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**MASTER THESIS**

<b>OMNI-CHANNEL ONLINE SALES APPROACH AND PERFORMANCE OUTCOME RELATIONSHIP EVALUATION IN THE CASE OF NICHE PRODUCT</b>	<b>IŠPLĖSTINIO DAUGIAKANALIO ELEKTRONINIO PARDAVIMO METODO IR REZULTATŲ SĄRYŠIO VERTINIMAS NIŠINIO PRODUKTO ATVEJU</b>
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## INTRODUCTION

**Relevance of the topic.** Nowadays we are facing a process of digitalization in nearly all aspects of business and globalized economy. The central aspect of digitalization, electronic commerce activities (e-commerce), is growing steadily. Electronic commerce activities such as purchase, sales, marketing and distribution processes of products and services are executed via internet and heavily affected by omni-present social technologies and social networks. The selection of online sales approach is a crucial aspect of online sales process. Online sales approach directly affects performance outcome so the way how to reach customers must be precisely chosen. Pure online players – companies functioning solely online – can choose different online sales approaches or use systematically integrated option called omni-channel online sales approach. The choice of how to reach customers in online market can be explained as online sales approach which integrates seller's sale and buyer's purchase processes.

Research is focused on a part of online sales process which is described by omni-channel online sales approach and limited to pure online players who are providing niche product. This aspect helps to simplify online sales process because attention to other parts of online sales process is not in the scope of this work.

**Scientific novelty.** Focusing solely on omni-channel online sales approach in the case of niche product. The gap in the academic literature is found because omni-channel online sales approach is investigated as a part of brick-and-clicks business model (Chandna & Salimath, 2018; Hansen & Sia, 2015; A. M. Kaplan & Haenlein, 2010; C. Kim & Takashima, 2019; Lapoule & Colla, 2016; Parvinen, Oinas-Kukkonen, & Kaptein, 2015; Saleem et al., 2019; Song, Baker, Lee, & Wetherbe, 2012; Song & Zahedi, 2005; Verhoef, Kannan, & Inman, 2015; Viio & Grönroos, 2016; Wait, 2019) but not as only and independent way. Integration of four different online sales channels – single brand web shop (direct online selling channel), selling platform, social media sales and mobile sales – to omni-channel online sales approach is under investigation in this work.

**Scientific problem.** Is there any relationship between omni-channel online sales approach and financial and non-financial performance outcome in the case of niche product?

**The purpose of master thesis.** After systematic analysis of the latest academic literature about omni-channel online sales approach in the case of niche product identify relationship between omni-channel online sales approach and financial performance outcome (increased sales revenue and decreased complaint costs) and non-financial performance outcome (customer satisfaction and customer loyalty) and present the evaluation of this relationship.

In order to achieve the purpose of this master thesis, five objectives are developed and presented below.

### **Objectives:**

1. To examine views of various academic authors about online sales concept.
2. To explore omni-channel online sales approach in the case of niche product as a part of online sales process based on latest academic literature.
3. To establish information about omni-channel online sales approach evaluation criteria and their relationship with financial and non-financial performance outcome in the case of niche product.
4. To present omni-channel online sales approach financial and non-financial performance outcome relationship evaluation concept in the case of niche product.
5. To find out what statistically significant relationship exists between omni-channel online sales approach and financial performance outcome (increased sales revenue and decreased complaint costs) and non-financial performance outcome (customer satisfaction and customer loyalty) and present the evaluation of this relationship.

**The purpose of the research.** To find out what statistically significant relationship exists between omni-channel online sales approach and financial and non-financial performance outcome in the case of niche product and make evaluation on this relationship.

**Research object.** The relationship between omni-channel online sales approach and financial (increased sales revenue and decreased complaint costs) and non-financial (customer satisfaction and customer loyalty) performance outcome in the case of niche product.

Based on the latest academic literature systematic comparative analysis in order to create the methodology for the research and to conduct the research following **research objectives** were formulated:

1. To reveal how omni-channel online sales approach in the case of niche product directly impacts financial performance outcome?
2. To identify how omni-channel online sales approach in the case of niche product influence online customer reviews (OCR) type and rating together with complaints received?
3. To find out how non-financial performance outcome such as customer satisfaction represented by OCR type, OCR rating and complaints received affects customer retention and repurchased order size (customer loyalty)?
4. To determine how non-financial performance outcome such as customer loyalty represented by customer retention and repurchased order size indirectly impacts financial performance outcome?

**Research methods.** This work will present a positivistic quantitative research. Secondary data analysis will be used as a one and only data collection method. Secondary data will represent

actual online sales records collected from pure online player which is offering niche product since the beginning of its online sales activities (01 February 2017) until fixed moment of time (30 August 2020) when dataset reached 1000 records (N=1000). For statistical analysis of empirical data descriptive statistics and Cronbach alpha statistic for the inner coherence of constructs will be applied. Linear and multiple regression models will be used for the testing of eight derived hypotheses.

**The main limitation** for this research is connected to the data collection method. It has to be considered that author has to adapt to the data available even though data in possession have been collected for other purposes which are not connected to this research. Moreover, author is not be able to gather any additional data in order to maintain integrity of already collected information about actual online sales which happened in the past.

**The work structure** consists of three main segments. The first one is related to the systematic review of the latest academic literature and is made up of six sub-segments including concept of online sales, omni-channel online sales approach and its evaluation criteria, concept of omni-channel online sales approach and performance outcome relationship evaluation, review on niche product and proposed theoretical model. The second segment is dedicated to research methodology and constitutes of eight sub-segments including structured view about recent research trends and structure of research process, presentation of research methods and hypotheses, data collection and data analysis methods, short presentation of conducted pilot research and its results along with derived research difficulties and limitations. The third segment is dedicated to analysis of empirical data, testing of research hypotheses, discussion of gathered results and comparison with the works of other authors as well as managerial implications.

**The approval and publication of the work.** Based on the background of systematic review of the latest academic literature used in this master thesis, scientific article *Framework for evaluating the relationship between the omnichannel online sales approach and performance outcome in the case of niche products* has been written. Authors of the article – Viktorija Urbaitytė and Aurelija Ulbinaitė. This article has been accepted 06 May 2020 and published in the 11<sup>th</sup> International Scientific Conference *Business and Management 2020* (under section Contemporary Business management: Challenges and Opportunities), which took place 07-08 May 2020 in Vilnius, proceedings (p. 302-315; <https://doi.org/10.3846/bm.2020.563>; see Appendix).

**The work consists of** 71 pages, 12 figures, 23 tables, 229 references, 1 appendix.



# **1. REVIEW OF LITERATURE ON OMNI-CHANNEL ONLINE SALES APPROACH, EVALUATION CRITERIA, RELATIONSHIP EVALUATION AND NICHE PRODUCT**

## **1.1. The concept of online sales**

The landscape of retail has been drastically changed over the past twenty years because of the huge success of the online channel and the consecutive ongoing digitalization (Simone & Sabbadin, 2018). Everyone realizes that the future of selling belongs to the internet (Parisot, Vierke, Tamisier, Didry, & Rieder, 2014). The ability to purchase goods and services online offers customers various advantages, many of which did not exist until recently (Valarezo, Pérez-Amaral, Garín-Muñoz, Herguera García, & López, 2018). The accessibility and high convenience of online shopping created conditions for this business model to become a part of individuals' lives (Verhoef et al., 2015; Wait, 2019). Furthermore, Wigand, Benjamin, & Birkland, (2008) stated that traditional e-commerce has a huge potential to be converted from a product oriented environment to a social and customer centric one because of the rapid development of social media and Web 2.0.

All these technological aspects changed customer behaviour and are forcing business to fully concentrate on customer and his needs. There is no wonder. In online retail business customers take place as value co-creators because they have an impact via social media and online customer reviews (OCR). That is why online business tries to master customer centric approach in all managerial levels. Customer centric approach puts customers not products, channels or events at the core of all analysis and decision making (Kholod, 2016).

As can be seen from Table 1, this approach generates mutual advantages for customer and business. Decision to use online sales channel is affected by predictions about customer behaviour and insights about his or hers shopping experience. From the customer's point of view these features are influenced by social knowledge, better understanding of online purchase purposes and decisions to purchase. Customer centric approach allows business to create successful strategies based on insights about customer behaviour.

Thinking about customer as a main character in an entire online sales concept and performance relationship evaluation process helps to figure out which key performance indicators will be inspected. Business financial outcome in online business model exclusively relates on customer satisfaction and customer loyalty. As mentioned before, nowadays online business operates in customer-oriented environment so it would be impossible to measure quantitative indicators without examining customer's behaviour.

Table 1 The aspects of customer centric approach

Point of view	Advantage	Author
Customer's point of view	access to social knowledge	Huang et al., 2016
	more informed and accurate purchase decisions	Dennison, Bourdage-Braun, & Chetuparambil, 2009
	better understanding online purchase purposes	Dennison et al., 2009
Business point of view	ability to capture customer's behaviour	Constantinides & Fountain, 2008; Trkman, Mertens, Viaene, & Gemmel, 2015
	handed over insights about customer's shopping experiences and expectations	Constantinides & Fountain, 2008
	development of successful business strategies	Barber & Tietje, 2008; Constantinides & Fountain, 2008

Source: created by author

It was never so easy to get into the market and at the same time competition and requirements for business were never so high. Even though the internet and technologies allow business entities to reach their customers almost effortlessly, increased competition creates new challenges (B. Li, Ch'ng, Chong, & Bao, 2016). The majority of retailers who are usually manufacturers at the same time in the case of niche product devote themselves in a harsh competition over the online shopping places but many of them do not establish any structured approach to significantly increase their market shares (Parisot et al., 2014). The growth of technologies and intensive competitive environment obliged many direct brick-and-mortar retailers to complement their traditional direct selling channel with an online selling channel (Wait, 2019), switch from direct selling to unaccompanied online selling channel or create fully digital enterprise without physical stores.

Even though online business cannot be imagined without online sales process there is a significant gap in academic literature about this concept. Viio, (2014) specified that only few scientific research studies have been done about online sales, especially with reference to the online sales process, considering it is the process that guides the seller while being in the relationship with the buyer.

The lack of extended and fully described concept creates misunderstandings and does not let to fully examine online business. Various authors provide their standpoint about online sales approach using totally different terms and definitions.

Table 2 shows leading and recognized definitions about concepts connected with online sales approach. Some of them are being used interchangeably which creates even more confusion.

Table 2 The standpoints about online sales concept by various authors

Concept	Definition	Conceptual elements	Source
E-selling	Human or human-like activity in which digital interaction is directed at increasing customer value by securing a business exchange for mutual benefit. Conceptually distinct from e-commerce, e-retailing and e-marketing.	Human interactivity, intentionality, persuasion, value creation and closing	Parvinen et al., 2015
E-saleswork	Mechanistic processes such as order taking, that do not use interactive psychology or human intelligence. Part of e-selling process.	Mechanistic process, automatization in value chain	Parvinen et al., 2015
Online selling	Firm provided technologies that can facilitate or enable the performance of sales tasks.	Sales force automatization, sales-based customer relationship management, online social network, mobile technologies, companies' own websites	Ferrell, Gonzalez-Padron, & Ferrell, 2010
Online selling	Has no human interaction and no personal communication or interaction. The advancement of technology and competition drives online selling.	Reducing search costs; granting easy access to product and price information; facilitating product comparisons; offering greater accessibility, convenience and time-saving; involves no travel, product carrying or restrictions on shopping hours	Wait, 2019
E-sales	Provide alternative channels in which firms can interact with their customers and enter new markets. Expected to potentially advance the routines of the sales organizations and processes in firms and thus enhancing their efficiency. Go beyond the typical process or organizational innovations because it also affects external relations with clients and markets.	Advanced processes, enhanced efficiency, external relations with clients	Falk & Hagsten, 2015
Internet sales	Internet sales are typically information and not product-based, manufacturers must meet high customer expectations for a rich and credible content.	High customer expectations	Jelassi & Leenen, 2003
E-commerce based selling	Must be in concordance with the customer's necessities prior, during and after the sale. Requires precise knowledge of the customer's preferences.	Knowledge of customer's preferences, prior the sale, during the sale, after the sale	Gerrikagoitia, Castander, Rebón, & Alzua-Sorzabal, 2015
Sales process	Documented, repeatable way of selling that reflects scientific methods and allows them to generally get the same results. Adopted strategic view that includes a focus on sales force and the selling process. A series of tightly coordinated activities that convert raw materials into finished goods.	Documented method, repeatable method, similar to production process	Bernard, Boillat, Legner, & Andritsos, 2016; Cooper & Budd, 2007; Viio, 2014; Viio & Grönroos, 2016
Selling process	Process of sales work at a salesperson level.	Smaller part of sales process	Viio, 2014
Online sales	Distributors do not fulfill the same function as in the stationary market. The manufacturer is given full freedom to manage all aspects of the sale process.	Distinct functions	Parisot et al., 2014

Source: created by author

Different standpoints show that authors see online sales from different perspectives, with different goals, different conceptual elements. This shows that an important part of learning the online sales process is the understanding of the complexity involved in implementing or completing the process (Rippé, 2015).

A new created concept of online sales (see Figure 1) describes online sales as mechanic e-saleswork together with digital interaction which uses knowledge of customer’s preferences, prior, during and after the sale alongside different selling channels to reach customer and create value together while completing sales process on the internet.

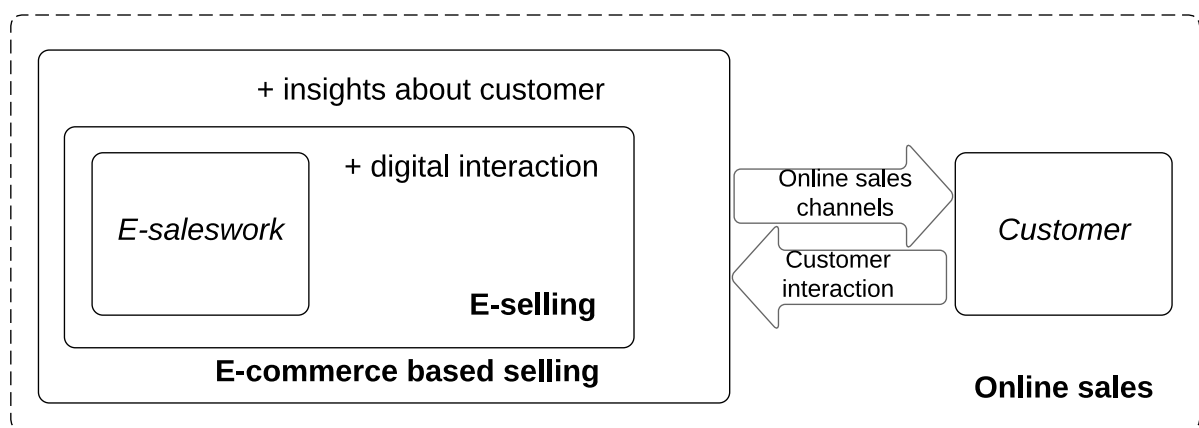


Figure 1. Online sales concept

Source: created by author (based on Gerrikagoitia et al., 2015; Parisot et al., 2014; Parvinen et al., 2015)

This concept leads to understanding how and why it is important to understand value co-creation together with customer in online sales process. Value co-creation process can proceed in higher development level than e-commerce environment so called social commerce (s-commerce) – a new way of doing commerce in a collaborative and participative way, involving interactions among all subjects of the value chain (Baghdadi, 2016). All subjects are recognized as experiencing actors (Ramaswamy & Ozcan, 2018) and include all stakeholders of business entity together with customers. Traditional value chain concept created by M. Porter in his seminal book “Competitive Advantage: Creating and Sustaining Superior Performance” is “a collection of activities that are to performed to design, produce, market, deliver, and support its product (Porter, 1985, p.36)”. It is clear that traditional understanding of value creation is not equal to value creation understanding in s-commerce environment. Contrary to the Porterian focus on the company and its product, it is necessary to pay attention to the interaction between participating actors and interactive system environment (Ramaswamy & Ozcan, 2018) which are substantial to s-commerce business activities.

S-commerce can be also defined as a paradigm change in the way business is done (Baghdadi, 2016) and has greatly impacted e-commerce (Z. Huang & Benyoucef, 2013; Wigand et al., 2008). S-commerce influences customer behaviour through interactions in social media networks and serves as a business strategy to increase sales and brand values (Gensler, Völckner, Liu-Thompkins, & Wiertz, 2013; Pentina, Gammoh, Zhang, & Mallin, 2013). Table 3 contains notable features of s-commerce. These features are mostly connected with user interaction through social media. Firstly, maintaining a strong relationship with customers through social media channels provides sales in return (Altınışik & Özkan Yıldırım, 2017). Secondly, the interaction of customers among themselves also creates a collective intelligence, which generates valuable knowledge input for the company (Z. Huang & Benyoucef, 2013) including insights about customer behaviour, shopping experience and expectations (Constantinides & Fountain, 2008; Trkman et al., 2015). Traditionally sales and sales management concentrated on transactional selling but paradigm change in sales modified focus from transaction to relationship selling and value-based selling (Viio & Grönroos, 2016).

*Table 3 The features of social commerce*

<b>S-commerce feature</b>	<b>Author</b>
Social media as connector and content sharing option	Kim, 2013; Stephen & Toubia, 2011; Tajvidi, Richard, Wang, & Hajli, 2018
Customers understood as community not individuals	Baghdadi, 2016
Influence customer's intentions and purchasing decision making	Tajvidi et al., 2018
User participation and commercial information sharing behaviour	Stephen & Toubia, 2011; Tajvidi et al., 2018
Enabled by Web 2.0, bidirectional communication for interactions	Baghdadi, 2016

*Source: created by author*

After clearing out circumstances in what kind of environment online retail business operates (ongoing digitalization, customer centric environment, relationship strategy) attention will be paid to omni-channel online sales approach by firstly explaining each online sales channel which will be integrated into omni-channel online sales approach.

## **1.2. Omni-channel online sales approach**

Online retailers who are also manufacturers of niche product refer to synergetic integration of channels known as omni-channel online sales approach in order to create a unified brand experience for their customers aside from the channel or stage they are in during online purchasing process (Cummins, Peltier, & Dixon, 2016). What is more, omni-channel is determined as the phenomenon where customers consider all sales channels as one entity (Simone & Sabbadin, 2018). Figure 2 shows the structure of omni-channel online retailing.

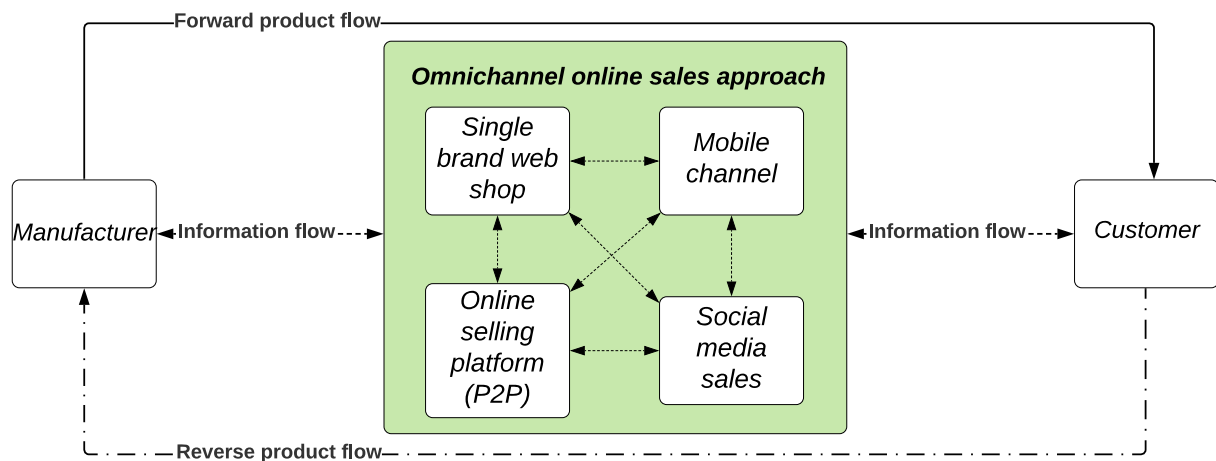


Figure 2. Omni-channel online sales process

Source: created by author (based on Adivar, Hüseyinoğlu, & Christopher, 2019; Ahmed & Kumar, 2015; Beck & Rygl, 2015; Bernon, Cullen, & Gorst, 2016; Galipoglu, Kotzab, & Pöppelbuß, 2018; A. Hübner, Wollenburg, & Holzapfel, 2016; Huré, Picot-Coupey, & Ackermann, 2017; J. C. Kim & Chun, 2018; Park & Lee, 2017; Saghiri, Wilding, Mena, & Bourlakis, 2017; Simone & Sabbadin, 2018; Verhoef et al., 2015; Yurova, Rippé, Weisfeld-Spolter, Sussan, & Arndt, 2017)

Even though research on omni-channel retailing is in its early stage, shopping across channels becomes constant (Z. W. Y. Lee, Chan, Chong, & Thadani, 2019) and business started to understand the omni-channel imperative (Bianchi, Cermak, & Dusek, 2016). Omni-channel retailing is not a simple extension of channel list provided by the company, rather an integration of service elements, price, promotion, product assortment, information and transactional data within all available channels (Akter et al., 2019).

