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Social media content and product co-creation: an emerging paradigm

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Abstract

Purpose – The purpose of this paper is to conceptualise and discuss the possible insights that can be generated for product development by analysing the user-generated content available from various social media platforms.

Design/methodology/approach – The paper reviews the role of user generated content in developing products and its features (e.g. appearance and shape). It delineates the directions in which the relationship between social media content and customer oriented concepts evolve while developing successful new products.

Findings – The review and arguments presented in this paper suggest that the social media approach adds more value than the traditional approaches for obtaining insights about the products. Availability of users' opinions and information about existing products provide insights for the improvement in the product design process. Co-creation and self-construal are important components that are based on customer engagement and customer behaviour, respectively, in the product design and development.

Practical implications – As social media creates new ways of communication with users, businesses can include users into the product development process to improve and refine their products or for making the next generation of products.

Originality/value – This paper suggests a new approach in getting useful insights about the products from user-generated contents. This way of using social media helps businesses to move forward from the traditional product development paradigms.

Keywords Product development, Co-creation, Social media

Paper type Viewpoint

1. Introduction

Social media serves as an effective medium and stage for enabling collaborative communication between the users and the businesses. It has considerably altered the way communication and interaction work between businesses and the consumers (Dahan and Hauser, 2002). It has also dramatically enhanced the ability of businesses to integrate customers in many of their activities (Bartl *et al.*, 2012; Sawhney and Prandelli, 2000). The adoption and integration of social media platforms facilitates the interaction and communication to continue in the virtual world after the physical world or vice versa (Nambisan, 2002). There are opportunities for businesses to extend their reach of potential customers through different social media platforms. The information, generated by and accumulated on, social media can be used by businesses to identify the target audience and improve the overall customer experience (Chen *et al.*, 2009). Increasingly, the researchers are suggesting that the businesses should incorporate social media in their functions (Curran and Lennon, 2011).

At present, the design approach in product development is under transition from top down traditional one to more user-centred designing, as the users of products are more aware, networked and expressive. Incorporating user reviews and opinions as input into product design processes may result in a more effective design (Helander and Khalid, 2006). In product development, the following two basic areas have been identified that are influenced by such transition: product attributes; and customer requirements and satisfaction (Chan and Ip, 2011). Product attributes are calculated in customers' beliefs and previous experience that influence the customer purchasing behaviour. The relationship between users' emotions and products is essential for the success of any product. This suggests that users' emotions are related to their requirements and satisfaction. Customer requirements and satisfaction is the voice of customers having high worth for businesses (Chan and Ip, 2011). This enables to create an effective engagement and propagates the positive information about business and their business among customers which further convert into market demand (Seva *et al.*, 2007). Most businesses face product failure because they are unable to make a balance in these areas concurrently (Krippendorff, 2011). There are also many issues related to the influences of gathering user information by utilising traditional methods (i.e. surveys and group discussion) on the success of the actual product (Chen and Chu, 2012). Customers are more willing to give their reviews and opinions about products in social networking sites than completing a survey or taking part in group discussion (Li *et al.*, 2014). Businesses are realising that customer online opinions and experiences have potential to improve their product features by analysing user-generated content because of the high usage of social media (Allan, 2005).

In line with the above discussion, this viewpoint paper aimed to conceptualise the role of social media-based user-generated content in product co-creation. The remaining sections are structured as follows. The next section provides a brief overview of the concepts (namely, social media, new product development and co-creation) central to this paper. The third section then briefly discusses the role of social media in the product development through co-creation, and social media analytics. The final section outlines recommendations related to the topic discussed in this paper.

2. Background

2.1 Social media

For communication and sharing information, businesses are shifting their focus from the traditional form of media to online and digital media such as social networking sites, blogs, wikis and viral marketing (Hutton and Fosdick, 2011). These new technologies create many interactive opportunities to businesses in various ways. For example, these are used in communicating with their customers and altering customers' expectation of their relationship with businesses (Abed *et al.*, 2015a, b; Dwivedi *et al.*, 2015). Social media are internet-based platforms that enable information to flow through social communication channels that also provide decentralised user level content and public membership (Abrahams *et al.*, 2012). Social media is also defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user generated content" (Kaplan and Haenlein, 2010, p. 60). Social media is referred to as a network tool to generate content, online review and discussion, real-time feedbacks, relationship and community building (Rodriguez *et al.*, 2012). Furthermore, it is extended to users' networks and communities by increasing the number of social networking sites (Curran and Lennon, 2011). Social networking sites provide an easier way to propagate information to others which leads to decentralised user level content (Abrahams *et al.*, 2012).

