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Paper:

Hossain, T., Akter, S., Kattiyapornpong, U. & Dwivedi, Y. (2019). Multichannel integration quality: A systematic review and agenda for future research. *Journal of Retailing and Consumer Services*, 49, 154-163.

<http://dx.doi.org/10.1016/j.jretconser.2019.03.019>

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Multichannel Integration Quality: A Systematic Review and Agenda for Future Research

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Abstract

This paper aims to explore definitions, dimensions, and challenges of multichannel integration quality (MCIQ) in services marketing through a systematic literature review, and qualitative interviews. The findings from the thematic analysis of literature, qualitative data analysis of twenty in-depth interviews and two focus group discussions identified five major dimensions and eleven sub-dimensions of MCIQ. This study extends the emerging integration quality research by evidencing new dimensions and sub-dimensions in the context of multichannel services marketing. Incorporating these insights and addressing the challenges identified in this paper, managers will be able to engage the customers by creating a successful multichannel blueprint.

Keywords: Multichannel Integration Quality, Cross-channel Retailing, Service Quality, Multichannel System, Thematic Analysis

1. Introduction

Satisfying and managing today's consumer expectations of seamless, consistent and personalized shopping experiences require integration of all the service delivery channels of a firm (Brynjolfsson et al., 2013; Rigby, 2011). Most companies delivering multichannel services use a siloed system where they operate physical and online channels separately (Herhausen et al., 2015; Huré et al., 2017). Research indicates that customer satisfaction is a result of customer experience not only of a single channel but a combination of online and offline services (Banerjee, 2014; Lee et al., 2018; Shareef et al. 2016; Shen et al., 2018; Sousa & Voss, 2006). Channel integration is associated with increased customer retention (Hsieh et al., 2012; Li et al., 2018), purchase intention (Lee et al., 2018; Yurova et al., 2017), shopping value (Huré, Picot-Coupey & Ackermann, 2017), customer loyalty and satisfaction (Hsieh et al., 2012). Due to the above phenomenon, several studies suggest *multichannel integration quality* (i.e., consistency of service elements, integration of channels and its attributes) as a crucial aspect to provide seamless service experience (Akter et al., 2019; Banerjee, 2014; Lee et al., 2018; Shen et al., 2018; Sousa & Voss, 2006). Despite its importance, research related to multichannel integration quality (MCIQ) remains mostly fragmented and conceptual. There is a paucity of research that provides a general taxonomy from which to explore dimensions and applications of MCIQ.

Based on the issues mentioned above, this paper focuses on undertaking a systematic literature review and thematic analysis using four major research databases to propose dimensions of MCIQ. Furthermore, this research conducts a qualitative analysis based on two focus group discussions and twenty in-depth interviews on multichannel customers to confirm the proposed dimensions and sub-dimensions of MCIQ. This research is based on MCIQ theory for service delivery channels proposed by Sousa and Voss (2006) and Banerjee (2014). Drawing on this theory, this research put forward the following research question: *What are the definitional perspectives, dimensions, and challenges of multichannel integration quality within service delivery channels?*

This paper extends the current research by (1) exploring the dimensions and sub-dimensions of MCIQ, (2) providing theoretical implications of each dimension and sub-dimensions using emerging services marketing concepts in a multichannel environment, and (3) presenting future research agenda associated with various MCIQ

dimensions and sub-dimensions. The paper is structured into the following parts. Section 2 explains the methodology used to conduct the systematic review and thematic analysis and qualitative analysis. Section 3 provides the definitional perspectives of channel integration and state the role of MCIQ in service quality research. Section 4 delivers the analysis of extensive literature review and explanation of all the dimensions and sub-dimensions of MCIQ. Finally, in section 5 this research identifies future research areas concerning the dimensions of MCIQ and explains the implication of MCIQ dimensions for theory and practice.

2. Research Approach

The research is based on a thorough literature review related to integration quality in the domain of multichannel service delivery. It explores integration quality on multichannel services and embraces a systematic approach to ensure completeness throughout the review. This study follows the approach used by Ngai and Wat (2002), Vaithianathan (2010) and Akter and Wamba (2016) in e-commerce research.

This study considers a search timeframe from 2003 to 2018 for the systematic review. The boundary is set to 2003 as service quality literature prior to 2003 primarily focused on single-channel context. A database search combining the keywords: 'integration' and 'quality' with the terms 'multichannel marketing', 'multichannel services', 'multichannel retailing' and 'cross-channel' was conducted. Additionally, separate searches using the terms 'multichannel service quality' and 'omnichannel' were performed.

The following online journal databases were searched for scholarly peer-reviewed journals, periodicals, and quality web content related to multichannel integration from 2003 to 2018:

- ABI/INFORM Complete.
- Business Source Complete.
- EBSCO Open Access Journals.
- ScienceDirect.

These four databases are the most important and widely used, consisting of top-ranked journals within business and social science disciplines. 105 papers were downloaded and reviewed for the systematic review. A quality appraisal was conducted to capture the maximum number of views on integration in multichannel services to ensure clarity of the papers' contributions to the research question (Birnik & Bowman, 2007). At this stage, 76

articles were identified. Cross-referencing yielded nine more articles that were suitable for inclusion. Finally, five more papers were included manually making the final list of 90 papers. Overall, the conditions used to select each paper confirmed an explicit or implicit indication of integration in multichannel service.

