies. The survival vs. self-expression aspect of society is closely connected to the conversion of industrial societies to post-industrialization. According to Inglehart and Baker (2000), societies with high survival values are likely to have low levels of health, wealth, physical security, subjective well-being and interpersonal trust, while the reverse is typically true in societies with high levels of self-expression values. Although disputed, it has been asserted that this difference probably affects customer experience and satisfaction levels in particular societies (Yeung *et al.*, 2013). For example, researchers have noted that consumers in self-expressive societies are more likely to convey much higher levels of satisfaction than those in survival societies (Morgeson *et al.*, 2011). Since self-expressive societies have a much higher level of interpersonal trust, they have much more effective consumer interactions, which allows positive WOM to be a more prominent driver of purchases.

Consumers in self-expressive societies are also far more inclined to pay for services that leave them satisfied, since they place greater emphasis

on subjective well-being and quality of life, while those in survival societies focus more on economic and physical security (Inglehart and Baker, 2000). Moreover, in self-expressive societies, shopping is often a leisure and lifestyle activity rather than a means of purchasing basic necessities (Dittmar, 2000), and consumption is seen as capable of satisfying needs (Watson, 2003), or even counteracting personal issues such as low self-esteem (Chatterjee and Farkas, 1992). Therefore, we propose:

H4: The CMMs of customer satisfaction, perceived service quality and loyalty intentions are more significant predictors of consumer spending in self-expressive societies than in survival societies.

Traditional vs. secular–rational societies. As many societies around the world shift away from traditional values towards secular–rational frameworks, numerous differences between the two models have been identified. Individuals in traditional societies generally take a passive stance, follow a hierarchical societal structure (Aksoy *et al.*, 2013), appreciate conformity rather than individuality (Inglehart and Baker, 2000) and are expected to exhibit similar behaviours in daily life, including consumption (Morgeson *et al.*, 2011). They are also more likely to be influenced by firms and to more readily accept their endeavours to enhance customer satisfaction levels, increasing customer loyalty in the long term (Aksoy *et al.*, 2013).

In contrast, members of secular–rational societies are more inclined to cherish individualism, to express their opinions freely and to be less confined by traditional social structures. Consumers in these societies are more likely to be sceptical of firms’ marketing activities, reject conformity and form personal, independent judgements (Aksoy *et al.*, 2013). This suggests they are less likely to be influenced by business activities designed to enhance customer satisfaction, making these efforts less effective and, in turn, potentially weakening loyalty intentions. Morgeson *et al.* (2011) suggested that consumers in secular societies had lower satisfaction levels than those in traditional societies. On the basis of this discussion, we therefore propose:

H5: The CMMs of customer satisfaction, perceived service quality and loyalty intentions are more significant predictors of consumer

spending in traditional societies than in secular-rational societies.

Socioeconomic factors. Education and per capita income were chosen as the means of investigating the role of socioeconomic factors as a moderator in the conceptual model, firstly because they reflect cross-country differences in the relationship between satisfaction and spending at the country level, and additionally since they can be influenced by policymakers. Differences between socioeconomic groups heavily influence satisfaction levels, even when the same purchase has been made (Bryant and Cha, 1996). It is therefore useful to understand the extent to which cross-country differences in these factors influence repurchase behaviours, since this has the potential to guide marketing activities, corporate strategy and national policy when seeking to increase consumer spending.

Education. Yeung *et al.* (2013) identified an inverse relationship between educational attainment and satisfaction: the higher the level of a consumer's education, the lower the level of satisfaction. There is still a lack of understanding of whether high satisfaction from less-educated consumers results in greater purchase behaviours, although some studies have been developed around this topic. Mittal and Kamakura (2001) found that more highly educated consumers were less likely to repurchase than less-educated consumers with the same satisfaction level, also noting that 'consumers with higher education could have greater ability to search and are cognizant of superior alternatives in the market' (p. 139). Capraro, Broniarczyk and Srivastava (2003) showed that the strongest predictor of customer satisfaction was the amount of knowledge and information that the consumer gained with regard to alternatives. These connections, although applied in studies at an individual level, generally apply at the aggregate level too.

Overall, the main findings in the literature suggest that the more educated consumers are, the more likely they are to be successful in assessing and examining alternative products and firms and, therefore, their knowledge of external information outweighs their satisfaction when considering their purchases. Thus, we propose:

H6: The CMMs of customer satisfaction, perceived service quality and loyalty intentions become more significant predictors of consumer

spending as the society's level of education decreases.

Per capita income. Regarding the significance of per capita income to consumers' satisfaction levels, prior studies have found that customers with higher incomes are harder to satisfy, a phenomenon attributed to their tendency to be more judgemental about the products and services they use (Anderson, Pearo and Widener, 2008; Bryant and Cha, 1996). Morgeson *et al.* (2011) found similar results at the national level, concluding that a lower level of satisfaction with goods and services was felt by consumers from societies with a higher per capita income, and noting that 'consumers, as their wealth grows with the nation's economy (over long periods), gradually become more demanding' (p. 212). In addition, Seiders *et al.* (2005) found that income had a significant positive impact on consumer spending and repurchase attitude.

According to Fornell, Rust and Dekimpe (2010), it can be assumed that if consumers have less disposable income, this may affect their level of satisfaction with past purchases. This suggests that satisfaction levels can be used to forecast whether consumers have a higher or lower income. Those with lower incomes are more likely to be persuaded to buy items that are discounted or on promotion, as they are more price-driven in their purchases. For this reason, it seems rational to suggest that consumers with lower incomes rank price as more important than past experiences, and conversely that consumers with higher incomes place less importance on price and more on the hedonic and functional utility of their purchases. It is also reasonable to assume that for higher-income consumers, past experiences are extremely important to their future purchases. Given that this assumption should be extendable from the individual to the aggregate level, we propose:

H7: The CMMs of customer satisfaction, perceived service quality and loyalty intentions become more significant predictors of consumer spending as the society's per capita income increases.