Numerous social networking sites are easily available that facilitate different forms of social interactions. These interactions are community engagement and social viral activities (Li and Shiu, 2012; Kapoor and Dwivedi, 2015). Social media is characterised by the following main dimensions: conversation, participation, community formation, information openness, and connectedness (Chan-Olmsted *et al.*, 2013). There are various types of social networking sites with different functionality such as blogs, review websites, conversation rooms and social networking websites like Facebook, LinkedIn, YouTube, Flicker, Twitter, and Google+ (Mangold and Faulds, 2009). Due to the above specified characteristics, social media is an effective tool for businesses. Social media platforms are various sources of online knowledge and information about the services, products and brands that are generated and shared by users (Curran and Lennon, 2011). It is suggested that social media is a major factor to influence the users' behaviour in the form of opinions, awareness, feedback, usage, intention, purchasing habit, analysing and information sharing (Chang, 2008).

2.2 New product development
In recent years, there has been a move in conventional product design process in the direction of a more user-centred design approach (Abramovici and Lindner, 2011). This shift has been in response to the increased awareness and recognition of the users of products as a potentially affluent design resource to support product development. Holbrook and Moore (1981) estimated that the ever-increasing customer culture will need researchers to get under the skin of social, lifestyle and user needs. Incorporating users into product development processes has the potential of considerably enhancing creativity as well as facilitating effective design (Abramovici and Lindner, 2011). The relation with emotions between products and users, an essential component, can establish a product's success by satisfying various requirements beyond the functional ones. Noble and Kumar (2008) suggested two views of the product design with different linkages: functional differentiation and emotional value creation.

In a functional differentiation view, product is considered as bundles of attributes (Noble and Kumar, 2008). Successful design often means to create functional competitive advantages (Green *et al.*, 2001). In this approach, the attributes play an essential role to develop the products and help to create value of the product in the customer's view. These design attributes are directly related to product value which leads to a successful product (Chen and Chu, 2012). This type of design approach provides short-term benefits to businesses in the form of satisfaction, expectations, choice, and preferences (Noble and Kumar, 2008). However, Thompson *et al.* (2005) argued that such a design approach is inadequate in the long term. Another view of design is based on the customers' emotions (Noble and Kumar, 2008). There is evidence that the integration of emotions in the product design process can generate an emotional value that will appeal to customers. This emotional value can be further categorised in three types: social value, altruistic value, and affective value (Noble and Kumar, 2008). Many times the aesthetic appeal of a product is used as the measurable factor in its success. Emotions affect the users' behaviour, feeling, and thinking because users use the product with the physical contact (Alcantara *et al.*, 2005). In both views on product design as identified above, customers play a very important role (Noble and Kumar, 2008). Many researchers (He and Yan, 2014; Verhoef *et al.*, 2013) are working on co-creating value through product innovation by focusing on the collaboration with customers. This leads to the concept of co-creation, which is briefly introduced in the next subsection.

2.3 Co-creation
In co-creation of product development, customers are an active part of designing the new products; a part of value creation for businesses (Prahalad and Ramaswamy, 2004). More specifically, it is a collaboration process between businesses and customers who have an active role in the innovation process (Verhoef *et al.*, 2013). Thus co-creation refers to continuous participation of customers in the product development process (Ramirez, 1999).