Omnichannel online sales process is represented by continuous information exchange, joint operations, logistics and inventories across channels with ability to fuse order fulfillment process (A. Hübner et al., 2016). Channels are interchangeably and seamlessly used by customers during the search and purchase process (Verhoef et al., 2015).

Online sales process starts as product knowledge accumulation (Brynjolfsson, Hu, & Rahman, 2013) in one channel, is completed in the another (Bang, Lee, Han, Hwang, & Ahn, 2013), opinion about product or experience about shopping process can be shared in the third one (Piotrowicz & Cuthbertson, 2014). The last channel is twofold – reviews finish one customer’s purchasing process and starts a new one for a new customer. Because of full channel integration this process is not a linear one. Structured view is proposed in Figure 3.

Beck & Rygl, (2015) described omni-channel retailing as “the set of activities involved in selling merchandise through all widespread channels at the same time with full interaction triggered by customer and full integration controlled by retailer”. It is clear that both parties – retailer and customer – actively behave during sales process and that is why retailers are switching

to omni-channel sales approach in order to remain competitive by accomplishing increased demand for integrated purchase experience.

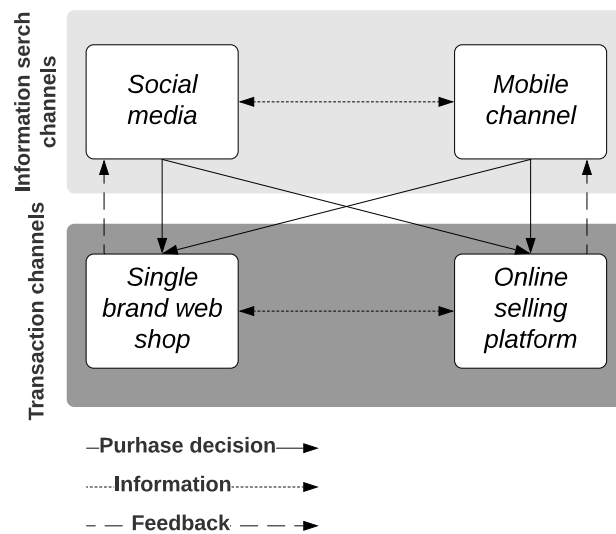


Figure 3. Structured model of omni-channel approach

Source: created by author (based on: Adivar et al., 2019; Ahmed & Kumar, 2015; Bang et al., 2013; Beck & Rygl, 2015; Bernon et al., 2016; Brynjolfsson et al., 2013; Galipoglu et al., 2018; A. Hübner et al., 2016; Huré et al., 2017; J. C. Kim & Chun, 2018; Park & Lee, 2017; Piotrowicz & Cuthbertson, 2014; Saghiri et al., 2017; Simone & Sabbadin, 2018; Verhoef et al., 2015, 2009; Yurova et al., 2017)

Each alternative of sales channel is thoroughly evaluated in order to enhance customer experience and provide an integrated sales experience combining different advantages of already functioning channels (Rigby, 2011).

The focus on omni-channel retailing lies in customer relationship management across different channels (Payne & Frow, 2004) and in the ability to provide seamless purchase experience across channels also called as channel integration (Sousa & Voss, 2006). Furthermore, customer can activate full interaction and retailer can supervise full integration of all channels provided (Beck & Rygl, 2015).

Online omni-channel retailing has the same focus across different online channels. What is more, a seamless integrated shopping experience is offered (Simone & Sabbadin, 2018). To sum up, online retailers are obliged to ensure the synergetic integration of online channels in order to remove friction during the customer journey and in order to make the most out of online omni-channel retailing (Bianchi et al., 2016).

### **Single brand web shop (direct online sales channel)**

Business recognizes the need of online presence in order to connect with digitally experienced customers (Hansen & Sia, 2015). An online retail channel is simply an online shop

where customer can place an order for preferred product via web-based portal which is known as e-commerce website (Saleem et al., 2019). Online shop is also called as online direct sales channel where sales transactions are fulfilled fully online without any facilitator (X. Li, Lai, Yuan, Yao, & Yang, 2020) or third party. Traditional brick-and-mortar business model has been enhanced by highly valuable online channel. Online channel enables business to sell products or services for the customers together with the ability to communicate and interact with the customers during each phase of online sales process (Song & Zahedi, 2005) also prior and after the sale (Gerrikagoitia et al., 2015). It worth mentioning that online channel has drastically changed customer pattern of purchasing (Aiolfi & Sabbadin, 2019) and business had to react.

In the e-commerce environment retailers can establish web-based systems in order to deliver information to their customers (Song et al., 2012) and to fulfill needs of their customers (Gerrikagoitia et al., 2015). Important aspect of information delivery via web-based systems is the reduce of costs to the retailer (Gerrikagoitia et al., 2015; Song et al., 2012) and generated value for the customer (Song et al., 2012). Verma, Sharma, & Sheth, (2016) presented the development of online website into information storehouse which contains vast information such as product information, images, videos, recommendations and customer reviews. The business ability to have an active connection with the customer through reviews expands e-commerce context and leads to s-commerce. At this point customers are not only informed about the product and other details connected to their purchase but also they are involved in value co-creation by composing reviews, comments or recommendations (Cayla & Arnould, 2008) which leads to the generation of future sales from the existing customer (Brunner, Ullrich, & De Oliveira, 2019) or to the new sales from new customers.

The customers of online shops are well informed and practical. Before making an online purchase they fully analyse and compare product features, prices, payment options, shipping information and return policies and online seller has to help customers to assimilate this information (Song et al., 2012). Information generated by other customers is an addition to business provided official details about the product.

Introducing online shop to a business model has both positive and negative sides. First of all, online shop gives visibility to the business, allows being open permanently, removes geographic limitations (Gerrikagoitia et al., 2015). Second of all, direct online sales channel gives opportunity and technical conditions to explore online customer behaviour (Gerrikagoitia et al., 2015; Hoskins & Brown, 2018; Pham & Ahammad, 2017; Song et al., 2012). Furthermore, this channel encourage brand creation (Lapoule & Colla, 2016; Millspaugh & Kent, 2016; Tajvidi et al., 2018) and customer engagement (Bowden, 2009; Connell, Marciniak, Carey, & McColl, 2019;



Pansari & Kumar, 2017). Negative sides of direct online sales channel are uncertainty and risks which are caused by virtuality and intangibility (T. Falk, Schepers, Hammerschmidt, & Bauer, 2007; Herhausen, Binder, Schoegel, & Herrmann, 2015; X. Li et al., 2020; Toufaily, Souiden, & Ladhari, 2013; Yu, Hudders, & Cauberghe, 2018).

### **Online selling platform**

Online selling platform is a peer-to-peer (P2P) website which facilitates online business through its hardware and software improvements and new applications in connectivity technologies (Mačiulienė & Skaržauskienė, 2016). P2P website acts as two-sided platform which joins two separate parties and charges at least one of them a fee for this facilitation (Chandna & Salimath, 2018). Online selling platform as two-sided platform exists in two-sided market which has a common feature to increase one side of the market by increasing opposite side of the market (Benjaafar, Kong, Li, & Courcoubetis, 2019). This feature suits participating parties very well. Small and new businesses find this channel as an attractive alternative (Millman, Wong, Li, & Matlay, 2009) where online sellers are enabled to search for feasible contracts among online buyers (Sriram et al., 2015). Moreover, owners of niche business have the ability to leverage their activities by using online selling platform in a way which was not previously possible (Chandna & Salimath, 2018). The literature hypothesized a clear distinction between physical channel and online channel (Aiolfi & Sabbadin, 2019) and participating in online selling platform is participating solely online. Online business owners have to understand how to add value in specific P2P context. It is important to take into consideration that many distinctive aspects typically associated to traditional brick-and-mortar business model (such as value propositions, revenue model, market opportunity and competitive environment) are not relevant for businesses hosted on online platform (Chandna & Salimath, 2018).

Online selling platforms reached exceptional success for several reasons. Bauwens & Pantazis, (2018) characterized these platforms by offering the opportunity for social relations, new modes of production and allocation, a scalable technological infrastructure and an economy rooted in fairness and sustainability. Chandna & Salimath, (2018) stated that online selling platforms are considered as networks which have an impact on the performance of online business and provide a direct contact with certain groups including those who are following similar arrangement of business, selling the same type of product, having the same field of interests and understanding how to manage their business. This aspect is unique. It helps to broaden and deepen insights and knowledge about customers along with improvement of entire business which could led to better business performance outcome.

In this work Etsy selling platform will be examined because this platform is created to connect online sellers and online buyers who are interested in niche products. Examination will be done from the seller's point of view manipulating the data which have been created by the customers.

### **Social media sales**

A. M. Kaplan & Haenlein, (2010) described social media as internet based applications built on Web 2.0, while Web 2.0 refers to a concept as well as a platform for utilizing collective intelligence. The extent use of social media brought the shift in power from business to customers (Berthon, Pitt, Plangger, & Shapiro, 2012) and the availability of various social media tools and functionalities enhanced communication between participants and presented more interactive, social and collaborative user experience (Z. Huang et al., 2016). Social media is known as a valued resource to open new markets, start relationships with new customers and enhance sales opportunities (Ainin, Parveen, Moghavvemi, Jaafar, & Shuib, 2015). These aspects of social media are important to niche business due to their capital limitations, relatively low or even no cost for using social media tools and applications, ability to reach targeted audience. The use of social media in order to create value for customer meets its own confrontation because it may provide opportunities for competitors or dissatisfied customers to take control due to its strengths and weaknesses deriving from being completely open, and user driven (Agnihotri, Kothandaraman, Kashyap, & Singh, 2012).

Social media has given customers much more authority, information and privilege over the market process, presenting far-reaching challenges to the retailers (Constantinides, Romero, & Boria, 2009). Interactivity and user generated content (features of Web 2.0) advanced the potential for retailer-to-customer interactions (Rose, Hair, & Clark, 2011), providing expanded opportunities for retailers to engage with their customers outside of the service encounter through non-transactional customer activities such as writing online customer reviews (OCR), joining online communities, blogging, or similar activities collectively named as customer engagement behaviour (van Doorn et al., 2010).

### **Mobile sales channel**

In order to reflect full picture about online omni-channel sales approach mobile channel has to be added considering online channel is not enough to satisfy all the customers (Simone & Sabbadin, 2018). The adoption of this new channel changes customer purchase behaviour because smart phones or tablets are used as a proxy for online purchasing (Park & Lee, 2017). The proliferation of smart devices emphasizes the importance of seamless customer experience across

multiple channels (Verhoef et al., 2015). Dealing with this new phenomenon online retailers are developing mobile websites and advanced mobile apps in order to meet the satisfaction standards of the different needs of their customers (Brynjolfsson et al., 2013).

The diversification of a new sales channel might have binary impact – to cannibalize other channels or to make synergy and generate more transactions (L. Huang, Lu, & Ba, 2016; Neslin & Shankar, 2009; Pauwels & Neslin, 2015). The integration of the new – mobile – channel into only web channel based sales approach has a proven effect on slightly decreased frequency of purchase but higher total revenue stream (L. Huang et al., 2016). The integration of mobile channel to an omni-channel strategy is considered as a facilitator which enables an interaction between retailer and customer (Simone & Sabbadin, 2018). According to (L. Huang et al., 2016) the main question for retailer on introducing a new mobile channel is whether this new channel stimulates new purchases. Simone & Sabbadin, (2018) stated that many retailers acknowledge mobile channel as a separate sales channel which is able to enhance sales performance outcome. What is more, retailers who are offering niche products have an advantage because narrowly focused products are more economical to carry in this channel (Brynjolfsson, Jeffrey Hu, Smith, & Jeffrey, 2006).

Single brand web shops, online selling platforms and mobile channel provide a variety of different means of payment as well as full information about product. Social media as a channel mostly provides information but with separate extra tools can generate transactions too. All these channels integrated into omni-channel sales approach have blurred their natural borders and borders even began to disappear (Verhoef et al., 2015).

Mobile channel compared to online channel can be characterized as easier to access but harder to browse (Bang et al., 2013). Single brand web shop (direct online sales channel), online selling platform and social media networks function in both mobile and online environments. Mobile channel increased the value for customer by being accessible independent of time and place, and being customized based on time, location and personal profile (Vendel & Bredican, 2014).

Customers use mobile channel for different purposes – searching for the information on the web, planning pre-shopping, creating wish and shopping lists, pricing comparison, purchasing goods and engaging after sale activities (Bellini & Aiolfi, 2017; Shankar, Venkatesh, & Naik, 2010).

Customers may use mobile channel for online shopping to satisfy different motives and perceived outcome is valued differently in distinct contexts creating different effects on retailer's performance outcome evaluation (Thakur, 2016). Customer who are considering a purchase can

receive full information and execute transaction at any time anywhere, their product choice consideration and purchase process would occur time and again (L. Huang et al., 2016).

The customer's behaviour has been significantly altered by growing penetration of mobile devices (Bellini & Aiolfi, 2017). Customer decision making process and consequently purchasing behaviour is significantly influenced by widespread mobile connectivity (Simone & Sabbadin, 2018).

In order to craft an effective omni-channel strategy that includes a new mobile channel, it is crucial for the business to assess the performance effects of adding the new channel on their existing online channel in terms of cross-channel cannibalization versus synergy (Neslin & Shankar, 2009).

It is not clear, however, how introducing a mobile channel affects the existing online channels of individual businesses. On the one hand, the introduction of a mobile channel can provide an alternative channel for consumers to buy products that they would otherwise buy through an existing online channel, leading to substitution of the online channel. On the other hand, a mobile channel can enhance consumers' information search ability by allowing consumers to search for product information anywhere, anytime they prefer (Bang et al., 2013).

### **Channel integration quality in omni-channel online retailing**

Omni-channel online retailing as a phenomenon leaves an important question unanswered yet – does a seamless customer experience provided in this environment automatically means a full integration (Patten, 2019)? Integration is understood as the concept of the distinctively operated channels within an organization (Ailawadi & Farris, 2017). Channel integration quality is the key distinction between omni-channel and single channel service quality conceptualization (Patten, 2019). Berry et al., (2010) stated that different sales channels might face various challenges due to the difference regarding purposes, features, cost structure and competitors. The concept of integration has been investigated in specified fields but all relating to customer and customer experience (see Table 4).

Integration quality of sales channels is a context specific variable in omni-channel retail environment (Z. W. Y. Lee et al., 2019). The outcome of channel integration in omni-channel retailing are widely discussed in academic literature. Table 4 provides main characteristics which are connected to the integration of sales channels and can be assigned to synergy effect. This effect emerges when the use of several different channels leads to improved performance of the company (Son, Kim, Choi, & Kim, 2017). On the contrary, cannibalization effect may occur where advantages in one sales channel are neutralized by disadvantages in another channel (T. Falk et al., 2007) or negative spill-over effects from one channel to another may even ruin performance

of the company (van Birgelen, de Jong, & de Ruyter, 2006) and create negative performance outcome. It would be noteworthy to have in mind that even when the service quality of each channel is very high, the overall perception of service could be very low when the integration quality is perceived as low (Patten, 2019).

*Table 4 Channel integration outcome*

<b>Channel integration outcome</b>	<b>Author</b>
Seamless purchase experience	Bianchi et al., 2016; Cummins et al., 2016; Simone & Sabbadin, 2018; Sousa & Voss, 2006
Full customer interaction	Brynjolfsson et al., 2013; Chopra, 2016; Verhoef et al., 2015
Enhanced customers' perceived service quality	Herhausen et al., 2015 M. Zhang, He, Qin, Fu, & He, 2019
Positive impact on customer satisfaction	Hossain, Akter, Kattiyapornpong, & Dwivedi, 2019; Song et al., 2012; M. Zhang, He, Qin, Fu, & He, 2019
Customer engagement	Bowden, 2009; Connell et al., 2019; Hoskins & Brown, 2018; Lee et al., 2019; Mosquera, Olarte Pascual, & Juaneda Ayensa, 2017; Sashi, 2012; Storbacka, 2019; van Doorn et al., 2010

*Source: created by author*

From a broader perspective in omni-channel sales approach channel integration quality means “the quality of the process and result of interaction with online channels from the supplier of service” (Etemad-Sajadi & Ghachem, 2015) and besides can be called e-service quality (Castro-Lopez, Vazquez-Casielles, & Puente, 2019). The main focus in this research is on omni-channel online sales approach channel integration relationship with online customer satisfaction and online customer loyalty. Only these aspects are in scope.

### **1.3. Omni-channel online sales approach evaluation criteria**

Pure internet retailers like any other company strive to measure all aspects of their business. Performance measurement is in the field of academic researches too (Bernard et al., 2016; Cummins et al., 2016; Eklof, Podkorytova, & Malova, 2018; Kueng, 2000; Saleem et al., 2019; Van Looy & Shafagatova, 2016). Performance can be measured using quantitative and qualitative criteria. What is more, it is necessary to use both options because only quantitative – financial – outcome do not show full picture. Moreover, relying solely on financial performance criteria has been criticized by Neely et al., (2000); Nørreklit, (2000); Zuriekat, (2011). In academic literature exists a widely expressed opinion (R. S. Kaplan & Norton, 1996; Kueng, 2000; Van Looy & Shafagatova, 2016) about an obliged need to combine financial and non-financial criteria in order to find out overall situation about business performance.

In the case of this work the use of both quantitative (financial) and qualitative (customer based) criteria helps to evaluate relationship between omni-channel online sales approach and generated performance outcome in a holistic way (see Figure 4).

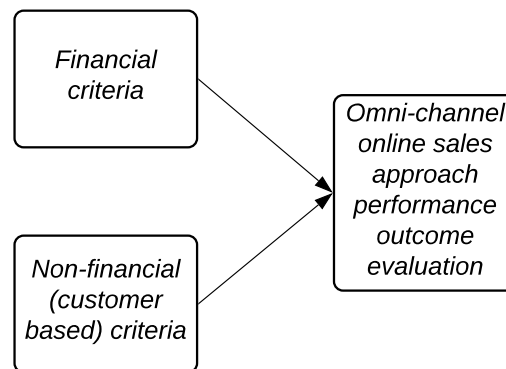


Figure 4. Criteria for omni-channel online sales approach evaluation

Source: created by author (based on Kueng, 2000; Neely et al., 2000; Nørreklit, 2000; Van Looy & Shafagatova, 2016; Zuriekat, 2011)

Batocchio, Ghezzi, & Rangone, (2016) described revenue and costs as financial viability. Financial viability aspects such as increased revenue, decreased costs, higher profit margin are easy measured because they are determined by direct rules and can be found in the financial statements or annual reports (see Table 5).

Table 5 Financial changes while using omni-channel online sales approach

Financial outcome	Author
Increased revenue	Batocchio et al., 2016; Eklof et al., 2018; Saleem et al., 2019
Decreased costs	Burnham, Frels, & Mahajan, 2003; Goel, Broder, Gabrilovich, & Pang, 2010; Storbacka, 2019; Storbacka, Ryals, Davies, & Nenonen, 2009
Increased sales	David R. Bell, Santiago Gallino, & Antonio Moreno, 2014; Meiseberg, 2016

Source: created by author

All non-financial criteria relate to customer and his or hers experience during purchase process. Customer based criteria have significant impact on financial performance outcome, but these two different types of evaluation criteria cannot be acknowledged as substitutes. Non-financial performance outcome evaluation criteria are used as addition to financial ones. Figure 5 shows an outline which logically emphasizes that financial performance outcome is affected by customer based performance outcome. Consequently, it is still necessary to focus on how non-financial performance outcome criteria are related to the increased financial profit (Zuriekat, 2011).

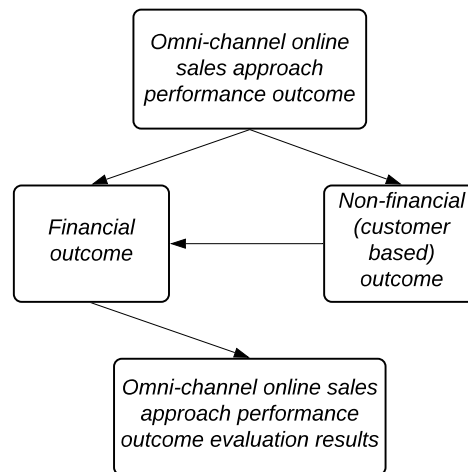


Figure 5. Outline of omni-channel online sales approach performance outcome evaluation

Source: created by author (based on: Eklof et al., 2018; Kueng, 2000; Neely et al., 2000; Nørreklit, 2000; Van Looy & Shafagatova, 2016; Zuriekat, 2011)

Understanding customer and his needs is a keystone concept in online business. Pure online players compete at the highest level because competitors from all over the world are just one click away (Ghazali, Nguyen, Mutum, & Mohd-Any, 2016). As e-commerce is progressing into a more social active environment (Yadav, de Valck, Hennig-Thurau, Hoffman, & Spann, 2013), customer is affected by intense influence of social media. Social media networks and their impact cannot be ignored. Moreover, online players in particular the ones who are offering niche product can use social media to influence their customer's buying process (Diba, Vella, & Abratt, 2019). Online business has to adapt and focus on customer satisfaction because in the online world where negative reputation of product, buying process, customer service, exchange and return process, entire shopping experience or entire company can be formed and spread out in seconds no mistakes can be done.