Economic structure. This paper's examination of how economic structure influences customer spending focuses on the differences between economies in which the service sector is more dominant and those where manufactured goods are pre-eminent. Changes in structure are a common

characteristic of the economic lifecycle and significantly impact the economic landscape, especially GDP (Canh and Thanh, 2020; Yeung *et al.*, 2013). For example, a nation transitioning into or out of manufacturing and production could be expected to have either a shortage or surplus of labour. Therefore, firms that understand economic structure are better placed to understand a country's economic performance and forecast individual levels of spending (Constantine, 2017; Fornell, Rust and Dekimpe, 2010) and satisfaction (Ramasamy and Yeung, 2010; Yeung *et al.*, 2013).

It should be noted that the intangibility of services makes them harder to measure and test (Grönroos, 1990): they require particular aspects, such as personnel and customization, to meet individual requirements and thereby ensure customer satisfaction (Anderson, Fornell and Rust, 1997). While consumers buying goods find it relatively easy to make pre-purchase quality assessments through samples, reviews and brochures, service offers are much harder to assess (Edvardsson *et al.*, 2000) and the communication and proposition process is more complicated (Grönroos, 1990). This increases the influence of consumers' previous experience and their reference to group experiences. Consequently, we propose:

H8: The CMMs of customer satisfaction, perceived service quality and loyalty intentions are more significant predictors of consumer spending in a service-dominant economy than in a goods-dominant economy.

Political economy. Differences in states' political economy, such as their economic freedom, political systems, institutions and history, affect the risks and opportunities in international markets. Economic freedom encompasses both trade freedom (i.e. the lack of barriers to international trade such as tariffs, customs duties and non-tariff obstacles) and business freedom (i.e. the absence of domestic obstacles in the form of laws and regulations, creating a context in which local business growth is protected and encouraged) (Heritage Foundation, 2021). Trade freedom has been the main focus of studies on customer satisfaction (e.g. Morgeson *et al.*, 2011; Yeung *et al.*, 2013).

Some previous studies (e.g. Johnson, Herrmann and Gustafsson, 2002; Seiders *et al.*, 2005) have suggested a connection between marketplace attributes and customer satisfaction. Firms operating in free markets normally have more

opportunities to satisfy their consumers (Johnson, Herrmann and Gustafsson, 2002), including through the wider range of products and services available (Morgeson *et al.*, 2011). Economic freedom also positively influences the relationship between customer satisfaction and repurchase behaviour (Seiders *et al.*, 2005). Countries with low economic freedom will have fewer firms and products, meaning that purchase decisions are based on the limited choices available rather than satisfaction, and that consumer spending based on satisfaction cannot be accurately determined. However, the increased choice and competition in countries with higher economic freedom gives firms more incentives to maintain high levels of satisfaction, for example through loyalty programmes and building long-term relationships, which will increase repurchase behaviour (Johnson, Herrmann and Gustafsson, 2002; Seiders *et al.*, 2005). Therefore, we propose:

H9: The CMMs of customer satisfaction, perceived service quality and loyalty intentions are more significant predictors of consumer spending in societies with higher trade freedom than in societies with lower trade freedom.

H10: The CMMs of customer satisfaction, perceived service quality and loyalty intentions are more significant predictors of consumer spending in societies with higher business freedom than in societies with lower business freedom.

Data and method

Sample

The data for this study was drawn from five sources: the World Values Survey (WVS), Euromonitor, the European Customer Satisfaction Index (ECSI), the World Bank World Development Indicators and European Commission consumer surveys. The analysis covers the 20-year period from 2000 to 2019 inclusive in 10 countries: Belgium, Denmark, France, Germany, Greece, Italy, Portugal, Spain, Sweden and the UK. These countries were selected because the necessary data was available for at least a 3-year period.

These five sources contain huge volumes of data which, when combined, provided sufficient depth and breadth for our purposes. For example, the first annual wave of the ECSI survey in 2000 involved more than 120,000 interviews in 15

countries. The data drawn from it represents customers of 105 firms across 10 industries (banking, fixed telecoms, energy, gasoline, travel agencies, holiday parks, airlines, supermarkets, department stores and online booking). These industries were present in all countries, allowing for regional aggregation. By 2019, the survey had expanded to 1,200,000 respondents in 18 countries. Data on consumer confidence was drawn from the European Commission surveys, with monthly averages aggregated to achieve annual figures and to be in line with annual CSI data. The Euromonitor database was used to obtain data on debt (DEBT), personal disposal income (PDI), inflation (Δ CPI) and personal consumption expenditure (PCE). Several measures were adopted to enhance comparability and research equivalence between countries (Smith and Reynolds, 2002).

Measures

To measure the three independent variables (i.e. customer satisfaction, perceived service quality and loyalty intentions), we used techniques similar to those employed in past research (e.g. Umashankar, Bahadir and Bharadwaj, 2021). When multiple brands were represented in the database, their scores were averaged to create a firm-level annual score.

The dependent variable, consumer spending, was defined as total personal expenditure on goods and services in the domestic market and was measured in constant US dollars. This is consistent with prior research (e.g. Agag and Eid, 2020; Yeung *et al.*, 2013). The relevant data was sourced from Euromonitor.

Regarding the moderators, the cultural variables (i.e. survival vs. self-expressive and traditional vs. secular-rational societies) were conceptualized in accordance with Inglehart and Baker (2000), based on national-level factor loadings from the study's case-level principal component factor analysis. Each indication has five survey questions. The factor loadings that result represent low-to-high outcomes for each nation, ranging from 'traditional' (low) to 'secular-rational' (high) and from 'survival' (low) to 'self-expression' (high). The necessary data was sourced online from the WVS. Regarding economic freedom, data on trade and business freedom was sourced online from the Heritage Foundation's Index of Economic Freedom.

The measures for the independent variables, dependent variable and moderators are summarized in Table 1, along with the data sources used.

Analysis techniques

This study employed panel data modelling techniques, drawing together samples from several countries over a specific time period. These techniques offer many benefits: they provide sufficiently comprehensive data to cope with all the possible eventualities of a time-series model; they permit heterogeneity to be addressed; and they allow the controlling of time-invariant and individual-specific variables. Furthermore, they provide less collinearity and greater variability among the research variables, enable accurate consideration of country-specific heterogeneity and minimize biased results by combining the countries into groups. They were advantageous to the present study by increasing estimation efficiency. Using them to estimate the common relationships across countries allowed us to determine the country-specific effects, which in turn helped in controlling any unobserved variables (Judson and Owen, 1999).

