A cross-cultural case study of consumers' communications about a new technological product

Abstract

Using a case-study based approach, this research contributes to the standardisation versus adaptation debate in global marketing. It analyses the influence of the local culture dimension reflected in consumers' comments in the Facebook platform regarding a new global technological product. Galaxy S8/S8+, launched worldwide in 2017. Consumers' comments about this new smartphone were gathered and analysed for three cultural distinct English-speaking countries: Australia, India, and South Africa.

The analysis' procedure consisted of a text mining and topic modelling approach, including sentiment classification analysis, to discern and understand consumers' responses to global brand communications.

The findings indicate that cultural aspects still play a key role in consumers' reactions to the product in each country, justifying the continued need for marketing strategies that conflate pursuing economies of scale with accounting for the cultural sensitivities of demand at country level. Evidence of consumers attitudes' and behaviours' homogenisation across countries is still limited.

Keywords: Standardization and adaptation; new technological product; social media; cosmopolitanism; text mining; topic modelling.

1. Introduction

While globalisation remains a fluid concept (Akaka & Alden, 2010), the globalisation imperative (Ram, 2009) epitomises the competitive pressure and market opportunities offered by an increasingly global consumer demand (Arnould & Thompson, 2005; Cleveland & Laroche, 2007; Muñiz & O'Guinn, 2001), accelerating the emergence of a homogenous global consumer culture (Alden, Steenkamp, & Batra, 1999), and the need for businesses to optimise their market performance, including economies of scale, on a global basis (Kotabe & Helsen, 2014).

Global consumer culture (GCC) refers to a set of dynamic consumption-related symbols (e.g. products and brands, such as smartphones and Samsung) and behaviours that are commonly understood, but not necessarily shared by consumers and businesses around the world (Zhou, Teng, & Poon, 2008). Consumers might increasingly understand GCC signs and behaviours, possibly disseminated by international/global marketing communications, such as social media. Indeed, the advantage to global businesses/brands from selling essentially standard (global) products in the same way everywhere, at lower costs relative to non-global businesses, is leveraged by social media empowered consumers (Pires, Stanton, & Rita, 2006), with information about products/brands reaching consumers through social networks, with electronic word-of-mouth (eWOM) possibly playing a key role in influencing product/brand acceptance (Bolton et al., 2013).

But conversion of the understanding of consumption-related symbols and behaviours into actual consumption behaviour also depends on consumers' own local meaning systems (Akaka & Alden, 2010; Alden, Steenkamp, & Batra, 1999), influencing which effects on consumer behaviour are driven by the global and local cultures, as well as the final outcome of the dual effects (Cleveland, Laroche, & Takahashi, 2015). GCC involves an

ongoing acculturation process that might entail different things in different countries (Cleveland & Laroche, 2007), such that it may take time and continued enquiry for GCC to be fully understood.

Combined with complexities arising from conceptual fluidity, an implication from the acculturation perspective of GCC is that Levitt's (1983) prediction of global demand homogenisation may only be tested sometime into the future (Al-Rodhan & Soudmann, 2006; Özsomer & Altaras, 2008), similarly with competing predictions of either increased heterogeneous demand resulting from an appetence to preserve local culture uniqueness (Jackson, 2004; Merz, He, & Alden, 2008), or hybrid outcomes involving the combination of homogeneity and heterogeneity forces to glocalise consumption attitudes and patterns (e.g., Ritzer, 2004). Notwithstanding, the continued relevance of global corporations, often involving mergers and acquisitions of local organizations and offering the same products throughout the globe (Öberg & Holtström, 2006), justifies examination of global brands and their diffusion process, enhancing contemporary understanding of the most effective means of reaching consumers in global markets with distinct cultures and geographies (Lim & Lee, 2016).

Global businesses need to devise strategies that account both for the benefits from standardization (economies of scale) and any adaptation justified by consumers' requirements within distinct cultures and in different countries (Stoeckl & Luedicke, 2015). Research focusing on understanding how distinct national markets react to global brands can provide valuable insights into the globalisation effects associated with standardised offers to those markets, also contributing to the standardisation versus adaptations debate in global marketing (Bardakci & Whitelock, 2004; Kotler, 1986; Kreutzer, 1988; Schmid & Kotulla, 2011).

Specifically, a global brand can passively obtain consumer feedback by collecting comments written in social media by users around the globe, which assists in understanding what pleases or displeases most of them about its global products and services. Such knowledge is valuable not only from a managerial perspective but also from an academic standpoint, if analysed in cultural clusters which may support shaping strategies according to the culture of the target population. This study aims to unveil cultural patterns by gathering the comments about a new technological product in topics and displaying them in visually appealing heat-matrices for three geographically and cultural distant countries.

2. Purpose and Approach

Global brands are identified in the marketing literature by reference to the degree of standardisation of their brand communication program (e.g. brand name, logo, brand positioning statement, brand image, brand positioning, brand packaging), and by being perceived as global by consumers in multiple countries (Akaka & Alden, 2010). However, the evolving nature of GCC and of the globalisation phenomenon justifies further consideration of whether global brands should be expected to standardise, customise, or perhaps glocalise their value propositions and communications strategies, and whether the type of product needs to be taken into account. It is considered, for example, that durable high-tech products are more likely to be positioned globally (Alden, Steenkamp, & Batra, 1999).

Seeking to examine how consumers in distinct cultural markets and geographies react to one specific durable high-tech global product under the banner of a global brand, the Samsung Galaxy S8/S8+ smartphone, this cross-sectional case study consists of an analysis of actual/potential customers' comments about the product appearing in

Samsung's Facebook homepages in three different countries, namely Australia, India and South Africa.

Highlighting the suitability of durable, technology based global products, the choices of a global product and of the focal countries for this research are first discussed, followed by an explanation of the research design and method of analysis, characterised by the use of a large volume of textual data that justifies an automated approach. The results are then presented and discussed, followed by the conclusion and considerations for further research.

