

IDEA GENERATION FOR NEW SERVICE DEVELOPMENT (NSD): HARNESSING THE POWER OF SOCIAL MEDIA PLATFORMS

GENERACIÓN DE IDEAS PARA EL DESARROLLO DE NUEVOS SERVICIOS (NSD): APROVECHAR EL PODER DE LAS PLATAFORMAS DE REDES SOCIALES

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Abstract

Customers frequently use social media (SM) platforms to share and seek information about services. Could the content of customer SM interactions be used for new service development (NSD)? This study analyses: (a) Whether social media input is relevant for NSD? (b) What are the preferred social media platforms for NSD? (c) How social media input can be integrated with the current NSD organisational process? The results highlight the importance of social media input in NSD. Facebook leads the social media pack for relevant NSD input. The SMART roadmap for leveraging the power of social media for NSD has also been suggested.

Keywords: social media, Facebook, New Service Development (NSD), service improvement.

Resumen

Los clientes utilizan con frecuencia las plataformas de redes sociales (SM) para compartir y buscar información sobre los servicios. ¿Podría utilizarse el contenido de las interacciones SM del cliente para el desarrollo de un nuevo servicio (NSD)? Este estudio analiza: a) Si las entradas de las redes sociales son relevantes para NSD?; b) ¿Cuáles son las plataformas de redes sociales preferidas para NSD?; c) ¿Cómo pueden las redes sociales integrar los resultados con el proceso actual de NSD de la organización: los resultados resaltan la importancia de las entradas de las redes sociales en NSD. Facebook lidera el paquete de redes sociales para las entradas relevantes de NSD.

Palabras clave: redes sociales, Facebook, desarrollo de nuevos servicios (NSD), mejora del servicio.

Introduction

Social media (SM) platforms have emerged as a popular information-sharing source. While Facebook, Twitter, LinkedIn, YouTube, Instagram, Snapchat, and Quora are global community conversation platforms, there are

many regional SM platforms such as Weibo, Renren, and Wechat in China; Xing, Wer-kennt-wen and StudiVZ in Germany; and VK (VKontakte), OK (Odnoklassniki) and Moi Mir in Russia. On all these sites, text is the dominant medium of exchange. However, it also sustains emoti-

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cons, images, music, and videos. Among these, Facebook, with an active subscriber base of 2.7 billion¹, is the most popular SM platform. Since its launch in 2004, Facebook's subscriber base has grown exponentially with every successive year (Pandey & Gudipudi, 2019).

Apart from transmitting personal updates, many people use SM platforms for sharing their feedback on products consumed as well for enquiring about and ordering services. We hypothesise that such SM-based inquiries, requests, and comments can serve as useful input for the idea generation phase of new service development (NSD). To understand this SM-based service content, it is important to analyse the social media behaviour of consumers who seek these services. Consumer segmentation according to type, location, and age may provide service organisations with more refined results regarding the potential use of their comments (Patino et al., 2012; Smith et al., 2007). The study explores the feasibility of using social media for NSD in an organisational setting. None of previous studies have analysed this aspect of social media with regard to NSD.

This study focuses on three research questions (RQs) (a) Is social media input relevant for NSD? (b) What are the preferred social media platforms for NSD? (c) How can social media input be integrated with the current NSD organisational process? These RQs are interrelated with respect to the potential of mining service-related requests on social media by organisations planning to undertake NSD. The study examines the theory and practice of NSD including the input sources for the process and the preferred social media platforms for NSD. The second RQ would be more meaningful if the answer to the first one is affirmative. The third RQ focuses on learning how various relevant social media input can be integrated to further streamline and refine the current NSD organisational process.

This study employed a four-phase research process. In the first phase, natural language processing (NLP) was used to conduct analysis of extant literature regarding SM platforms used for service queries/requests. The variables identified from the literature review were incorporated into a survey questionnaire. In the second stage, the questionnaire was administered to target participants and responses were collected. The data was collected from social media users based in India. In the third stage, the analytic hierarchy process (AHP) (Saaty, 2008) was used to assign weights to the SM sites used for logging service queries and requests. Finally, an in-depth interview with twelve senior executives, with an average of

eighteen years' experience, was conducted to finalise the SMART (specific, measurable, achievable, realistic and time bound) roadmap for the integration of social media input with the current NSD organisational process.

Literature Review

Various authors (Kakatkar et al., 2020; Pandey et al., 2019; Smith et al., 2007) have found that consumer feedback plays an important role in the innovation process. The co-creation process directly uses consumer feedback in the company's product development process (Lewis et al., 2010). Content analysis of feedback was also known to be equally helpful with regard to service improvement (Pandey et al., 2020; Zhang et al., 2010). Because consumers express their views freely concerning their experience regarding different products and services on SM sites, organisations have now begun to mine SM data to derive meaningful consumer insights (He et al., 2013; Pandey et al., 2020; Woodall & Colby, 2011).