The use of panel data therefore enabled better control of time-invariant variables that might otherwise have affected the consumption variable. Most importantly, there was a need for a sufficiently lengthy national data time series to gain a precise estimate of the relationship between CMMs and consumer spending within that country. Panel data modelling techniques currently offer the only means to achieve this. Some prior studies (e.g. Kao, 1999; Phillips and Moon, 1999) have also noted that they help to mitigate any spurious regression problems. Furthermore, the variance inflation factor for all the variables was below the cutoff value (10) (Hair *et al.*, 1992), indicating that there were no collinearity issues between the factors and thus validating the efficiency of the estimation.

Analysis and findings

We tested the panel data for the presence of a unit root in all the study constructs using Im, Pesaran and Shin's (2003) technique. Table 2 presents the results and indicates whether each 1(1) construct was co-integrated with consumer spending

Table 1. Measures and definitions

Variable	Measures/definitions	Source
European Customer Satisfaction Index (ECSI)	ECSI is based on a microeconomic model that considers causal relationships among a set of antecedents of customer satisfaction. It considers customer satisfaction to be a cumulative experience rather than the result of recent transactions, and has been built to be compatible with other national satisfaction barometers (Eklöf, Hackl and Westlund, 1999). It is currently under the management of the European Foundation for Quality Management, the European organization for quality and the academic network International Foundation for Customer Focus (see Eklöf and Selivanova, 2008; Eskildsen and Kristensen, 2007 for further description and methodology). Eklöf and Westlund (2002) suggest that the ECSI is based on a thorough analysis of theory and an implementation of best practice methodology of data collection, measurement and analysis. It uses survey data, collected by telephone interviews, to create latent variables – for example, customer expectations, perceived product quality, customer loyalty, perceived service quality, perceived value and corporate image – to compute the customer satisfaction measurement. Moreover, it is a well-structured method to measure customer satisfaction	Eklöf and Selivanova (2008); Eklöf and Westlund (2002); Eklöf, Hackl and Westlund (1999); Eskildsen and Kristensen (2007); Yeung <i>et al.</i> (2013)
Personal consumer spending (PCS)	PCS is defined as total personal expenditure on goods and services in the domestic market and is measured in constant US dollars. It was sourced from Euromonitor	Agag and Eid (2020); Yeung <i>et al.</i> (2013)
Personal disposable income (PDI)	PDI refers to disposable income, which is defined as gross income minus social security contributions and income tax and is measured in constant US dollars (in per capita values)	Agag and Eid (2020); Yeung <i>et al.</i> (2013)
Debt (DEBT)	DEBT is defined in this study as the proportion of non-mortgage households to total households in country <i>i</i> at time <i>t</i>	Agag and Eid (2020); Yeung <i>et al.</i> (2013)
Trade freedom (TRAD_FREE)	Trade freedom is defined as an absence of obstacles to international commerce (such as tariffs and non-tariff barriers) and is scaled from 0 to 100, with a higher score on the scale indicative of a market more open to free trade and international commerce	Morgeson <i>et al.</i> (2011); Yeung <i>et al.</i> (2013)
Business freedom (BUSS_FREE)	Business freedom is defined as an absence of regulations (concerning opening a business, closing a business, obtaining licences, etc.) that impact entrepreneurship and impede internal private sector growth. This variable is also scored on a 0 to 100 scale, with a higher score indicating fewer government regulations and greater business freedom	Morgeson <i>et al.</i> (2011); Yeung <i>et al.</i> (2013)

as a dependent construct. The results showed that consumer spending (CSP), PDI, loyalty (LOY), perceived service quality (SQU) and CSI were $I(1)$, while the other constructs were $I(0)$.¹ West-

¹Consumer confidence was found to be $I(0)$, and not consistent with Lemmens, Croux and Dekimpe (2007). This may be due to differences in the data, methodology, sample period and countries. Our analysis was based on (computed) yearly panel data covering the period from 2000 to 2019 and panel data techniques that aimed to increase the power of unit root tests based on a single time series, whereas Lemmens, Croux and Dekimpe's analysis was based on monthly data from Nov. 1995 to Feb. 2004.

lund's (2007) P_t and P_a tests were used to check whether the $I(1)$ regressors (LOY, SQU, CSI and PDI) were co-integrated with CSP. While PDI and CSP were co-integrated, there was no long-run co-integration between LOY, SQU, CSI and CSP. These findings guided us in developing the model.

As the links between PDI and CSP were statistically co-integrated, we built our long-run spending model in Equation (1) using fixed effect and panel data, as suggested by prior research (e.g.

Furthermore, their unit root tests were carried out separately for each selected country.

Table 2. Summary statistics, unit root and co-integration tests

Variable	Minimum	Maximum	Mean	Std dev.	IPS test ^a (level/first difference)	Co-integration ^b
CSI	71.0	88.19	76.42	4.05	-0.0069/-6.2871***	-4.516/-1.753
LOY	69.34	91.21	79.40	4.83	-0.0072/-7.4038***	-5.903/-1.951
SQU	77.08	86.49	73.01	4.69	-0.0063/-7.0821***	-4.390/-1.645
CSP	6,415.28	39,510.36	21,329.48	9,027.16	-0.5710/-3.4176***	NA
CCI	-32.18	26.08	-6.32	18.71	-1.7081*/NA	NA
PDI	8,945.30	35,680.31	19,347.28	8,403.53	-0.1956/-5.5902***	-5.980**/-4.933**
ΔCPI	-2.73	14.38	4.03	3.012	-6.9620***/NA	NA
DEBT	0.17	0.84	0.49	0.26	-3.0287**/NA	NA

Notes: ***, ** and * denote significance at 1%, 5% and 10%, respectively.

^aIPS test (level/first difference); for level data that were found to be stationary, the corresponding differenced data was not tested for the presence of a unit root.

^bCo-integration with PCE using Westerlund's (2007) panel co-integration test P_1 and P_a statistics.