3. Technology and the global product decision

Breakthrough technological innovations have led to an interconnected world by offering faster and more effective means of transportation and communication. Specifically, the Internet can be so considered, since it provides a global communication that fostered the emergence of new media, such as websites and e-mail (Kraut et al., 1999), perhaps reaching its heights with the Web 2.0 and mobile computing (Reynolds, 2009). The Web 2.0 led to social media, of which social networks are the most prominent example, including some of the most widely known brands, such as Facebook, Instagram, and Youtube (Gunawan & Huarng, 2015). Mobile computing resulted in sophisticated mobile devices such as smartphones and tablets, with advanced computational capabilities previously only at the reach of personal computers (Amft & Lukowicz, 2009).

With consumers and suppliers empowered by convergent Internet-driven technologies within an informational democratic environment, information about brands, for example, flows unrestrained from anywhere to anywhere in the world with a simple click (Pires, Stanton, & Rita, 2006), making that brands cannot neglect the power of social media

(Moro, Rita, & Vala, 2016). Arguably, the free flow of information can pressure cultural sustainability, as consumers everywhere are influenced by viral messages and ads, eventually supporting worldwide acculturation to a GCC (Li & Tsai, 2015).

Since technology breaks frontiers (Rust & Espinoza, 2006), the selection of a durable technology based product with some maturity in the global market, a smartphone, was deemed appropriate for this study given its likely globalised positioning (Alden, Steenkamp, & Batra, 1999). Selecting a smartphone for this study is also justified since global smartphone sales are reported to have fallen in the fourth quarter of 2017, the first time since 2004, due to a failure on incremental upgrades to impress consumers (Hodgson (2018). The chosen product was the high-end smartphone by Samsung, the Samsung Galaxy S8/S8+, released in April 2017.

Samsung is a leading brand in mobile devices (Falk et al., 2016), with its partnership with Google and the operative system Android, in a head-on competition with Apple iPhone (iOS operative system) (Chen & Ann, 2016). Although the model is relatively new, its maturity and popularity derives from belonging to a series distributed worldwide since 2009 - the Galaxy series. Combined with contamination effects from global eWOM, convergent consumer reactions to this global product would be expectable.

Samsung's strategy focus is on customer satisfaction (Atashfaraz & Abadi, 2016), guided by a mission statement that includes managing cross-culture communication (Rani et al., 2016). While there is no evidence of core product adaptations at the country level that could compromise economies of scale, the company's international strategic focus involves maintaining a physical presence in local markets to assure adequate responsiveness to local needs and full compliance with local laws (Simonin, 2014).

4. Countries for analysis

The challenge in the selection of countries was to ensure dissimilar national cultures, a requirement to assess the standardisation – adaptation reaction to a global product. Australia, India and South Africa are English speaking countries, share the past influence of the British Empire, and retain their membership of the Commonwealth. However, their distinct national cultures are clearly exposed following analysis using Hofstede's cultural dimensions.

Hofstede identified six national cultural dimensions, namely: power distance, individualism, masculinity, uncertainty avoidance, long term orientation, and indulgence (Hofstede, Hofstede, & Minkov, 2010). Figure 1 allows for easy visualisation of clearly distinct country profiles, demonstrating their suitability for this research.

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Figure 1 about here

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Individualism and indulgence are highest for Australia, which is also characterised by the lowest power distance and long-term orientation of the three countries. Power distance and long-term orientation are highest in India, which ranks lowest in individualism and indulgence. South Africa lays somewhere in-between Australia and India in most dimensions. All three countries exhibit similar scores for masculinity, and uncertainty avoidance.

The question that remains unanswered is whether countries with distinct national cultures according to Hofstede, share their acceptance of global standardised products such as the

Samsung Galaxy S8/S8+, or whether their requirements justify product adaptation. While some studies found support for national cultural aspects as sources of difference, as in the case of Pentina, Zhang, and Basmanova's (2013) study of trust in Twitter as a business platform in Ukraine and the United States, other recent research met with conflicting results, as in the case of Cleveland et al. (2016) study who found that acculturation to the global consumer culture explains Internet surfing behaviour by Canadian and Chilean respondents.

5. Research design and method

The experimental setup drawn for this research is based on the examination of Facebook comments by actual and potential consumers regarding a global technology product, the Samsung Galaxy S8/S8+ smartphone, in three culturally distinct countries, specifically Australia, India, and South Africa. The methodology is sui-generis, involving non-intrusive data collection from Facebook, the largest social network, instead of traditional surveys. Samsung's Facebook strategy in all three countries can be qualified as country specific, considering the brand provides specific and dedicated official homepages in each country.

Figure 2 shows the number of likes and followers for the three pages, one for each country, extracted in May 2017. While it appears at first sight that the brand has a higher penetration in Australia (given 4.3% of its population follows Samsung's Facebook page), it should be noted that Australia Samsung does not offer a specific mobile homepage, as Samsung does for India and South Africa. Thus, this may influence homepage visibility, also possibly leading to the higher observed number of comments.

The data gathered for each country consisted of user comments to the posts published about the Galaxy S8/S8+ during the month of April, 2017. The publications were manually selected by validating that these were related to the world wide "Unbox your phone" S8 campaign. While additional data could be collected over more months following the launch of the product, the user feedback would not encompass the novelty effect as when it was initially launched. Additionally, other variables would have to be accounted for, such as publications for other products from Samsung, which would visually occupy Facebook's pages, as well as competing products. As an example, iPhone X was launched in November 2017, being a direct competitor of Galaxy S8/S8+ and certainly affecting both marketing campaigns and user feedback. Therefore, this study focus is on the launch period of the product life cycle. Figure 2 also displays the number and types of publications, with clear variation across the three countries, as well as the total number of user comments to those publications. Variation in the number and type of publications is consistent with the findings by Simonin (2014), showing distinct Facebook strategies despite the product advertised being the same.