Huang and Benyoucef (2013) and Linders (2012) highlighted the value of product improvement with input from SM. A clear understanding of customer requirements can fuel idea generation (Pandey & Dharni, 2014; Schweitzer et al., 2012), and SM sites help gain this information on a real-time basis. Remarkably, very few studies have explored the use of SM-based data in the idea generation phase of NSD.

The web experience of a brand page on a social media site has an impact on product recommendations (Benchmark, 2014). The improved social media management by the organisations would enhance revenue and create positive word of mouth (WoM) (Savulescu & Mihalcea, 2013). The choice of internet-based platform is an important criterion in NSD as it would determine the quantity and quality of subscribers' posts (Menor et al., 2002). The majority of the service requests on social media were for utility services (www.wns.com). There was also a growing preference for green products and related services (Pandey et al., 2020; Pandey & Kaushik, 2012). The comments from the customers regarding service requests and comments having to do with the existing products and services including complaints on company social media handles could become input for new service development by organisations (Busagara et al., 2020; Gu & Ye, 2014; Smith et al., 2007). This would also enhance customer satisfaction besides being ideas for new products and services.

New service development input can come from a service recovery phenomenon which may stem from customer complaints on social media (Busagara et al., 2020; Grégoire et al., 2015), analysis of content from media

1 <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/> accessed April 14, 2021

posts by customers (Kim et al., 2015) or consumer posts on government regulated sites (Mergel, 2013; Oliveira & Welch, 2013). The service requests are being made by individuals on Facebook, Twitter, YouTube, LinkedIn, Quora and blogs related to healthcare, hospitality, education, grocery, food, financial services, etc. (Greene, Choudhry et al., 2011; Gu & Ye, 2014; Patwardhan et al., 2017; Savulescu & Mihalcea, 2013; Smith et al., 2007). The consumer reviews regarding service design in social networks can also be used for NSD (Sangiorgi & Eun, 2014). The social media analytics also provide key leads for NSD aside from providing consumer insights (Bashir

et al., 2017). Co-creation opportunities for new services can also be leveraged using the social media data of existing customers (Lorenzo-Romero et al., 2014; Matthing et al., 2004). The input from social media and other non-traditional sources for NSD would help firms gain a competitive advantage (Kitsios & Kamariotou, 2020; Ordanini & Maglio, 2009) (Table 1).

The present study is grounded in the work of Backstrom et al. (2012) which was popularly known as four degrees of separation. Backstrom along with his research colleagues analysed Facebook's 721 million active users and their 69 billion friendship connection data using

Table 1. Literature review

S. No.	Authors	Research type	Key Variable	Key Findings
1.	Kakatkar, Bilgram and Fuller, 2020	Conceptual	Consumer feedback, Front-end innovation	Artificial intelligence (AI) aids in innovation by processing consumer feedback and other relevant input. Innovation analytics helps organisations process big data coming from different sources for generating newer insights.
2.	Smith, Fischbacher and Wilson, 2007	Qualitative	Service co-creation, Consumer feedback, NSD	New service development (NSD) requires a holistic perspective though with high precision at the micro-level. The service co-creation variables may change as the context changes. NSD should also take into consideration stage-gate, quality function deployment, and blueprinting models.
3.	Lewis, Pea and Rosen, 2010	Conceptual	Co-creation, Digital story-telling, Collaborative learning	Social media has revolutionised the learning process. There is a need to leverage the power of digital social media for better learning and human development. Interactive media and active participation in digital media help us get live consumer data to generate newer insights.
4.	Pandey, Jha and Singh, 2020	Empirical	Consumer data, Value communication, Webpage content, Consumer Insights	The organisation could get interesting consumer insights by mining social media data where subscribers freely expressed their views on the SM platform. Innovative approaches in value communication and webpage design were necessary for promoting green products to millennials.
5.	Linders, 2012	Conceptual	Citizen coproduction, Crowdsourcing	The study highlights the importance of citizen coproduction by placing emphasis on promoting self-governance, citizen sourcing, and government-as-a-platform. It calls upon harnessing the optimal potential of social media channels for the benefit of citizens.
6.	Schweitzer et al., 2012	Qualitative	Fuzzy front end, Crowdsourced innovation, Online idea competition effectiveness	The online idea competitions are more effective in terms of the cost and quality of ideas rather than focus group discussion (FGD), provided proper guidelines are followed. The techniques such as online survey, online Delphi, netnography, and online conjoint analysis should be used to handle the front-end process of idea generation.
7.	Benmark, 2014	Conceptual	Web experience of brand page, customer service	Social media is a powerful tool for innovation and improving customer service. However, the most important aspect is who is managing social media marketing in the organisation. The team managing social media in the organisation was critical for outcome success.
8.	Savulescu and Mihalcea, 2013	Conceptual	Positive word of mouth, service development	Social media is now being used for business purposes. The study proposes pathways for leveraging social media channels such as Facebook, Twitter, and LinkedIn by organisations.
9.	Sangiorgi and Eun, 2014	Conceptual	Service design, Service innovation, NSD	Service design is an integral part of NSD. The study emphasised that service design and innovation should be a separate stage in the NSD process for better service development outcomes.
10.	Bashir, Papamichail and Malik, 2017	Qualitative	Social media analytics, Informal channels	The social media platforms such as Facebook, Blogs, LinkedIn, and Instagram are informal channels to collect data regarding a new product or service development. Many organisations were yet to leverage the full potential of social media input in their respective innovation processes.
11.	Matthing, Sandén and Edvardsson, 2004	Qualitative	Customer service management, NSD	Marketers have a tough job of anticipating the complex latent service requirements of the customer. The candid and authentic input of the customers is helpful for NSD and can be gathered from various channels, including online open social platforms.
12.	Lorenzo-Romero, Constantinides and Brünink, 2014	Empirical	Cocreation, Customer Integration	Cocreation had helped many organisations to innovate products and services, which gave them a competitive advantage. It would help companies to become more customer-focused rather than being a firm-centric organisation.