Abeyasinghe and Choy, 2004; Yeung *et al.*, 2013), as follows:

$$CSP_{it} = (\alpha_i + U_{it}) + \beta_0 PDI_{it} \quad (1)$$

where α_i ($i = 1, \dots, 10$) is the unknown intercept for each country; u_{it} represents the error term; i describes country; and t demonstrates time. Based on the co-integration and unit root results, the short-run dynamics of customer loyalty (ΔLOY), perceived service quality (ΔSQU), customer satisfaction (ΔCSI), ΔCPI , CCI and DEBT were integrated into the consumer spending model. Our study employed ΔCPI , CCI and DEBT as control factors (e.g. Agag and Eid, 2020; Fornell, Rust and Dekimpe, 2010; Yeung *et al.*, 2013). We used difference Equation (2) to guide our study analysis as follows:

$$\begin{aligned} \Delta CSP_{it} = & (V_i + \varepsilon_{it}) + \beta_2 \Delta PDI_{it-1} + \beta_3 ECT_{it-1} \\ & + \delta \Delta CSI_{it-1} + \delta \Delta LOY_{it-1} + \delta \Delta SQU_{it-1} \\ & + \theta CCI_{it-1} + \beta_4 \Delta CPI_{it-1} + \beta_5 \Delta DEBT_{it-1} \quad (2) \end{aligned}$$

where V_i ($i = 1, \dots, 10$) is the unknown intercept for each country; ε_{it} refers to the error term; ΔCSP is the change in consumer spending; ΔPDI is the change in personal disposable income; ECT represents the error-correction term; ΔCSI refers to the change in consumer satisfaction; ΔLOY refers to the change in customer loyalty; ΔSQU is the change in service quality; CCI is customer confidence level; ΔCPI is inflation; and DEBT is debt.

All the constructs in Equation (2) were stationary. Moreover, it is believed that Equation (2) ex-

presses the consumption function correctly.² We compared different models to examine the extent to which they fitted and complied with the theories of consumption. We believe that Equation (2) demonstrates the function of consumption appropriately, which was demonstrated as being empirically successful for the UK and US (Spanos, 1989). We conducted different tests to select the best estimator to estimate Equation (2). A Lagrange multiplier test (Breusch and Pagan, 1980) and a Hausman test were conducted to evaluate the various estimators (e.g. ordinary least squares, fixed effects and random effects). Our results revealed that fixed effects was the best estimator, with a value of 14.83 ($P = 0.013$). Table 3 shows the correlations between the study variables.

The fitted model proposed that all the independent variables had a significant effect at the 5% level. According to the principle that the effects of independent factors are solely within cluster effects in a fixed effects model (Bartels, 2008), the results indicated that for a specific country, as ΔCSI , ΔLOY and ΔSQU increased by one unit, CSP increased by 62.48, 41.63 and 49.13 units, respectively, with both country influences and control factors constant. Furthermore, as CCI increased by one unit, CSP increased by 21.04. All the factors explained 64% of the variance in ΔCSP . As Yeung *et al.* (2013) note, 'The Jarque-Bera test statistics do not reject the null hypothesis that errors are normally distributed' (p. 412). Note that the reported

²Yeung *et al.* (2013) note that 'the lagged consumption growth was considered as a RHS variable but the inclusion of it turns the error-correction term to positive, that is, inconsistent with consumption theories' (p. 411).

Table 3. Correlations for model variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Consumer spending	–	–	–	–	–	–	–	–	–	–	–	–	–
2 Customer satisfaction	0.39**	–	–	–	–	–	–	–	–	–	–	–	–
3 Perceived service quality	0.53**	0.14*	–	–	–	–	–	–	–	–	–	–	–
4 Loyalty intentions	0.19*	0.12*	0.16*	–	–	–	–	–	–	–	–	–	–
5 Service economy	0.04	0.45**	0.09	0.23**	–	–	–	–	–	–	–	–	–
6 Survival vs. self-expression	0.24**	0.09	0.12*	0.08	0.61**	–	–	–	–	–	–	–	–
7 Traditional vs. secular	0.08	–0.16*	0.31**	0.11*	0.08	0.27**	–	–	–	–	–	–	–
8 Education	0.47**	0.23**	0.47**	0.06	0.26**	0.16*	0.41**	–	–	–	–	–	–
9 Per capita income	–0.06	–0.19*	0.21**	0.36**	0.13*	0.07	0.06	0.08	–	–	–	–	–
10 Trade freedom	–0.11*	–0.26**	0.50**	0.09	0.34**	0.05	0.34**	0.04	0.41**	–	–	–	–
11 Business freedom	0.05	–0.40**	0.29**	0.05	0.08	0.02	0.10*	0.24**	0.09	0.45**	–	–	–
12 Consumer confidence	0.23**	0.07	0.08	0.24**	0.05	0.43**	0.62**	0.07	0.02	0.14*	0.27**	–	–
13 DEBT	–0.05	–0.06	–0.09	0.07	0.12*	0.26**	0.07	0.19*	0.25**	0.07	0.01	0.21**	–
14 CPI	–0.13*	0.09	0.21**	0.07	0.09	0.04	0.11*	0.15*	0.13*	0.19*	0.39**	0.08	0.14*

Note: **p < 0.01; *p < 0.05.

intercepts are the average of country-specific intercepts. Table 4 shows the variable estimations.

The predictability of the independent variables and the lag structure of ΔCSI were examined using the methodology suggested by Ramasamy and Yeung (2010). ΔCSP was regressed on variant lags of ΔCSI, ΔLOY and ΔSQU and considered the changes in the link when accounting for the influence of the fundamental control factor. Table 5 shows that ΔCSP was regressed on ΔCSI, ΔLOY and ΔSQU, and lagged ΔCSIs, ΔLOYs and ΔSQUs. We considered three lags: ΔCSI, ΔLOY and ΔSQU had a significant effect for the three lags. Table 5 also indicates that ΔCSI, ΔLOY and ΔSQU had a significant effect for the three lags when the control factor and its lags were added. The analysis revealed that CSI, LOY and SQU were good predictors of CSP, and their influence retained significance even when more lags were added. Therefore, H1, H2 and H3 were supported.