Customer satisfaction as far-reaching and one of the most important criterion of customer based criteria received extant attention in academic research (Albert, Aggarwal, & Hill, 2014; Biscaia, Rosa, Moura e Sá, & Sarrico, 2017; Burnham et al., 2003; Casas-Arce, Lourenço, & Martínez-Jerez, 2017; Eklof et al., 2018; Ghazali et al., 2016; Hoskins & Brown, 2018; E. J. Lee & Hahn, 2015; Pham & Ahammad, 2017; Pomirleanu, Chennamaneni, & Krishen, 2016; Ranaweera & Prabhu, 2003; Sashi, 2012; Sun & Kim, 2013; Thakur, 2016; Wangenheim & Bayón, 2004; M. Zhang et al., 2019). Table 6 shows main attributes which are connected with customer satisfaction.

Table 6 The description of customer satisfaction

Attribute	Author
Demonstration of loyal behaviour (e-loyalty)	Ghazali et al., 2016; Sousa & Voss, 2012; Wangenheim & Bayón, 2004
Repurchasing or resistance towards price increases	Albert et al., 2014; Wangenheim & Bayón, 2004
Less intention in switching provider	Burnham et al., 2003; Ghazali et al., 2016; Wangenheim & Bayón, 2004
Loyalty affected by two dimensions of switching barriers (perceived switching costs and perceived attractiveness of alternatives)	Burnham et al., 2003; Ghazali et al., 2016; Ranaweera & Prabhu, 2003
Online word of mouth (online customer reviews, comments, recommendations, other content created by customer and posted online)	Chevalier & Mayzlin, 2006; Cui, Lui, & Guo, 2012; Hoskins & Brown, 2018; Z. W. Y. Lee et al., 2019; Rintamäki & Kirves, 2017; Toufaily et al., 2013; Verma et al., 2016; Wangenheim & Bayón, 2004
Switching barriers on customer retention	Burnham et al., 2003; Ghazali et al., 2016
Customer retention	Boehm, 2008; Ghazali et al., 2016; Ranaweera & Prabhu, 2003; Sashi, 2012; H. Y. Wu, 2012
Increased engagement	Bowden, 2009; Connell et al., 2019; Hoskins & Brown, 2018; Parvinen et al., 2015; Sashi, 2012; Storbacka, 2019; van Doorn et al., 2010

Source: created by author

Due to ease of online channel switching, business tends to satisfy all needs of its customer. Proper online sales channel integration, unified experience through omni-channel online purchase process, active participation in social media networks, valuable content creation, highly expressed importance of customer and after sales care help to grow customer satisfaction. Using omni-channel online sales approach means that all four online channels (single brand web shop, online selling platform, social media and mobile channel) are active. At this point cannibalization effect may occur. Extant research in academic literature identified online channels as cannibalistic compared to traditional distribution channels and cannibalistic towards each other (Cliquet & Voropanova, 2016; Díaz, Martín-Consuegra, & Esteban, 2015; Hernant & Rosengren, 2017; J. C. Kim & Chun, 2018; Lapoule & Colla, 2016; Narayandas, Caravella, & Deighton, 2002; Sharma, Pandey, Chandwani, Pandey, & Joseph, 2018). Online channel integration and created synergy effect will lead to cannibalization if online channels will not be focused on differently designed objectives which must be achieved (Lapoule & Colla, 2016). The choice of online channel and their integration into omni-channel sales approach has to be done after accurate investigation of each channel and elimination of possible cannibalization effect. There is a chance that customers will not feel any advantage of online channel integration into omni-channel sales approach. They can simply switch between online channels (Hernant & Rosengren, 2017) and do not attain any higher satisfaction from overall shopping experience. Defining the best possible option of channel integration will generate higher customer satisfaction which will ultimately lead to better financial outcome (see Figure 6).



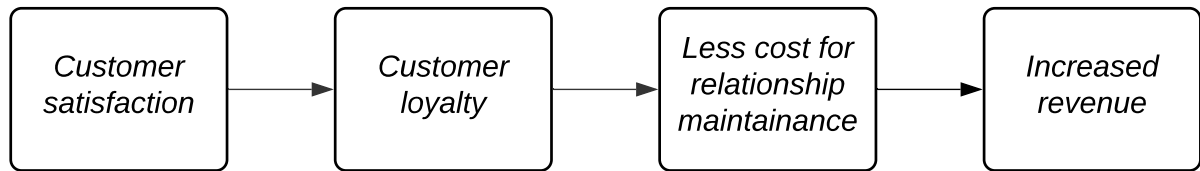


Figure 6. Customer satisfaction relation to financial outcome

Source: created by author (based on: Batocchio et al., (2016); Eklof et al., (2018); Saleem et al., (2019))

Customer satisfaction leads to customer’s loyal behaviour which turns into increased financial outcome. However, customer satisfaction does not necessarily predict loyalty (Ghazali et al., 2016). Customer satisfaction might be lower but loyalty to product or brand would remain (Pomirleanu et al., 2016). Having in mind this insight, would be wise to evaluate both customer satisfaction and customer loyalty as non-financial criteria.

#### 1.4. The concept of omni-channel online sales approach and performance outcome relationship evaluation

It is crucial to understand how omni-channel online sales approach affects business performance outcome. In decision making level selecting omni-channel online sales approach is important for several reasons. Firstly, this decision is connected to the way how online business is going to reach its customers in an incredibly competitive and creative market of niche product sellers. Secondly, the choice of channel integration determines organizational performance because not all online channels are equal in generating results. Herhausen et al., (2015) presented statement that integration of online sales channels can be performance enhancing or performance destroying.

The measurement of performance outcome is a multidisciplinary topic which is highly studied by both the management and business process management domains (Van Looy & Shafagatova, 2016). For profit oriented companies performance outcome is generally calculated objectively through measures of profitability (Hull & Lio, 2006). A more balanced and integrated evaluation approach was needed because of extended challenges in changing society and technologies (Van Looy & Shafagatova, 2016). Omni-channel online sales approach is examined to evaluate performance outcome in this work.

Table 7 shows comparison of several commonly used performance measurement models and their dimensions.

Table 7 The comparison of performance measurement models

Performance measurement model	Model orientation	Dimensions	Criteria/indicator	Authors
Balanced Scorecard (BSC)	Organizational performance	Financial perspective	Sales performance, Return on sales (ROS) net profit margin, profit per customer, return on investment (ROI), return on assets (ROA), revenue growth, average order value	R. S. Kaplan & Norton, 1996
		Customer perspective	Customer retention, customer growth, customer complaints, perceived customer satisfaction, perceived customer easiness, punctuality	
		Internal business process perspective	New product revenue, request fulfilment time, error rate	
		Learning and growth perspective	Revenue per employee, employee satisfaction	
Kueng model	Process performance	Customer view	Expectations vs. perceptions	Kueng, 2000
		Employee view	Communication, job conditions, physical discomfort, psychological well-being, workload, supervision, opportunities for growth, or socialization	
		Societal view	Measuring the impact a process has on its society and measuring how the impact is perceived	
Business process management (BPM)	Process performance	Time-related process performance	Process duration, process cycle time, order cycle time, processing time, order fulfillment time	Dumas, La Rosa, Mendling, & Reijers, 2013
		Cost-related process performance	Activity cost, process cost	
		Quality-related process performance	Rework time	
		Flexibility-related process performance	Special requests	

Source: created by author

The concept of omni-channel online sales approach and performance outcome relationship measurement is based on financial and non-financial criteria. Three financial aspects – increased revenue, decreased costs and increased sales (see Table 5) in this work. Increased sales lead to increased revenue but it is important to pay attention to received order change (in order units) too. This performance measurement can be used for each online sales channel or for their integrated omnichannel model. Indicators describing financial criteria are shown in Table 8.

Table 8 Financial performance outcome indicators

Indicator	Formula	Used by
Sales performance	Achieved total sales/planned sales * 100	Balaban, Belić, & Gudelj, 2011
Return on sales (ROS)	Average Net Profit/Average Sales	Awang, Said Asghar, & Subari, 2010
Average order value	Aggregated monthly sales/monthly no. of orders	Balaban et al., 2011
Net profit margin	After-tax profit or loss/total operating revenue	Bosilj-Vuksic, Milanovic, Skrinjar, & Indihar-Stemberger, 2008; Sun & Kim, 2013; H. Y. Wu, 2012
Profit per customer	After-tax earnings/total no. of customers (or specific channel no. of customers)	H. Y. Wu, 2012
Revenue growth	Revenue from new sources/total revenue * 100	Bosilj-Vuksic et al., 2008
Return on investment (ROI)	Revenue – cost/cost	Goel et al., 2010; H. Y. Wu, 2012
Return on assets (ROA)	After-tax profit or loss/average total assets	Bosilj-Vuksic et al., 2008; Eklof et al., 2018; Sun & Kim, 2013; H. Y. Wu, 2012

Source: created by author

Omni-channel online sales approach financial performance outcome is affected by s-commerce environment and depends on online customers reviews (OCR) and other customer created content (Chong, Li, Ngai, Ch'ng, & Lee, 2016; Cui et al., 2012; Hoskins & Brown, 2018; Z. Li & Shimizu, 2018; F. Wang, Liu, & Fang, 2015), because this approach contains social media online sales channel. Online customer reviews are described by review valence and review volume (see Figure 7).

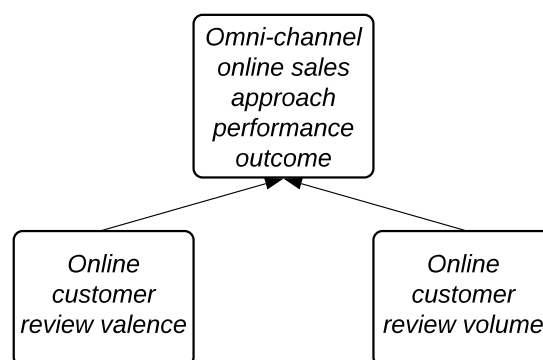


Figure 7. Relationship between omni-channel online sales approach performance outcome and online customer reviews

Source: created by author (based on Hoskins & Brown, 2018)

## 1.5. The concept of niche product

The concept of niche product is not new and has been widely discussed in academic literature (Aiolfi & Sabbadin, 2019; Brynjolfsson, Hu, & Simester, 2011; Brynjolfsson et al., 2006; Chevalier & Mayzlin, 2006; Dalgic & Leeuw, 1994; Darban, 2019; Jarvis & Goodman, 2005; Keskin, Ventura, Soyuer, & Kabasakal, 2017; Meiseberg, 2016; Oberholzer-Gee & Strumpf, 2007; Son et al., 2017; Toften & Hammervoll, 2010; Venkatesh, Viswanath, Thong, James, Y.L., 2012). Significant importance about niche product in this work is describing its existence only in online market and being sold through solely online sales channels.

A growth in people's interest for niche products – more individualized products tailored to the needs of a very specific target group rather than to the mass market – has been observed for the past years and has received widespread attention (Keskin et al., 2017; Schaefers, 2014; Simonson, 2005). Darban (2019) stated that the product is either niche or not niche (mainstream) but not all niche products are equally niche. Niche product has several distinctive attributes which are shown in Table 9. These attributes are grouped into 4 groups: (a) customer oriented, (b) market oriented, (c) product oriented, (d) IT oriented.

This classification helps to investigate niche product from different angles and see full difference if compared to mainstream products.

In general, customers tend to be more interested in mainstream products but appropriate strategy towards online sales channels is able to change this situation by several means. First of all, online channels open wider market which is not limited by region, opening hours, different time zones. Online seller can offer niche product globally for customers with different needs compared to mainstream mass. Niche companies are targeting smaller mass of users and markets (Darban, 2019). Having in mind saturated and difficult to enter mature markets for mainstream products omni-channel online sales approach opens wider market for niche product and gives more opportunities for online seller. Omni-channel online sales approach also eliminates physical restriction for product quantities to be held in the warehouse or on the shelves. Second, offering niche product means knowing as much as possible about your customer. Schaefers (2014) declared importance of identifying customer who is prone to purchase niche product as a vital activity. Customization, long term relationships with customer, additional attention and information provided before and after sales transaction and splendid product quality help to create user experience which leads to customer satisfaction and creates willingness to receive positive online review or reviews on the selling platform and positive comments throughout social media networks. Eventually, customer satisfaction may turn into customer loyalty which in the case of

niche product may be expressed by being brand ambassador (Z. Huang et al., 2016; Tajvidi et al., 2018).

Table 9 Niche product characteristics

Attribute	Orientation	Author
Low market share, limited market	Market	Dalgic & Leeuw, (1994); Jarvis & Goodman, 2005; Oberholzer-Gee & Strumpf, 2007; Son et al., 2017; Toften & Hammervoll, 2009
Very specific target group, customer focus	Customer	Aiolfi & Sabbadin, 2019; Dalgic & Leeuw, 1994; Jarvis & Goodman, 2005; Keskin et al., 2017; Schaefers, 2014; Simonson, 2005; Toften & Hammervoll, 2010
High product quality	Product	Toften & Hammervoll, 2010
Faultless reputation	Product	Toften & Hammervoll, 2010
More profitable	Product/market	Dalgic & Leeuw, 1994; Jarvis & Goodman, 2005
Higher price	Product	Dalgic & Leeuw, 1994; Darban, 2019; Jarvis & Goodman, 2005
Less competition	Market	Darban, 2019
Discovery through both active (sampling) and passive (recommender systems: hyperlinks, co-purchase, free trials) search	IT	Brynjolfsson et al., 2006; Chevalier & Mayzlin, 2006; Meiseberg, 2016; Venkatesh, Viswanath, Thong, James, Y.L., 2012
User generated content (online customer reviews, online communities, comments in social media)	Customer	Chong et al., 2016; Cui et al., 2012; Hoskins & Brown, 2018; Z. Li & Shimizu, 2018; F. Wang et al., 2015
Second order, positive feedback effect	Customer	Brynjolfsson et al., 2006
Increased product variety market	Market	Brynjolfsson et al., 2006; Venkatesh, Viswanath, Thong, James, Y.L., 2012
Increased information about product	IT	Brynjolfsson et al., 2006
Surplus gains from increased product variety rather than from lower prices.	Product	Brynjolfsson et al., 2006
IT enabled tools for search (Web 2.0, information sharing and social networking)	IT	Brynjolfsson et al., 2006
Unavailable through conventional channels	Product	Brynjolfsson et al., 2011
Online market	Market	Brynjolfsson et al., 2011
Higher customer loyalty	Customer	Jarvis & Goodman, 2005; Meiseberg, 2016
Low purchase frequency	Market	Jarvis & Goodman, 2005; Meiseberg, 2016
Difficult for competitors to copy	Product	Toften & Hammervoll, (2010)
Building long-term and strong relationships	Customer	Dalgic & Leeuw, (1994)
Customization	Customer	Toften & Hammervoll, (2010)
Decreased search cost	IT	Meiseberg, (2016)

Source: created by author

Mentioned aspects turn to repeated purchases and positively increased financial performance. And on the contrary, lack of understanding customer's profile and average or even poor product quality leads to destruction of reputation, negative online reviews or comments. Online customer review also known as word of mouth in online niche market is a valuable asset compared to traditional retailing of mainstream products. Online customer reviews have become an important source of information to other customers, who are looking for substitution and completion of other forms of communication about product quality (Chevalier & Mayzlin, 2006).

Niche product providing business generally experiences higher customer satisfaction and loyalty rates than the average organization within mass industry (Brynjolfsson et al., 2011) because of closer contact and deeper customer engagement. However, due to small size of operations, niche business is notoriously cost inefficient and is hence unable to compete in the marketplace to win on lower prices (Noy, 2010). Therefore, positive and widely spread online customer reviews play more important role in the case of niche product. Nevertheless, what starts out as a relatively small market for a niche product offering business can provide growth potential and develop into a larger and more attractive market over time (Keskin et al., 2017).

#### **1.6. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product: theoretical model**

Systematic analysis of the latest academic literature helped to identify online sales concept as a specific action workflow combined with digital interaction and the use of knowledge about customer's preferences alongside different online selling channels in order to reach customer and complete online sales process by the means of internet.

In this work not an entire online sales process but only a certain part of online sales process is investigated. This certain part is described as omni-channel online sales approach which is a method connecting manufacturer (and retailer) with his end customer. In the case of niche product manufacturer is usually a retailer and wholesaler (if wholesale option is provided) at the same time. Manufacturer directly reaches end customer through online sales approach. This connection is displayed at the top section of proposed theoretical model (see Figure 8). The selection of online sales approach, omni-channel online sales approach in this case, is shown below.

Omni-channel online sales approach is an integrated use of all provided online sales and information sharing channels which provides unified and seamless purchasing experience for the customer. Four online sales channels (single brand web shop, online selling platform, social media and mobile channel) are in scope of this work. Mentioned channels are fully integrated and considered as one. Borders between channels are blurred or even disappeared at all because in this specific approach online sales process is launched in one channel and can be completed in another one. Customers consider whole omni-channel online retailing strategy as a one integral channel which leads to full customer interaction along with offered holistic customer experience leading to customer satisfaction and customer loyalty.

Further systematic analysis of academic literature helped to identify financial and non-financial criteria which are used for performance outcome measurement. Financial outcome (increased sales revenue and decreased complaint costs) and non-financial outcome (customer

satisfaction and loyalty) are distinguished into two dotted blocks and characterized by relevant indicators. Customer satisfaction is represented by number of complaints (to change or to return product) received, online customer review (OCR) rating (scale from 1 to 5, where 1 means highly dissatisfied and 5 means highly satisfied), OCR type (no review, only rating, rating and text, rating and photo or highest complexity of the review including rating, text and photo). Customer loyalty is represented by repurchased order size and customer retention. Financial and non-financial outcome have a direct impact on overall performance outcome evaluation. Moreover, financial outcome is affected by non-financial outcome, so non-financial outcome has to be evaluated carefully. Outline, which shows how financial performance outcome is influenced by non-financial results (see Figure 5) is seen at the lower part of this theoretical model (see Figure 8).

Performance outcome evaluation results are gathered after complex investigation of financial and non-financial outcome and their impact. These results have to be used in decision making process when deciding on choosing omni-channel online sales approach. Online sales channel cannibalization effect may occur. This effect can be found during performance outcome evaluation process and needs to be eliminated in order to achieve better customer based and financial performance outcome evaluation results.

Created and proposed theoretical model can be used unlimited number of times. Both financial and non-financial criteria, which are used in this theoretical model, are objective and can be found in every operational dataset online business offering niche product is owing when omni-channel online sales approach is applied and accomplished.