To produce the thematic analysis of literature review, this research followed the process explained by Braun and Clarke (2006). Four codes or themes were generated from the extensive literature review. The review of 90 articles indicates nine sub-dimensions of MCIQ which were placed under four themes. To validate the reliability of the analysis, this research estimated Krippendorff's alpha (or, Kalpha), which is used to measure reliability irrespective of observer numbers, missing data, sample size or levels of measurement (Krippendorff, 2004). Four judges analyzed the themes and sub-dimensions indicated in the articles. IBM SPSS 25 was used to calculate the inter-rater reliability of coded variables (Hayes & Krippendorff, 2007). The calculated Kalpha value was 0.83, which is above the cut off value of 0.80 (De Swert, 2012), showing evidence of reliability in content analysis.

To confirm the findings of the thematic analysis and to identify new dimensions of MCIQ, this study further conducted a qualitative analysis using twenty in-depth interviews and two focus group discussions (n=18). Banking customers in Australia were selected for the qualitative analysis. All the participants held consumer banking accounts within Australia. Some participants also had business banking accounts, mortgage accounts and other loan accounts with various banks in Australia. Furthermore, participants were selected on the basis of their multichannel experience with the bank. Customers who had experience of using the mobile app, website and physical branch of the bank within the last three months were selected. Participants' age ranged from 20 – 58 years old and were 42% female and 58% male.

The interviews and discussions were recorded, transcribed and examined using Nvivo and manual thematic analysis (Dagger et al., 2007; Lincoln & Guba, 1985). The steps of the qualitative analysis included, firstly, to highlight the primary responses of the interviews in the transcripts. Secondly, to identify the primary dimensions of MCIQ based on the responses. Finally, to identify the recurring themes under relevant primary dimension, the excerpts were analyzed by two academic judges to calculate inter-rater reliability using Nvivo and Microsoft Excel. To ensure neutral analysis, judges were not part of this study (Moore & Benbasat, 1991). The inter-rater reliability was 0.82 passing the cut-off point of 0.70 (Straub et al., 2004).

Through the qualitative data analysis, two new sub-dimensions: *privacy & security* and *service recovery accessibility* were identified as factors influencing MCIQ. These sub-dimensions represents the dimension of *assurance quality* according to the qualitative data analysis.

Overall, the findings of the thematic analysis and qualitative data analysis show that MCIQ consists of five dimensions and eleven sub-dimensions. The first dimension is *channel-service configuration* which consists of three sub-dimensions, i.e., *breadth of channel choice*, *transparency of channels*, and *appropriateness of channels*. The second dimension is *content consistency* which consists of two sub-dimensions, i.e., *information consistency* and *transaction data integration*. The third dimension is *process consistency* which consists of two sub-dimensions, i.e., *system consistency* and *image consistency*. The fourth dimension is *channel reciprocity* which includes *integrated order fulfillment* and *integrated information access*. Finally, the fifth dimension is *assurance quality* which consists of two sub-dimensions: *privacy & security* and *service recovery accessibility*.

Based on the findings of the thematic analysis, systematic literature review and qualitative findings, a model of MCIQ along with its dimensions and sub-dimensions is proposed (see Figure 1) and discussed in section 4.