Figure 2 about here

To further confirm the international adaptation conducted by Samsung, the publications analysed were categorized and scrutinized by an independent panel of experts. Table 1 shows how those publications are distributed across four main categories: (1) product launch campaign, which refers to the generic "unbox your phone" campaign; (2) product features that are highlighted in some publications; (3) use of guest celebrities who

promote the product; and (4) celebration days, which are publications about special days in April such as Easter, siblings' day, or world dance day. The S8/S8+ highlighted features are those that Samsung considers disruptive and innovative when compared to both the competition and also previous Samsung's smartphones. Two examples are the iris scanner, which provides an additional biometric security validation, and the infinity display, which is the wide screen occupying almost all the length of the phone, also including the edges as in previous Galaxy S Edge models (Galaxy S8/S8+ Specifications, 2017). Table 1 confirms that Samsung has different strategies for the three markets, with Australia betting in few publications all focused on the product, while India emphasizes product differentiating features, as well as using celebrities to endorse the new product and thus attract audience.

Table 1 about here

The data was collected between 6th and 8th May 2017 using the Facebook Graph API (https://developers.facebook.com/docs/graph-api). This interface has a timeout limitation per data request (with one request per publication, with no pagination parameters), with experiments setting the maximum number of comments to 800, to avoid timeout. Thus, all publications were collected, but comments above 800 were discarded (the included comments are automatically selected by Facebook according to its relevance - "top comments" (Van Es, Van Geenen, & Boeschoten, 2014), i.e., the ones with most interactions, although Facebook does not entirely disclose the algorithm). Figure 3 shows the total number of comments retrieved per country. Although a few thousand comments

may not be strictly considered big data, the number is large enough to justify an automated solution. Furthermore, the approach is directly scalable, thus being adequate for application to big data. Since the contents are textual, text mining provides the most adequate choice, as it aims to unveil the hidden patterns that may be translated into valuable knowledge from unstructured data (Moro, Rita, & Coelho, 2017). The figure displays the full procedure, including three text mining based tasks: part-of-speech tagging, sentiment analysis, and topic modelling.

Part-of-speech tagging is the process of identifying to which part-of-speech (e.g., nouns, verbs, adjectives) the words of sentences belong to, being a common task for natural language processing (Martinez, 2012). The ambiguity of human language makes this a challenging task (e.g., the word "can" may be a noun or a verb, depending on the context). For this research, only the verbs and adjectives were retained, as the former represent actions or intentions, while the latter qualify emotions. As a result, a large number of comments were discarded.

Ensuing from the growth of social media and social networks, sentiment analysis (also referred to as opinion mining) studies people's opinions, sentiments, evaluations, attitudes, and emotions from written language (Liu, 2012; Santos, Rita, & Guerreiro, 2018; Zhang & Liu, 2016), providing a computational solution to classify a sentence in its sentiment polarity (Tan et al., 2012). A neutral sentiment receives a zero score, while variations to negative or positive values reflect corresponding sentiment scores. For example, the sentence "*I like a little the S8*" receives a score of 0.041, while the sentence "*I hate S8*" holds a score of -0.433. The sentiment scores shown in Figure 3 reflect the average scores of all comments for each country. While all countries' comments are positive, India ranks as the most positive, with a score of 0.342; on the opposite side is Australia, with a score of 0.168. This provides a first indication that national culture still

has an impact on consumers' reaction to a new technological product, such as the Samsung Galaxy S8/S8+ smartphone.

Finally, topic modelling is applied to the comments' verbs and adjectives previously extracted for each country. Topic modelling enables the gathering of comments in logical topics, characterized by the words considered (Moro, Cortez, & Rita, 2015).

Figure 3 about here

There are several topic modelling techniques, including the latent Dirichlet allocation (LDA), the correlated topic modelling (CTM), the latent semantic analysis (LSA), and the probabilistic latent semantic analysis (PLSA), which uses a generative latent class model to perform a probabilistic mixture decomposition, instead of performing a singular value decomposition (Hofmann, 2001). Lee et al. (2010) compared these four techniques through the application to topic detection and spam filtering. They found that PLSA achieved the best results, followed closely by LDA. Other studies found similar performances between both (e.g., Girolami & Kabán, 2003). In his seminal paper, Blei (2012, p. 80) states that "LDA was developed to fix an issue with a previously developed probabilistic model PLSA". The same study also highlights that LDA can be formulated as a probabilistic model, which has the advantage of being "easily used as a module in more complicated models for more complicated goals" (Blei, 2012, p. 82). Thus, LDA can be considered a Bayesian extension of PLSA (Yoshii et al., 2017). PLSA is simpler and has lower computational cost when compared to LDA (Shi et al., 2016). However, PLSA has several deficiencies that LDA addresses, making of it a better choice (Zhai,

2017). As a result, LDA derives more reasonable mixtures of topic in document classification (Wu et al., 2009). Furthermore, LDA can be best applied to documents dealing with multiple topics, as it is the case of user generated comments, where users can write anything they feel, thus offering an adequate solution for summarizing the knowledge hidden in Facebook's comments. Therefore, the latent Dirichlet allocation (LDA) was selected to build the three models (one for each country), similarly with Calheiros, Moro, and Rita (2017) and Moro, Rita, and Cortez (2017).

To characterise each topic, two dimensions were considered, namely consumer experience (based on Mano & Oliver, 1993), with four categories, and smartphone characteristics (based on Chamlertwat et al., 2012, Table 7 from source), with ten categories. Thus, for each topic, the comments better matching that topic were parsed to search for the lexicon underlined by those categories (please see https://fenix.iscte-iul.pt/homepage/smcmo@iscte.pt/crossculturetech for details) to understand which topics were associated with more (or less) comments for each category. As an example, the comment "I am really **interested** to work on it. Great **camera**" is accountable for "interest" and "camera". To show such amount of information (i.e., topics × 14 categories), three heat-matrices in gray tones were computed, one per country. Hence, a cell with a tone closer to black represents a topic whose associated comments include a higher number of keywords from that category. This procedure allowed for a simple and straightforward comparison of the results for the three countries, helping in measuring the differences in consumers' reactions to the same product in the three geographies.

All experiments were conducted using the R statistical tool, which offers a powerful open-source scripting framework for data analysis supported by packages with multiple functions developed by an enthusiastic community worldwide (Cortez, 2014). Specifically, the "openNLP" package was chosen for the part-of-speech tagging, while

"sentimentr" was adopted for the sentiment analysis, and the "topicmodels" package was used for building the topic models.