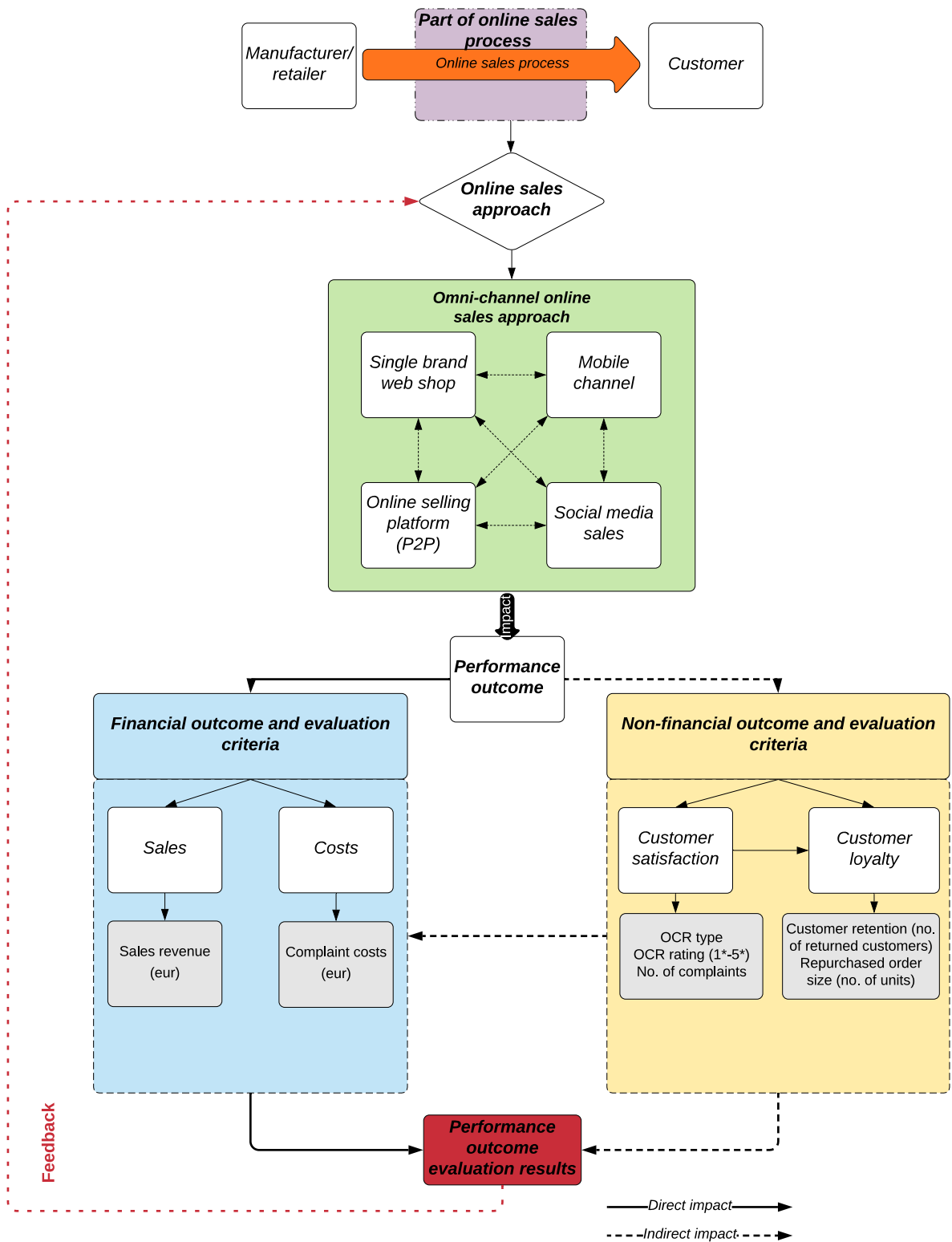


Figure 8. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product theoretical model

Source: created by author (based on: Albert, Aggarwal, & Hill, 2014; Bang et al., 2013; Beck & Rygl, 2015; Burnham, Frels, & Mahajan, 2003; Chong, Li, Ngai, Ch'ng, & Lee, 2016; Cui, Lui, & Guo, 2012; Cummins et al., 2016; Eklof, Podkorytova, & Malova, 2018; Hoskins & Brown, 2018; Huang et al., 2016; A. Hübner et al., 2016; Kaplan & Haenlein, 2010; Neely et al., 2000; Neslin & Shankar, 2009; Parasuraman, Zeithaml, & Malhotra, 2005; Pauwels & Neslin, 2015; Simone & Sabbadin, 2018; Thakur, 2016; Verhoef et al., 2015b; Wangenheim & Bayón, 2004)



## 2. OMNI-CHANNEL ONLINE SALES APPROACH AND PERFORMANCE OUTCOME RELATIONSHIP EVALUATION IN THE CASE OF NICHE PRODUCT: RESEARCH METHODOLOGY

### 2.1. Research trends

During systematic analysis of the latest scientific articles and studies structured Table 10 has been formed. This table consists of data about research type, data selection methods, subject, object, data analysis methods, sample size. These main criteria are analysed in order to justify which data selection and data analysis methods are suitable for further methodology creation evaluating omni-channel online sales approach and performance outcome relationship in the case of niche product.

Table 10 Structured view about recent research trends

Research type	Data selection methods	Subject	Object	Data analysis methods	Sample size	Author
<b>QUANTITATIVE RESEARCH</b>						
Quantitative	Online survey	Customer	Customer satisfaction	Explorative factor analysis	468 customers	Brusch, Schwarz, & Schmitt, 2019
Quantitative	Secondary data analysis	Online customer generated product reviews (OCR)	OCR valence OCR volume	Static regression model Difference regression model	1,147,488 primary reviews about 4600 products in 30 categories	Moen, Havro, & Bjerjing, 2017
Quantitative	Offline survey	Company	Return on Sales Return on Assets	Factor analysis Descriptive statistics Multiple regression analysis	125	Awang et al., 2010
Quantitative	Offline survey	Company	Financial performance measurement Non-financial performance measurement	Partial Least Square (PLS) regression	259	Ainin et al., 2015
Quantitative	Secondary data analysis	Online customer generated product reviews (OCR)	Sales performance	Conditional quantile regression model Unconditional quantile regression model	500	Meiseberg, 2016
Quantitative	Offline survey	Managers	Financial performance measurement Non-financial performance measurement	Exploratory factor analysis Confirmatory factor analysis Descriptive statistics	87	Zuriekat, 2011
Quantitative	Secondary data analysis	Online customer generated product reviews (OCR)	OCR valence OCR volume OCR effect on sales performance	Cross sectional analysis Differences in differences analysis	2387	Chevalier & Mayzlin, 2006
Quantitative	Online survey	Customer	Initial purchase intention Actual purchase intention Interactive adaptive selling Non-interactive adaptive selling Perceived control	Structural equation modelling utilizing Partial Least Squares Path Modelling	340	Yurova et al., 2017
Quantitative	Online survey	Company	Influence on the degree of use of social media	Technology acceptance model	90	Constantinides et al., 2009

Table 10 (continued)

Quantitative	Field test	Online customer	Channel choice Order size (in €) per purchase	Binomial probit model for channel choice Panel regression for order size	44 826	Konuş, Neslin, & Verhoef, 2014
Quantitative	Natural experiment	Platform	Potential of co-creation	Theoretical grounds for construction of dimensions and their measurement scale	30	Mačiulienė & Skaržauskienė, 2016
Quantitative	Offline survey	Employees	Employees' satisfaction employees' perceptions of service cannibalization	Cluster sampling technique Key informant (potential respondents) Cluster sampling Questionnaire to sales agents	497	Díaz et al., 2015
Quantitative	Online survey Offline survey	Customer	Customer's trust Purchase intention	Structural equation modelling Partial least square (PLS) Covariance-based SEM (CB-SEM)	201	Hajli, Sims, Zadeh, & Richard, 2017
Quantitative	Online survey	Online customers	Customer satisfaction Repurchase intention Word of Mouth Willingness to pay more	Harman's one-factor test Confirmatory factor analysis Descriptive statistics Correlation matrix	100	Pham & Ahammad, 2017
Quantitative	Online experiment	Online customers	Customer satisfaction	Confirmatory factor analysis Structural equation modelling	200	Y. J. Wang, Minor, & Wei, 2011
Quantitative	Online survey	Customers	OCR Repurchase intention Customer engagement	Structural equation model using partial least squares (PLS) analysis	269	Z. W. Y. Lee et al., 2019
Quantitative	Printed survey	Top managers/ owners of SME's	Attitude Subjective norm Perceived behavioural control Behavioural intention	Confirmatory factor analysis	212	Grandón, Nasco, & Mykytyn, 2011
Quantitative	Secondary data analysis	Company	Customer satisfaction Profit margin Return on assets Return on equity	Breusch and Pagan's Lagrange multiplier test Hausman test Fixed effects model Random effects model Descriptive statistics	21 company (1998-2010)	Sun & Kim, 2013
Quantitative	Offline survey	Customer	Customer engagement	Confirmatory factor analysis	151	Kam Fung So, King, Sparks, & Wang, 2016
Quantitative	Secondary data analysis	Online manufacturer (retailer)	Sales performance	Log transformation Panel regression module	1490	Church & Oakley, 2018
Quantitative	Secondary data analysis	Online customer reviews	Sales performance outcome Volume of positive customer reviews Volume of negative customer reviews	Simple general linear model Quadratic function model Log-linear model	1916	Z. Li & Shimizu, 2018
Quantitative	Online survey	Customers	Frequency of firm participation in consumer communities Value of firm participation in consumer communities	Linear regression	139	Albert et al., 2014
Quantitative	Experiment Online survey	Customers	Intention to purchase	Squared multiple regression The Covariance Based SEM CFA	284	Ng, 2013

Table 10 (continued)

Quantitative	Offline survey	Employees	Sales agents' perceived cannibalization	Confirmatory factor analysis model Harman's one factor test	403	Sharma et al., 2018
Quantitative	Online survey Discrete choice experiment	Customers	Reduced costs	Cluster analysis Random parameter logit model	1065	Kühl, Gassler, & Spiller, 2017
Quantitative	Field experiment	Customers	Influence of digital signage on waiting time evaluation Customer satisfaction	Regression analysis	88	Garaus & Wagner, 2019
Quantitative	Offline survey	Customers	Profit margin Return on assets Return on equity Customer satisfaction Customer loyalty	Longest significant dynamic model Standard autoregressive panel data model Descriptive statistics	1341	Eklof et al., 2018
Quantitative	Online survey	Customers	Customer satisfaction	Structural equation modelling	599	Y. L. Wu & Li, 2018
Quantitative	Offline survey	Customers	Attractiveness of channel for search Attractiveness of channel for purchase	Three-stage least squares Multinomial logit model–multinomial model Descriptive statistics	345	Verhoef, Neslin, & Vroomen, 2007
Quantitative	Secondary data analysis	Customers	OCR valence OCR volume Performance outcome	Ordinary least squares (OLS) regression modelling Descriptive statistics	200	Hoskins & Brown, 2018
Quantitative	Online survey	Company/ firm (retailer)	Performance outcome	Exploratory factor analysis Structural equation modelling Confirmatory factor analysis	366	(Chandna & Salimath, 2018)
Quantitative	Secondary data analysis	Customers	OCR rating (valence) OCR volume Performance outcome	Hierarchical multiple regression analysis	2939	Chong et al., 2016
Quantitative	Online experiment via e-mails	Customers	Consumers' perceived credibility of an online consumer review	Factor analysis	300	Bae & Lee, 2011
Quantitative	Survey (via phone calls)	Customers	Overall satisfaction Active loyalty Passive loyalty Word of mouth	Exploratory factor analysis	765	Wangenheim & Bayón, 2004
Quantitative	Experiment	Customers	Risk perception Perceived luxuriousness Uncertainty avoidance Attitude toward the brand	Linear regression analysis Moderated mediation analysis	345	Yu et al., 2018
Quantitative	Offline survey	Customers	Desire for unique products Susceptibility to interpersonal influence Susceptibility to normative interpersonal influence Opinion leadership Status orientation	Binary logistic regression Factor analysis Confirmatory factor analysis	454	Schaefers, 2014
Quantitative	Secondary data analysis	Customers	OCR valence OCR volume Sales performance	Hierarchical regression	7470	Cui et al., 2012
Quantitative	Offline survey	Customers	Perception of channel integration Customer empowerment Customer trust Customer satisfaction Patronage intention	Partial least squares (PLS) regression	155	M. Zhang, Ren, Wang, & He, 2018

Table 10 (continued)

Quantitative	Offline survey	Customers	Cognitive evaluations toward store Cognitive evaluations toward merchandise	Confirmatory factor analysis Non-recursive structural equation model	108 (pilot test) 438	Kumar & Kim, 2014
QUALITATIVE RESEARCH						
Qualitative	Event-study	Company	Sales Gross profit margin Selling, general and administrative expenses Inventory turnover Asset turnover Return on assets Return on sales	Regression model Descriptive statistics	143	Chen & Chang, 2003
Qualitative	Meta-analysis	Keywords social commerce, social shopping, collaborative-commerce and collaborative shopping	Customer's adoption of social commerce	Descriptive statistics	47	Altınışık & Özkan Yıldırım, 2017
Qualitative	Critical incident in-depth interviews	Sales manager	Reacquisition of lost customers	Case study	35	Liu, Leach, & Chugh, 2015
Qualitative	In-depth interviews	Company	Selling process	Case study	21	Åge, 2011
Qualitative	In-depth semi-structured interviews	Online customers	Customer engagement	Exploratory approach with an interpretative research design	22	Connell et al., 2019
Qualitative	Interview	Retailer Customer Supplier	Experience of digitalization Perceived costs Influence on the adoption of digital technologies	Cross-sectional qualitative study	12 retailers 11 customers 21 suppliers	Seethamraju & Diatha, 2019
Qualitative	In-depth unstructured interview Secondary data analysis Two structured surveys with an open comments field	Employees Customers	Customer satisfaction	Action research	1 service manager for series in-depth unstructured interviews 32 respondents for the first structured survey 1351 respondents for the second survey	Trkman et al., 2015
Qualitative	Structured in-depth interviews	Employees (executives)	Product differentiation	Case study method	5	Toften & Hammervoll, 2009
Qualitative	Semi-structured interviews Secondary data analysis	Employees	Social media as a resource in sales process	Exploratory case study	7	Bocconcelli, Cioppi, & Pagano, 2017
Qualitative	In-depth interviews (pilot study) Semi-structured online interviews Secondary data analysis	Customers	Customers' online revenge behaviour	Case study	15 (pilot study) 73	Obeidat, Xiao, Qasem, dweeri, & Obeidat, 2018

Table 10 (continued)

Qualitative	Action research	Company	Sales process	Case study	4	Storbacka et al., 2009
<b>MIXED RESEARCH</b>						
Mixed	Literature search	Keywords: online retail(ing), internet retail(ing), electronic commerce, and e-commerce	Relationships between: Satisfaction → Word of mouth Trust → customer loyalty Relationship satisfaction → customer loyalty Relationship quality → customer loyalty	Structural equation modelling Descriptive statistics	131 causal relationships	Verma et al., 2016
Mixed	Interview Mailed survey	Customers	Customer satisfaction Customer retention	OLS regression analysis model Square root transform Log transform	30 interviews 432 questionnaires	Ranaweera & Prabhu, 2003
Mixed	In-depth interviews Offline survey	Customers	Interactivity Transaction Fulfillment	Factor analysis	35 in-depth interviews 306 questionnaires	Chen & Chang, 2003
Mixed	Focus group observations	Customers	Customer satisfaction Customer loyalty Intention to repurchase	Quadratic model Quadratic simple effect	10 respondents (focus group) 409 observations	Pomirleanu et al., 2016
Mixed	Survey Interview	Company	Sales performance outcome	Structural equation model	190	C. Kim & Takashima, 2019
Mixed	Focus group	Customers (users)	Perception of niche product	Exploratory factor analysis using Varimax rotation Confirmatory factor analysis Descriptive statistics	11 (focus group) 2 (expert judges) 8 (Q-sort) 29 (pilot test) 259 (longitudinal validation test)	Darban, 2019
Mixed	Secondary data analysis Semi-structured interviews	Employees	Product returns	Cross-case analysis	Data collected 11.2013-12.2014 15 employees	Bernon et al., 2016

Source: created by author

Table 11 provides an outline about recent research trends where all criteria which are used in the investigation are combined into several distinct groups. Frequencies are showed in order to express better understanding which items are widely accepted in the academic literature in the field of omni-channel retailing.

Lee et al., (2019) acknowledged that most studies about omni-channel retail are at the organizational level and qualitative in nature with lack of empirical studies investigating customer behaviour at the individual level.

On the contrary, the majority researchers whose articles have been collected and processed during systematic academic analysis (see Table 10) accomplished quantitative studies focusing on customer behaviour at the individual level paying attention to financial outcome (order size, profit margin, return on assets, return on equity, reduced costs, sales performance) and non-financial outcome (impact of online customer reviews, purchase or repurchase intention, channel choice,

risk perception, trust, satisfaction, active or passive loyalty, engagement, empowerment, channel attractiveness, uncertainty avoidance, cognitive evaluation toward store or merchandise, desire for unique products).

Table 11 An outline about research trends

		<b>Frequency</b>
<b>Research type</b>	Quantitative	39
	Qualitative	11
	Mixed	7
<b>Data selection methods</b>	Offline survey	18
	In depth interview	14
	Secondary data analysis	12
	Online survey	11
	Experiment	7
	Field test	2
	Meta-analysis	2
	Action research	1
	Event study	1
	Focus group	1
<b>Object</b>	Customer	39
	Company	12
	Employees	4
	Keywords	2
	Platform	1
<b>Subject</b>	Connected to non-financial performance outcome	44
	Connected to financial performance outcome	16
<b>Data analysis methods</b>	Various regression models	24
	Factor analysis (CFA and EFA)	17
	Case study	8
	SEM	8
	Cluster analysis	1
	Correlation	1

Source: created by author

Paying attention to customer behaviour at the individual level is imperative on the grounds that in online omni-channel retail a customer centric perspective is provided. Retailers who use customer centricity should be capable to offer all possible combinations of sales channels in order to implement better response to their customers demand and to increase thereby the level of their customer satisfaction (J. Zhang et al., 2010). In addition to increased customer satisfaction, customer loyalty might increase as well (Ansari, Mela, & Neslin, 2008).

## 2.2. The structure of research process

Empirical research depends on scientific procedures and uses a systematic approach to learn answers to scientific problems (Khalid, Hilman, & Kumar, 2012). Research can be executed in several different ways. Nonetheless, any research involves a sequence of activities that are highly interconnected and together establish the research process (see Figure 9).

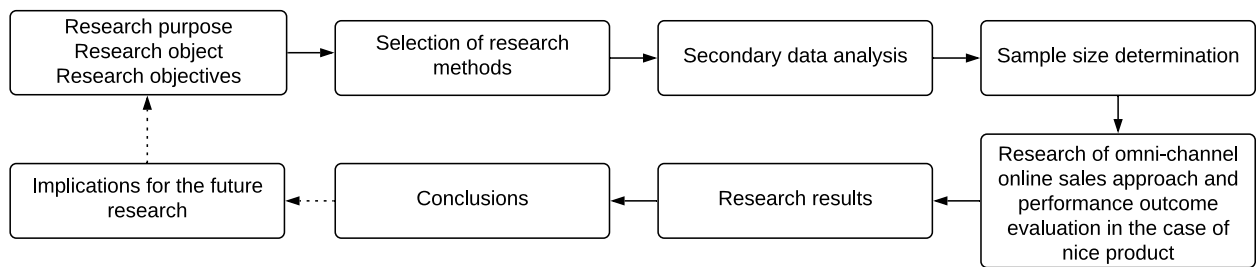


Figure 9 Research process

Source: created by author (based on Khalid et al., 2012)

Conclusions generated during this research process can be used as implications for the future research. This aspect reveals that research process never ends in a way that it is generating new knowledge for further studies.

### 2.3. Research methods

Khalid et al., (2012) state that research involves adoption of scientific methods for its handling and is divided into two broad categories: quantitative research and qualitative research. According to Walliman, (2005), research is not just about gathering facts without purpose, or presenting information or data without interpretation. Rather, research is something which is undertaken to find out things in a systematic manner where data is collected and interpreted systematically and there is a clear purpose guiding the enquiry (Saunders, Lewis, & Thornhill, 2009).

This work presents a positivistic quantitative research which author accepts the epistemological attitude that her research is pragmatic and justifiable. Stated in absolute terms, this epistemological attitude is that the world of phenomena involves an objective reality that can be measured and that relationships between entities in this world can be captured in data that is reasonably representative and accurate (Straub & Gefen, 2004). What is more, since entities are captured in data, the causal relationship between entities can be estimated (see Figure 10).

Quantitative research is built on deductive rationale (Sekaran & Bougie, 2019) and adopts a variety of quantitative analysis techniques that range from providing simple descriptive statistics of the variables involved to establishing statistical relationships among variables through complex statistical modelling (Saunders et al., 2009).

Typical design in quantitative research is to describe, explain, use probability sample and rely on larger sample size compared to qualitative research design (D. R. Cooper & Schindler, 2006). This research can also be specified as explanatory or causal study for the reason that this quantitative research investigates the cause and effect between omni-channel online sales approach and performance outcome. To be more specific, independent variable also called as

predictor is known as omni-channel online sales approach in this work. This variable is a cause of change (Khalid et al., 2012) for the dependent variables. Dependent variables are known as financial performance outcome (sales revenue and complaint costs) and non-financial performance outcome (customer satisfaction and customer loyalty). Customer satisfaction variable consists of three criteria – online customer review type (OCR type), online customer review rating (OCR rating) and complaints received. Customer loyalty is represented by customer retention and repurchased order size.