probabilistic algorithms. They found that two persons on Facebook are separated by four persons. The social media led by Facebook had reduced the degrees of separation between two individuals from six to just four (Bhagat et al., 2016). This implies that society is highly inter-connected and individuals on social media exchange information of value with each other. The present study assesses this information sharing platform with regard to its utility for NSD. The questionnaire design phase also draws from the work of Backstrom et al. (2012) and Bhagat et al. (2016).

Data Collection

Questionnaire Survey

The variables derived from the extensive literature review were used to design a questionnaire survey. The pilot survey helped improve the wording and flow of the questionnaire. A total of three hundred and ninety-four completed survey questionnaires were received. The questionnaire had a qualifier question which ensured that all respondents considered for analysis were active on at least two social media platforms. The questionnaire data were checked for missing values and skewed responses. The incomplete questionnaires and skewed response questionnaires were removed from the database. Finally, three hundred and twenty-eight questionnaire responses were found to be complete for further analysis. The average age of respondents was 24.5 years. After cross-tabulation, the survey responses were subjected to AHP, which included an expert ranking by heavy SM users. The AHP helps to establish the priority among the various options using responses from the experts (Saaty, 2008).

The heavy SM users were identified by one specific question in the survey which asked about the number of hours spent on SM sites per day. The respondents spending more than 2.5 hours on SM sites per day were segmented as heavy users for this study. This cut-off of 2.5 hours was arrived at by following a two-phase process. In the first phase, the secondary data was collected from the all the relevant articles with Google search results such as “average time spent on social media per day in India by heavy users” and variations using synonyms, particular social site name, regional results, etc. The average was derived from all the secondary data after removing outliers. The heavy users were on social media than 170 minutes per day. In the second phase, we reached out to six senior digital marketing executives, with an average experience of 14 years, asking the same question and without sharing our secondary data results. These digital marketing executives worked in three different agencies based in Mumbai, India. This phase was carried out telephonically

with prior appointment. The average for the heavy users’ segment came out to be 135 minutes per day. The cut-off was taken as an arithmetic mean of the two results. Thus, the heavy users in India were individuals spending more than 2.5 hours i.e. 150 minutes per day on social media.

In-depth Interviews

In-depth interviews were carried out with sixteen heavy users of SM, who spent more than 2.5 hours per day on SM sites. They were asked about their preferred SM platforms for logging service queries and requests, the typical length of their text- or video-based service requests, the frequency of SM access, and the responses they desired for their service requests (Table 2). General questions were included in the opening remarks, and responses to specific questions regarding SM usage were presented later and were recorded (with their consent) for analysis. The respondents were also asked to rank SM sites based on the above parameters.

Table 2. Interview Questions

S. No.	Questions
1	Which platform do you think is convenient for service requests?
2	Which platform is comfortable to you for service requests?
3	What is the length of text will you prefer for a service request?
4	How frequently do you access given social media sites?
5	How much time are you willing to wait for the response for your service request?
6	What are your views regarding the use of social media data for developing new services?
7	How much do social media posts by prospective customers have an impact on service innovation?
8	From your perspective, how important are social media posts for new service development?
9	Is social media data important for all sectors as input for new service development?
10	What type of posts on social media are more important for new service development?

Data Analysis

The respondents were chosen from a metropolitan city in western India, 79% lived in urban areas, 19.17% in semi-urban areas, and 1.83% in rural areas. Many respondents used multiple SM sites, and of those, YouTube was the most used (317 respondents), followed by Facebook (310 users) and LinkedIn (259).

Responses showed that the maximum number of service queries on SM sites pertained to restaurants (182), followed by hotel bookings (154) and travel (153) (Figure 1). AHP was used to identify users’ SM priorities for service requests. Factors influencing SM requests and their importance were also identified.