6. Results and discussion

The number of topics is an input parameter to the LDA. Following the approach by Moro and Rita (2018), and Calheiros, Moro, and Rita (2017), the number of topics was set to 16. The large number of comments considered, combined with the few words that compose most of them, inhibits selecting a lower number of topics. Considering each topic is characterized by its distance to each word, in a dataset of small comments only existing words within each comment can be used to build the topics, justifying the large number of topics chosen.

Figures 4 to 6 present the topics unveiled for Australia, India, and South Africa in a heat matrix format. A heat matrix constitutes a valuable visual analytics tool by condensing a large volume of quantitative information characterised by two dimensions under a simple to read and understand format (Saffer et al., 2004). The column "nr. topic" is the topic identifier, for referencing purposes, while "nr. comments" indicates the number of comments that best matched the corresponding topic, with "sentiment score" representing the sentiment polarity of those comments. The topics are presented in a descending order according to the sentiment score column.

The results reveal interesting differences in what is mostly mentioned across the three countries, even though the sentiment score does not show a large variation. Excluding the last topic for South Africa, sentiment ranges from 0.047 to 0.330, denoting the heterogeneity associated with national culture; despite somewhat similar sentiments generated by the product, there is little resemblance in the lexicon used to express them.

Hence, while it could be argued that English expressions intrinsically vary in the three countries (Quirk, 1990), the topics show little synonyms between the words. Instead, those are used to express different emotions reflecting distinct concerns among users.

There are few similarities from the topics drawn in the three countries. The most noticeable is that all users in the three countries have mentioned smartphone's size-related characteristics, in most of the topics. Still, this is more highlighted by Australians, less by Indians, and even less by South Africans. This result provides evidence that smartphone size is an appreciated characteristic regardless of the culture. Smartphones are recently massified products (especially after the dawn of the recent millennium - Islam & Want, 2014), and one of the features that changed very quickly is their size: at first, there was a trend of size reduction (Lin et al., 2009), while more recently the technology followed users' requirements to produce thinner devices (Bae & Lee, 2014). This may help to justify the globalised relevance of smartphones' size.

Focusing on each country, the topics found show that Australian users emphasise diverse categories, with different shading patterns emerging from Figure 4. Such result can be associated with the fact that Australia is a highly individualist culture (Hofstede, Hofstede, & Minkov, 2010). Thus, Australian expectations are not embedded into a group sense, which is translated into the keywords highlighted regarding Samsung S8/S8+. Specifically, the different shades for most categories are scattered throughout the topics (e.g., "appeal", "interest", "need", and most smartphone characteristics mentioned by users).

Figure 4 about here

Figure 5 about here

On the opposite, India's culture denotes a lower individualism score in comparison, which is translated into a more homogeneous aspect of the corresponding matrix (Figure 5). This is particularly emphasised for the consumer experience related to "value": in almost all topics, this category emerges as predominant. Furthermore, both the higher score in long term orientation of Indians when compared to Australians and South Africans, as well as the high indulgency level characterised by restraint also leverages the importance attributed to value (Hofstede, Hofstede, & Minkov, 2010). Additionally, inequality has increased in India (Chauhan et al., 2016), which may also trigger the relevance of setting considerations about the value of a potentially acquired product, even though smartphones are considered short lifespan products (Vogtlander et al., 2017). The South African culture is an individualist one (Hofstede, Hofstede, & Minkov, 2010), although with a lower score when compared to Australia. As an example, both cultures show diverse opinions (hence, more individualised) about smartphone's accessories. Yet, Australia's topics show a higher diversity for consumer experience categories (i.e., "appeal", "interest", and "need"). Likewise, it is an indulgent culture, thus where people are willing to realise their desires. Both cultural dimensions can help to support the different patterns uncovered in Figure 6 for the distinct categories.

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Figure 6 about here

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The individual topics per country provide a segmented picture by grouping comments highlighting the same categories. For Australia, there are some interesting patterns worthy of being discussed. Notably, topic 8 shows a tight relation between "accessories" and the "camera", since its associated comments clearly highlight both. The justification is the Gear 360º camera, which Samsung released on April 2017, the same month when S8/S8+ were also released. Still, it is exactly in the median position regarding sentiment score, showing users are not so enthusiastic as they are with other characteristics. While all topics have comments representing some concern with "size", topic 6 overshadows the remaining. This topic is also the one with most comments focusing on the appeal of customer experience, showing a connection between size and appeal. Topic 3 for Australia encompasses comments generally associated with customer experience, while also emphasising smartphone's capacity. This shows a group of users whose concern is to have storage that meets their needs. Particularly, this topic is the one where "value" is most mentioned. Two other topics showing a high frequency of both "value" and "capacity" categories are the number 13 and 16. S8/S8+ has the advantage of allowing storage extension up to a total of 320 Gb with the addition of a microSD card, a feature that its major competitor, the iPhone does not provide. Topic 15 highlights comments mostly focused on "interest", showing three dominant smartphone characteristics besides "size": "applications", "camera", and "size". Thus, this topic groups users expressing specifically interest on these three categories. Samsung's marketers may want to have a

closer look at a sample of these comments to understand the rationale for mentioning them.

As previously observed, Indian users show a homogeneous trend to comment about "size" and "value". Yet, the topics aggregate the remaining categories differently. Notably, topic 2, by far the topic with the most associated comments (231, while the second with most topics is number 10, with 128 comments), shows a clear recognition of one of the flagship features that Samsung emphasises in its S8/S8+ campaigns: the innovation of its smartphone's screen. The "infinity" screen (as Samsung named it) offered by its top-end device is the very first one to cover almost all the surface of a smartphone, with no button on its surface (only the regular side buttons, such as on/off and volume), benefiting also from the rounded edges already known from the "edge" variant of S7 Galaxy. Regarding the screen innovative characteristic, it is interesting to note that the topics with most positive sentiments (presented in a descending order in Figure 5) are precisely those that gather more comments mentioning the "screen" characteristic. This shows that the campaign and the product feature highlighted in it has positively impacted users' perception.