In Equation (3) we tested moderating cross-country effects by adding a moderating variable to

Equation (2) as follows:

$$\begin{aligned}
 \Delta\text{CSP}_{it} = & (\alpha_i + U_{it}) + \beta_1\Delta\text{PDI}_{it-1} + \beta_2\text{ECT}_{it-1} \\
 & + \delta\Delta\text{CSI}_{it-1} + \delta\Delta\text{LOY}_{it-1} + \delta\Delta\text{SQU}_{it-1} \\
 & + \theta\text{CCI}_{it-1} + \beta_3\Delta\text{CPI}_{it-1} + \beta_4\Delta\text{DEBT}_{it-1} \\
 & + \beta_5\text{MF}_{it-1} + \beta_6(\text{MF}_{it-1}\Delta\text{CSI}_{it-1}) \\
 & + \beta_7(\text{MF}_{it-1}\Delta\text{LOY}_{it-1}) \\
 & + \beta_8(\text{MF}_{it-1}\Delta\text{SQU}_{it-1})
 \end{aligned}
 \tag{3}$$

where MF_{it-1} represents the moderating variable and MF_{it-1} × ΔCSI_{it-1}, MF_{it-1} × ΔLOY_{it-1} and MF_{it-1} × ΔSQU_{it-1} are the interacting factors. Interaction terms detection was examined using the procedures developed by Cox (1984), which test the significance of the interaction terms one at a time to avoid over-fitting. A possible collinearity issue was examined owing to the inclusion of all the interacting terms into one equation. The results indicated that collinearity was not a concern. Table 6 shows the conceptualization of the moderating factors and the data sources.

Table 4. Estimation results of total sample

$\Delta CSP_{it} =$								
-1,846.3 (-1.94*)	+0.41 ΔPDI_{it-1} (5.39***)	-0.26 ECT_{it-1} (-3.20***)	+62.48 ΔCSI_{it-1} (3.27***)	+41.63 ΔLOY_{it-1} (2.85***)	+49.13 ΔSQU_{it-1} (3.028***)	+21.04 CCI_{it-1} (2.10**)	-1.82 ΔCPI_{it-1} (-7.35***)	-5,290.46 $\Delta DEBT_{it-1}$ (-3.78***)

Notes: The numbers in parentheses are t-statistics; ***, **, * and * denote significance at 1%, 5% and 10%, respectively.
 $R^2 = 0.64$; Durbin-Watson statistic = 1.73; Jarque-Bera statistic = 0.26.

Table 5. Regressing ΔCSP on lagged ΔCSI , ΔLOY , ΔSQU and lagged ΔPDI

RMSE of the baseline mode	$\Delta CSP_{it} =$	$\Delta CSP_{it} =$	$\Delta CSP_{it} =$	$\Delta CSP_{it} =$	$\Delta CSP_{it} =$	$\Delta CSP_{it} =$
	$f(\sum_{k=0}^3 \delta k \Delta CSI_{it-k})$	$f(\sum_{k=0}^3 tk \Delta PDI_{it})$	$f(\sum_{k=0}^3 \delta k \Delta LOY_{it-k})$	$f(\sum_{k=0}^3 tk \Delta PDI_{it})$	$f(\sum_{k=0}^3 \delta k \Delta SQU_{it-k})$	$f(\sum_{k=0}^3 tk \Delta PDI_{it})$
K = 1	0.000	0.000	0.000	0.000	0.000	0.000
K = 2	0.000	0.019	0.000	0.010	0.014	0.030
K = 3	0.000	0.026	0.000	0.020	0.000	0.000
	$H_0: \delta(s) = 0?$	$H_0: \delta(s) = 0?$	$H_0: \delta(s) = 0?$	$H_0: \delta(s) = 0?$	$H_0: \delta(s) = 0?$	$H_0: \delta(s) = 0?$
	p-value	p-value	p-value	p-value	p-value	p-value

Table 6. Moderating factors of cross-country differences

Symbol	Moderating factor	Description	Source
SERV	Proportion of the service sector in GDP	Proxy for the differences in terms of economic structure	World Bank World Development Indicators
PDI	Income per capita (proxy for socioeconomic differences)	Disposable income measured as gross income minus social security contributions and income tax, in constant US dollars (in per capita values)	World Bank World Development Indicators
EDU	Education levels	Proxy for socioeconomic differences, measured by the proportion of the country's labour force with only primary education	World Bank World Development Indicators
SURV	Survival vs. self-expression values	Proxy for cultural differences among countries, measured based on a battery of questions as per Inglehart and Welzel (2005)	World Values Survey
TRAD	Traditional vs. secular-rational	Proxy for cultural differences between countries, measured based on a battery of questions as per Inglehart and Welzel (2005)	World Values Survey
FREE	Economic freedom	Proxy for political-economic differences. Similar to Morgeson <i>et al.</i> (2011), we use trade freedom (TRAD_FREE) and business freedom (BUSS_FREE) to represent economic freedom	Heritage Foundation

All the study variables except Δ PDI are factors that rarely change. Thus, neither random nor fixed effects estimators were appropriate for examining these estimations. We used a panel fixed effects regression method, which controls for time-invariant factors (Plumper and Troeger, 2007). Table 7 sets out the moderating factors estimations using Equation (3), showing that the link between changes in the CMMs and changes in consumer spending was positively moderated by SECU, EDU, SERV, TRAD_FREE and BUSS_FREE, while SURV had a negative influence on these relationships. Furthermore, per capita income had no influence on the link between the three CMMs and consumer spending. Thus, H5, H6, H8, H9 and H10 were supported, but H4 and H7 were not.