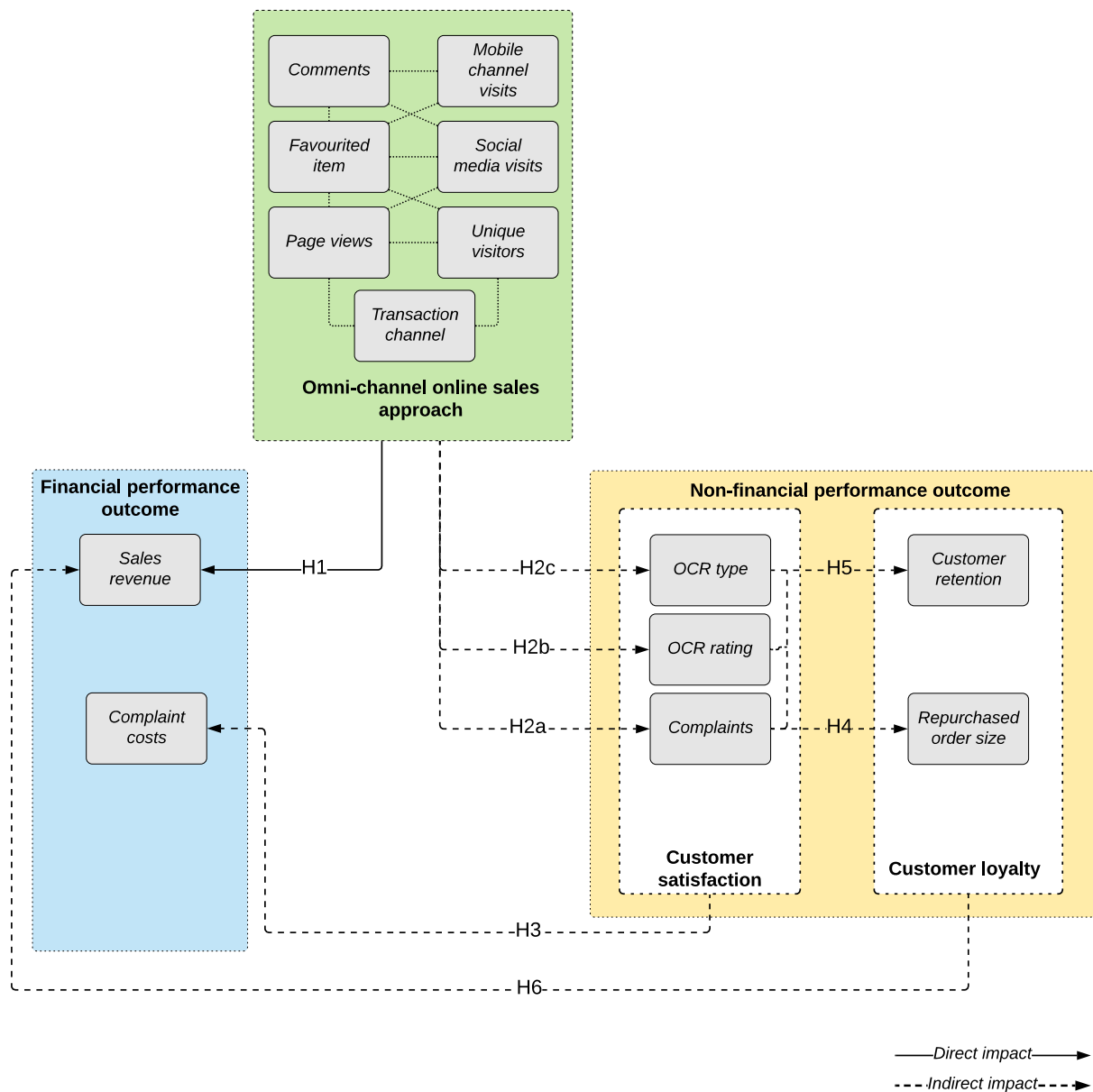


Figure 10. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research model

Source: created by author (based on: Albert et al., 2014; Bang et al., 2013; Beck & Rygl, 2015; Bruschi et al., 2019; Burnham et al., 2003; Chong et al., 2016; Cui et al., 2012; Cummins et al., 2016; Eklof et al., 2018; Hoskins & Brown, 2018; Huang et al., 2016; A. Hübner et al., 2016; Kaplan & Haenlein, 2010; Meiseberg, 2016; Neely et al., 2000; Neslin & Shankar, 2009; Parasuraman et al., 2005; Pauwels & Neslin, 2015; Pham & Ahammad, 2017; Schaeffers, 2014; Simone & Sabbadin, 2018; Thakur, 2016; Verhoef et al., 2015b; Wangenheim & Bayón, 2004)



## 2.4. Developing the research hypotheses

The research hypotheses are explained up next.

Omni-channel retailing involves full synergetic integration of all channels in order to create a unified brand experience for customers aside from the channel or stage they are in during purchase process (Cummins et al., 2016). This is a trending topic in recent academic literature (Arli, Bauer, & Palmatier, 2018; Gerrikagoitia et al., 2015; Hossain et al., 2019; Huré et al., 2017; Z. W. Y. Lee et al., 2019; Mosquera et al., 2017; Simone & Sabbadin, 2018; Verhoef et al., 2015) concerning mainstream products. Omni-channel retail offering niche product is still missing profound research paying attention to pure online players only. Some prior studies examined omni-channel service quality offering niche products (Brusch et al., 2019), offline niche brand conditions and online sales performance (Son et al., 2017), purchase uncertainty (Meiseberg, 2016) but financial performance outcome measurement and evaluation in omni-channel online retailing in the case of niche product has not gained enough attention yet. Channel integration into omni-channel online sales approach in the case of niche product should positively affect financial performance indicator for instance sales revenue for the reason that customers are more likely to buy niche product because this product matches personal preferences better compared to mainstream one (Meiseberg, 2016). Moreover, online sales open geographically remote markets which can be relatively small in competition and offering higher prices (Darban, 2019). What is more, buying niche product is a vital activity for well identified targeted customers (Schaefer, 2014).

Following hypothesis has been proposed:

**Hypothesis 1 (H1):** Omni-channel online sales approach in the case of niche product has a positive impact on sales revenue.

One of the features in omni-channel online sales approach is the advantage of allowing customers to change or return an ordered item. This feature is widely known and promoted because one of the main drawbacks in online sales is the inability for the customer to see and feel the product before making a decision to purchase (A. H. Hübner, Kuhn, & Wollenburg, 2016). After order fulfillment, customer may choose to exercise voice (van Doorn et al., 2010) – create and publish online customer review (OCR) or contact seller in order to express a complaint. Furthermore, customer arranges his/her experience by trimming or expanding relationship with the seller (van Doorn et al., 2010). Different OCR types (from not writing a review to written review with rating and additional photos with product in use), OCR rating (where 1 – highly dissatisfied, 5 – highly satisfied) and number of complaints received (complaints can be connected to willingness to change the product or willingness to return the product and get a refund) represent

customer satisfaction which can be obtained, measured and evaluated in omni-channel online sales approach in the case of niche product. OCR rating and its effect on sales performance are widely examined by researchers (Chevalier & Mayzlin, 2006; Chong et al., 2016; Hoskins & Brown, 2018; Z. Li & Shimizu, 2018; Meiseberg, 2016; Valarezo et al., 2018; van Doorn et al., 2010; F. Wang et al., 2015). OCR types are still missing the attention. Number of complaints received is a criterion described as a pure customer satisfaction (Van Looy & Shafagatova, 2016). These three criteria can be used to measure not only sales performance but also indicate specific complaint costs company is facing.

Hence:

**Hypothesis 2a (H2a):** Omni-channel online sales approach in the case of niche product has a positive impact (lowers) on number of complaints (complaints to change product and complaints to return product) received.

**Hypothesis 2b (H2b):** Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) rating.

**Hypothesis 2c (H2c):** Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) type.

**Hypothesis 3 (H3):** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact (lowers) on complaint costs.

Common variables that should be integrated into an omni-channel online sales approach research agenda specific to seller-customer relationship include customer satisfaction, customer retention and loyalty (Cummins et al., 2016). Customer discovery leads to the conversion of potential buyers into first-time online buyers and then into repeating customers (Arlı et al., 2018), if customer satisfaction in general tends to be more or less positive (Grace, 2005). Online sellers have to adapt and focus on customer satisfaction because in the online world where negative reputation of product or entire company can be formed and spread out in seconds no mistakes can be done. Customer satisfaction received extant attention in academic research (Albert et al., 2014; Burnham et al., 2003; Ghazali et al., 2016; Hoskins & Brown, 2018; Ranaweera & Prabhu, 2003; Wangenheim & Bayón, 2004). Due to ease of online channel switching, companies tend to satisfy all customer's needs. Researchers (Biscaia et al., 2017; Hennig-Thurau, 2000; Mosquera et al., 2017; Pomirleanu et al., 2016) widely used relationship between customer satisfaction and non-financial performance outcome such as customer retention which can create a sustainable competitive advantage. Pham & Ahammad, (2017) argued that post online sales services including order fulfilment, return management and customer service are more critical in retaining customers

than website features. Customer retention is affected not only by product performance but together with post online sales service.

Nevertheless, customer loyalty represented by retention criterion is not analyzed properly in the case of niche product. What is more, sales performance (Van Looy & Shafagatova, 2016) as a quantifiable outcome connected to customer retention can be measured. Hypothesis proposed:

**Hypothesis 4 (H4):** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on repurchased order size.

**Hypothesis 5 (H5):** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on customer retention.

**Hypothesis 6 (H6):** Customer loyalty in the omni-channel sales approach in the case of niche product has a positive impact on sales revenue.

Table 12 Structural view about variables

Variable type	Dimension	Variable label	Criteria	Authors
Independent	Construct	Omni-channel online sales approach	Transaction channel	Castro-Lopez et al., 2019; Chandna & Salimath, 2018; Connell et al., 2019; Doolan & Froelicher, 2009; Rose, Hair, & Clark, 2011
			Page views	Cui et al., 2012; Muzellec, Ronteau, & Lambkin, 2015
			Unique visitors	Ailawadi & Farris, 2017; Cui et al., 2012; Hwangbo, Kim, & Cha, 2017; Muzellec et al., 2015
			Favourited an item	Church & Oakley, 2018; Trigoni, 2016
			Social media visits	Brynjolfsson et al., 2013; Gonçalves Curty & Zhang, 2013; Mosquera et al., 2017
			Mobile channel visits	Bang et al., 2013; Germany & Kotzab, 2017; Simone & Sabbadin, 2018; Verhoef et al., 2015a
			Comments	Brynjolfsson et al., 2013; Gonçalves Curty & Zhang, 2013; Mosquera et al., 2017
Dependent	Concept	Sales revenue	Order total	Chong et al., 2016; Cui et al., 2012
	Concept	Complaints costs	(no. of returned items * return price) + (no. of changed items * change price)	Ailawadi & Farris, 2017; A. Hübner et al., 2016; Jelassi & Leenen, 2003; J. Li, Konuş, Pauwels, & Langerak, 2015; Rocha, Pereira, & Pacheco, 2019; Van Looy & Shafagatova, 2016
	Construct	Customer satisfaction	No. of complaints	Frasquet & Molla-descals, 2020; Kaplan & Haenlein, 2010; Obeidat et al., 2018; Parasuraman et al., 2005
			OCR type	Hoskins & Brown, 2018; Lawrence A., Martin P., & Tashfeen, 2010; Z. Li & Shimizu, 2018
			OCR rating	Hoskins & Brown, 2018; Lawrence A. et al., 2010; Z. Li & Shimizu, 2018
	Construct	Customer loyalty	Customer retention	Bowden, 2009; Cook, 2014; Sashi, 2012; Toften & Hammervoll, 2010; van Doorn et al., 2010; Wu & Li, 2018
			Repurchased order size	Castro-Lopez et al., 2019; Jain, Gajjar, Shah, & Sadh, 2017; Lee et al., 2019a; Pham & Ahammad, 2017

Source: created by author

Table 12 provides exact labels of variables and criteria which are used to measure these variables. All criteria are collected from secondary data research.

## 2.5. Data collection methods

This research targets a small company offering handcrafted fashion niche products. Company operates as a pure online player and uses omni-channel sales approach which is integration of single brand web shop (direct sales channel), selling platform, social media sales and mobile channel. This company operates as manufacturer and as retailer at the same time. Even though it is a small company by number of employees, it is able to provide its niche products to individual customers (B2C) as well as to the other business entities (B2B). Company is operating for more than 4 years (since the beginning of 2017) and has served more than 800 customers in six continents. The most prominent sales directions are United States of America, Canada, Germany, United Kingdom, France, Italy, Spain, Japan and Australia. This company is offering one niche product (handcrafted bag) in four different sizes and 55 colours.

The empirical research about online omni-channel sales approach and performance outcome relationship evaluation in the case of niche product is based on secondary data analysis as a research method.

Johnston, (2014) described secondary data analysis as “analysis of data that was collected by someone else for another primary purpose”. Primary purpose for collecting this data is a common day-to-day activities of business management because all sales transactions and other details connected to customer behaviour are recorded automatically and are known as business operational data. The use of this kind of data can create new knowledge about the integration of online sales channels into omni-channel sales approach, emerging perceptions about received e-service quality connected to channel integration, its relation to customer satisfaction and customer loyalty. Eventually, this kind of data can create new knowledge about the relationship between omni-channel sales approach and financial performance outcome.

Albeit secondary data analysis can be specified as a flexible method and can be utilized in several ways, it is necessary to follow all procedural and evaluative steps, just as in collecting and making evaluation on primary data (Doolan & Froelicher, 2009). Figure 11 introduces the process of secondary data analysis. During the analysis of the latest academic literature researchers (Chevalier & Mayzlin, 2006; Chong et al., 2016; Church & Oakley, 2018; Cui et al., 2012; Hoskins & Brown, 2018; Z. Li & Shimizu, 2018; Meiseberg, 2016; Moen et al., 2017; Sun & Kim, 2013) used this systematic research method in their studies, (Johnston, 2014) claimed this type of analysis as still under-used in many fields. Secondary datasets about online sales provide access to large sample, relevant criteria and longitudinal data allowing to develop a generalizable answer (Smith et al., 2011).

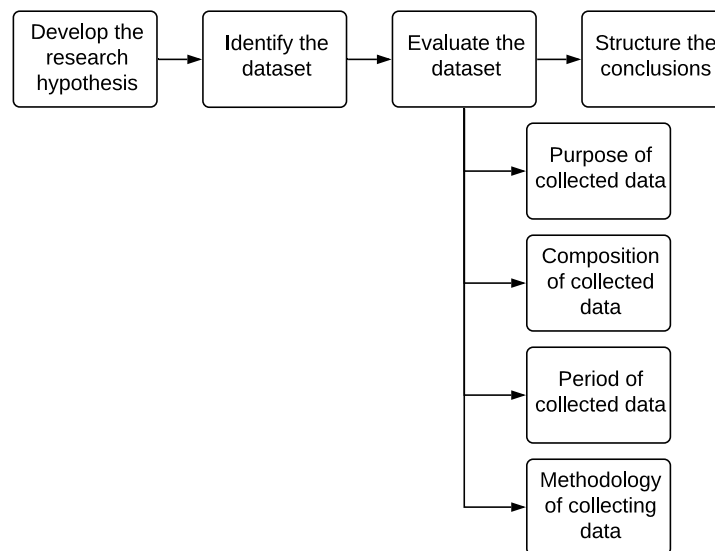


Figure 11. The process of secondary data analysis

Source: created by author (based on: Chrysochou, 2017; Johnston, 2014; Smith et al., 2011)

Depending on the source secondary data can be categorized into internal and external (Baker & Hart, 2016). Internal data consist of information that has been collected within company, such as customer and sales databases, on the contrary, external data are developed outside the company (Chrysochou, 2017). Internal secondary data generated within the company described above is in the focus of this research.

Important features of secondary data analysis are that using already existing data may seem less demanding (Magee, Lee, & Munro, 2018), data are easily accessible, consist of true facts, which have happened in the past, not opinions or intentions, represent accurate customer and seller behaviours, can be quickly obtained.

This research uses secondary data collected during the period of four years starting at the beginning of this business and closed once preferred sample (N=1000) has been collected (01 February 2017 – 30 August 2020). Collected secondary data consists of online sales and customers purchase activities because a minimum record of four years period is necessary to perform any statistical analysis based on customers behaviour (Reinartz & Kumar, 2002). The principal objective of quantitative research is to generalize (Khalid et al., 2012) and in this research we have a rare opportunity to study the whole population of interest because entire about all online sales activities are under investigation.

It is significant to notice that selected data are available at the customer level. The records of operational data about online sales activities are gathered from different online sales channels of the same company. Each row represents a single placed order which may consist of several various items. Each placed order displays variables which are arranged into three groups – customer related, sale related, distinct item related variables. Table 13 shows structured view of

data about every placed order. Placed order is deemed as purchased once payment transaction is completed.

Table 13 The constitution of sales records

Customer related variables	Online sale related variables	Item related variables
Customer ID	Item price (eur)	Item ID
Customer type	Units ordered	Category
Location	Order total (eur)	Colour
OCR type	Discount size (%)	OCR type
OCR rating	Discount size (eur)	OCR volume
Favourited an item	Purchase date	Complaints received
Repurchase	Purchase time	Changed (no. of times)
Comments	Transaction channel (single brand web shop, online selling platform)	Returned (no. of times)
	Information channel (social media visits, no. of comments)	
	Transaction channel details (page views, unique visitors, mobile channel visits)	

Source: created by author

Each entry includes data which consists of the customer ID, customer type (registered customer or guest customer), return type (new customer or returned customer), customer location (country), has customer favourited an item before making transaction (yes or no), online customer review (OCR) creation (created a review or did not create a review – this variable is filled after 14 days of purchase and has no further time limitation), OCR type (no review, ranking and written review including photo or photos with the item in use, written review without photo, only ranking without written text, only ranking including photo or photos with the item in use), placed comments (in social media or in online selling platform), repurchase (the same customer repeated a purchase with the same item or with the different one).

Online sale related variables represent item price (eur), units ordered (number of items ordered in one sale), order total (eur), discount size in % (if applicable), discount size in eur (if applicable), purchase date, purchase time, transaction channel (single brand web shop, online selling platform), information channel (social media visits, mobile channel visits) and transaction channel details (page views, unique visitors, mobile channel visits).

Item related variables are item ID, short description, category (model A, model B, model C, model D), item colour (indexed 1-55 in separate list), need of customization is understood as optional gift message (no need or gift message provided), number of times this item has been favourited by customers before placing an order or during the search), OCR created (number of times this item has been reviewed), OCR valence of this item, number of complaints received about this item (if received), number of times this item has been asked for a change, number of times this item has been returned.

The identities of customers and their sensitive information (names and surnames, nicknames, home addresses (excluding country), email addresses, payment details) are irrelevant and are not exposed in this research.

## 2.6. Data analysis methods

Systematic analysis of the recent research trends in similar fields appointed to the use of the linear regression as a data analysis method while choosing secondary data analysis as a data collection method (Chevalier & Mayzlin, 2006; Chong et al., 2016; Church & Oakley, 2018; Cui et al., 2012; Hoskins & Brown, 2018; Z. Li & Shimizu, 2018; Meiseberg, 2016; Moen et al., 2017; Sun & Kim, 2013).

Regression analysis is “a statistical technique for investigating and modelling the relationship between the variables” (Montgomery, Peck, & Vining, 2012, p.1). Linear regression is known for being one of the most popular predictive model to determine the relationship among the variables (Kavitha, Varuna, & Ramya, 2017) and for assessing the unknown parameters of these variables (Montgomery et al., 2012, p.1). The purpose to use this data analysis method in this research is to identify and measure the relationship between omni-channel online sales approach and customer satisfaction, customer loyalty and financial performance outcome. Important to notice that omni-channel online sales approach is not creating cause-and-effect relationship towards customer satisfaction, customer loyalty or financial performance outcome. This relationship originates from theoretical background which has been investigated during the first part of this master thesis and regression modelling is used to confirm this causal effect. Regression modelling between variables is a part of problem-solving process not the primary objective of this master thesis.

$$y = \beta_0 + \beta_1 x + \varepsilon$$

*Equation 1 Linear regression model*

Equation 1 generalizes linear regression model, there  $y$  is a dependent variable,  $x$  is a regressor (also known as independent variable) with coefficient  $\beta_1$ ,  $\beta_0$  is a constant and  $\varepsilon$  is a residual.

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k + \varepsilon$$

*Equation 2 Multiple linear regression model*

Equation 2 generalizes multiple linear regression model. In this case  $y$  is a dependent variable,  $x_1, x_2, x_k$  – regressors with coefficients  $\beta_1, \beta_2, \beta_k$ .  $\beta_0$  is a constant and  $\varepsilon$  is a residual. Both models will be used in this research.

## **2.7. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product: pilot research**

The purpose of this pilot study was to test the selected criteria for the final research model and determine relationship between them (see Figure 10). Secondary data analysis will be employed in final research hence data has been collected for other purposes, it was crucial to thoroughly test the adequate precision and statistical power of data in the possession during pilot research.

Pilot research was held on May 2020. At that moment general population for pilot research was 800 online sales activities (N=800). The data used for pilot research was a customer level data representing 80 customers (10% of general population, n=80) which were selected randomly from existing sales dataset company is owing. 10% of the sample size (Johanson & Brooks, 2010) are sufficient enough to represent the population of interest. The dataset used in this pilot research consisted of information about actual online sales activities which occurred at the period of 01 February 2017 – 16 April 2020. Final research will use general population of 1000 online sales activities.

Data were analyzed using IBM SPSS Statistics software. Firstly, necessary criteria were determined and justified. Secondly, 80 lines from company's database were randomly chosen to form a sample. Collected secondary data have been filtered in Microsoft Excel file and later exported to IBM SPSS Statistics software.

Pilot research started with reliability check with Cronbach's alpha. Cronbach's alpha (Cronbach, 1951) is widely used as an indicator of instrument or scale reliability or internal consistency (Taber, 2018). The use of Cronbach's alpha has determined whether the three main constructs of this pilot research have statistically proven inner coherence. The exact value of Cronbach's alpha is in the topic for discussion. At this point of the research value of 0.7 is accepted (Taber, 2018). Both constructs omni-channel online sales approach (Cronbach's alpha=0.853) and customer loyalty (Cronbach's alpha=0.734) were proven as reliable and used for the purpose. Cronbach's alpha for the customer satisfaction (Cronbach's alpha=0.320) construct seemed to be quite low but there was a possibility that with increased sample size this indicator will change its value.