The most worth mentioning feature from Figure 6, South Africa, is the three distinct topics that highlight comments frequently mentioning "accessories" and "network", namely topics 1, 6, and 10. Furthermore, all these three topics emphasise the "need" consumer experience. These topics are the consequence of accessories released to take advantage of S8/S8+ network capabilities, most notably, the DeX, a docking station which allows users to convert their devices into a desktop computer, released on the same month as S8/S8+. Nevertheless, the three topics gather significantly different sentiments, with topic 1 being by far the most positive. Particularly, this topic's comments also

include keywords related to “appeal” and “interest”, which may justify the unusually high sentiment score when compared to the remaining topics.

By crossing the strategies followed in Facebook’s publications by Samsung in the three countries (Table 1) with the unveiled topics (Figures 4 to 6) Samsung is able to confirm the efficiency of its adaptation choice. As users are influenced by brand’s messages, it is important to summarize their opinions to understand if the intended messages are reaching the audience and producing the expected effect. This was observed particularly for India, where Samsung bet stronger on Facebook through publications focusing on product features and on endorsement by celebrities.

The smartphone industry is characterised by a very dynamic and competitive environment, where brands adopt short life cycles, launching several new products per year, and try to innovate through their premium devices. Samsung’s major rival, Apple, has launched in November 2017 the iPhone X, their premium smartphone and direct competitor of the S8/S8+. Like Samsung, Apple has also specific Facebook homepages for the three studied countries, Australia, India, and South Africa, suggesting they also adopt an adaptation strategy. It would be interesting to replicate this study to iPhone X and compare the results to the ones obtained for S8/S8+.

The approach followed in this paper has the advantage of being directly replicable to other contexts, facilitating future studies such as the one proposed, especially in dynamic industries like the smartphone one where organizations need to keep real-time track of what users are saying about their products, in a world powered by social media and eWOM.

7. Conclusion, limitations and further research

This case study determined that Samsung, a global organisation with a global brand, recognised environmental differences across the three countries being considered and adapted its communications to best support its offering of a durable technology based global/standard product in each country, as recommended by Stoeckl and Luedicke (2015), but in some apparent contrast with the particular appetence of global products such as these for global positioning strategies (Alden, Steenkamp, & Batra, 1999).

In greater detail, the focal product in this study is distributed worldwide without adaptation to its core – hence it is deemed a standard product. However, the total/augmented product was adapted by tailoring communications for each country, which questions the global positioning of the brand. This means that Samsung decided that each country's cultural effect on consumer behaviour justified to be taken into account so as to assure successful adoption of their standard product. India, for example is the only one of the three countries where Samsung used celebrities to endorse the product in their communications.

The sample consists only of actual or potential consumers who commented on the respective Facebook pages – that is, they are all users of the Facebook and partake in eWOM; this can be argued to constitute plausible evidence of consumers' attitudes and behaviours' homogenization indicative of GCC acculturation. However, since the sample is biased towards actual and potential consumers of technology products, all of whom are active users of social media in the different countries, it is not representative of the general population in each country. Rather, the sample is made out of individuals with a transnational cosmopolitan profile in what attitudes to global technology products and social media usage are concerned.

The relatively high number of participants in this study can be interpreted as evidence of substantial market penetration of the consumer transnational cosmopolitan orientation in each country. Nevertheless, the sample produced heterogeneous messages across three countries. The systemic differences in the commentary across the three countries indicates that local culture still influences how cosmopolitan consumers perceive global brands and product quality. That is, not all cosmopolitan consumers like all global brands and their associated products in the same way.

While the coupling of local and global cultures does not question the inherent cosmopolitanism related attitudes of the consumers who took part in the research in each country, it questions somewhat the extent of the presence of homogenised consumer tastes. Evidence of consumer attitudes' and behaviours' homogenisation is still limited.

The cultural differences appear reflected especially in the product's characteristics, such as accessories, network, and camera, with users expressing different concerns. For instance, Indians are more concerned with the screen, Australians with the accessories, while South Africans have mentioned both network capabilities and accessories. However, the fact that smartphones are currently globalised products combined with their continuous size evolution (first shrinking, then flattening) leads users in the three countries to show concerns with size. This shows that some features are already globalised concerns for users worldwide, supporting standardisation strategies to a limited extent. Nevertheless, Australia's Facebook publications are the only ones that did not emphasise product characteristics, implying that Samsung is not accounting for local tastes in Australia.

Regarding consumer experience, South Africans and specially Australians show heterogeneous concerns, while India's users are more homogeneous, with emphasis on

the product perceived value. Such finding rises the adaptation need within the standardisation versus adaptation debate not only between countries, but also within groups in each country.

It also needs to be noted that commentary expressed by using emoticons/emojis were not considered in this study, as the approach included only text mining. While this is a limitation, it may be argued that those types of symbols have emerged very recently, thus a more homogeneous and meaningful behaviour in their use is expected over time, justifying further research.

In addition to contributing to the standardisation versus adaptations debate in global marketing, particularly in what concerns a high cross-national homogeneity of demand (Zhou, Teng, & Poon, 2008) this research provides more evidence of the continued uptake of technology based innovations by consumers in different countries. The road paved by this study is just a peak around the corner on the overall success of world-scale global organisations. Thus, there is plenty of road to cover in future research as global organisations remain hinged on the development of ambidextrous dynamic capabilities aiming at efficiency in the development and offer of standard products, earning economies of scale, while adjusting other elements of the marketing mix to account for the uniqueness of individual countries. Clearly, innovations take time to change markets. Cultural change and global demand homogenisation may take much longer.

The method applied in this research holds an important advantage when investigating the globalisation phenomenon fuelled by large volumes of unstructured data over social media. As data keeps piling up in an overwhelming amount of consumer generated contents, scalability is the key when overcoming the challenge of analysing social media data. The text mining techniques employed offer precisely that scalability, as those are

only dependent on computational power, relieving the burden of a manual analysis as it is still the case of many procedures in organisations worldwide. Therefore, it is suggested future research might include the application of the same approach to other products and distinct cultures which may be identifiable through specific social media groups and brands' homepages.