Customer participation has become a critical strategic issue and a key success factor to develop a competitive advantage for businesses in a highly competitive environment (Brodie *et al.*, 2011). It is further categorised by two components: customer value and self-construal (Jiao *et al.*, 2014). Customer value is an essential strategic marketing issue for any organisation in the networked world of business (Khalifa, 2004). Weinstein *et al.* (2009) also held the same opinion and explained that customer value, which is the main source of value creation (Christopher, 1996), is the trade-off between customers' specific requirements and the potential benefits of product (Roig *et al.*, 2006). Achieving customer value means that businesses are fulfilling all the requirements of customers such as quality, delivery and cost expectation of the product (Jiao *et al.*, 2014).

Self-construal is generally defined as customer behaviour towards others (Markus and Kitayama, 1991). It is measured in two aspects: independent self-construal and interdependent self-construal (Jiao *et al.*, 2014). Customers, who express their own opinion and experience individually, are considered as independent self-construal (Lee *et al.*, 2012). On the other hand, customers with interdependent self-construal are likely to define themselves in terms of engagement and connections because they primarily view themselves as part of a network (Brodie *et al.*, 2011). There is a significant difference between both types of self-construal like individualistic vs collectivistic approaches (Jiao *et al.*, 2014). The engagement of customers with independent construal is more spontaneous than that of interdependent self-construal (Zhang and Shrum, 2009). The customers with an interdependent self-construal are group-oriented while customers with an independent self-construal are content-oriented (Lee and Kim, 2014).

To get quality information about their products and services, businesses require effective methods for interactions with customers. Traditional methods like group discussion and surveys for dialogue with more customers have various constraints in terms of engagement regularity with them (Bartl *et al.*, 2012). In contrast, online communication with customers is real-time and more frequent and persistent. Particularly social media-based platforms, they give a better opportunity to businesses to connect with a much larger number of customers with enhanced speed. User-generated data on social media can be used for both creating and spreading new product content in an earlier phase of the product's development. Information shared in the social media platforms is greater than the traditional method wherein a limited number of invited customers are able to participate in the design process.

3. Social media for new product development
In order to gain potential value from social media mining and social media analytics, businesses need to construct a systematic approach to support business intelligence workflows through the integration of internal data from customer engagement activities such as customer co-creation with their social media platforms. It was observed that all customer-oriented activities should ideally have a social media component. In the process of value creation, customers play an increasingly significant role, due to the opportunities of co-creation which is due to user-generated content. As the social media communities'

initiatives, as ways of co-creation, are rising (Verhoef *et al.*, 2013), it is of great meaning for organisations to know the logic of this co-creation process in order to remain competitive. Some emotional indices are also built (Huang *et al.*, 2012) for estimating the preference of users by using data-mining methods. Additionally, the integration between social media data analysis and customer co-creation in product innovation can allow businesses to validate and act upon customer needs and sentiments in a more holistic fashion across the customer bases (He and Yan, 2014). Because of these benefits, businesses need to integrate social media in the co-creation.

3.1 Social co-creation
The concept of social creation is one type of co-creation (Prahalad and Ramaswamy, 2004), which is broadly defined as creation of value by consumers from social media. In the past, the value of customers is limited to only a group of experts. The co-creation mechanism transforms the social media users' role from passive recipients to positive participants. It not only improves the efficiency of knowledge sharing, but can also help users to obtain a broader perspective of knowledge by participation (Chang, 2008). Considering this, social co-creation is necessary for businesses to achieve maximum customer value from effective customer engagement by using social media. This provides a deeper and clear understanding of customer behaviour. Although the concept of social creation in a new product development has been proposed, the practical applications are still insufficient (Rodriguez *et al.*, 2012). Currently, most businesses establish their own platform on which users can interact with each other. However, plenty of product and user preference information can be extracted from the external data sources, such as the popular social media platforms. User opinion, sentiment, and other context information are valuable references to corporations for recommending and offering products and services (Moe and Schweidel, 2011). Thus, researches constantly have attempted to grasp user attitude towards particular products from the social networking sites.

3.2 Social media analytics
Many studies have investigated the effects of the user postings to other user postings and examined the factors of product evaluation (Franke *et al.*, 2006; Moe and Schweidel, 2011). There are also studies that have tried to reflect not only formal structures like social network but also other substantial factors. O'Hern *et al.* (2011) looked into the diffusion network of user-generated contents and identified the difference between the influences of the idea-centric messages and solution-centric messages on the word of mouth effect. From the user-generated content, opinion consensus and sentiment analysis are very common and essential in social media analytics (Liu *et al.*, 2008).