Figure 1. Service Query Requests on SM

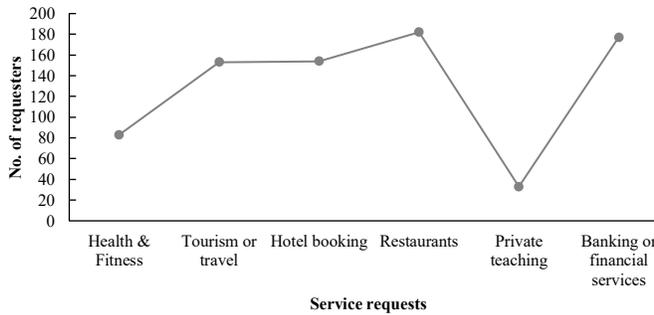


Figure 2 shows the different levels of AHP, categorised into service (level 1), SM platforms (level 2), and service parameters (level 3). Each parameter was further divided into variables, and weights were attached to each variable based on expert ranking (seven heavy SM users). The calculation of parameters is given on Table 3.

Figure 2. AHP Variables

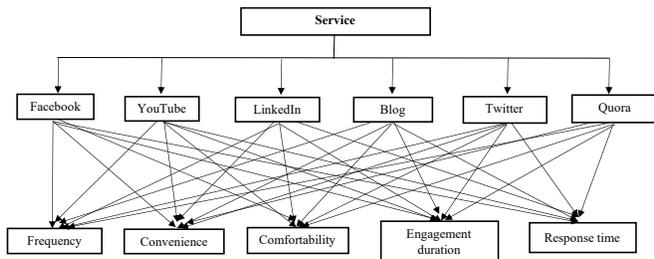


Table 3. Frequency

	Daily	2-3 times a week	Once a week	Once in 15 days	Rarely	GM	Local weight
Daily	1	3	5	7	9	3.94	0.51
2-3 times a week	0.33	1	3	5	7	2.04	0.26
once a week	0.2	0.33	1	3	5	1	0.13
once in 15 days	0.14	0.2	0.33	1	3	0.49	0.06
Rarely	0.11	0.14	0.2	0.33	1	0.25	0.03

Table 4. Weightage

	Frequency	Engagement Duration	Convenience	Comfortability	Response time	GM	Weight
Frequency	1	3	0.2	0.143	0.333	0.491	0.064
Engagement Duration	0.333	1	0.143	0.111	0.2	0.254	0.033
Convenience	5	7	1	0.333	3	2.036	0.264
Comfortability	7	9	3	1	5	3.936	0.510
Response time	3	5	0.333	0.2	1	1	0.123

The frequency of daily usage was assigned the maximum weight. Importance intensity scores (importance ratings) were assigned in line with the norms specified by Drake and Lee (2009). To validate the chosen ratings, the consistency ratio was calculated as follows:

$$\text{Consistency index (CI)} = \frac{\lambda_{max} - n}{n - 1} = 5.237$$

$$\text{Consistency ratio (CR)} = \text{CI/RI} = 0.053$$

Since CR < 10, the importance ratings were found to be valid.

Service

The SM users were regularly posting their service request details in their respective open and closed social groups. The query requests on the SM platform consisted of the required service details and requests for contact details of service providers in the vicinity providing that particular service. The data was categorised using various service parameters such as frequency of usage, engagement duration, user convenience, response time, and comfortability.

SM Platforms

The respondents' preferred SM platforms, identified from their usage frequency, were ordered as follows: YouTube, Quora, Twitter, LinkedIn, and Blogs. Similar calculations were performed for other parameters such as text/video length, convenience, comfort of use, and response time. Interestingly, the response time on the blog was primarily followed by YouTube and LinkedIn.

Before consolidating all the results to determine the SM platforms preferred for logging service queries, weights were attached to the parameters according to their importance in the NSD process. The weights were assigned by a team of two industry experts – one working with a marketing research agency and the other with a digital marketing company, with an average experience

of fifteen years; and three academicians, working in the fields of services marketing, intellectual property management, and service operations management.

Table 5. Preferred SM Score

	Facebook	YouTube	LinkedIn	Blog	Twitter	Quora
Frequency	3.020	2.774	1.630	0.518	1.807	2.627
Engagement Duration	4.701	3.944	4.323	4.394	5.991	3.258
Convenience	3.504	1.607	2.462	1.083	2.127	2.185
Comfortability	3.550	2.053	2.350	1.488	2.508	2.842
Response time	3.220	1.136	1.804	0.876	3.489	2.035
	3.499	1.924	2.328	1.336	2.605	2.564

Discussion

Facebook was the most preferred site for logging service queries, requests, and comments (Tables 4 and 5). It was followed, in descending order, by Twitter, Quora, LinkedIn, and YouTube. India has more than 270 million active users on Facebook – the largest in the world, followed by USA (190 million) and Indonesia (130 million)². Twitter and Quora are other important platforms, after Facebook, for leveraging information regarding the NSD idea pool. The unique thing about both these platforms is that being an open resource, data can easily be removed for big data analytics leading to valuable insights for NSD.