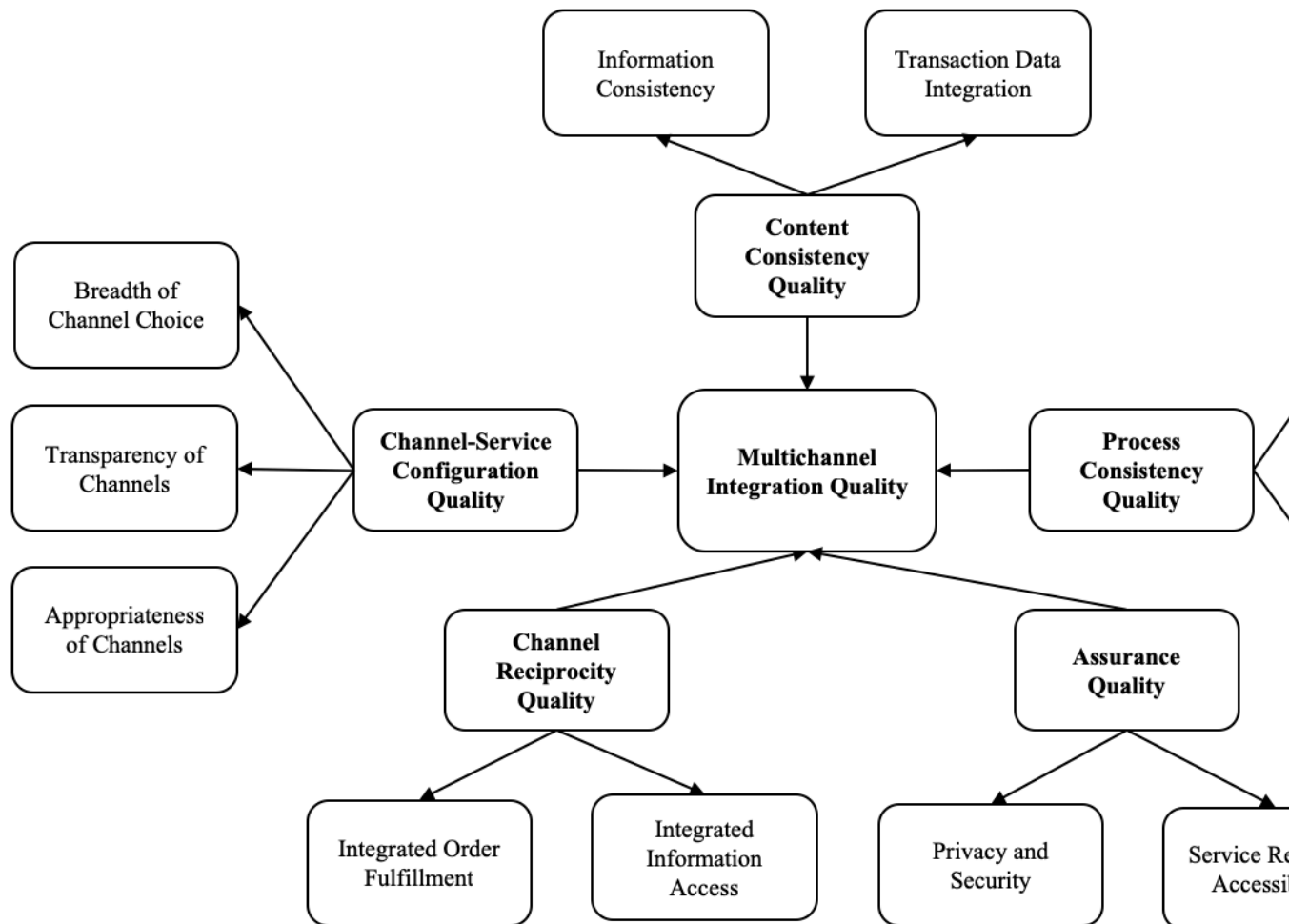


Figure 1: Dimensions of Multichannel Integration Quality

3. Defining Multichannel Services and Multichannel Integration

Multichannel service is characterized by the design, execution, organization, and assessment of different channels to improve customer value through customer relationship management (Neslin et al., 2006). It is a situation where a firm uses two or more marketing channels to reach one or more customer segments (Kotler et al., 2014). Sousa and Voss (2006) define multichannel services as services that consist of physical (bricks and mortar) infrastructure and virtual (technologically advanced telecommunication, information and multimedia technologies) elements that are provided through diversified channels.

Multichannel integration can be defined as the scope of online and traditional channels to interact with each other and cooperate in different marketing activities (Yan et al., 2010, p. 434); the extent to which firms distribute products and services to customers through channels which are synchronized and complementary (Berger et al., 2002, p. 46); the strategy that involves decision regarding how many channels to adopt, what sort of interactions is made with each channel and the purpose of each channel for the customers (Neslin et al., 2006). The most comprehensive definition is provided by Cao and Li (2015) where they define channel integration as: *"The degree to which a firm coordinates the objectives, design, and deployment of its channels to create synergies for the firm and offer particular benefits to its consumers."* (Cao & Li, 2015, p. 200).

3.1. Service Quality in Multichannel Context: Multichannel Integration Quality

Service quality is a mean of outperforming competitors and maintaining long-term sustainable profitability in a service landscape (Kandampully, 1998; Parasuraman et al., 1985). Prior studies define perceived service quality as a comparison between assumption of service provided by the company (expectation) with what is received by the customers (service performance) (Grönroos, 1984; Parasuraman et al., 1988).

Most studies in service quality focus on a single channel mindset where physical and virtual service quality have been conceptualized separately (Banerjee, 2014; Sousa & Voss, 2006; Wang et al., 2016; Yu et al., 2011). For example, the service quality model proposed by Grönroos (1984), which is based on three dimensions; namely, technical quality, functional quality, and corporate image, focuses only on physical quality. Similarly, the landmark scale of service quality or the SERVQUAL model (Parasuraman, Zeithaml & Berry, 1988) and the performance-based SERVPERF scale (Cronin Jr & Taylor, 1992) also focus on a single channel perspective of a physical channel.

Likewise, service quality research on virtual channels (websites, mobile platform, and social media) is based on a single-channel approach. For example, Parasuraman et al. (2005) propose E-S-QUAL (e-service quality) dimensions; namely, efficiency, system availability, fulfillment, and privacy. In addition, Aladwani and Palvia (2002) broaden virtual quality dimensions by proposing specific content, content quality, appearance, and technical adequacy as service quality dimensions. Furthermore, Ladhari (2010) suggests reliability/fulfillment, responsiveness, ease of use, privacy/security, web design, and information quality as key dimensions of electronic service quality.

In the studies mentioned above, offline and online channels are considered as delivering service only through a single platform without the assistance or influence of other channels. The findings of these studies do not sufficiently explore consumer evaluation and behavioral outcomes of services provided through multiple channels.

In multichannel marketing, customer perception of quality is based on the combined performance of all the channels. Consistent with this view, Sousa and Voss (2006) propose integration as a significant component of multichannel services and have coined the term *integration quality*. According to Sousa and Voss (2006), multichannel service quality comprises three elements which are physical, virtual, and integration quality. Integration quality is defined as “*the ability to provide customers with a seamless service experience across multiple channels*” (Sousa & Voss, 2006, p. 365).