Opinion consensus integration is one of the important issues in group decision making. Hoffman and Novak (1996) defined consensus as a decision that is approved by most of the team members; only a few members disagree. Those members who hold opposing views have the ability to influence the decision. How to aggregate team members' opinions can be roughly divided into two different categories (Ku *et al.*, 2012). This type of decision group has a complete arbitration mechanism. The team members do not need to exchange their opinions. Those opinions are aggregated by voting or giving different weights to the team members' opinions. In another type of consensus, the opinions are revised continually by the team members until they can finally reach an approximate agreement (Huang *et al.*, 2012).

Sentiment analysis has been popularly applied to the analysis of online customer reviews. For example, Cao *et al.* (2013) used sentiment analysis and opinion-mining techniques for purchase decision making. They used a large collection of extracted texts to analyse the sentiment polarity of opinions. Agarwal *et al.* (2011) used sentiment analysing and text mining to classify texts collected from online forums. Archak *et al.* (2011) proposed that textual reviews can be extracted to represent different product features. Some researchers have used consumers' reviews to appraise the users' impression of product features. Seva *et al.* (2007) pointed out that in a new product development the users' emotion is one of the important factors. Researchers should consider users' needs from the emotional perspective (Veryzer and Borja de Mozota, 2005). For example, Liu *et al.* (2008) collected sentences that described daily situations in order to construct ConceptNet, which automatically defines the keywords sentiment and perspective through the sentence categories. Shaikh *et al.* (2007) proposed an approach named SenseNe to extract users' experience of using a product, recognises the polarity of their opinions, and then calculates their preference for the feature.

In addition, there are also studies that deal with the social interactions in micro-level. The purpose of these studies is to view the users' interests and their contribution to develop a product in the context of open innovation or co-creation (West and Gallagher, 2006). Researchers focused on the aspects of the open source communities and customer communities set up by corporations and tried to grasp the causes of the emergence of diverse participation devices. There have also been steady discussions on the roles of lead users voluntarily acquiring the knowledge of products and services in an early stage and spreading them to other people and non-lead users. The dominant view is that corporations need to supply different feedbacks for different users since they have a different status in an online space like social media as they have varying levels of contribution according to the standards of their knowledge and ability in knowledge-sharing communities.

Social media is a cost-effective approach to gather different customers to share their knowledge and interests in communities (Constantinides and Fountain, 2008). It is also important to know the customers who do not contribute in the social media communities, but stay as a passive member who would continue to observe the user-driven innovation. The value is created by everyone who is linked with the end-product. The non-active customers should not be ignored, as they are also the stakeholders in the design process. By understanding the supposed risk related to the acquirer of a social media product, businesses can make a decision not to contribute in social media communities, or possibly take preliminary steps to decrease any possible risks. Successful social media communities within open innovation can only be considered so, when the whole value that is co-created exceeds the value of standard production (Papadopoulos *et al.*, 2012). This transformation might lead to a competitive advantage and collaborative value creation for businesses (Schau *et al.*, 2009).

4. Concluding recommendations

This viewpoint paper demonstrates a new approach in getting useful information about products and its features by using social media. In this paper, we argued that user-generated content in social media is an additional and important source to get insights about the products. Today, social media is not just a promotional tool. It has the potential to be involved in product development in place of traditional approaches. As a tool, social media mining refers to extracting large data sets. These data sets are less expensive compared to the traditional methods consisting of focus group

discussions and surveys. Furthermore, social media as an analytic tool provides the useful insights about products which lead to an increased cost and time efficiency. This way of using social media helps businesses to move forward with traditional research paradigms. Social media not only decreases time to get insights but can also increase the quality of information about products. Businesses can improve and refine their products leading to the development of next generation of products for the market.