Our findings, as shown in Table 7, therefore suggest that the CMMs of customer satisfaction, perceived service quality and loyalty intentions have a stronger influence on consumer spending in societies that have low self-expressive values (H4), a traditional basis (H5), a less well-educated population (H6), a dominant service sector (H8) and a freer economy (H9 and H10). On the basis of prior research, we hypothesized that in self-expressive cultures, these CMMs would have a positive influence on consumer spending. Our findings, however, show that the interaction factor has a negative coefficient (significant at the 5% level). Indeed, our results indicate significant negative co-

efficients, suggesting these CMMs negatively affect consumption expenditure to a greater degree in self-expressive societies (-52.897^{**} , -38.512^{**} and -61.894^{**} , respectively) than in survival societies (-61.903^{**} , -40.721^{**} and -71.034^{***} , respectively). In contrast, our suggestion that the relationship between the CMMs and consumer spending would be stronger in traditional societies was supported by significant positive coefficients (36.94^{**} , 22.56^{**} and 46.90^{**} , respectively), which were higher than for secular-rational societies (21.38^* , 19.40^* and 32.80^* , respectively). We also hypothesized, based on prior research, that the CMMs would positively affect spending in societies with higher per capita income. However, the coefficient findings (0.035 , 0.048 and 0.061 , respectively) suggest that the interacting variable (per capita GDP) had no effect; the justification for this result is provided in the discussion section. Next, regarding our suggestion that the relationship between the CMMs and consumer spending would be stronger in societies with a dominant service sector, this was supported by more significant positive coefficients (4.297^* , 2.084^* and 6.403^* , respectively) in these economies than in goods-dominant economies (2.306^* , 1.710^* and 4.015^* , respectively). Finally, we suggested that political-economic factors (trade and business freedom) moderated the link between the CMMs and consumer spending. The significant positive

Table 7. Cross-country moderators and the CSI-CSP link

MF = variable	APDI			SERV			SECU			SURV			EDU		
	Coeff.	Prob.		Coeff.	Prob.		Coeff.	Prob.		Coeff.	Prob.		Coeff.	Prob.	
C	-1,829.30	0.106		856.90	0.620		275.83	0.449		296.61	0.307		149.24	0.568	
ΔPDI_{it-1}	0.307***	0.003		0.492***	0.003		0.571***	0.001		0.459***	0.006		0.518***	0.001	
ECT_{it-k-1}	-0.472***	0.041		-0.439***	0.062		0.503***	0.010		-0.418***	0.053		-0.470***	0.017	
ΔCSI_{it-1}	63.90*	0.057		68.52*	0.038		96.05**	0.021		74.19**	0.048		126.74***	0.002	
ΔLOY_{it-1}	51.68*	0.071		59.31*	0.063		73.12**	0.033		61.82**	0.040		92.06***	0.003	
ΔSQU_{it-1}	77.21**	0.030		82.90**	0.049		104.27***	0.010		89.63**	0.029		148.01***	0.001	
CCI_{it-k}	18.39**	0.051		28.43***	0.002		32.39***	0.001		37.02***	0.000		38.62***	0.000	
ΔCPI_{it-1}	-149.36***	0.000		92.61***	0.003		-59.44**	0.042		-61.30***	0.001		-81.90***	0.000	
$DEBT_{it-k-1}$	3862.15	0.032		-6411.39	0.415		-5301.36	0.419		-5190.53	0.690		-4915.83	0.830	
MF_{it-1}	0.492***	0.000		-7.431	0.402		-28.504	0.320		012.304	0.743		-32.410	0.736	
$MF_{it-1} \times \Delta CSI_{it-1}$	0.035	0.710		4.297*	0.063		21.382*	0.047		-61.903**	0.041		72.307***	0.002	
$MF_{it-1} \times \Delta LOY_{it-1}$	0.948*	0.802		2.084*	0.090		19.403*	0.061		-40.721**	0.049		52.038***	0.003	
$MF_{it-1} \times \Delta SQU_{it-1}$	0.061	0.894		6.403*	0.054		32.803*	0.048		-71.034***	0.001		94.831***	0.000	
R^2	0.684	0.591		0.619	0.660		0.631								
Adj. R^2	0.597	0.530		0.501	0.573		0.549								

Table 7. (Continued)

MF = variable	BUSS-FREE		TRAD-FREE		BUSS-BAR		TRAD-BAR		SELF-EXP		TRADTL		GOODS	
	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
C	214.671	0.406	68.915	0.374	197.310	0.320	54.202	0.230	307.41	0.396	318.09	0.513	795.80	0.492
Δ PDI _{it-1}	0.596***	0.007	0.492***	0.003	0.478***	0.002	0.384***	0.006	0.540***	0.007	0.673***	0.003	0.376***	0.061
ECT _{it-k-1}	-0.508***	0.009	-0.386***	0.018	-0.439***	0.037	-0.2390	0.015	-0.571***	0.063	0.585***	0.045	-0.539***	0.002
Δ CSI _{it-1}	84.591**	0.005	27.11*	0.063	71.202***	0.008	23.20**	0.021	79.25**	0.069	117.80**	0.060	58.40*	0.049
Δ LOY _{it-1}	97.408***	0.006	21.38*	0.082	81.204***	0.007	17.83**	0.091	63.97**	0.061	87.04**	0.056	53.19*	0.034
Δ SQU _{it-1}	59.094***	0.009	32.30**	0.069	45.091***	0.010	27.35**	0.071	82.72**	0.049	136.89***	0.060	75.50**	0.005
CCI _{it-k}	34.316***	0.011	42.79***	0.006	31.209***	0.038	37.19***	0.009	39.81***	0.000	45.79***	0.071	21.20***	0.000
Δ CPI _{it-1}	-83.36***	0.004	-67.40***	0.041	-79.42***	0.009	-70.34***	0.062	-53.79	0.002	-41.05**	0.039	74.51***	0.010
DEBT _{it-k-1}	-8,689.317	0.632	-5,803.51	0.637	-9,320.125	0.518	-6,120.43	0.481	-605.37	0.715	-5,791.51	0.320	-720.31	0.205
MF _{it-1}	-46.309	0.591	-39.346	0.512	-54.302	0.349	-43.202	0.417	14.690	0.801	-21.06	0.218	-8.120	0.091
MF _{it-1} × Δ CSI _{it-1}	32.904**	0.010	18.346*	0.027	27.315**	0.043	14.209*	0.043	-52.897**	0.068	36.94**	0.047	2.306*	0.006
MF _{it-1} × Δ LOY _{it-1}	27.503*	0.002	11.238*	0.005	22.180*	0.004	10.236*	0.008	-38.512**	0.052	22.56**	0.051	1.710*	0.045
MF _{it-1} × Δ SSQU _{it-1}	39.064**	0.005	14.709*	0.061	31.206**	0.007	12.367*	0.078	-61.894**	0.005	46.90**	0.079	4.015*	0.017
R ²	0.691		0.380		0.618		0.319		0.704		0.683		0.392	
Adj. R ²	0.583		0.359		0.527		0.306		0.690		0.615		0.318	

Notes: ***, ** and * denote significance at 1%, 5% and 10%, respectively.