4. Dimensions of Multichannel Integration Quality

The systematic literature review and thematic analysis using Krippendorff’s alpha resulted in four dimensions and nine sub-dimensions of MCIQ. A wholesome snapshot of the dimensions and sub-dimensions of multichannel service quality as addressed by the systematic literature review and thematic analysis is presented in Table 1 and discussed in sections 4.1-4.4. The fifth dimension of MCIQ, i.e., assurance quality and its sub-dimensions are identified through qualitative data and are discussed in section 4.5.

Table 1: Literature Related to Multichannel Integration Quality Dimensions.

Author(s)	Context	Channel-Service Configuration Quality			Content Consistency Quality		Pro System
		Breadth of Channel Choice	Transparency of Channels	Appropriateness of Channels	Information Consistency	Transaction Data Integration	
Sousa and Voss (2006)	Integrated Multichannel in General Context	×	×		×	×	
Banerjee (2014)	Integrated Multichannel within Banking Service	×	×	×	×	×	
Seck and Philippe (2013)		×	×		×		
Hsieh et al. (2012)		×			×	×	
Bendoly et al. (2005)	Integrated Multichannel within Retailing Context		×		×		
Lee and Kim (2010)		×			×		
Oh and Teo (2010)					×	×	
Saeed et al. (2003)					×		

Wu and Chang (2016)			×		×		
Berman and Thelen (2004)					×	×	
Madaleno et al. (2007)	Multichannel B2B	×	×		×	×	
Pantano and Viassone (2015)	Single Channel Quality in Multichannel Retailing Context	×					
Bapat and Bapat (2017)							
White et al. (2013)					×	×	
Kim et al. (2005)							
Yu, Niehm and Russell (2011)							
Hammerschmidt et al. (2015)							
Yong-zhi (2014)				×		×	
Li et al. (2018)		Channel Integration within Omnichannel Retailing Context					×
Lee et al. (2018)			×	×		×	
Shen et al. (2018)	×		×		×		

4.1. Channel-Service Configuration Quality

Channel-service configuration refers to the ability to perform the same service using different channels of the firm and having the same level of consistency and quality level (Banerjee, 2014). The analysis of several studies on service quality has identified several factors, i.e., *breadth of channel choice, transparency of channels, and appropriateness of channels* as sub-dimensions of channel-service configuration.

Breadth of channel choice refers to the degree to which customers can choose among alternative channels to perform the same task (Lee et al., 2018; Sousa & Voss, 2006). It is the firm's offering of different channels for customers to freely search, purchase, arrange delivery and receive customer service from (Lee & Kim, 2010). Compared to firms offering only a single channel, customers prefer firms offering multiple channels to avail services from (Lee et al., 2018).

Interview respondents indicate the following in regards to breadth of channel choice:

...I guess one of the main advantages is convenience, like withdrawing money. If you are around at the supermarket and you happen to not have your wallet with you, you can still walk to the nearest ATM and withdraw money using cardless cash, so that's pretty cool. Even if you are out and about, if you are shopping and all of a sudden you need to pay rent or whatever, you don't have to go home and log into your computer. You can do it on your mobile phone. So, that is pretty convenient. So, having all these different channels, to me personally as a consumer I think it is useful because it's convenient. (Interviewee # 13, Male 30s).

From the above excerpt, it is apparent that having multiple channels available to customers is essential. Customers find it convenient to be able to use any channel of their choice to perform the same task.

Transparency of channels refers to consumer awareness of the available channels of a firm and services offered through those channels (Shen et al., 2018; Sousa & Voss, 2006). It is the firm's effort to inform customers about different channels and service capability of each channel (Hsieh et al., 2012; Sousa & Voss, 2006; Wu & Chang, 2016).

Respondents indicate the following regarding transparency of channels:

... When we open the account, on the day they (bank tellers) tell you what sort of banking you can do. So, they will explain to you like they did to me and they do to everybody else, services that you can perform online, you set your online password on the bank, then you can change afterward. You set your phone banking password, and they send you the debit or credit card which you can use in any of the ATMs or in the branches. So, it's basically on the day you open the account, they show you the ways of banking you can do with them. It was helpful. It was good enough. (Interviewee # 5, Male 20s).

From the above statement, it is evident that banks' strategy to inform customers about their different channels and channel features are perceived helpful by customers. Firms can utilize different campaigns to make customers aware of available channels which in turn will lead to increased channel usage intention (Shen et al., 2018).

Banerjee (2014) extends the work of Sousa and Voss (2006) by proposing *appropriateness of channels* as a dimension of MCIQ. Banerjee (2014) argues that although having different channels to perform services is convenient, it is imperative for firms to ensure that the channels through which services are delivered are appropriate for delivering that service. For instance, banking customer may perceive call centers as an inappropriate channel to sell bank loans, as call centers may not be prepared to answer technical questions related to the loan product (Banerjee, 2014).

Respondents share similar view when asked about the appropriateness of channel for specific services:

...I don't think I would feel completely okay with applying for a home loan through online or call centers. I guess, well personally, when you talk about home loans and things like that I would prefer to sit down and talk with a physical person and going through the different conditions of terms and the financing packages. I guess it really depends on the situation as well as the nature of the transaction. (Interviewee # 13, Male 30s).

It may seem lucrative for firms to offer specific service through a specific channel. However, as indicated above, firms should not force customers to use channels which are inappropriate for the service.

4.2. Content Consistency Quality

Content consistency refers to the consistency and integration of outgoing and incoming information through different channels between the customers and the firms (Lee et al., 2018; Sousa & Voss, 2006). Sub-dimensions of content consistency are *information consistency* and *transaction data integration*.