A further possible trend to explore in future research is related to possible changes in comments by the time the product diffuses in the market (i.e. comments of innovators and early adopters versus late majority and laggards).

Finally, this cross-sectional paper established that the process of acculturation to the GCC has a time dimension that justifies the adoption of longitudinal design for future research.

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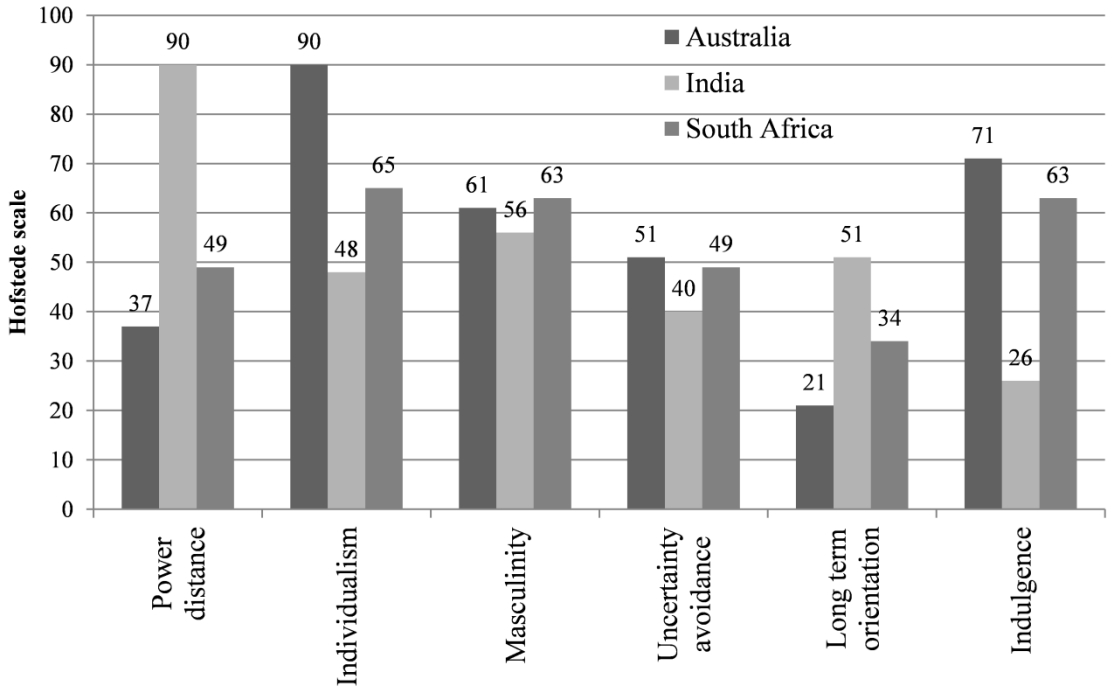

Figure 1 - Hofstede's cultural dimensions for the three countries (https://www.geert-hofstede.com/national-culture.html).

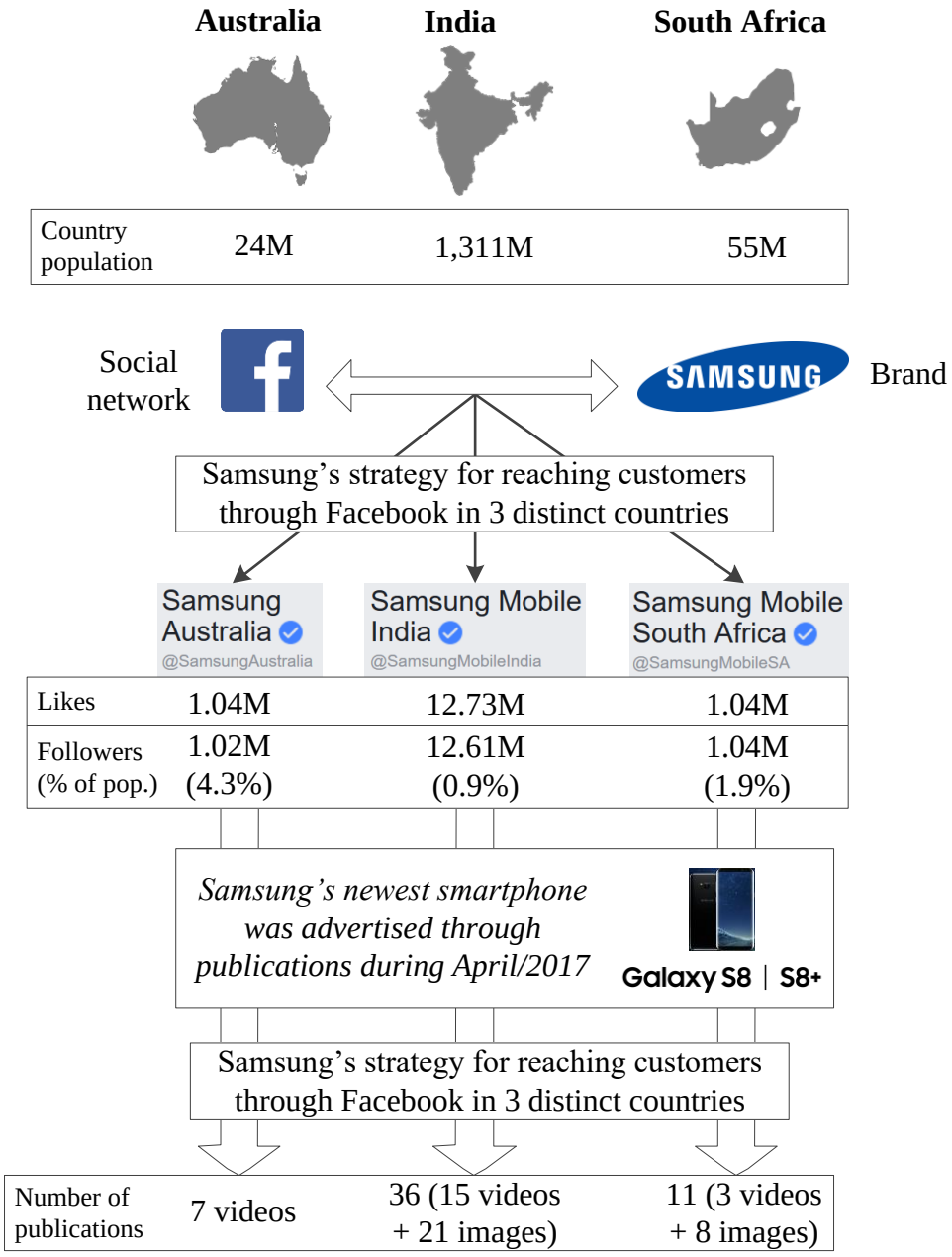

Figure 2 - Samsung's publications in Facebook for Galaxy S8/S8+ during April/2017.