The results also showed that respondents placed emphasis on the comfort of use (0.510), followed by convenience (0.264), and response time (0.123). These results suggest that teams focusing on NSD should first study Facebook content for idea generation related to their service category. Content on sites such as Twitter, Quora, and LinkedIn may be subsequently explored. Remarkably, blogs were found to be the least preferred medium for posting service queries.

Comfort of use will enhance the adoption of that social media platform and thus facilitate query, comment and sharing postings. The use of apps and user-friendly navigation features greatly facilitate the comfort. The higher usage of social media will reduce the degrees of separation and thus facilitate information sharing in the network (Backstrom et al., 2012; Bhagat et al., 2016). The insights stemming from content analysis of these social media posts would help brands to gather new consumer insights. It would help brands to charge premium rates for their unique offering (Singh & Pandey, 2015).

The in-depth interview with the senior executives regarding the roadmap for integration of social media input in the NSD process focused on SMART (specific,

measurable, attainable, realistic and time bound) goals for its implementation. The experts emphasised that the first step of this SMART roadmap is top management support i.e., someone above the rank of Vice-President or General Manager (preferably CEO) has to get a buy-in from the NSD team by explaining the advantages of SM inputs in NSD and issue clear instructions for its formal incorporation in the organisation's NSD process. The success stories and case studies of reputed organisations using SM inputs in their NSD process will help in getting a buy-in and conviction within the employees and particularly the NSD team. Secondly, SM input should be used at the idea generation stage. The SM input will be akin to the idea pipeline to the organisation's NSD funnel. It will augment existing idea generation methods such as brainstorming, survey, and consultant input. Thirdly, the majority of experts stated that the SM platforms should also receive input from un-conventional social platforms such as blogs, Pinterest, Triberr, etc. besides the conventional SM platforms such as Facebook, Quora and YouTube. Fourthly, SM input needs should be mined using text analytics tools such as nVivo, SAS Text analytics, R, Lexanalytics, etc. to get usable input for the NSD funnel. Finally, there is a need by organisations to iterate the SM idea input collection and analytics process based on previous project experiences. This review and the refinement of the idea collection process based on SM input should be an ongoing exercise in the company.

The managers working in service industries were also interviewed about the extent of use of social media data in NSD; social media data and its impact on service innovation; the importance of social media data in NSD; and the most useful type of post for NSD. It was found that the use of social media posts for NSD by existing and prospective customers, was not a common phenomenon in the industry. Remarkably, all the companies whose managers were interviewed were already using social media channels such as Facebook, Google AdWords, and YouTube for online promotion of their respective brands. Only one organisation was using it for their new product process. Alam and Perry (2002) highlighted the importance of social media input for developing financial products and services for retail banking customers. Social media was also instrumental in informing customers about any new service besides getting posts regarding queries concerning the new kind of services (Lorenzo-Romero et al., 2014; Weber, 2009). All the respondent managers strongly believed in the potential of social media posts as input for NSD. This would ensure indirect consumer involvement in the early phase of NSD.

One of the respondents highlighted that their chain of hotels has started per hourly billing in select metro-

2 <https://www.statista.com/statistics/268136/top-15-countries-based-on-number-of-facebook-users/> accessed on March 6, 2021

politan hotels on an experimental basis based on social media suggestions by many of its frequent customers. This may be taken as an example of service co-creation. The respondents also stated that the online complaint by a customer was given higher visibility. All the customer complaints were pooled into different service categories in many organisations – regardless of whether the company was providing that particular service or not. These service categories were considered during the NSD process. The majority of respondents informed that their company was conducting social media analytics for generating consumer insights. These insights also go into the conceptualisation, planning and development of new services by the respective organisations. The responses were varied regarding the question about the type of social media posts which were more useful for NSD. This included complaints about existing services, requests for new services, mentions of competitor services, service review posts, mentions of a particular service available in a foreign country, service failure posts by customers, and blog posts regarding an existing service. However, service co-creation based on customer social media posts still needs to be formally institutionalised in the NSD process with the top management support and training interventions.

The generalisability aspect was analysed using the framework proposed by Lee and Baskerville (2003). The study used social media subscriber data and also digital marketing expert responses from India. This study may be seen from two perspectives – the positivism and the interpretivism approaches (Lee & Baskerville 2003; Schutz, 1962). From a positivism point of view the study needs to be contextualised, however, from the interpretivism perspective the finding is generalisable for social media input to NSD. This is based on the premise that social media characteristics are broadly similar across the geographies. All the digital media experts had travelled abroad at least once and two of them had an average stint of four years abroad. Also, the high internet penetration, the fast growth of social media and the availability of services from almost all popular MNC brands to Indian consumers also makes the responses more relevant for generalisability. However, the degree of generalisability may further be enhanced by testing the variables in context specific scenarios as there is an important role of type of industry, organisational culture, and traditions.