Information consistency refers to the degree where information transmitted from the firm is uniform within all the channels (Banerjee, 2014; Oh & Teo, 2010). Customers expect information regarding product descriptions, price, assortment details, delivery details, and promotions are consistent within all channels (Wu & Chang, 2016).

From interviews, respondents indicate:

... Most important thing is that information has to be integrated because if one channel gives you a different answer to the other one, that is when you start thinking which is reliable, which one should you go to. You wouldn't want that, given the fact that it is about your funds and savings, so that is definitely something you wouldn't want, you would want transparency and you would want them to be consistent across all the channels you are dealing with. (Interviewee # 7, Female 20s).

The above statement shows consistent information through all the service delivery channels of the firm is associated with reliability. Inconsistent information within channels reduce trust and frustrate consumers (Hsieh et al., 2012; Rangaswamy & Van Bruggen, 2005).

Transaction data integration refers to collecting, analyzing, integrating and utilizing customer data such as search, purchase, order, delivery, special request, demographic profile and so on through different channels (Oh & Teo, 2010; Sousa & Voss, 2012). This strategy will ensure a consistent service across multiple channels while enabling multichannel firms to cross-sell and provide personalized offers at an individual level (Godfrey et al., 2011).

Interviewees share their frustration as some banks are lacking behind regarding integrating transaction data within a reasonable timeframe:

... When my wife was overseas in India. She had a supplementary card, and she was spending money. She asked me while she was spending the local currency of the country 'can you check how much Australian dollar was spent?' She was asking to know the exchange rate. I couldn't tell her even in a week's time. It was not updated anywhere, neither online nor through the mobile app. Then I had to

finally call the manager and ask about the amount of money spent and the exchange rate. So, I don't think those channels are integrated in terms of different services I have. So obviously, when you don't get this information that you require, you feel frustrated. I think they are inefficient. (Interviewee # 2, Male 50s).

From the interview data, it is evident that firms should focus on collecting real-time customer data and integrating it within all its channels. Research indicates that proper utilization of real-time customer data leads to enhanced firm performance (Fosso Wamba et al., 2018).

4.3. Process Consistency Quality

Process consistency refers to the consistency of front-office processes associated with different channels (Sousa & Voss, 2006). Indicators of process consistency include the service's feel, waiting times and employee discretion level (Banerjee, 2014; Sousa & Voss, 2006). This paper has identified two sub-dimensions of process consistency; namely, *system consistency* and *image consistency*.

System consistency refers to customer perception of convenience, ease of use, and consistency considering the technical issues of service delivery processes within all the channels (Akter et al., 2016; Delone & McLean, 2003). It is related to ensuring consistent system quality (Akter, Wamba & D'Ambra, 2016) within the channels. System quality is associated with navigation, search, order, payment, delivery, and return. In the offline context, it is the store layout and design, convenience of finding products, ease of payment and other tangibles (Kim, Park & Pookulangara, 2005; Parasuraman, Zeithaml & Berry, 1985), while in an online context, it is related to website or mobile app functionality, layout, flow, and payment facilities (White, Joseph-Mathews & Voorhees, 2013).

Regarding the importance of system consistency, interview respondents indicate:

... Absolutely, with all processes, it needs to be you know efficient and needs to be done in a timely manner. Whether you do to a physical branch or online, it doesn't matter, I guess it needs to be efficient, and it is easy to use and will be done in a timely manner. (Interviewee # 12, Female 40s).

Hence, it is apparent that customers want a firm's service delivery channels to be easy to use, self-sufficient in performing all the task and free of technical issues.

Image consistency refers to the consistent use of the firm's brand name, slogan, color, and logo in all the channels (Oh & Teo, 2010). The overall brand image of the firm should be reflected in all its channels for better integration quality. White, Joseph-Mathews and Voorhees (2013) suggest ambient cues of a physical store such as temperature, music, and surrounding colors should be reflected in online channels through typesetting, graphics, and display colors.

Respondents indicate:

...All the images in all the channels are quite similar. And especially the color and everything, like when you go and when you want to find an ATM. You can like see, since it has a distinct color and helps to differentiate (Interviewee # 8, Female 30s).

Hence, it is evident that firms should focus on delivering a consistent image through all its service delivery channels.

4.4. Channel Reciprocity Quality

Channel reciprocity enables business support of offline stores for products purchased in online stores and vice versa (Lee & Kim, 2010). Analysis of several studies has identified two factors, i.e., *integrated order fulfillment* and *integrated information access* influencing channel reciprocity.

Integrated order fulfillment enables retailers to offer logistical support at one channel for products bought at other channels (Oh & Teo, 2010). It can be in the form of ordering a product online and collecting it in store (click and collect), returning a product in-store which has been bought online or provide post-purchase service through online for a product purchased in store (Oh & Teo, 2010; Wu & Chang, 2016; Yong-zhi, 2014).

Integrated order fulfillment is more specific to the retail industry compared to service-based industries. However, in the service sector such as the banking industry, some services can benefit enabling channels supporting each other. Interview responses indicate integrated order fulfillment as essential for security purpose:

... You can order credit card online, but to pick up the new card you have to go to the branch and show your passport. I think it is important security wise to pick up your card in branch and prove your identification through passport. It is dangerous if they mail it to you in your mailbox. (FGD # 1)

Integrated information access enables customers to access information on physical channels through online channels and vice versa (Oh & Teo, 2010). Customers can search product availability of physical stores using websites or mobile apps at home. On the other hand, customers can use kiosks at physical stores to find the product database online (Berman & Thelen, 2004; Oh & Teo, 2010). Using one channel to gain information about another channel reduces disappointment and the negative impact of product unavailability (Berman & Thelen, 2004; Oh & Teo, 2010).

