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## Consumer Preferences for Omnichannel Customer Service in the Consumer Electronics Industry

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**Abstract:**

**Purpose:** The purpose of the article is to identify the number and types of channels used by the consumer when purchasing consumer electronics (RTV equipment, cheap and expensive electronics).

**Design/Methodology/Approach:** In the theoretical part, a systematic review of the scientific literature was used (Scopus and Web of Science databases). In the research part, a questionnaire study (CAWI method) based on a statistically representative sample of respondents was used.

**Findings:** Literature review revealed the lack of detailed, deeper studies dedicated to multi-channel purchasing of consumer electronics - research gap. The obtained research results show that in the purchasing process, customers prefer the channels of traditional stores and online stores, both in the homogeneous and heterogeneous configuration.

**Practical Implications:** Knowledge of consumer behavior (preferred and unprecedented purchase channels) should interest multi-channel sellers and distributors in shaping solutions adequate to market expectations.

**Originality / Value:** So far, research on multi-channel buy and sell transactions is based primarily on the interpretation of data collected by platforms and systems for recording commercial transactions - relative presumption of behavior. The original research approach used in this article allows for the analysis of consumer behavior at every stage of the transaction – directly, at the source - ensuring the certainty of the information obtained, absolute reliability of purchasing behavior.

**Keywords:** Omnichannel / omni-channel (OC), consumer electronics, home electronic, customer electronic, customer service channels, purchasing process.

**JEL codes:** L81, M2.

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## 1. Introduction

The omnichannel concept is not only a theoretical consideration, as more and more often, but elements of this concept are also implemented by various companies as part of their own activities. The assumptions of the omnichannel concept allow the consumer to choose the channels freely during the entire purchasing process. Ultimately, the consumer is to be able to make any number of channel changes and return to the previous stages while maintaining the continuity of the purchasing process. At present, however, the introduction of the target vision of the omnichannel concept takes place in stages. Enterprises that operate simultaneously in several customer service channels do not want to risk an unproven solution, so such implementation is very careful on their part.

This article is the second in a series of articles on consumer preferences in Omnichannel customer service to analyze the consumer electronics industry. The authors divided this industry into cheap and expensive electronics in the radio/ tv set category. The category can include, for example, the purchase of a TV set, the cheap electronics is f.ex. pendrive, and the expensive electronics is f.ex. a smartphone. The analysis carried out in this article includes the quantitative identification of the customer service channels used during the purchasing process, determining the preferred purchasing paths by customers, including homogeneity (using only one channel) and heterogeneity (using two or more channels).

The research results presented in the article constitute an important source of information for management practitioners in the field of shaping rational omnichannel customer service solutions.

## 2. Omnichannel in the Consumer Electronics Industry – Literature Review

The literature search was based on the Scopus and Web of Science databases. They are the two most popular knowledge bases in the world and are most often used by scientists in management sciences. The literature review took place in June 2021. In the Scopus database, a total of 934 articles devoted to omnichannel were selected, 495 for the omnichannel and 439 for the omni-channel. A total of 664 articles on omnichannel were selected in the Web of Science database: 341 for omnichannel and 323 for omni-channel. Among the articles on omnichannel, those related to the topic of tv / audio devices have not been identified at all. This is surprising since there are articles in both databases on both tv devices – 136 in Scopus and 43 in Web of Science, and audio devices – 423 in Scopus and 147 in Web of Science.

Among the articles on omnichannel, those related to electronics, 10 were identified in Scopus and 8 in Web of Science (all the same as in Scopus). The first article analyzes the influence of mobile word of mouth (m-WOM), received at the physical store, which “challenges” the consumer's preferences in a webrooming experience. The impacts of the social relationship between the sender and the receiver of the m-WOM and product category (electronics versus fashion accessories) are examined (Flavian *et al.*, 2021).

The second article refers to building the omnichannel business platform for the electric power marketing and integrating all online service resources, with the features of

customer aggregation, business integration and data sharing, are an inevitable pathway for the power grid enterprise to establish the customer-centric modern service system and realize its digital transformation strategy. The overall architecture of the omnichannel business platform is proposed and the detailed design for the eight shared service centers are given respectively for user center, ticket center, electronic bill center, payment center, order center, points center, online customer service center, and messaging center (Lin *et al.*, 2020).

The third article considers an integrated order picking and vehicle routing problem assuming same-day delivery in the field of omnichannel retailing. Within this context the paper focuses on the picking and delivery process for large durable consumer goods, for example, consumer electronics and home appliances with the option of associated installation services at the customer's home as well as store deliveries for click-and-collect customers and the short-term replenishment of store inventory (Schubert *et al.*, 2020).

The fourth article explore warehouse configuration in omni-channel retailing. The study highlights the need to understand the interrelations and co-development of configuration elements in omni-channel warehousing. A research limitation is the focus on Swedish retailers in three sectors: fashion, consumer electronics and DIY / construction material (Kembro and Norrman, 2020).