The results of preliminary hypothesis which have been tested during pilot research are presented below. Full description of statistical testing is provided in the final research phase.



Table 14 Structured results of hypothesis testing in pilot research

Hypothesis	Decision	Regression model	Variance determination coefficient
<b>H1:</b> Omni-channel online sales approach in the case of niche product has a positive impact on sales revenue.	<b>H1</b> confirmed ( $p=0.009 < \alpha$ , $\alpha=0.05$ ).	$Y_{\text{sales revenue}} = 83.678 + 0.339X_{\text{mobile channel}} - 10.316X_{\text{comments}}$  $\beta_{\text{mobile channel}} = 1.546$ $\beta_{\text{comments}} = -0.267$	16.4%
<b>H2a:</b> Omni-channel sales approach in the case of niche product has a positive impact on no. of complaints (complaints to change product and complaints to return product) received.	<b>H2a</b> rejected (no correlation found)	-	-
<b>H2b:</b> Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) rating.	<b>H2b</b> rejected ( $p=0.136 > \alpha$ , $\alpha=0.05$ )	-	-
<b>H2c:</b> Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) type.	<b>H2c</b> confirmed ( $p=0.022 < \alpha$ , $\alpha=0.05$ )	$Y_{\text{OCR type}} = 0.898 + 0.264X_{\text{favourited an item}}$ $\beta_{\text{favourited an item}} = 0.284$	9.5%
<b>H3:</b> Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact (lowers) on complaint costs.	<b>H3</b> confirmed ( $p=0.022 < \alpha$ , $\alpha=0.05$ )	$Y_{\text{complaint costs}} = 24.98X_{\text{complaints received}}$ $\beta_{\text{complaints received}} = 0.624$	51.3%
<b>H4:</b> Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on repurchased order size.	<b>H4</b> rejected ( $p=0.109 > \alpha$ , $\alpha=0.05$ )	-	-
<b>H5:</b> Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on customer retention.	<b>H5</b> rejected ( $p=0.093 > \alpha$ , $\alpha=0.05$ )	-	-
<b>H6:</b> Customer loyalty size in the omni-channel sales approach in the case of niche product has a positive impact on sales revenue.	<b>H6</b> rejected ( $p=0.101 > \alpha$ , $\alpha=0.05$ )	-	-

Source: created by author

Pilot research indicated that omni-channel online sales approach has a positive impact on sales revenue (H1 confirmed) and on OCR type (H2c confirmed). Customer satisfaction in omni-channel sales approach in the case of niche product positively impacts (lowers) complaint costs (H3 confirmed). The rest of provided hypothesis in pilot research (H2a, H2b, H4, H5, H6) have been rejected. Pilot research did not imply any relationship between omni-channel sales approach and complaints received as well as OCR rating. Customer satisfaction described by complaints received, OCR rating and OCR type did not imply any relationship towards customer loyalty either. What is more, any statistically significant relationship between customer loyalty represented by customer retention and repurchased order size and sales revenue has been detected.

## 2.8. Research difficulties and limitations

This research like all studies acknowledges several difficulties and limitations such as:

- The use of secondary data represents real online sales records but at the same time it complicates the ability for researcher to design the research for the reason that researcher has to work with data, which is already collected for other business purposes, and researcher cannot call for additional data in order to maintain the integrity of data.
- Linear and multiple regression modelling is used as a statistical data analysis method and research itself is limited to the abilities of this method.
- Only pure online players (Jain et al., 2017) can be investigated in this research. Bricks-and-mortar channel together with advertising channels (D. Kim, 2013; Lewis & Reiley, 2014; Trigoni, 2016; Wangenheim & Bayón, 2004) such as television, printed magazines, catalogues are not included and are not investigated in this research.
- Omni-channel online sales approach is limited to the integration of four different channels in this research.
- Due to positivistic quantitative nature of the research, qualitative aspects of customer behaviour connected to customer satisfaction and customer loyalty are not investigated.
- This research does not investigate the quality of channel integration into omni-channel online sales approach.
- This research does not examine how customers evaluate the quality of omni-channel online sales approach.
- This research investigates customer level data related to omni-channel online sales approach but does not analyse data related to the company, employees or technical aspects of omni-channel online sales approach.
- Even though this research is focused on fashion niche product, the relationship between omni-channel online sales approach and performance outcome evaluation in the case of any niche product can be investigated.
- Even though secondary data is collected from one business entity, all criteria which have been in the use of omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product are objective and customary to all businesses which are operating in omni-channel online environment.
- Research is focused only on business to customer (B2C) online sales process in the case of niche product excluding business to business (B2B) online sales process in the case of niche product.

### **3. OMNI-CHANNEL ONLINE SALES APPROACH AND PERFORMANCE OUTCOME RELATIONSHIP EVALUATION IN THE CASE OF NICHE PRODUCT**

#### **3.1. Statistical analysis of empirical data**

The data used for *Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product* research is a customer level data representing 1000 online sales transactions (general population, N=1000) which were obtained from existing sales dataset company is owing. Important to notice, that all online sales transactions which took place at the period of 01 February 2017 – 30 August 2020 were collected and explored. The dataset used in this research consists of information about actual online sales activities which happened since the opening of the company and speaks for 1227 items sold together with related customer demographics.

Data were analyzed using IBM SPSS Statistics software. Firstly, necessary criteria were determined and justified during pilot research. Secondly, 1000 lines from company's database were obtained to form a sample. Collected secondary data have been filtered in Microsoft Excel file and later exported to IBM SPSS Statistics software in order to complete full statistical analysis.

Secondary data analysis has been chosen as data collection method in this research. This data collection method has some limitations because primary purpose for collecting this set of data was to serve business needs. The statistical power of data in possession has been checked during pilot research.

After pilot research two issues concerning statistical processing of data have been found: lack of normal data distribution of several variables and quite low Cronbach's alpha for customer loyalty construct.

Normal data distribution is determined by Kolmogorov-Smirnov test which is believed to be the most renowned test for normality (Drezner, Turel, & Zerom, 2010) and is used in this research too. Lumley, Diehr, Emerson, & Chen, (2002) stated that "normality assumption is sufficient but not necessary for the validity of ordinary least squares regression". Kolmogorov-Smirnov statistic which decides on normal data distribution is based on sample mean and sample variance but it does not mean that other values of the mean and variance are not normally distributed (Drezner et al., 2010). Having in mind that this research is based on actual online sales performance, lack of normal distribution will not be taken into consideration because "real data are often not normally distributed and variances are not always equal" (Blanca, Alarcón, Arnau, Bono, & Bendayan, 2017).

Cronbach’s alpha (Cronbach, 1951) is used to check reliability and internal consistency of the constructs. Three constructs are created and examined in this research: omni-channel online sales approach, customer satisfaction and customer loyalty.

Taber, (2018) stated that Cronbach’s alpha value of 0.7 is acceptable to prove inner coherence of the construct. Table 15 provides full information about constructs and their reliability evaluation. Both constructs omni-channel online sales approach (Cronbach’s alpha=0.794) and customer loyalty (Cronbach’s alpha=0.864) have proven to be reliable and consistent. Cronbach’s alpha for the customer satisfaction construct (Cronbach’s alpha=0.442) seems to be quite low but “instruments with quite a low value of alpha can still prove useful in some circumstances” (Schmitt, 1996). This construct can be explained as follows. This construct consists of online customer review (OCR) type, OCR rating and complaints (for item change or item return) received. From the first look looks like OCR rating and complaints received are on different sides when comes to customer evaluation (placing OCR). But practical aspects provide insights (which are in dataset used in this research) that received complaint does not prevent customer from writing a positive review. This construct showed quite low Cronbach’s alpha in pilot research too (Cronbach’s alpha=0.320).

*Table 15 The reliability check of the constructs used in the research*

<b>Construct</b>	<b>Label</b>	<b>Variables</b>	<b>Cronbach’s alpha</b>
Omni-channel online sales approach	Omni-channel approach	Transaction channel Page views Unique visitors Favourited item Social media visits Comments Mobile channel visits	0.794
Customer satisfaction	Customer satisfaction	Online customer review (OCR) type Online customer review (OCR) rating Complaints	0.442
Customer loyalty	Customer loyalty	Retention Repurchased order size	0.864

*Source: created by author*

Financial performance outcome is operationalized not as a construct, but as separate indicator represented by sales revenue and costs of the complaints (for changed or returned items).

Descriptive statistics about variables are presented in the Table 16. Confidence interval of 95% is applied.

Table 16 Descriptive statistics about variables used in the research

Variable	Definition	Freq.	Freq. %	Mean	S.D.	Min.	Max.
Transaction channel	Channel where transaction has been made (1 – web shop, 2 – selling platform)	1 – 90 2 – 910	1 – 9 2 – 91	1.91	0.286	1	2
Page views	No. of views in transaction channel			2694.74	868.88	316	3998
Unique visitors	No. of unique visitors who have visited transaction channel			1743.41	702.24	112	3543
Favourited item	No. of times customer favourited different items in the selling platform			0.72	1.76	0	12
Social media visits	No. of visitors to transaction channel from social media			1554.20	874.62	101	3799
Mobile channel visits	No. of visitors to transaction channel from social media			1538.40	694.70	29	3254
Comments	No. of comments placed on social media channels at the day of transaction			0.40	1.130	0	8
OCR type	Type of review placed by customer (1 – no review, 2 – only rating, 3 – rating and text, 4 – rating and photo, 5 – rating, text and photo)	1 – 849 2 – 59 3 – 14 4 – 15 5 – 63	1 – 84.9 2 – 5.9 3 – 1.4 4 – 1.5 5 – 6.3	1.38	1.054	1	5
OCR rating	Customer evaluation (0 – no review, 1 – highly dissatisfied, 2 – dissatisfied, 3 – neutral, 4 – satisfied, 5 – highly satisfied)	1 – 1 2 – 0 3 – 0 4 – 10 5 – 141	1-3 – 84.6 4 – 1 5 – 14.4	4.94	0.247	1	5
Complaints	Number of total complaints received (0 – complaint not received, 1 – received complaint)	0 – 956 1 – 44	0 – 95.6 1 – 4.4	0.044	0.205	0	1
Retention	Customer type (0 – new customer, 1 – returned customer)	0 – 836 1 – 164	0 – 83.6 1 – 16.4	0.16	0.370	0	1
Repurchased items	No. of repurchased units in total per customer (0 – new customer, 1 – one repurchased item, 2 – two repurchased items, 3 – three repurchased items, 4 – four repurchased items, 5 – five repurchased items)	0 – 836 1 – 121 2 – 32 3 – 3 4 – 7 5 – 1	0 – 83.6 1 – 12.1 2 – 3.2 3 – 0.3 4 – 0.7 5 – 0.1	0.23	0.602	0	5
Repurchased order size	Total of repurchased order (eur)			77.65	42.11	39.00	275.00
Sales revenue	Units ordered * Unit price (eur)			70.05	37.56	39.00	324.00
Complaint costs	Total costs for returned and changed orders (eur)			34.89	33.40	7.24	107.85
Repurchased sales revenue	No. of repurchased orders * repurchased order size (eur)			121.56	67.79	59.00	236.00

Source: created by author

### 3.2. Hypothesis testing in linear and multiple regression models

Each proposed hypothesis is tested to find out statistically significant relationship between independent variable and its regressors and to determine the parameters of statistically significant

regressors. Linear regression modelling is used as data analysis method and proposed hypotheses are tested using the same statistical testing process (see Table 17). The received statistical results are used in making decisions about future research, managerial implications and final conclusions.

Table 17 Process of hypothesis testing

Step	Description	Criteria value	Decision
1	Data normality assumption	Kolmogorov-Smirnov statistic $p$	$p > \alpha$ – normal distribution of data $p < \alpha$ – lacking normal data distribution
		P-P-plot analysis	Visual data value position close to normal curve – close to normal distribution of data
2	Multicollinearity check	Variance inflation factor (VIF) Tolerance	$VIF > 4$ or $\text{tolerance} < 0.25$ – multicollinearity problem $VIF < 4$ and $\text{tolerance} < 0.25$ – multicollinearity problem is not noticed
3	Standardized residuals normality assumption	Kolmogorov-Smirnov statistic $p > \alpha$ or P-P-plot and histogram analysis	$p > \alpha$ – normal distribution of standardized residuals $p < \alpha$ – lacking normal standardized residuals distribution Visual data value position close to normal curve – close to normal distribution of data
4	Data exceptions check	Difference in Beta (DFBeta) or Cook's distance maximum value	$DFBeta$ or Cook's distance $> 1$ – data exceptions $DFBeta$ or Cook's distance $< 1$ – no exceptions of data
5	Homoscedasticity of residuals check	Visual examination of scatter plot analysis of standardized residuals	Scores randomly scattered about horizontal line – the assumption of homoscedasticity is met
6	Autocorrelation check	Durbin-Watson statistic	$1.5 < \text{Durbin-Watson statistic} < 2.5$ – autocorrelation is not found
7	Model fit	ANOVA F p R square	$p > \alpha$ – model rejected $p < \alpha$ – model accepted

Source: created by author (based on Bekešienė, 2015; Čekanavičius & Murauskas, 2014)

## H1 hypothesis testing

**H1:** Omni-channel online sales approach in the case of niche product has a positive impact on sales revenue.

**H1<sub>0</sub>:** Omni-channel online sales approach in the case of niche product has no impact on sales revenue.

First of all, data distribution has been checked. According to Kolmogorov-Smirnov statistic regressors *transaction channel* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *page views* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *unique visitors* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *favourited an item* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *social media visits* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *comments* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) and *mobile channel visits* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) are not meeting normal data distribution requirements. Transaction channel regressor cannot meet normal data distribution requirements because this regressor has only two values (Čekanavičius & Murauskas, 2014).

Dependent variable *sales revenue* is not meeting the requirements of data normality too ( $p=0.000 < \alpha, \alpha=0.05$ ).

Multiple regression analysis can be done with criteria which have statistical significance upon dependent variable (*sales revenue*): *mobile channel visits* ( $p=0.039 < \alpha, \alpha=0.05$ ), *comments* ( $p=0.000 < \alpha, \alpha=0.05$ ) and *favourited an item* ( $p=0.000 < \alpha, \alpha=0.05$ ). *Mobile channel visits* regressor has a very weak correlation ( $r=0.056$ ) towards sales revenue variable. *Comments* regressor has a weak correlation ( $r=0.349$ ) and *favourited an item* regressor has a medium strong ( $r=0.516$ ) correlation towards *sales revenue*.

Other regressors are statistically insignificant: transaction channel ( $p=0.123 > \alpha, \alpha=0.05$ ), page views ( $p=0.171 > \alpha, \alpha=0.05$ ), unique visitors ( $p=0.311 > \alpha, \alpha=0.05$ ), social media visits ( $p=0.449 > \alpha, \alpha=0.05$ ).

$VIF_{\text{mobile channel visits}}=2.737$ ,  $VIF_{\text{comments}}=1.441$  and  $VIF_{\text{favourited item}}=1.458$  are not indicating multicollinearity problem ( $VIF_{\text{regressor}} < 4$ ).

Data exceptions are not noticed ( $DFBeta_{\text{mobile channel}}=0.006$ ,  $DFBeta_{\text{comments}}=0.552$ ,  $DFBeta_{\text{favourited an item}}=0.452$ ).

Durbin-Watson indicator ( $=1.741$ ) rejects autocorrelation.

Standard residual  $p=0.000 < \alpha=0.05$  which means that standard residuals of dependent variable are not meeting the requirements of data normality. Histogram and P-P Plot charts are proposed in the appendix.

Scatterplot graphic allows to reject problem of heteroscedasticity.

Statistically significant coefficients relate to *constant* ( $p=0.000 < \alpha, \alpha=0.05$ ), *mobile channel visits* ( $p=0.009 < \alpha, \alpha=0.05$ ), *comments* ( $p=0.002 < \alpha, \alpha=0.05$ ) and *favourited an item* ( $p=0.000 < \alpha, \alpha=0.05$ ). ANOVA  $p=0.000 < \alpha$  ( $\alpha=0.05$ ) indicates that dependent variable (*sales revenue*) is associated with regressors.

$R^2=0.288$  which means that the variance of omni-channel online approach construct explains 28,8% of sales revenue.

*Sales revenue* dependent variable can be explained with this multiple regression model:

$$Y_{\text{sales revenue}} = 67.194 + 9.761X_{\text{favourited item}} + 3.281X_{\text{comments}} + 0.005X_{\text{mobile channel visits}}$$
$$\beta_{\text{favourited item}} = 0.456$$
$$\beta_{\text{comments}} = 0.099$$
$$\beta_{\text{mobile channel visits}} = 0.116$$

Table 18 H1<sub>0</sub> model summary

Model	R	R Square	Model Summary <sup>b</sup>		
			Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.537 <sup>a</sup>	.288	.283	31.803	1.741

a. Predictors: (Constant), Favourited an item, Social media visits, Comments, Mobile channel visits, Transaction channel, Unique visitors, Page views

b. Dependent Variable: Sales revenue

Source: created by author

**H1<sub>0</sub> is rejected** ( $p=0.000 < \alpha, \alpha=0.05$ ).

## H2a hypothesis testing

**H2a:** Omni-channel sales approach in the case of niche product has a positive impact (lowers) on number of complaints (complaints to change product and complaints to return product) received.

**H2a<sub>0</sub>:** Omni-channel sales approach in the case of niche product has no impact on number of complaints (complaints to change product and complaints to return product) received.

Tests of normality proved that regressors *transaction channel* ( $p=0.000 < \alpha, \alpha=0.05$ ), *page views* ( $p=0.000 < \alpha, \alpha=0.05$ ), *unique visitors* ( $p=0.000 < \alpha, \alpha=0.05$ ), *favourited an item* ( $p=0.000 < \alpha, \alpha=0.05$ ), *social media visits* ( $p=0.000 < \alpha, \alpha=0.05$ ), *comments* ( $p=0.000 < \alpha, \alpha=0.05$ ) and *mobile channel visits* ( $p=0.000 < \alpha, \alpha=0.05$ ) are not meeting normal data distribution requirements.

Dependent variable *complaints* is not meeting the requirements of normality as well ( $p=0.000 < \alpha, \alpha=0.05$ ).

Correlation analysis shows that all regressors connected to omni-channel online sales approach are significantly correlating towards dependent variable *complaints*. Pearson statistic indicates very weak negative correlation between *complaints* and *transaction channel* ( $r=-0.120, p=0.000 < \alpha, \alpha=0.05$ ), *unique visitors* ( $r=-0.093, p=0.002 < \alpha, \alpha=0.05$ ), *mobile channel* ( $r=-0.083, p=0.004 < \alpha, \alpha=0.05$ ) and *favourited an item* ( $r=-0.082, p=0.005 < \alpha, \alpha=0.05$ ). Weak correlation is noticed between *complaints* and *page views* ( $r=0.166, p=0.000 < \alpha, \alpha=0.05$ ) and between *complaints* and *social media visits* ( $r=0.177, p=0.000 < \alpha, \alpha=0.05$ ).

$VIF_{\text{page views}}=28.342$ ,  $VIF_{\text{unique visitors}}=4.026$  and  $VIF_{\text{social media visits}}=28.877$  indicate multicollinearity problem ( $VIF_{\text{regressor}} > 4$ ) so these regressors will not be examined further.

$VIF_{\text{transaction channel}}=1.875$ ,  $VIF_{\text{mobile channel}}=2.737$ ,  $VIF_{\text{favourited an item}}=1.458$  and  $VIF_{\text{comments}}=1.441$  are not indicating multicollinearity problem ( $VIF_{\text{regressor}} < 4$ ).

Cook's distance maximum value equals 0.301 which means that data exceptions are not noticed.



Standard residual  $p=0.000 < \alpha=0.05$  which means that standard residuals of dependent variable are not meeting the requirements of data normality. Histogram and P-P Plot charts are proposed in the annex.

Statistically significant coefficients relate to *constant* ( $p=0.000 < \alpha, \alpha=0.05$ ), *transaction channel* ( $p=0.000 < \alpha, \alpha=0.05$ ), *comments* ( $p=0.000 < \alpha, \alpha=0.05$ ) and *favourited an item* ( $p=0.000 < \alpha, \alpha=0.05$ ). ANOVA  $p=0.000 < \alpha$  ( $\alpha=0.05$ ) indicates that dependent variable (complaints) is associated with regressors.

Determination coefficient  $R^2=0.214$  which means that the variance of omni-channel online approach construct explains 21,4% of complaints received.