Importance of integrated information access was apparent in the interview data:

...I had a bunch of coins saved in the house at different times. I wanted to check which branches accept coin. In their website, I found a map with information about all the ATMs of the bank and what service each ATM provides. I used the map to locate ATMs which accept coins and deposited all coins from my home. I found the map in their website very informative and helpful. (FGD # 1)

The above transcripts show the importance of channels supporting each other in terms of information and order fulfillment. Firms should incorporate these business ties within all its channels (Wu & Chang, 2016).

4.5. Assurance Quality:

Several studies of service quality have mentioned *assurance* as importance facet for service quality perception. Assurance of promised quality refers to the ability to convey trust and confidence within consumers by adding different channel attributes (Parasuraman, Zeithaml & Berry, 1988; Piercy, 2014). From the systematic literature review, assurance quality and its sub-dimensions have not been addressed in MCIQ literature. However, through qualitative data analysis, this research identifies assurance quality and its sub-dimensions: *privacy, security, and service recovery accessibility* as essential factors influencing MCIQ. This research derives privacy and security from information systems and electronic service quality research (Parasuraman, Zeithaml & Malhotra, 2005; Wolfinbarger & Gilly, 2001; Yoo & Donthu, 2001) and service recovery accessibility from service recovery literature (Hart et al., 1990; Smith et al., 2009; Zemke & Bell, 1990).

Privacy and Security have been measured extensively for electronic service quality (Parasuraman, Zeithaml & Malhotra, 2005; Wolfinbarger & Gilly, 2001; Yoo & Donthu, 2001). However, this construct is mostly neglected in multichannel service quality context. Privacy refers to the degree to which a customer's personal information is protected, while security refers to the safety of using service delivery channels (Parasuraman, Zeithaml &

Malhotra, 2005). Consumers provide personal information online via websites and mobile apps, as well as in-store via self-service technology such as kiosks, and touchless payment making privacy an essential element of multichannel usage (Montoya-Weiss et al., 2003).

Interviewees share the perceived importance of privacy protection:

... I consider privacy very valuable thing to myself. Because using different channels you send personal information. Anybody can misuse it and can access it without our knowledge and stuff. It is vital to me that my bank protects these important data. (Interviewee #6, Female 20s).

While others were concerned about the security issues of physical facilities:

... Depositing the money in ATM at night is of course risky. If you go to Ingleburn branch for example, it is just by the roadside, and that's when it is late night, and you feel a bit insecure, and I felt as well because also people roaming around is near the station. I think it is a bit risky to deposit and withdraw from there. (Interviewee # 16, Male 50s).

Likewise, respondents were worried about online security:

... Yeah, so I would probably be more concerned about the browser than the app because I know the results of dialers and viruses online and with some browsers I feel like, are more susceptible to hackers rather than the iPhone or the Apple IOS. I am really happy with IOS in terms of safety and security. But in websites, Software, malware that sort of plug itself into my computer. (Interviewee # 15, Female 30s).

From the above transcripts, it is evident that security in terms of using multiple channels and protection of information which are disclosed within these channels are of utmost importance for customers.

Service recovery accessibility refers to having different open channels available to customers through which they can voice their service related issues conveniently (Smith, Karwan & Markland, 2009). Service recovery research has always emphasized obtaining customer feedback (Hart et al., 1990; Zemke & Bell, 1990). Multichannel facility will enable obtaining customer feedback from several sources through which recovery related issues can be integrated and analyzed to perform services more seamlessly.

Interviewees went into specific issues regarding the importance of having different channels for service recovery process:

... I understood that I forgot my debit card inside the machine. Then I went inside the bank I asked the lady inside to check this ATM machine if my card is stuck there. We checked both machines, and my card wasn't inside. Then she told me to block my card using the app because it's lost or stolen. In the app, there is at the bottom that says if your card is stolen, can block it here. App helps really well, gets too many things very easy and also website is good, because when you don't have the application, but having more channels is always a good idea to resolve problems, I think (Interviewee #20, Female 20s).

Hence, incorporating features within all the channels which enable customers to communicate with the firm and raise their service concerns easily should be an integral part to ensure integration quality.

5. Limitations, Future Research Agenda, Implication for Theory and Practice

5.1. Limitations of the Study

The current paper focuses on multichannel service delivery and the role of integration quality within multichannel services marketing. Based on a systematic literature review, thematic analysis, and qualitative data analysis, this paper is limited towards understanding the definitional perspective and dimensions of MCIQ only. Additional studies are required to develop a full picture of MCIQ. Section 5.2 discusses different areas with specific research questions (Table 2) where additional studies could be conducted to provide a better understanding of MCIQ.

Furthermore, this paper is limited to addressing factors influencing service delivery channels only. The broader perspective of communication channels and its complex relationship with service delivery as addressed by omnichannel retailing (Rigby, 2011; Verhoef et al., 2015) are not the focus of this paper. Future research, therefore, could focus on omnichannel dimensions within service quality research.