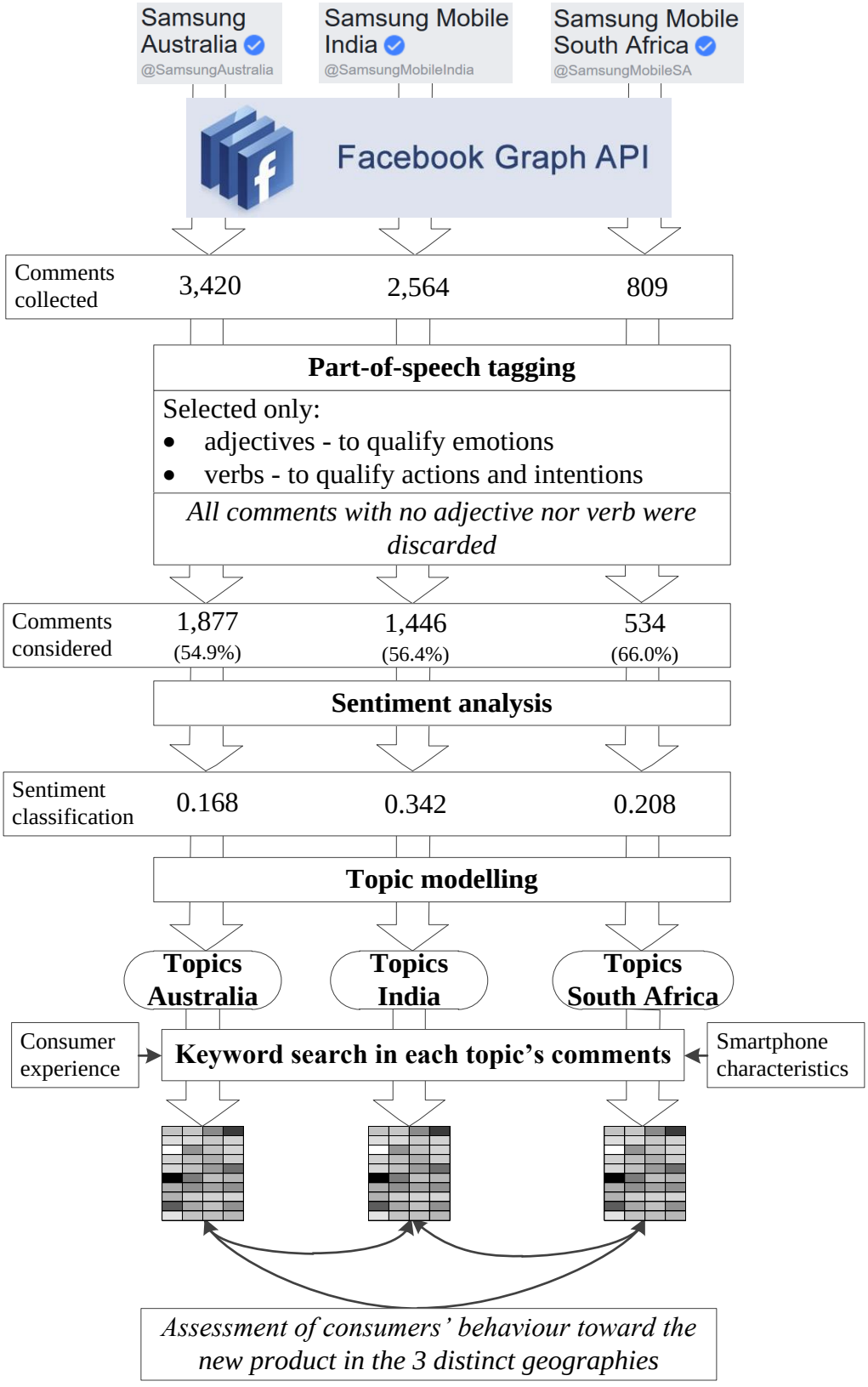

Figure 3 - Procedure undertaken.

Nr. topic	Sentiment score	Nr. comments
1	0.320	87
2	0.293	115
3	0.267	134
4	0.264	134
5	0.257	101
6	0.253	113
7	0.229	112
8	0.227	123
9	0.216	95
10	0.191	134
11	0.180	137
12	0.166	101
13	0.165	138
14	0.161	109
15	0.139	114
16	0.116	130