This paper further identified and argued the importance of customer engagement in the product development process. By using social media, businesses have distinctive leverage to start communications with users. Consequently, they could build permanent virtual relationships that could support future engagements more effectively. In an iterative way, by engaging with the right users, organisations have the opportunity to further improve their product development capabilities. Businesses build observations on product development based on the relationship and community behaviour among customers. It is extended to develop networks with other customers as external entities. Customers and users have an effective role and contribution in product design and development. Co-creation fulfils the gap between users and businesses in an efficient manner with active collaboration. Such approach leads to the development of customer-oriented businesses. We also believe that the integration of social media with co-creation has the potential to generate better customer value.

Social media data contains user-generated data with emotions. All the requirements of customers are already expressed in the form of emotions on social media platforms. Therefore, businesses should take up that opportunity and use social media platforms for better engagement and social media analytics for a better understanding of users. Social media analytics can reveal a variety of themes emerging from discussions happening on various social media platforms. It can help businesses to identify new features of products. The only use of social media platforms does not ensure to create value but an effective use and accurate analysis can provide the desired outcomes in terms of product success. User-generated content as co-creation further provides a guide to interpreting metrics based on how it can serve the businesses' needs to develop new products. Furthermore, businesses can observe the importance of networks and communities to source useful content and support content creation processes. The ability of organisations to monitor social channels has been identified as important from the early stage of development of social media initiatives; hence it is not surprising that our review confirms the increasing importance of this aspect.

As social media is becoming a major source of news and developments, businesses will be able to examine several ways of how it could shape the scheduling of content updates and planning of future campaigns. Beyond customer engagement and community, businesses can develop content-oriented processes of product development by using social co-creation approach. Further, many of the social networking sites permits users to communicate to the community and participate in social viral activity. This influx in a communication medium to users will reshape the traditional environment with improved quality. Advancements in the technical capabilities of social media monitoring tools can provide new opportunities in this direction as well.

Social media offers many opportunities to businesses for various activities. Users are changing the way of social media usage as they are more and more aware of social listening and engagement. A lot of social analytic tools are being developed to extract value from the same. Businesses should have knowledge about these changes in users' behaviour in using social media and modify social media strategies with the market

dynamics. Social media could be a useful tool especially to identify the new patterns and events in product development. The product development process based on social media data can be a more user-driven development process. By monitoring the conversations in the social media, businesses can generate new product ideas but also gain insights into other issues users are worried about. As social media creates new ways of communicating with users, businesses can include users into the product development process by using social media to develop better decisions.

Social media mining and analysis techniques can help businesses in many ways to observe the trend of the next generation product development. Based on the insights about product from social media data, businesses can refer to the cost and the selling price of the product to decide which features should be added into the next generation of product first, and then formulate the development of product specifications. Second, businesses can identify the important reviews to derive the popular product features by employing sentiment analysis. Third, from the practical perspective, social media analysis is a viable alternative to traditional methods like focus groups and surveys which suffer from small data quantity, huge cost, and long time periods. The analysis of information from the social media in form of opinions can improve the effectiveness of the new product design. The inferred product feature specification shows the users' acceptable scope of every feature specification of the product and the priority of the users' decision making. With these outputs, businesses can understand the market, knowing which features of their product are vital and how the customers want it to be. Lastly, social media integration may enhance the effectiveness and the efficiency of co-creation by reducing the cost of interaction of users to contribute to particular user-generated content as co-creation initiative; hence, improving the heterogeneity of knowledge in the contributor community, a major factor of success in innovation management.

In spite of the many opportunities social media offers, there are also some limitations that future research needs to address. Businesses need research that investigates: first, how to handle the large amount of data generated by social media in an efficient way; second, how to measure the degree of importance of individual opinions *vis-à-vis* demographic variables, as the data extraction is limited to only a few parameters such as age and gender, etc. In the real world, the product design process may focus on different customer groups.

In the long run, social media could become an important data source for businesses. Social media should not be considered as a replacement for traditional research tools for collecting information about products. As the social media mining techniques are still evolving, social media analysts are recommended to cross-check the insights with other methods. Also, social media platforms have capabilities to influence users 'emotional states (Kramer *et al.*, 2014), but it is not clear how much product-related discussions or reviews could be influenced. As the businesses do not have control over the platforms like in the Facebook, the customer creation also needs to be treated with some caution.

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