Abbreviations: PDI, personal disposable income; SERV, societies with a dominant service sector; SECU, secular-rational societies; SURV, survival societies; EDU, education level; BUSS-FREE, business freedom; TRAD-FREE, trade freedom; BUSS-BAR, business barriers; TRA-BAR, trade barriers; SELF-EXP, self-expressive societies; TRADTL, traditional-rational societies; GOODS, goods-dominant societies.

coefficients confirm that this link is stronger in nations with higher trade freedom (18.346*, 11.238* and 14.709*, respectively) than in those with lower trade freedom (14.209*, 10.236* and 12.367*, respectively), and in countries with higher business freedom (32.904**, 27.503* and 39.064**, respectively) than in those with lower freedom (27.315**, 22.180* and 31.206**, respectively).

Discussion

Our findings suggest that all three CMMs had their strongest influence in service-dominant economies. We therefore concur with Edvardsson *et al.* (2000) that the positive effect of customer satisfaction on revenue growth is more significant in service than in manufacturing sectors.

Regarding our finding of a weaker relationship between the CMMs and consumer spending in countries with higher education levels, and a negative association between education and loyalty levels, this may be because better-educated customers can obtain more information when considering purchases, thereby altering the likelihood of past satisfaction translating into loyalty intentions, as observed by Bae, Russell and Rego (2011). This more sophisticated use of information and choices indicates that consumption history ceases to be a strong determinant of future purchase decisions for more highly educated customers, suggesting difficulty in transforming satisfaction into increased consumption in nations with higher education levels.

Several unanticipated outcomes also emerged from our findings. For example, on the basis of prior research, we had hypothesized that CMMs would positively influence consumer spending in self-expressive cultures; however, our results showed a negative coefficient for this interaction (significant at the 5% level), indicating that the relationship between CMMs and consumer spending was actually lower in nations with strong self-expressive values. This phenomenon may be explained by the greater emphasis on individualism in societies with higher self-expression values and on collectivism in survival value-driven societies (Inglehart and Oyserman, 2004), and by the stronger link between customer satisfaction and loyalty in collectivist societies (e.g. Jin, Park and Kim, 2008; Liu, Furrer and Sudharshan, 2001). Similarly, our hypothesis that CMMs become

more significant predictors of spending as per capita income increases was not supported. This finding is inconsistent with Seiders *et al.* (2005) but highlights the complex interplay between income and spending. For example, higher income tends to outstrip increased consumption, with psychological factors playing a part (e.g. Keynes, 1936 [2009]; O'Donnell, 2018; Ramya and Ali, 2016), while consumption increases at a higher rate than income as individuals use loans, credit cards and overdrafts to make purchases designed to maintain or enhance social status and satisfy personal desires (Barba and Pivetti, 2009). The income–consumption relationship is strongest in low and high-income countries (with savings and credit influencing spending levels in the latter) and less significant in middle-income countries (Diacon and Maha, 2015), while willingness to buy (Katona, 1960) is impacted by individualistic factors including attitudes, predicted income and general economic mood. In any event, our finding should be interpreted carefully: it would be implausible to infer that policymakers should lower per capita income to raise customer satisfaction.

Finally, our finding that the political–economic variables (i.e. trade and business freedom) moderated the link between CMMs and consumer spending confirmed both classical economic theory and contemporary accepted wisdom, which is consistent with Morgeson *et al.* (2011).

Conclusion and implications

This study used panel data modelling techniques to examine how three CMMs – customer satisfaction, perceived service quality and loyalty intentions – influence consumer spending at the macro level, and how this relationship is moderated by cross-country differences. In a series of significant findings, we demonstrate that CMMs are significant predictors of consumer spending, whose effects vary between countries as a result of specific differences in culture, socioeconomic factors, economic structure and political–economic elements. As well as showing that CMMs play a critical role in significantly boosting consumer spending in all 10 countries studied, our findings suggest that they influence consumer spending more heavily in societies with a dominant service sector, a less well-educated population, low self-expressive values, a traditional basis and a freer economy.

These findings, which address a severe lack of knowledge on the overall relationship between CMMs and consumer spending at the macro level, have important implications at the theoretical level, as well as for practitioners and policy-makers.

Theoretical implications

In terms of theoretical contributions, this study first sheds light on the interplay between CMMs and consumer spending, not only demonstrating the significance of the link and the presence of cross-country differences, but also uncovering the factors behind these variances. Specifically, our findings enhance understanding of which particular metrics influence consumer spending at the macro level. By studying the links between spending and the CMMs of customer satisfaction, perceived service quality and customer loyalty intentions, using panel data modelling techniques, we have advanced understanding of the interplay between them in cross-country contexts. We have demonstrated that their influence is particularly strong in relation to culture (i.e. in societies with higher survival values), socioeconomic factors (i.e. in societies with lower education levels), economic structure (i.e. in economies with a dominant service sector) and political-economic factors (i.e. in countries with high trade and business freedom).

Second, our study contributes significantly to moving beyond Hofstede's (1983) cross-cultural dimensions – thereby avoiding the shortcomings in his methodology – by applying Inglehart and Baker's (2000) dimensions. When compared to Hofstede's cultural dimensions, some of the benefits of this dataset – such as the regularity with which it is updated, the lower number of variables (which reduces the risk of multicollinearity) and its availability across all countries – should appeal to future researchers. Overall, by examining a mixture of constructs and testing them in different contexts, we offer a theoretical lighthouse for further investigation.

Third, our empirical findings extend the work of Fornell, Rust and Dekimpe (2010) and Ramasamy and Yeung (2010) to another significant economic territory, as well as testing the impact of additional moderators including culture (i.e. traditional vs. secular-rational) and political economy (i.e. trade freedom and business freedom). Moreover, while previous studies on the relationship between cus-

tom satisfaction and business performance have tended to focus on a single country, mainly Sweden (Anderson, Fornell and Rust, 1997; Edvardsson *et al.*, 2000; Nilsson, Johnson and Gustafsson, 2001), our findings are based on longitudinal data collected across 20 years in 10 countries, providing more reliable evidence of the pattern of the relationships and suggesting stability over time.