*Complaints* dependent variable can be explained with this multiple regression model:

$$Y_{\text{complaints}} = 0.248 - 0.228X_{\text{transaction channel}} + 0.037X_{\text{comments}} - 0.019X_{\text{favourited an item}}$$

$$\beta_{\text{transaction channel}} = -0.318$$

$$\beta_{\text{comments}} = 0.206$$

$$\beta_{\text{favourited an item}} = -0.158$$

Table 19 H2a0 model summary

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.463 <sup>a</sup>	.214	.209	.18251	.163

a. Predictors: (Constant), Favourited an item, Social media visits, Comments, Mobile channel visits, Transaction channel, Unique visitors, Page views  
 b. Dependent Variable: Complaints

Source: created by author

**H2a0 is rejected** ( $p=0.000 < \alpha, \alpha=0.05$ ).

### H2b hypothesis testing

**H2b:** Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) rating.

**H2b0:** Omni-channel online sales approach in the case of niche product has no impact on online customer review (OCR) rating.

154 customers gave OCR rating after their purchase evaluating not only product but whole seamless purchasing experience. Dependent variable *OCR value* is not meeting normal data distribution requirements ( $p=0.000 < \alpha, \alpha=0.05$ ). Tests of normality proved that variables *transaction channel* ( $p=0.000 < \alpha, \alpha=0.05$ ), *page views* ( $p=0.000 < \alpha, \alpha=0.05$ ), *unique visitors* ( $p=0.000 < \alpha, \alpha=0.05$ ), *favourited an item* ( $p=0.000 < \alpha, \alpha=0.05$ ), *social media visits* ( $p=0.000 < \alpha, \alpha=0.05$ ), *comments* ( $p=0.000 < \alpha, \alpha=0.05$ ) and *mobile channel visits* ( $p=0.000 < \alpha, \alpha=0.05$ ) are not meeting normal data distribution requirements.

Proposed regressors *transaction channel* ( $p=0.176>\alpha$ ,  $\alpha=0.05$ ), *page views* ( $p=0.293>\alpha$ ,  $\alpha=0.05$ ), *unique visitors* ( $p=0.403>\alpha$ ,  $\alpha=0.05$ ), *social media visits* ( $p=0.095>\alpha$ ,  $\alpha=0.05$ ), *mobile channel visits* ( $p=0.439>\alpha$ ,  $\alpha=0.05$ ), *comments* ( $p=0.150>\alpha$ ,  $\alpha=0.05$ ) and *favourited an item* ( $p=0.064>\alpha$ ,  $\alpha=0.05$ ) are statistically insignificant to *OCR rating*.

Further regression modelling cannot be proceeded with regressors which are statistically insignificant.

**H2b<sub>0</sub> is supported.**

### **H2c hypothesis testing**

**H2c:** Omni-channel online sales approach in the case of niche product has a positive impact on online customer review (OCR) type.

**H2c<sub>0</sub>:** Omni-channel online sales approach in the case of niche product has no impact on online customer review (OCR) type.

Tests of normality proved that variables *transaction channel* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *page views* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *unique visitors* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *favourited an item* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *social media visits* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *comments* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) and *mobile channel visits* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) are not meeting normal data distribution requirements.

Regressors *page views* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *unique visitors* ( $p=0.017<\alpha$ ,  $\alpha=0.05$ ), *mobile channel visits* ( $p=0.005<\alpha$ ,  $\alpha=0.05$ ), *social media visits* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *comments* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) and *favourited an item* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) are statistically significant towards dependent variable *OCR type*. *Transaction channel* ( $p=0.158>\alpha$ ,  $\alpha=0.05$ ) is statistically insignificant.

Dependent variable *OCR type* is not meeting normal data distribution requirement ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ).

$VIF_{\text{page views}}=28.342$ ,  $VIF_{\text{social media visits}}=23.877$  and  $VIF_{\text{unique visitors}}=4.026$  indicate multicollinearity problem ( $VIF_{\text{regressor}}>4$ ) and they are excluded from further analysis.

$VIF_{\text{mobile channel visits}}=2.737$ ,  $VIF_{\text{comments}}=1.441$  and  $VIF_{\text{favourited an item}}=1.458$  do not indicate any problem of multicollinearity among these regressors ( $VIF_{\text{regressor}}>4$ ).

Standardized residual  $p=0.000<\alpha$ ,  $\alpha=0.05$  which means that standardized residual is not meeting normal data distribution requirements.

Cook's distance maximum is 0.152, which means no data exceptions found.

Durbin-Watson statistic (1.111) implies possibility of autocorrelation but is not very low and will be ignored.

ANOVA  $p=0.000 < \alpha$  ( $\alpha=0.05$ ) indicates that regressors *mobile channel visits*, *comments* and *favourited an item* are associated with dependent variable *OCR type*.

$R^2 = 0.208$  which means that the variance of omni-channel online sales approach represented by *comments* and *favourited an item* regressors explain about 20.8% of *OCR type*.

Statistically significant coefficients relate to *constant* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *comments* ( $p=0.001 < \alpha$ ,  $\alpha=0.05$ ) and *favourited an item* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) regressors. *OCR type* as a dependent variable is represented by *constant*, *comments* and *favourited an item* regressors and can be explained with this multiple regression model:

$$Y_{\text{OCR type}} = 1.425 + 0.177X_{\text{favourited an item}} + 0.129X_{\text{comments}}$$

$$\beta_{\text{favourited an item}} = 0.295$$

$$\beta_{\text{comments}} = 0.138$$

Table 20 H2c0 model summary

Model	R	R Square	Model Summary <sup>b</sup>		Durbin-Watson
			Adjusted R Square	Std. Error of the Estimate	
1	.456 <sup>a</sup>	.208	.202	.942	1.111

a. Predictors: (Constant), Favourited an item, Social media visits, Comments, Mobile channel visits, Transaction channel, Unique visitors, Page views

b. Dependent Variable: OCR type

Source: created by author

**H2c0 is not supported** ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ).

### H3 hypothesis testing

**H3:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on complaint costs (lowers complaint costs).

**H3<sub>0</sub>:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has no impact on complaint costs.

Dependent variable *complaints costs* is not meeting normal data distribution requirements ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) according to Kolmogorov-Smirnov statistic. Tests of normality proved that regressors *OCR type* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ), *OCR rating* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) and *complaints* ( $p=0.000 < \alpha$ ,  $\alpha=0.05$ ) are not meeting normal data distribution requirements too.

Pearson statistic reveals strong and statistically significant correlation between *complaint costs* and *complaints* ( $r=0.988$ ,  $p=0.000 < \alpha$ ,  $\alpha=0.05$ ). *OCR rating* ( $p=0.187 > \alpha$ ,  $\alpha=0.05$ ) and *OCR type* ( $p=0.308 > \alpha$ ,  $\alpha=0.05$ ) are statistically insignificant analysing *complaint costs*.

Standardized residual  $p=0.000 < \alpha, \alpha=0.05$  which means that standardized residual is not meeting normal data distribution requirements.

Maximum value of Cook's distance equals to 0.687 does not show data exceptions.

Durbin-Watson indicator equals to 0.989. This indicator shows possibility of autocorrelation.

$R^2 = 0.976$  which means that the variance of *customer satisfaction* construct represented solely by *complaints* explains 97.6% of *complaint costs*. Coefficients show that *constant* ( $p=0.779 > \alpha, \alpha=0.05$ ) is statistically insignificant. The only regressor *complaints* is statistically significant ( $p=0.000 < \alpha, \alpha=0.05$ ). *Complaint costs* as a dependent variable is represented entirely by *complaints* regressor and can be explained with this linear regression model:

$$Y_{\text{complaint costs}} = 8.182X_{\text{complaints}}$$

$$\beta_{\text{complaints received}} = 0.987$$

Table 21 H3<sub>0</sub> model summary

Model	R	R Square	Model Summary <sup>b</sup>		Durbin-Watson
			Adjusted R Square	Std. Error of the Estimate	
1	.988 <sup>a</sup>	.976	.976	.33197	.989

a. Predictors: Complaints, OCR rating, OCR type  
 b. Dependent Variable: Complaint costs

Source: created by author

**H3<sub>0</sub> is not supported** ( $p=0.000 < \alpha, \alpha=0.05$ ).

#### H4 hypothesis testing

**H4:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on repurchased order size.

**H4<sub>0</sub>:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has no impact on repurchased order size.

Dependent variable *repurchased order size* is not meeting normal data distribution requirements ( $p=0.000 < \alpha, \alpha=0.05$ ). Tests of normality proved that regressors *OCR type* ( $p=0.000 < \alpha, \alpha=0.05$ ), *OCR rating* ( $p=0.000 < \alpha, \alpha=0.05$ ) and *complaints* ( $p=0.000 < \alpha, \alpha=0.05$ ) are not meeting normal data distribution requirements as well as dependent variable.

Statistically significant and medium strong correlation between dependent variable *repurchased order size* and regressor *OCR type* ( $r=0.457, p=0.000 < \alpha, \alpha=0.01$ ) has been detected. Regressor *complaints* has statistically significant negative correlation ( $r=-0.082, p=0.010 < \alpha, \alpha=0.01$ ) towards dependant variable. Remaining regressor *OCR rating* does not present statistically significant relationship ( $p=0.771 > \alpha, \alpha=0.01$ ). Multicollinearity problem is not noticed

( $VIF_{OCR\ type}=1.006<4$ ,  $VIF_{complaints\ received}=1.054<4$ ,  $tolerance_{OCR\ type}=0.949>0.25$  and  $tolerance_{complaints\ received}=0.994>0.25$ ).

Durbin-Watson indicator is equal to 0.326 and shows autocorrelation.  $R^2=0.076$  which is extremely low and means that regression modelling is not possible in this case.

**H<sub>4</sub> is confirmed.**

#### **H5 hypothesis testing**

**H5:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has a positive impact on customer retention.

**H5<sub>0</sub>:** Customer satisfaction in the omni-channel online sales approach in the case of niche product has no impact on customer retention.

Dependent variable *customer retention* is not meeting normal data distribution requirements ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ). Tests of normality proved that independent variables *OCR type* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *OCR rating* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ), *complaints* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) are not meeting normal data distribution requirements too.

Correlation analysis using Pearson statistic revealed statistically significant weak negative correlations between *OCR type* ( $r=-0.148$ ,  $p=0.033<\alpha$ ,  $\alpha=0.05$ ), *complaints* ( $r=-0.367$ ,  $p=0.000<\alpha$ ,  $\alpha=0.05$ ) and *customer retention*. Relationship between *OCR rating* and *customer retention* is statistically insignificant ( $p=0.179>\alpha$ ,  $\alpha=0.05$ ) and this regressor is removed from further modelling.

Standardized residual  $p=0.000<\alpha$ ,  $\alpha=0.05$ , which means that standardized residual is not meeting normal data distribution requirements.

Durbin-Watson indicator equals to 0.209 and shows autocorrelation. Further regression analysis cannot be proceeded.

**H5<sub>0</sub> confirmed.**

#### **H6 hypothesis testing**

**H6:** Customer loyalty size in the omni-channel sales approach in the case of niche product has a positive impact on sales revenue.

**H6<sub>0</sub>:** Customer loyalty size in the omni-channel sales approach in the case of niche product has no impact on sales revenue.

Dependent variable *sales revenue* is not meeting normal data distribution requirements ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ). Tests of normality proved that independent variables *customer retention* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) and *repurchased order size* ( $p=0.000<\alpha$ ,  $\alpha=0.05$ ) are not meeting normal data distribution requirements as well.

Pearson statistic reveals weak and statistically significant correlation between dependent variable *sales revenue* and both regressors – *customer retention* ( $r=0.198$ ,  $p=0.000<\alpha$ ,  $\alpha=0.05$ ) and *repurchased order size* ( $r=0.188$ ,  $p=0.000<\alpha$ ,  $\alpha=0.05$ ).

Multicollinearity problem is not noticed ( $VIF_{\text{customer retention}}=3.859<4$  and  $VIF_{\text{repurchased order size}}=3.859$ ).

Standardized residual  $p=0.000<\alpha$ ,  $\alpha=0.05$ , which means that standardized residual is not meeting normal data distribution requirements *but from the figure proposed in the annex close to normal data distribution statement can be presented.*

Durbin-Watson indicator equals to 1.768 and does not show autocorrelation.

$R^2=0.040$  which means that the variance of *customer loyalty* construct could explain only 4% of *sales revenue*. Even though significance of t-tests shows that *customer retention* ( $p=0.024<\alpha$ ,  $\alpha=0.05$ ) is statistically significant, this model is rejected because of extremely low determination coefficient  $R^2$  ( $=0.040$ ). *Sales revenue* cannot be explained through relationship with *customer loyalty* which is represented by *customer retention* and *repurchased order size*.

**H<sub>6</sub> is supported**

### **3.3. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research results**

After testing all proposed hypothesis in conducting linear and multiple regressions, research summary with statistical decisions and regression models is proposed (see Table 22). Secondary data analysis as a data collection method has its own limitations related to the dataset which has been already collected for other purposes. Data analysis method has not been changed or modified after pilot research.

The results of the research were partially not exactly as expected after pilot research. Increased sample size ( $N=1000$ ) led to additional confirmation of H2a, any other hypothesis confirmed during pilot research has not been rejected. The coefficient of determination is sufficient ( $R^2>0.2$ ) for predicting dependent variables from the independent variables but quite low (for H1, H2a, H2c) except H3, where the coefficient of determination equals to 0.988. The variance of omni-channel online sales approach (in H1, H2a, H2c) explains less than 30% of the variation on the financial performance outcome. What is more, equations, proposed in Table 22, indicate that the weight of each regressor tends to be quite low. This remark is worth to take into consideration while considering quite low impact of omni-channel online sales approach criteria on the final financial performance outcome. On the other hand, regression model of H3 states that the variance of customer satisfaction represented only by complaints received explains 98% of

complaint costs. There are no other criteria which might impact complaint costs as financial performance outcome.

Table 22 The results of research hypothesis testing

Hypothesis	Decision	Dependent variable (Y)	Regression model	R <sup>2</sup>
H1	Confirmed	Sales revenue	$Y=67.194+9.761(\text{favourited an item})+3.281(\text{comments})+0.005(\text{mobile channel})$	0.288
H2a	Confirmed	Complaints	$Y=0.248-0.228(\text{transaction channel})+0.037(\text{comments})-0.019(\text{favourited an item})$	0.214
H2b	Rejected	OCR rating	-	-
H2c	Confirmed	OCR type	$Y=1.425+0.177(\text{favourited an item})+0.129(\text{comments})$	0.208
H3	Confirmed	Complaint costs	$Y=8.182(\text{complaints})$	0.988
H4	Rejected	Repurchased order size	-	-
H5	Rejected	Customer retention	-	-
H6	Rejected	Sales revenue	-	-

Source: created by author

Figure 12 displays graphical research model with confirmed hypothesis and proven relationships after conducted research.

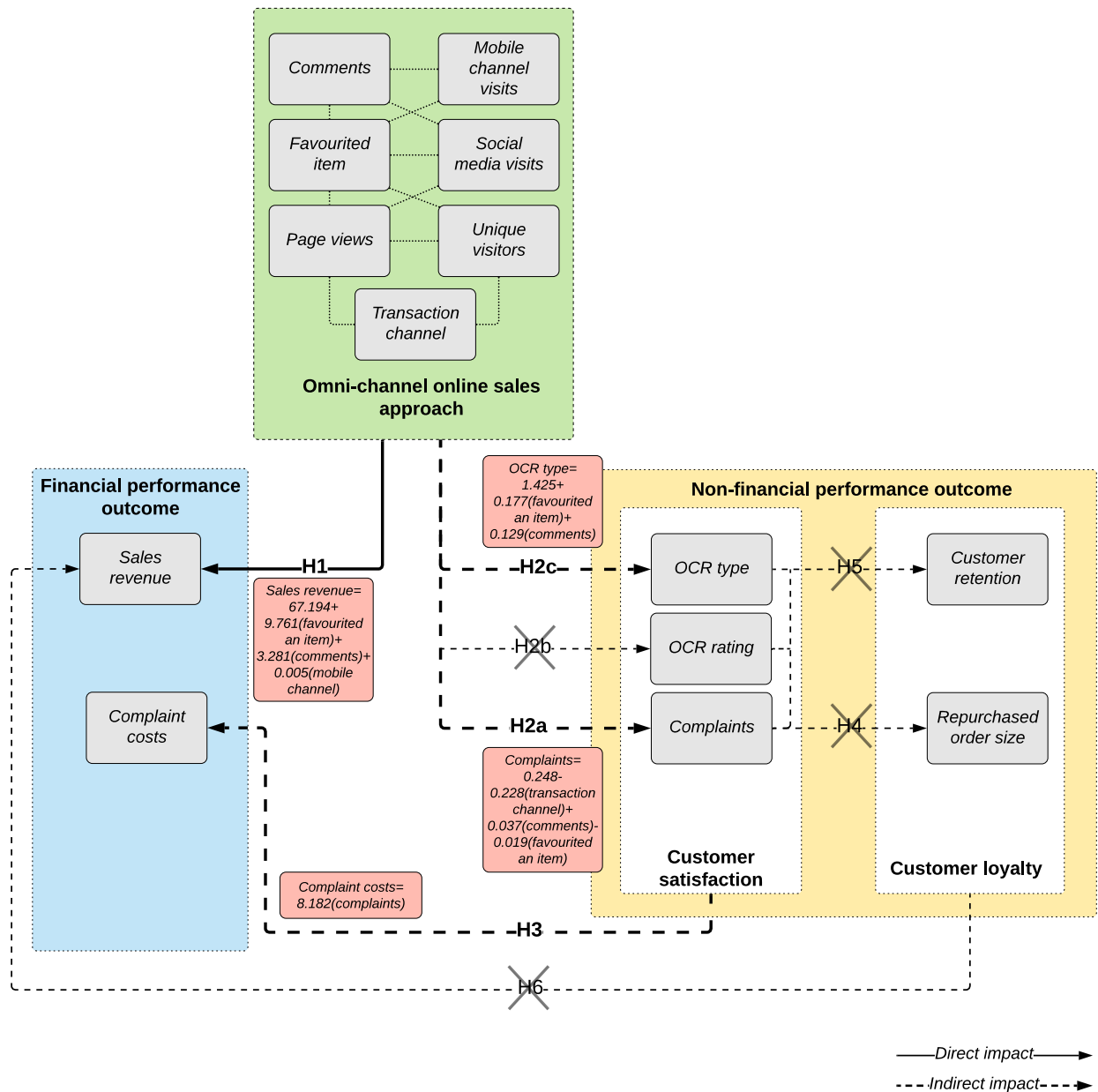


Figure 12 Graphic results about omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research

Source: created by author

Table 23 provides a brief and comprehensive summary of the gathered *Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research* results in the context of the works of other authors. Further details about the results of the conducted research are disclosed below.



Table 23 Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research results in the context of the works of other authors

Dependent variable		Regressor	Represented hypotheses	Meaning	Consistent to
Financial performance outcome	Sales revenue	Omni-channel online sales approach	H1	Proven relationship on increased sales revenue	Batocchio et al., 2016; Eklof et al., 2018; Saleem et al., 2019
		Customer loyalty	H6	Any proven relationship found	Jarvis & Goodman, 2005
	Complaint costs	Customer satisfaction	H3	Proven relationship on decreased complaint costs	Goel et al., 2010
Non-financial performance outcome	Customer satisfaction	Omni-channel online sales approach	H2a	Proven relationship on lowered no. of complaints received	N/A
			H2b	Any proven relationship found on OCR rating	
			H2c	Proven relationship on complexity of OCR	
	Customer loyalty	Customer satisfaction	H4, H5	Any proven relationship in the case of niche product found	Ghazali et al., 2016; Jarvis & Goodman, 2005

Source: created by author

*Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product* research proved that omni-channel online sales approach has a direct impact on financial performance outcome represented by increased sales revenue (H1 confirmed). It is consistent to Batocchio et al., (2016) findings that full integration of selected business model qualitative aspects leads to improved financial viability represented by increased revenue in general. Saleem et al., (2019) stated that different web-based services (such as selling platform, social networks) provide huge amount of data from specific angles and an appropriate use of this strategic data leads to increased sales performance and increased revenue. Different channels integrated into omni-channel online sales approach generate a specific dataset representing customer behaviour and results of this research provide support to findings of Saleem et al., (2019). To be more precise, results of this research confirmed that sales revenue is affected by item favouriting, placed comments and the use of mobile channel. Each presented criterion (regressor) has a different strength of the effect towards sales revenue as a dependent variable. Favoured an item criterion is the strongest ( $\beta_{\text{favourited and item}} = 0.456$ ), followed the impact of mobile channel ( $\beta_{\text{mobile channel}} = 0.116$ ), and placed comments ( $\beta_{\text{comments}} = 0.099$ ). Other criteria such as transaction channel, number of page views, number of unique visitors and number of visitors from social media are not creating any statistically confirmed relationship. Criteria which are making an impact relate to selling platform (favourited an item) and social media sales (placed comments). The use of mobile channel is significant but low and can be addressed to any channel.

Furthermore, the choice of optimal channels before full integration to omni-channel online sales approach is still open because an aspect of potential cannibalization effect occurred while analysing the results of the research. An occurrence of cannibalization effect is compatible to J. C. Kim & Chun, (2018) and Sinha et al., (2015) findings. Presumable effect of cannibalization appears because direct online sales channel also known as single brand web shop has not been statistically proven as significant towards increased sales revenue by any represented criteria (transaction channel, number of page views or number of unique visitors).