5.2. Future Research Agenda and Implication for Theory

The following section discusses the future research scope for MCIQ within all the five dimensions of MCIQ, i.e., *Channel-Service Configuration, Information Consistency, Process Consistency, Channel Reciprocity, and Assurance Quality*. For each dimension, this paper identifies several research questions with theoretical implications related to MCIQ (See Table 2). Thus it provides a rich source of potential research areas within multichannel integration context.

First, this study identified *Channel-Service Configuration* as a significant dimension of MCIQ. The findings of the study show that to ensure integration quality; firms should have different channels available for the customers, inform the customers about its available channels and make sure that channels are suitable to provide specific services. Future research could utilize theories such as *internal market networks* (Achrol & Kotler, 1999), *market orientation* (Kohli & Jaworski, 1990; Narver & Slater, 1990), *resource-based theory* (Barney, 1991), *event-study methodology* (Chaney et al., 1991), and *competitive strategy* (Porter & Millar, 1985) to extend existing MCIQ literature related to channel-service configuration.

Second, the study identified *Content Consistency* as another significant dimension of MCIQ. Firms should ensure all information regarding product description, pricing, delivery details, assortment details and so on are consistent within all the channels. Furthermore, firms should extract customer data from different channels to provide seamless and personalized services, create dynamic pricing, and ensure operational excellence. Future research could focus on the firm's decision of what information should be available on each channel and the implication of having special pricing and promotion information in a specific channel to extend existing MCIQ literature related to content consistency.

Third, *Process Consistency* involves consistency of overall system and image within all the channels. Firms should warrant ease of use by ensuring system quality of all the channels. Additionally, firms should assure a consistent brand image by having similar color, logo and brand experience in all the channels. Most firms manage their channels in a siloed fashion, where services and promotional offers provided through physical channels and virtual channels are handled individually through separate teams (Zhang et al., 2010). Future research could focus on the implications of such decisions.

Fourth, *Channel Reciprocity*, where firms should involve business support of offline stores for products purchased in online stores and vice versa. For both channel reciprocity and process consistency, an important area of consideration for multichannel organizations is its logistical capabilities. Hübner, Wollenburg, et al. (2016) investigate how retailers develop from an isolated channel system to an integrated multichannel fulfillment. Managers of integrated multichannel firms need to ensure complete shipping, logistics, and distribution solutions so that their customers not only get the ordered product on time, but the retailer can also manage its supply chain effectively and efficiently. Future research can utilize frameworks such as *multichannel shopper behavior* (Kumar & Venkatesan, 2005) and *omnichannel distribution strategic planning framework* (Hübner, Kuhn, et al., 2016) to

analyze issues related to inventory management, assortment management, delivery and return using IT system within multichannel integration.

Finally, *Assurance Quality*, where firms should safeguard customers personal information, ensure secured channel access and provide open lines of communication to voice service related issues. In the realm of mining and analyzing customer data, retailers need to be aware of an important issue: privacy and security concerns. Wetzlinger et al. (2017) argue that privacy and security concerns are more prominent when firms utilize data from several channels to offer personalized and digital services. Privacy and security create a 'privacy paradox' (Norberg et al., 2007) as customers will want to utilize the benefit of multichannel services and at the same time they want to protect their personal data. More research is required to comprehend the strategies multichannel retailers can adopt to mitigate these concerns and support information disclosure (Nam et al., 2006). Research can focus on utilizing *privacy calculus theory* (Culnan & Armstrong, 1999; Dinev & Hart, 2006) and *protection motivation theory* (Maddux & Rogers, 1983) to determine issues related to privacy and security within multichannel integration. In regards to service recovery, multichannel system enables firms to collect service recovery data and customer feedback from different sources. Future research could focus on how these data can be utilized to improve overall service performance.

Finally, future research can focus on addressing issues related to *overall multichannel integration* to extend existing MCIQ literature. Within this domain, developing and implementing *performance metrics* that consider multichannel purchase behavior of customers should be prioritized. There is little knowledge on measuring the impact of awareness, brand image, sales and profit of one channel on another channel of the firm (Zhang et al., 2010). Managers need these metrics to assist them in analyzing the performance of each marketing channel and also the interrelationship of different channels (Gensler et al., 2007). Gensler, Dekimpe and Skiera (2007) used *brand switching model* (Colombo & Morrison, 1989) in regards to channel loyalty to evaluate channel performance. Neslin and Shankar (2009) propose to include a *cross-elasticity matrix* to assess the impact of one channel on sales activity of another channel. Future research could also focus on channel performance measurement by using the methods mentioned above to find out the effect on different consumer behavioral aspects. Research on *consumer behavioral aspects* such as loyalty, satisfaction, cross-buying, customer engagement, customer lifetime value, and consumer equity can be conducted to understand how these are influenced by channel integration. Lastly, mapping MCIQ dimensions on *customer experience and customer*

journey stages (Lemon & Verhoef, 2016) with empirical evidence can be a fruitful research avenue to extend existing MCIQ literature.

Table 2: Future Research Agenda and Relevant Theories to Extend MCIQ Literature.