Conclusion and Managerial Implications

The literature review and survey data clearly show that SM content is an untapped source of input for NSD. This finding becomes especially valuable given the fact that the service sector is one of the major contributors to the

GDP of many developed countries (UK – 80.2%; USA – 79.5%; France – 78.8%; Canada – 70.7%) and developing economies (Brazil – 72%; Argentina – 58.4%; Philippines – 59.5%; India - 54%) (data.worldbank.org). The research on SM-related aspects of NSD has been scarce. With no special issue or call for papers on the topic, even journals in the ambit seem to have ignored the interface between SM and NSD. Understanding how SM content, especially user-generated data, may be leveraged for NSD can not only help develop customer-centric services but also improve existing services. Furthermore, the acceptance of such services by the target customers is likely to be high as the services will be based on their direct input.

Our data analysis shows that a high number of service-related queries are directed at restaurants (55%), hotel booking services (47%) and travel services (47%). The data clearly shows that service-related queries and comments are being posted on SM platforms. Therefore, social media input regarding NSD cannot be ignored. The total number of visitors on leading SM sites such as Facebook, Twitter, Quora, and YouTube is increasing and so is the amount of generated content on these sites. Organisations can mine and analyse these contents for NSD and service improvement.

Thus, though the use of social media for new product development is well established (Bashir et al., 2017; Carr et al., 2015), there exists a need to understand how the power of social media can be leveraged for NSD. The potential of social media for NSD was highlighted by Sigala (2012) through the case study analysis of mystarbucksidea.com. The study highlighted that social media posts can be used for NSD by using techniques such as netnography, and other qualitative and quantitative tools. There were multiple social media platforms confusing the organisations as to which ones to prioritise for using for NSD, given the limited organisational resources. This aspect, which was not explored earlier in the literature, has been covered in this study. The data is collected from users who put forth their queries for services on various social media platforms. The data collection process ensured that respondents who had posted service request related queries on social media platforms were included in the study and excluded those respondents who had done the product related query posts. Service differentiation has become one of the critical success factors for attracting and retaining customers in many of the B2B and B2C firms. Hence, the input related to NSD for coming up with customer preferred service offerings and innovation is important. The study also explored how social media input can be integrated with the cur-

rent organisational NSD process, besides proposing the SMART roadmap for leveraging the power of social media for NSD. Companies such as Starbucks (Sigala, 2012) and EF Inc. (Pasanen & Konu, 2016) were using social media for NSD.

The study highlighted that the service-related queries on the social media platform were highest from restaurants, hotel booking services and travel services. The food and hospitality industry can get insights regarding new service requirements by mining these data on social media sites. This becomes more relevant in current covid-19 pandemic scenario where the requirements in restaurants, hotel booking services, and travel services have changed. Customers were requesting a lot of customised services from service organisations (Pandey, 2021). The services such as patient food from local restaurants, hygiene and outdoor dining arrangements, preference for AI based hotel booking services, and the non-sharing of safe travel requirements were the most popular service requests made by customers during the pandemic (Luo & Xu, 2021; Kim et al., 2021).

However, the interview with the managers of service firms revealed that many organisations in the services sector did not actively leverage user-generated SM content. While most of these organisations have websites and Facebook pages, their presence on YouTube, and Quora is minimal. In this information-led era, service organisations, especially restaurants and hotel booking and travel firms, cannot afford to ignore media channels that offer access to unbiased consumer feedback. Such user-generated SM content can provide insights into service development and improvement, leading to better customer acquisition and retention.

Facebook (3.02) was the most preferred SM platform for service queries, followed by YouTube (2.77), Quora (2.63) and Twitter (1.80). Remarkably, blogs were found to be least popular for service-related queries and information. This may be explained by the highly focused content on blogs, their lack of updated information, and the fewer service-specific blogs available. The engagement of consumers was the highest with Twitter (5.99) as it is an intensive SM platform. This was followed by Facebook (4.70). Facebook was also ranked the best in convenience (3.50) and response time (3.22). Customers used Facebook for obtaining service-related information and seeking responses from friends owing to its popularity and its engagement of user-generated content.

In terms of frequency of usage, engagement duration, user convenience, and response time, Facebook (3.50) was the most preferred platform for posting and answer-

ing service-related requests. Further, Facebook provides analytics services (both free and paid) that help organisations mine relevant qualitative (textual) information. The analytics data can serve as input for NSD, ultimately leading to highly relevant and consumer-friendly service design. The value of consumer-generated feedback on SM sites has been indirectly supported by Schweitzer et al. (2012), who emphasised the power of crowd-sourced innovations. Woodall & Colby (2011) explained that apart from seeking advice on SM platforms, customers enjoy sharing feedback as it satisfies their impulses and desire for excitement. Such uninhibited sharing produces out-of-the-box and genuine solutions for service-dominant problems. Thus, SM platforms enable consumers to seek specific services viz. details regarding service – both existing and aspirational; and provide organisations the opportunity to leverage this valuable information for their NSD process. The integration of SM input in the current organisational NSD process emphasises input from non-conventional SM sources such as blogs and user forums. This is in line with the findings of Roberts and Piller (2016).