Managerial implications

Our findings elevate the contribution of marketers and marketing activities to national significance, since effective marketing activities will improve CMMs, creating better customer experience, in turn driving higher consumption of goods and services and directly affecting economic growth as well as business performance. Conversely, our study suggests it would be counterproductive for companies to sacrifice higher levels of CMMs to achieve sales targets, and that dramatically reducing marketing budgets in economic downturns could trigger a vicious circle, since CMMs would be almost certain to fall, triggering lower sales, reducing resources further and in turn driving CMMs even lower.

Significant managerial benefits can also be gained by understanding how culture, education and our other moderating variables influence CMMs, enabling practitioners to differentiate between customer segments and target marketing activities accordingly. The importance of our findings therefore extends not only to multinational companies (MNCs) contemplating entry into new national markets, but to all national businesses seeking to create international operations or to enhance their performance in existing markets. For example, the degree of economic freedom in a target market will also influence consumer satisfaction, perceived service quality and loyalty intentions, and thus affect their prospects for increasing consumer spending. Small and medium-sized enterprises (SMEs) will also benefit from a full understanding of these effects to compete effectively with large corporations.

Furthermore, while our study drew exclusively on European data, the results suggest firms operating in all global regions could benefit from considering the unique in-country interplay between CMMs and cultural, socioeconomic, economic and political-economic factors, including an understanding that economic similarity should

never be mistaken for cultural homogeneity. We consider this approach is likely to enhance their operations, ensure that marketing campaigns are relevant to that particular market and maximize customer loyalty.

Similarly, our results suggest that universal CMM targets set by global headquarters are likely to be less effective than those tailored to relevant markets and societal types, implemented at country level. Overall, our findings therefore confirm the challenges identified by Morgeson *et al.* (2011) in setting common satisfaction targets in culturally diverse international markets. For example, the success of fixed targets may differ between secular–rational and self-expressive societies, cultural and other differences may muddle cross-country CMM comparisons, and apparently similar economies may have significant underlying differences once cultural and socioeconomic factors are analysed. Firms that adopt CMMs in the light of this understanding are better placed to withstand international competition, thrive in global markets and avoid financial loss. This approach, blending CMMs with in-country variables, should underpin marketing activities for all global businesses, since embedding it into macro-level decisions will ensure that initiatives increase sales, are tailored appropriately and will improve the metrics.

Policymaking implications

The implications of this study are highly significant for policymakers since they indicate the potential of CMMs to influence national economic performance. Moreover, they highlight the positive impact of trade and business freedoms, demonstrating that greater economic freedom can be expected to enhance customer satisfaction, perceived service quality and loyalty intentions, thereby encouraging additional consumer spending and in turn improving economic growth. This gives policymakers clear guidance that liberalizing trade and business freedoms should deliver economic benefits. Awareness of the different effects in service-dominated and manufacturing-led economies is also crucial to efforts to boost consumer spending, as policymakers may need to adapt their decisions to the specific challenges they face.

On the basis of our findings, we suggest each country should develop a CMM index, which would enable future consumption to be forecast

as well as measuring customer responses to the goods and services currently being consumed. We also suggest that policymakers find ways to motivate business investment in CMMs, since this should benefit the national interest as well as firms' own performance. This is especially the case for economies with a substantial service sector, since our study has shown that CMMs have a much stronger influence on consumer spending in this context, and yet CMMs for the service sector are frequently not strong (Johnson, Herrmann and Gustafsson, 2002), while its prominence typically rises as economies grow. Our findings also suggest that policymakers in advanced economies struggling with low growth should target lagging CMMs for services to enhance economic development.

Furthermore, although our model was tested only in the European context, our findings raise the interesting question of whether policymakers' use of CMMs to predict consumption and growth has the potential for global application. On the basis of our results, we consider it likely that non-European countries, especially those with a dominant service sector, would benefit from the use of CMMs, and believe national policymakers could use our model as a tool for assessing the interplay between CMMs and country-specific factors relating to cultural and socioeconomic elements, economic structure and the political economy. Analysis of this relationship could prove highly beneficial in forecasting and planning, even in countries where our model has not been tested. Like managers, policymakers should consider that outwardly similar patterns of economic growth in two countries may have different outcomes if there are significant cultural differences between them. As our model indicates, each country should be treated on the basis of its individual characteristics.

Limitations and future research

Our study has a number of limitations, particularly in the time-series data, where variation across time was restricted since CMMs are gathered annually, and in the cross-sectional data, where information was not available for all countries, including some significant economies. This latter issue, which reduced the number of countries in the study, restricted our ability to draw conclusions on cross-country differences and to conduct our research on a fully comprehensive and pan-European basis.

Another limitation relates to the argument by some prior scholars (e.g. Harzing *et al.*, 2009) that differences between cultural groups might make it impossible to consider equivalence between countries in relation to similar CMM measures; neither did the study address possible cultural differences in how easy it is to satisfy consumers. Regarding the techniques used to test for response bias, these might normally be considered more relevant for primary data-gathering methods. However, we are confident that the other measures adopted demonstrate that the study has only a minimal risk of bias.

Furthermore, while the conceptual framework for CMMs is widely viewed as generalizable, future researchers could widen the implications of our findings by using CMM data from elsewhere in Europe as it becomes available, as well as using our model in non-European contexts to examine the same relationships between CMMs and country-specific cultural, socioeconomic, economic and political-economic factors. Further research should also be conducted into marketing activities that enhance CMMs, for example seeking better understanding of advertising's potential role in enhancing national economic performance. This could be achieved by exploring how advertising influences CMMs at the macro level, which in turn feeds back into increased consumer spending and therefore economic advantage.

Finally, regarding our unexpected finding that per capita income did not affect consumer spending, which differs from the previous body of knowledge, it is hoped that future researchers can investigate this further – both theoretically and empirically – at the national level.

Conflict of interest

The authors declare that there is no conflict of interest.

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