Multichannel Integration Research Stream	Future Research Questions in Multichannel Integration Landscape
Channel-Service Configuration	<p>Breadth of Channel Choice:</p> <ul style="list-style-type: none"> • What is the cost of adding a new channel and whether channel integration results to a net benefit for organizations – how to measure the benefits? • How can organizations better manage functional differences of its different channels to implement an integrated channel system? • What is the implication of strategic partnerships for maintaining additional channels? What effect would it have on the firm’s brand image within channels? <p>Transparency of Channels:</p> <ul style="list-style-type: none"> • What are the most effective ways to inform customers about the service attributes of an organization’s various channels? Should there be separate campaigns to promote a specific channel? <p>Appropriateness of Channels:</p> <ul style="list-style-type: none"> • Should firms enforce customers to use a specific channel for a specific purpose? Is the channel appropriate for the purpose? What are the consequences if channel usage is a burden for customers?
Information Consistency	<p>Information Consistency:</p> <ul style="list-style-type: none"> • Should firms integrate all service components within all the channels or keep some services unique for specific channels? Such as, should price be the same for all channels? Should there be special promotional offers directed to a particular channel? <p>Transaction Data Integration:</p> <ul style="list-style-type: none"> • What are the most efficient processes to collect and integrate customer transaction data from different channels? • How can clickstream data and shopping path analysis lead to analyzing multichannel shopping behavior? • How can organizations better use data and insights from multiple channels to achieve operational excellence?
Process Consistency	<p>System Consistency:</p> <ul style="list-style-type: none"> • What specific inventory management, assortment management, delivery and return, and IT system are necessary to implement an efficient and integrated channel system? • Should all the channels be self-sufficient to provide all the services of the company or should some services be offered only through particular channels? What is the cost associated with making all the channels self-sufficient?

	<p>Image Consistency:</p> <ul style="list-style-type: none"> • What branding elements should be presented in all the channels to provide a consistent brand image to multichannel shoppers? • How is the brand image affected if one of the channels fails to provide a consistent image of the company?
Channel Reciprocity	<p>Integrated Order Fulfillment:</p> <ul style="list-style-type: none"> • How to manage IT system, salespeople training, and logistical support to enable physical stores to facilitate online sales/return and vice versa? • Should logistic support be centralized to achieve integration of channels, what extra cost is associated with it? <p>Integrated Information Access:</p> <ul style="list-style-type: none"> • How can different channels aid each other to ensure promotional support?
Assurance Quality	<p>Privacy and Security:</p> <ul style="list-style-type: none"> • What factors influence security and privacy within multichannel usage and what steps multichannel service providers should undertake to mitigate these concerns? <p>Service Recovery Accessibility:</p> <ul style="list-style-type: none"> • How can firms incorporate more robust service recovery system within the available service delivery channels? • How can service recovery data and customer feedback be obtained through different channels? How can firms analyze these data to create an improved service strategy?
Overall Multichannel Integration Management	<p>Performance Metrics:</p> <ul style="list-style-type: none"> • What evaluation criteria and metrics should be used for cross-channel performance measurement? • How do customer analytics and multichannel strategic process influence each other? <p>Customer Behavioral Aspects:</p> <ul style="list-style-type: none"> • What factors affect loyalty, satisfaction, customer engagement, customer lifetime value and customer equity due to MCIQ? • How to map the dimensions of MCIQ on customer experience and customer journey stages?

5.3. Implication for Practice

Designing an integrated system is one of the most critical priorities for companies delivering services through multiple channels. Several articles published by some of the highest ranked management consulting firms and business magazines such as McKinsey, Forrester, Accenture, Forbes and so on has stressed the importance of channel integration to create successful multichannel system (Accenture Interactive, 2013; Herring et al., 2014; McGlynn & Conlan, 2017; O'Grady et al., 2018; Olenski, 2014). This paper addresses the pressing issue in current managerial practice by suggesting several dimensions and sub-dimensions of MCIQ. According to this paper, managers should focus on the sub-dimensional levels of MCIQ to improve the overall quality of multichannel services.

The future research section of this paper has put forward essential research questions which will provide managers with knowledge and information on how to create a successful integrated multichannel system. First and foremost, future research will enable managers to understand the cost and benefit of adding additional channels to serve customers better and more effectively. Furthermore, managers will be able to comprehend the best tactics through which customers can be made aware of the existing channels. Through further research, managers will know the best way to mine customer data through various channels and effectively use real-time data to deliver customer value, create personalized offers and form effective targeting strategies in order to build, maintain and retain customer relationship in a sustainable approach. Research will enable managers to deploy a multichannel system where all the processes are streamlined and easy to use. Privacy and security are the utmost important factors that need to be understood within this multichannel environment. Future research will enable managers to prepare a concrete multichannel system ensuring secure usage of channels and privacy of customer data. Finally, research related to MCIQ will enable managers to evaluate channel performance better and provide a proper guideline on how to set the budget for each channel.

6. Conclusion

Multichannel integration quality is an emerging field of research within service quality and multichannel service delivery. The importance of integration is evident within multichannel services providers. Multichannel integration increasingly provides value to firms adopting multichannel strategies by creating a consistent

experience for its customers. Through its systematic reviews, thematic analysis and qualitative data analysis of crucial aspects of MCIQ, this study proposes five dimensions and eleven sub-dimensions that influence MCIQ. This research is a suitable starting point for implementing MCIQ. It reflects that all the definitions and dimensions of MCIQ are well understood, and all challenges associated with implementing multichannel integration are adequately addressed. Hence, this paper is a valuable resource for both academic and practitioners to advance knowledge and practice in MCIQ of service delivery channels.

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