Organisations that leverage insights from SM analytics for NSD or for improving their existing services are likely to register increased revenues. This supports the findings of Bashir et al (2017). SM analytics can complement traditional means of idea generation such as brainstorming, experimental design, survey, etc. The recommended SMART roadmap for the integration of social media input in the NSD process may be followed by organisations. Thus, service-dominant companies should work toward harnessing SM analytics as the process will likely involve a planned investment of resources to actualise its potential.

Limitations and Future Research Directions

First, only six SM sites—Facebook, YouTube, LinkedIn, blogs, Twitter, and Quora—and five parameters were considered for the sake of procedural simplicity and ease of calculations. In future studies, companies may define their own parameters, relevant to the services they offer. Second, all the respondents were millennials (18 to 34 years) as the majority of the heavy users of SM belonged to this age group. Future studies should recruit a more diversified age group so that the study results may be compared across age segments. The generalisability of the findings should be further explored by future researchers by taking into account the industry type, organisational culture and traditions.

References

- Alam, I., & Perry, C. (2002). A customer-oriented new service development process. *Journal of Services Marketing, 16* (6), 515-534.
- Backstrom, L., Boldi, P., Rosa, M., Ugander, J., & Vigna, S. (2012, June). Four degrees of separation. In *Proceedings of the 4th Annual ACM Web Science Conference* (pp. 33-42). ACM.
- Bashir, N., Papamichail, K. N., & Malik, K. (2017). Use of social media applications for supporting new product development processes in multinational corporations. *Technological Forecasting and Social Change, 120*, 176-183.
- Benmark, G. (2014). Why the COO should lead social-media customer service. *McKinsey Quarterly, Number, 1*, 11-13.
- Bhagat, S., Edunov, S., Diuk, C., Filiz, I. O., & Burke, M. (2016). Three and a half degrees of separation. *Research at Facebook*. <https://research.fb.com/three-and-a-half-degrees-of-separation/>
- Busagara, T., Mori, N., Mossberg, L., Jani, D., & Andersson, T. (2020). Customer information sharing and new service development: is there a link? *The Bottom Line, 33*(2), 133-147.
- Carr, J., Decreton, L., Qin, W., Rojas, B., Rossochacki, T., & wen Yang, Y. (2015). Social media in product development. *Food quality and preference, 40*, 354-364.
- Drake, P. R., & Lee, D. M. (2009). Component prioritisation for strategic purchasing and the case study of a South Korean elevator manufacturer. *The International Journal of Advanced Manufacturing Technology, 43*(9-10), 883-895.
- Greene, J. A., Choudhry, N. K., Kilabuk, E., & Shrank, W. H. (2011). Online social networking by patients with diabetes: A qualitative evaluation of communication with Facebook. *Journal of general internal medicine, 26*(3), 287-292.
- Grégoire, Y., Salle, A., & Tripp, T. M. (2015). Managing social media crises with your customers: The good, the bad, and the ugly. *Business Horizons, 58*(2), 173-182.
- Gu, B., & Ye, Q. (2014). First step in social media: Measuring the influence of online management responses on customer satisfaction. *Production and Operations Management, 23*(4), 570-582.
- He, W., Zha, S., & Li, L. (2013). Social media competitive analysis and text mining: A case study in the pizza industry. *International journal of information management, 33*(3), 464-472.
- Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications, 12*(4), 246-259.
- Kakatkar, C., Bilgram, V., & Füller, J. (2020). Innovation analytics: Leveraging artificial intelligence in the innovation process. *Business Horizons, 63*(2), 171-181.
- Kim, D. H., Spiller, L., & Hettche, M. (2015). Analyzing media types and content orientations in Facebook for global brands. *Journal of Research in Interactive Marketing, 9*(1), 4-30.
- Kim, S. S., Kim, J., Badu-Baiden, F., Giroux, M., & Choi, Y. (2021). Preference for robot service or human service in hotels? Impacts of the COVID-19 pandemic. *International Journal of Hospitality Management, 93*(12), 102795.
- Kitsios, F., & Kamariotou, M. (2020). Mapping new service development: A review and synthesis of literature. *The Service Industries Journal, 40*(9-10), 682-704.
- Lee, A. S., & Baskerville, R. L. (2003). Generalizing generalizability in information systems research. *Information systems research, 14*(3), 221-243.
- Lewis, S., Pea, R., & Rosen, J. (2010). Beyond participation to co-creation of meaning: Mobile social media in generative learning communities. *Social Science Information, 49*(3), 351-369.
- Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly, 29*(4), 446-454.
- Lorenzo-Romero, C., Constantinides, E., & Brünink, L. A. (2014). Co-creation: Customer integration in social media based product and service development. *Procedia-Social and Behavioral Sciences, 148*, 383-396.
- Luo, Y., & Xu, X. (2021). Comparative study of deep learning models for analyzing online restaurant reviews in the era of the COVID-19 pandemic. *International Journal of Hospitality Management, 94*, 102849.
- Matthing, J., Sandén, B., & Edvardsson, B. (2004). New service development: Learning from and with customers. *International Journal of Service Industry Management, 30*(4), 327-334
- Menor, L. J., Tatikonda, M. V., & Sampson, S. E. (2002). New service development: Areas for exploitation and exploration. *Journal of Operations Management, 20*(2), 135-157.