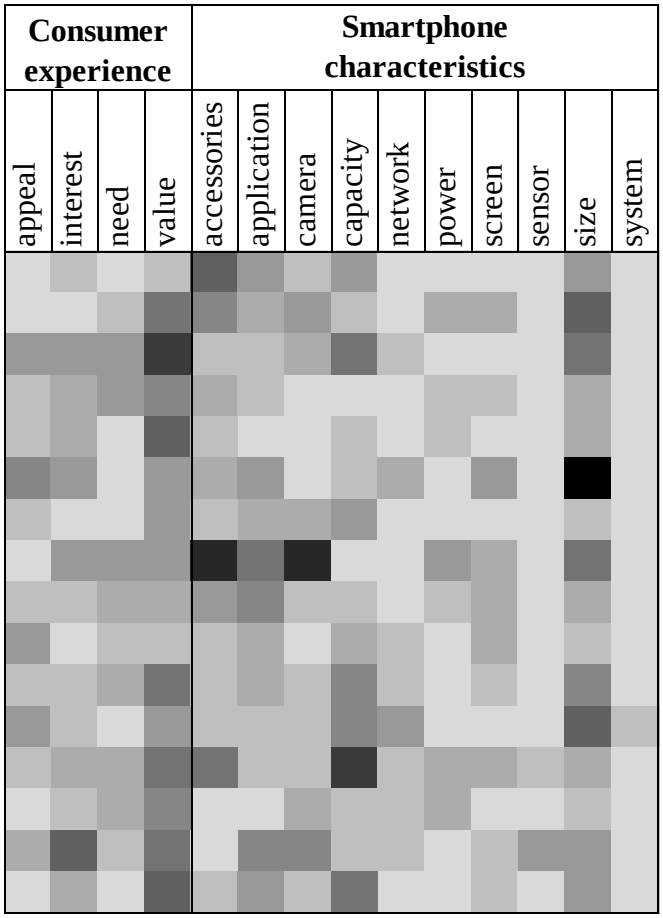

Figure 4 - Topics characterisation for Australia.

Nr. topic	Sentiment score	Nr. comments
1	0.330	94
2	0.308	231
3	0.258	108
4	0.247	49
5	0.221	76
6	0.219	79
7	0.218	90
8	0.166	96
9	0.152	63
10	0.148	128
11	0.142	41
12	0.128	94
13	0.091	41
14	0.078	69
15	0.062	96
16	0.047	91

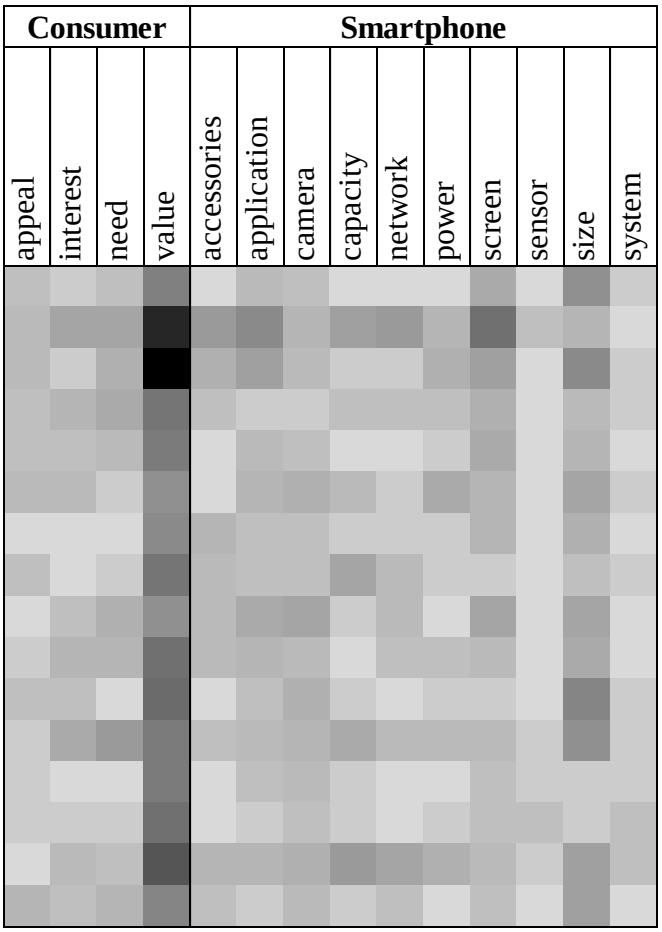

Figure 5 - Topics characterisation for India.

Nr. topic	Sentiment score	Nr. comments
1	0.763	27
2	0.329	31
3	0.314	19
4	0.307	112
5	0.259	13
6	0.225	36
7	0.217	33
8	0.183	32
9	0.167	5
10	0.140	33
11	0.126	51
12	0.106	20
13	0.090	46
14	0.084	14
15	0.075	49
16	0.067	13

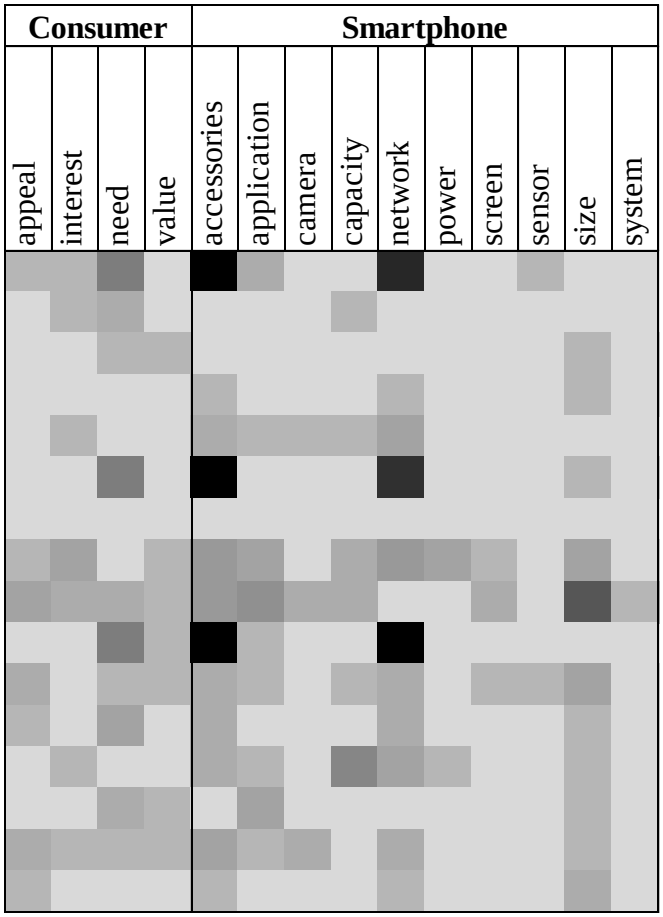

Figure 6 - Topics characterisation for South Africa.

Table 1 - Publications categorized.

Country	Publication emphasis			
	Product launch campaign	**Product features**	**Celebrities**	**Celebration days**
Australia	7	0	0	0
India	18	12	2	4
South Africa	5	4	0	2