Burnham et al., (2003), Eklof et al., (2018) and Storbacka et al., (2009) proved a relationship between positive customer satisfaction together with customer loyalty and increased financial performance outcome. Mentioned authors proved this relationship in the case of mainstream products or provision of services. Goel et al., (2010) confirmed the existence of the relationship between customer satisfaction and generally increased revenue in the context of niche product. Conducted research generated results which confirm this relationship only partially. Consent is found in the proven relationship between customer satisfaction and increased financial performance outcome by decreased complaint costs (H3 confirmed). But this research did not provide any evidence that in the case of niche product customer loyalty positively affects financial performance outcome represented by sales revenue (H6 rejected). Findings of Jarvis & Goodman, (2005) research explain this phenomenon by the specific nature of niche product and specific customer behaviour in this case.

As stated above, omni-channel online sales approach has a proven indirect impact through customer satisfaction on financial performance outcome defined by decreased complaint costs (H3 confirmed). Complaint costs decrease when omni-channel online sales approach lowers received number of complaints (H2a confirmed) and positively affects the complexity of publicly published online customer reviews (H2c confirmed). Confirmation of H2a hypothesis specified transaction channel as the most powerful criterion ( $\beta_{\text{transaction channel}} = -0.318$ ), placed comments ( $\beta_{\text{comments}} = 0.206$ ) and favoured an item ( $\beta_{\text{favoured an item}} = -0.158$ ) criteria are following. The complexity of published OCR reviews (H2c confirmed) is affected by favoured an item ( $\beta_{\text{favoured an item}} = 0.295$ ) and placed comments ( $\beta_{\text{comments}} = -0.318$ ) criteria from omni-channel online sales approach. The relationship between omni-channel online sales approach and OCR rating has not been confirmed (H2b rejected).

In this research customer satisfaction is represented by number of complaints received, OCR rating and OCR type. Extensive analysis of the latest academic literature in the field of customer satisfaction and customer loyalty (Batocchio et al., 2016; Eklof et al., 2018; Meiseberg, 2016; Pomirleanu et al., 2016; Saleem et al., 2019; Tajvidi et al., 2018; Verma et al., 2016;

Wangenheim & Bayón, 2004) proposes causal relationship between these constructs but in the case of niche product this relationship has been rejected and provides support to Ghazali et al., (2016) findings (H5 rejected). This phenomenon can be disclosed having in mind the nature of niche product. Being satisfied with niche product does not necessary lead to repeated purchases. Customer satisfaction is not connected with higher repurchase expenditure represented by repurchased order size either (H4 rejected). The rejection of H4 can be explained by the context of niche product as well where repeated purchases are not common due to the nature of niche product and is consistent to Jarvis & Goodman, (2005) findings.

### **3.4. Managerial implications**

Omni-channel online sales approach is understood as synergetic integration of different channels where customer considers all channels as one entity (Cummins et al., 2016; Simone & Sabbadin, 2018) with significant implications for business (Brynjolfsson et al., 2013). In the case of niche product and online sales process manufacturer is usually considered as a retailer so the selection of proper online sales approach plays a crucial role in the successful viability of the entire business and its performance outcome.

The purpose of this research was to evaluate relationship between omni-channel online sales approach represented by transaction channel, number of page views, number of unique visitors, item favouriting, social media visits, comments received and mobile channel visits criteria and financial performance outcome (represented by sales revenue and complaint costs) and customer satisfaction together with customer loyalty in the case of niche product.

Omni-channel online sales approach is a part of online sales process which connects manufacturer/retailer and its customer. Pure online companies which are offering niche product can use created theoretical model to figure out how selected omni-channel online sales approach directly affects their sales revenue and how financial performance outcome is indirectly affected by customer satisfaction and customer loyalty. Criteria used to describe omni-channel online sales approach are objective and can be used by every company which is using full channel integration to reach their customers by the means of internet. Keeping full integration of separate channels into omni-channel online sales approach requires vast usage of various resources (financial, human, knowledge, time) so this proposed and empirically checked model can help online companies to focus on the most important and most valuable aspects in omni-channel online environment such as transaction channel, the use of mobile channel, receiving comments and complaints, receiving expressed opinion from customers by favouriting items or different types of online customer reviews. These aspects can be taken into consideration while forming online sales strategy or improving customer experience.

The context of niche product increases its relevance because traditional and widely accepted relationship between customer satisfaction and customer loyalty has not been proven in this case. This is a significant element to consider for the business for several reasons. Firstly, for customer satisfaction s-commerce environment (interactions in social media networks, publicly available online customer reviews and complaints) is still significantly important in improving financial performance by lowering complaints costs. Secondly, even though there is no proven relationship between customer satisfaction and customer retention or repurchased order size, satisfied customers can help to create future sales by spreading the word (online customer reviews and comments) and becoming ambassadors of the product (Tajvidi et al., 2018). This point of view can be valuable when creating strategy for customer engagement and future long-term involvement. Thirdly, niche product offering business has a better chance to establish a deeper relationship with satisfied customer. This type of business cannot compete by lowering prices so creating relationship with satisfied customer creates competitive advantage and minimizes the possibility of switching the seller if repurchase will be considered.

In summary, proposed theoretical model and results of empirical research indicate how omni-channel online sales approach directly affects financial performance outcome and, what is more important, provide insights how omni-channel online sales approach indirectly impacts customer satisfaction which leads to increased financial performance outcome. Each online business which is offering niche product can use proposed research model with its own metrics to evaluate omni-channel online sales approach or separate criteria representing this approach in use.

## CONCLUSIONS AND FUTURE RESEARCH

### Conclusions

1. Systematic review of the latest academic literature about online sales helped to create the concept of online sales which is characterized as mechanic e-saleswork together with digital interaction which uses knowledge about customer's preferences, prior, during and after the sale alongside different selling channels to reach customer and create value together while completing sales process by the means of internet. This concept leads to comprehension in what kind of environment online retail business operates including ongoing digitalization, customer centric approach and relationship strategies. For all these aspects to fulfill omni-channel online sales approach can be adopted and successfully executed.

2. Further systematic review of the latest academic literature about omni-channel online sales approach in the case of niche product indicated that four channels including single brand web shop (direct online sales channel), online selling platform, social media sales and mobile channel must be fully integrated. Channel integration in the omni-channel online sales approach is a key distinction between this approach and single channel or multi-channel concepts.

3. Channel integration creates synergy or cannibalization effect so each criterion which has been selected in order to represent omni-channel online sales approach has to be selected precisely. In this work seven independent criteria have been selected to represent omni-channel online sales approach. These criteria speak for every online sales channel (single brand web shop, selling platform, social media sales and mobile channel sales) and are labelled as transaction channel, page views, unique visitors, item favouritism, comments placed, social media visits and mobile channel visits. Financial performance outcome is measured by two criteria which show financial viability – increased sales revenue and decreased complaint costs. Non-financial performance outcome is determined by customer satisfaction construct (represented by complaints received, online customer review (OCR) rating and online customer review (OCR) type criteria) and customer loyalty construct including customer retention and repurchased order size criteria.

4. Omni-channel online sales approach has a direct impact on financial performance outcome. Customer satisfaction and customer loyalty affect financial performance outcome indirectly. To properly evaluate relationship between omni-channel online sales approach and performance outcome theoretical model was created indicating how separate evaluation criteria are connected by determining relationships between them.

5. Omni-channel online sales approach and performance outcome relationship evaluation in the case of niche product research proved that omni-channel online sales approach has a direct impact on financial performance outcome represented by increased sales revenue. It

is confirmed that sales revenue is affected by item favouriting, placing comments and the use of mobile channel. Other criteria such as transaction channel, page views, unique visitors and visitors from social media are not creating any impact which has been noticed and statistically approved. Criteria which are making an impact relates to selling platform and social networks. Furthermore, omni-channel online sales approach has a proven indirect impact on financial performance outcome defined by decreased complaint costs. The relationship between omni-channel online sales approach and online customer review rating has not been proved. Extensive analysis of the latest academic literature in the field of customer satisfaction and customer loyalty proposes causal relationship between these constructs but in the case of niche product and after conducting a research this relationship has been rejected. Customer satisfaction is not connected with higher repurchase expenditure either. Finally, this research did not provide any evidence that in the case of niche product customer loyalty positively affects financial performance outcome represented by sales revenue.

### **Directions for future research**

Conducted research faced several difficulties and limitations. Despite declared research limitations, this omni-channel online sales approach and performance outcome relationship evaluation research was executed in an extensive and reliable form. Faced research limitations become important when making interpretations of the empirical results and can prospect directions for future research.

First, positivistic quantitative nature of the research limited the ability to fully evaluate relationship between omni-channel sales approach and performance outcome by not investigating qualitative aspects of customer behaviour during online sales process. Qualitative aspects of customer decisions to purchase, rate or complain can be valuable in creating holistic evaluation and can be gathered during online in-depth interviews (having in mind that customers are from all over the world, location-based insights can help to extent managerial implications as well). Future research can modify research type and use methodology suitable for mixed research.

Second, online customer reviews, complaints and comments received can be broader analyzed by investigating their qualitative aspects because in this research these criteria have not been investigated in this manner. If qualitative aspects of online customer reviews, complaints and comments received were analyzed, further information about omni-channel online sales approach and an entire online sales process could be gathered along with specific details about customers.

Third, the set of criteria which characterize omni-channel online sales approach can be expanded by adding specific features provided by online selling platform (e. g. favouriting entire shop, following owner of the shop) or adding additional channel (e. g. indirect online selling channel, multi brand web shop). This proposition could help to understand and increase customer engagement as a new concept which is useful for a holistic evaluation of the omni-channel online sales approach. And on the contrary, eliminating several criteria of omni-channel online sales approach (e. g. page views, unique visitors) can help to investigate how business-to-business (B2B) customers react in this environment.

Fourth, field experiment can be used as data collection method. In this way criteria and their parameters which are representing omni-channel online sales approach can be manipulated via experimental channel integration in order to display how customers are reacting to different values of criteria proposed.

# OMNI-CHANNEL ONLINE SALES APPROACH AND PERFORMANCE OUTCOME RELATIONSHIP EVALUATION IN THE CASE OF NICHE PRODUCT

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Paper for the Master's degree

*Business Process Management Master's Program*

*specialized in Business Operations Management*

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## SUMMARY

71 pages, 23 tables, 12 figures, 229 references.

The main purpose of this master thesis is to identify relationship between omni-channel online sales approach and financial (increased sales revenue and decreased complaint costs) and non-financial (customer satisfaction and customer loyalty) performance outcome in the case of niche product and to present evaluation of this relationship.

The work consists of three main parts: the analysis of the latest academic literature, the research methodology section and the conducted research including the evaluation of the results gathered and managerial implications.

Systematic analysis of the latest academic literature proposes the concept of online sales, presents omni-channel online sales approach, its evaluation criteria together with the concepts of omni-channel online sales approach and performance outcome relationship evaluation and niche product.

After the systematic analysis of the latest academic literature the author has conducted a positivistic quantitative research to find out what statistically significant relationship exists between omni-channel online sales approach and performance outcome and evaluated this relationship. Pure online player offering niche product and acting in business-to-customer setting has been investigated. Sample size consisted of 1000 actual online sales records collected from pure online player which is offering niche product since the beginning of its online sales activities (01 February 2017) until 30 August 2020. Secondary data analysis has been chosen as a data collection method. The main purpose of the research was to identify which omni-channel online sales approach criteria have a direct impact on financial performance outcome along with indirect impact on financial performance outcome through customer satisfaction and customer loyalty in the case of niche product. The results of the research were statistically processed with the IBM



SPSS Statistics software. Descriptive statistics were used to characterize all criteria from evaluation concept. Cronbach's alpha coefficient was used to check inner coherence of three main constructs. Linear and multiple regression modelling was applied to check eight derived hypotheses. Four hypotheses were confirmed, and four hypotheses were rejected. Four regression equations were created.

The results of the research indicate that the increase of sales revenue is connected to the customer's expression of opinion by favouriting an item and placing comments together with the usage of mobile channel. The expression of opinion and transaction channel impact the complexity of online customer review and complaints placed which are interpreted as customer satisfaction. These criteria of customer satisfaction impact financial performance outcome by lowering complaint costs. No proven relationship between customer satisfaction and customer loyalty has been found. What is more, there was found no statistically significant relationship between customer loyalty and financial performance outcome. These specific results were confirmed as having theoretical background specific to the context of niche product.

The conclusions, managerial implications and directions for the future research are composed after analysis of the latest academic literature and results of conducted research. The author strongly believes that created relationship evaluation model could have a strong practical value for the online companies which are offering niche product and are deciding on the choice of online sales approach, are considering channel integration model or already manage omni-channel online sales approach and need to figure out which criteria of this approach have leading impact on financial performance, and which can be modified or replaced.

**Keywords:** online sales process, omni-channel online sales approach, financial performance outcome, customer satisfaction, customer loyalty, niche product.

# IŠPLĖSTINIO DAUGIAKANALIO ELEKTRONINIO PARDAVIMO METODO IR REZULTATŲ SĄRYŠIO VERTINIMAS NIŠINIO PRODUKTO ATVEJU

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## **SANTRAUKA**

71 puslapis, 23 lentelės, 12 paveikslų, 229 literatūros nuorodų.

Pagrindinis magistro darbo tikslas – nustatyti, koks ryšys egzistuoja tarp išplėstinio daugiakanalio elektroninio pardavimo metodo ir jo kuriamų finansinių (padidėjusios pardavimo pajamos ir sumažėjusios skundų išlaidos) ir nefinansinių (vartotojų pasitenkinimas ir vartotojų lojalumas) veiklos rezultatų nišinio produkto atveju ir pateikti šio ryšio vertinimą.

Magistro darbą sudaro trys dalys: nuosekli sisteminė naujausios mokslinės literatūros analizė, metodologijos pagrindimas ir autorinis tyrimas bei gautų rezultatų analizė, pateikiama kartu su tyrimo rezultatų pritaikomumu įmonių veikloje.

Nuosekli naujausios mokslinės literatūros analizė padėjo identifikuoti elektroninio pardavimo sampratą, padėjo apibūdinti išplėstinį daugiakanalį elektroninio pardavimo metodą, jo vertinimo kriterijus bei šio pardavimo metodo ir jo generuojamų rezultatų vertinimo ir nišinio produkto koncepcijas.

Po atliktos išsamios literatūros analizės darbo autorė atliko autorinį tyrimą, siekdama nustatyti, koks statistiškai reikšmingas ryšys egzistuoja tarp išplėstinio daugiakanalio elektroninio pardavimo metodo ir jo generuojamų finansinių bei nefinansinių rezultatų. Taip pat buvo atliktas šio ryšio vertinimas. Tyrimas atliktas remiantis nišinį produktą kuriančios ir tiesiogiai vartotojui parduodančios, tik internete veikiančios įmonės pardavimo duomenimis, kuriuos sudarė 1000 pardavimo įrašų, surinktų nuo įmonės veiklos pradžios (2017 m. vasario 1 d.) iki 2020 m. rugpjūčio 30 d. Antrinių duomenų analizė pasirinkta kaip duomenų atrankos metodas. Tyrimo tikslas – nustatyti, kurie išplėstinio elektroninio pardavimo metodo kriterijai turi tiesioginį poveikį įmonės finansiniams veiklos rezultatams, taip pat įvertinti generuojamą vartotojų pasitenkinimo ir vartotojų lojalumo netiesioginį poveikį įmonės finansiniams veiklos rezultatams. Statistinis

duomenų apdorojimas atliktas naudojantis IBM SPSS Statistics programine įranga. Pateikta kiekvieno kriterijaus aprašomoji statistika, konstruktyvų vidinis suderinamumas vertinamas pagal Kronbach alfa kriterijų, atlikta tiesinė ir daugialypė regresinė analizė aštuonioms iškeltoms ir teoriškai pagrįstoms hipotezėms. Keturios hipotezės buvo patvirtintos ir keturios hipotezės buvo atmestos. Suformuotos keturios regresinės lygtys.

Tyrimo rezultatai atskleidė, kad padidėjusios pardavimo pajamos priklauso nuo vartotojų nuomonės reiškimo per viešai skelbiamus produkto pasižymėjimus ir pateikiamus komentarus, taip pat pardavimo pajamas teigiamai veikia mobilusis kanalas naudojimas. Vartotojų nuomonės reiškinys ir sandorio sudarymo kanalas daro įtaką vartotojo atsiliepimo kompleksiniam ir mažina pateikiamų skundų skaičių. Šie kriterijai atspindi vartotojų pasitenkinimą šio darbo rėmuose ir teigiamai veikia finansinius veiklos rezultatus. Tyrimo metu nebuvo nustatyta jokio statistiškai reikšmingo ryšio tarp vartotojų pasitenkinimo ir vartotojų lojalumo. Taip pat, nenustatytas ryšys tarp vartotojų lojalumo ir finansinių veiklos rezultatų. Nišinio produkto specifika pagrindžia gautus rezultatus.

Po nuoseklios naujausios mokslinės literatūros analizės ir atlikto autorinio tyrimo buvo pateikti gautų rezultatų pritaikomumo įmonių veikloje pasiūlymai, suformuotos išvados ir nurodytos galimos ateities tyrimų kryptys. Autorė mano, kad sukurtas išplėstinio daugiakanalio pardavimo metodo ir jo kuriamų veiklos rezultatų vertinimo modelis gali būti taikomas praktiškai, siekiant įvertinti pasirinktą išplėstinį daugiakanalį pardavimo metodą kaip elektroninio pardavimo proceso dalį, pasirinktą pardavimo kanalų integraciją arba jau taikant šį elektroninio pardavimo metodą ir siekiant jį optimizuoti, koncentruojantis ties didžiausią įtaką finansiniams veiklos rezultatams darančiais kriterijais.

**Raktiniai žodžiai:** elektroninis pardavimo procesas, elektroninio pardavimo metodas, finansiniai veiklos rezultatai, vartotojų pasitenkinimas, vartotojų lojalumas, nišinis produktas.

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# APPENDIX

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## FRAMEWORK FOR EVALUATING THE RELATIONSHIP BETWEEN THE OMNICHANNEL ONLINE SALES APPROACH AND PERFORMANCE OUTCOME IN THE CASE OF NICHE PRODUCTS

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**Abstract.** Transformation from electronic commerce business model to social commerce business model empowered manufacturers of niche products to start retail businesses which are operating solely online. The selection of an online sales approach is a part of the online sales process which determines how end customers will be reached. Moreover, the online sales approach determines performance outcome, hence, this selection should be done after meticulous evaluation. This research, after a systematic comparative analysis of the academic literature, explores the omnichannel online sales approach and its relationship with performance outcome in the case of niche products and proposes a theoretical framework for the evaluation of this relationship. The theoretical framework includes financial and qualitative (customer satisfaction and customer loyalty) criteria which allow to evaluate performance outcome created by the omnichannel online sales approach in a holistic way. The performance outcome evaluation results can be used in the decision-making process when deciding whether the chosen omnichannel online sales approach meets the expectations of a business and its customers.

**Keywords:** omnichannel online sales approach, performance outcome, financial criteria, customer satisfaction, customer loyalty, niche product.

**JEL Classification:** L26, L29, L25.

### 1. Introduction

The advent of online retailing and ongoing digitalization has dramatically changed retail business models (Verhoef et al., 2015). Electronic commerce (e-commerce) activities such as purchase, sales, marketing and distribution processes of products and services are heavily affected by omnipresent social networks (Kim, 2013; Pentina et al., 2013; Baghdadi, 2016; Fotiadis & Stylos, 2017) and social media (Andzulis et al., 2012; Huang & Benyoucef, 2013; Huang et al., 2016; Bocconcelli et al., 2017; Tajvidi et al., 2018). Social networks and social media enabled customers to create user-generated content (online product reviews and recommendations), which has revolutionised traditional e-commerce into social commerce where social features are incorporated into online shopping (Hajli et al., 2017). The rapid development of social media and Web 2.0 has provided a huge potential to transform e-commerce from a product oriented environment to a social and customer centred one (Wigand et al., 2008).

The selection of sales approach is a crucial aspect of sales process. Sales approach directly

affects performance results so the way how to reach customers has to be precisely chosen. Pure online players – companies functioning solely online – can choose different online sales approaches or use combined option called omnichannel approach. The choice of how to reach customers in online market can be explained as online sales channel which integrates seller’s sale and buyer’s purchase processes. This research is focused on a part of online sales process which is described by online sales approach and limited to pure online players who are providing niche products. Hence, this aspect helps to simplify online sales process because attention to other parts of sales process is not in the scope.

The gap in the academic literature is found because online sales approach is investigated as a part of brick-and-clicks business model (Song & Zahedi, 2005; Kaplan & Haenlein, 2010; Song et al., 2012; Hansen & Sia, 2015; Parvinen et al., 2015; Verhoef et al., 2015; Viio & Grönroos, 2016; Lapoule & Colla, 2016; Chandna & Salimath, 2018; Wait, 2019; Kim & Takashima, 2019; Saleem et al., 2019) but not as only and in-