- Mergel, I. (2013). A framework for interpreting social media interactions in the public sector. *Government information quarterly*, 30(4), 327-334.
- Oliveira, G. H. M., & Welch, E. W. (2013). Social media use in local government: Linkage of technology, task, and organizational context. *Government Information Quarterly*, 30(4), 397-405.
- Ordanini, A., & Maglio, P. P. (2009). Market orientation, internal process, and external network: A qualitative comparative analysis of key decisional alternatives in the new service development. *Decision Sciences*, 40(3), 601-625.
- Pandey, N. & Dharni, K. (2014), *Intellectual Property Rights*, PHI Learning, Delhi
- Pandey, N., Jha, S. & Singh, G. (2020). Promotion of green products on Facebook: Insights from Millennials. *International Journal of Management Practice*, 13(3), 275-294.
- Pandey, N., & Gudipudi, B. (2019). Understanding 'what is privacy' for millennials on Facebook in India. *Journal of Data Protection & Privacy*, 2(3), 224-233.
- Pandey, N., & Kaushik, S. (2012). Factors affecting consumer's green product purchase decisions: An empirical approach. *International Journal of Business Competition and Growth*, 2(4), 341-356.
- Pandey, N., Nayal, P., & Rathore, A. S. (2020). Digital marketing for B2B organizations: Structured literature review and future research directions. *Journal of Business and Industrial Marketing*, 35(7), 1191-1204.
- Pandey, N., Patwardhan, A. A., & Rao, S. (2019). Four decades of new product development research: An integrative review. *International Journal of Product Development*, 23(1), 1-14.
- Pandey, N. (2021). Digital Marketing Strategies for Firms in Post COVID-19 Era: Insights and Future Directions. *The New Normal: Challenges of Managing Business, Social and Ecological Systems in the Post COVID 19 Era*, 107-124.
- Pasanen, K., & Konu, H. (2016). Use of social media for new service development by Finnish event and festival organizers. *Event Management*, 20(3), 313-325.
- Patino, A., Pitta, D. A., & Quinones, R. (2012). Social media's emerging importance in market research. *Journal of Consumer Marketing*, 29(3), 233-237.
- Patwardhan, A. A., Pandey, N., & Dhume, S. M. (2017). Integrated model for understanding Indian physicians' internet usage pattern: An empirical approach. *International Journal of Healthcare Management*, 10(1), 19-33.
- Roberts, D. L., & Piller, F. T. (2016). Finding the right role for social media in innovation. *MIT Sloan Management Review*, 57(3), 41.
- Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International journal of services sciences*, 1(1), 83-98.
- Sangiorgi, D., & Eun, Y. (2014). Service Design as an approach to New Service Development: Reflections and future studies. In *ServDes 2014* (pp. 194-204). Linköping Electronic Conference Proceedings.
- Savulescu, R. M., & Mihalcea, A. D. (2013). Social networking sites: Guidelines for creating new business opportunities through Facebook, Twitter and LinkedIn. *Management dynamics in the Knowledge Economy*, 1(1), 39-53.
- Schutz, A. (1962). Concept and theory formation in the social sciences. In *Collected papers I* (pp. 48-66). Springer, Dordrecht.
- Schweitzer, F. M., Buchinger, W., Gassmann, O., & Obrist, M. (2012). Crowdsourcing: leveraging innovation through online idea competitions. *Research-Technology Management*, 55(3), 32-38.
- Sigala, M. (2012). Web 2.0 and customer involvement in new service development: A framework, cases and implications in tourism. *Social Media in Travel, Tourism and Hospitality*, 2, 25-38.
- Singh, G., & Pandey, N. (2015). Revisiting three decades of price premium research in marketing: A literature review. *International Journal of Revenue Management*, 8(3-4), 219-240.
- Smith, A. M., Fischbacher, M., & Wilson, F. A. (2007). New service development: From panoramas to precision. *European Management Journal*, 25(5), 370-383.
- Weber, L. (2009). *Marketing to the social Web*. John Wiley & Sons, Inc., Hoboken, New Jersey.
- Woodall, G., & Colby, C. (2011). The results are in: Social media techniques vs. focus groups for qualitative research. *MRA's Alert! Magazine*, 23-27.
- Zhang, Z., Ye, Q., Law, R., & Li, Y. (2010). The impact of e-word-of-mouth on the online popularity of restaurants: A comparison of consumer reviews and editor reviews. *International Journal of Hospitality Management*, 29(4), 694-700.