The fifth article provide a deeper understanding of how omni-channel strategies link to the digitalisation phenomenon. The study is explorative in nature (three retail segments, i.e., fashion, consumer electronics and bookstores and media) and aims to expand existing knowledge by using a business model perspective (Jocovski *et al.*, 2019).

Sixth article derive monetary benchmarks and managerial implications for omni-channel retailers' B2C e-fulfillment strategies by investigating the trade-offs between lead time, delivery convenience and total price including shipment in the context of online electronics retailing (Gawor and Hoberg, 2019).

The seventh article includes the assessment model of the operational costs and greenhouse gas emissions for three distribution configurations in omnichannel retailing. The model was also applied to a real case operating in the consumer electronics industry (Melacini and Tappia, 2018).

Eighth article raised the question whether it is possible to mimic the 'traditional sales conversation' to online environments by deploying AI based conversation technology. Decided to focus on the following industries: electronics, clothing, food, and financial services. This selection was made based on levels of online sales - highest for these sectors (Exalto *et al.*, 2018).

The ninth article includes an assessment model of the operational costs for three distribution configurations in OC retailing. The model was also applied to a real Italian case operating in the consumer electronics industry (Marchet *et al.*, 2017).

Tenth article investigate the topic of multi-channel retailing through the analysis of an internal data set of a leading consumer electronics retailer. Specifically, the research intends to determine if and to what extent the opening of physical stores by a former web-only retailer reduces or extends overall retail sales, and whether such effects tend to change over time (Fornari *et al.*, 2016).

Summarizing the literature review, several conclusions can be made. There is no uniform standard for the term omnichannel - there are, notation without a hyphen and with a hyphen, as well as the acronym OC. There is no omnichannel article focusing solely on the tv / audio devices product group. It appears as one assortment group in articles about omnichannel, but as one of many other categories (e.g., in articles on electronics), which does not allow them to be directly distinguished in the form of the searched word in title, abstract or keywords.

The electronics category is more universal and capacious, hence the omnichannel correlations finally appeared. From among 10 articles devoted to electronics, 6 items are strictly written in consumer electronics, Schubert *et al.* (2020), Kembro and Norrman, (2020), Jocevski *et al.* (2019), Melacini and Tappia (2018), Marchet *et al.* (2017), Fornari *et al.* (2016). The spectrum of research interests of the authors of these 10 articles is very diverse. The following articles are of particular interest to scientists (the basis for the assessment - the number of citations), Fornari *et al.* (2016), Jocevski *et al.* (2019), Gawor and Hoberg, (2019). the publication of Gawor and Hoberg (2019), in which its authors analyze factors such as the price level, lead time, delivery and collection options, planning to expand the research with e.g., return options and loyalty programs.

### 3. Methodological Assumptions

The methodology of the research process consisted of the following steps:

- review of the literature on the subject matter studied,
- analysis of potential customer service channels and their selection for the purposes of the study,
- development of a research tool - a survey questionnaire,
- CAWI (Computer-Assisted Web Interview) research,
- analysis of results and formulation of conclusions.

The literature review confirmed the validity of the research, i.e., the lack of detailed studies on the analyzed subject. In the next stage of work, the potential customer service channels were analyzed and their selection (limitations) for the purposes of the study. The prepared list of customer service channels at various stages of the purchasing process was used as part of the proprietary questionnaire. The developed questionnaire consisted of several sections, i.e. .:

- information about the respondent,
- questions about the percentage of channels used by the respondent when searching for information before the purchase (multiple choice question),

- questions about the respondent's preferred implementation channel for individual stages of the purchasing process and possible complaints (single-choice questions for each stage).

The study was conducted using the CAWI method. Information about the study (its purpose and purpose) along with a link to the survey was sent to the respondent via e-mail. The group of respondents was selected on purpose, not accidentally. It consisted of young people aged 18-25 who made purchases on their own. Assuming the population at the level of 3,232,297 – the number of people aged 18-25 in Poland in 2019 (Statistics Poland, 2020), the significance level  $\alpha = 0.05$  and the permissible error at the level of 10.0%, the study sample size is 96 people. The request for filling in the questionnaire was sent to 1257. 104 correctly completed questionnaires were obtained. The study was conducted from March to November 2020.

The research results presented in the article constitute part of a wider study, which included, inter alia, industries such as: cosmetics, electronics, cheap and expensive electronics, household appliances, books and music, jewelry, sports equipment. Research results for the cosmetics industry have already been published by the authors (Domanski *et al.*, 2021), others are under development.

#### 4. Results of Own Research

The research results provide information on the popularity of individual customer service channels at the stage of searching for information about the offer for the analyzed product categories (Tables 1, 2 and 3).

**Table 1.** Popularity of customer service channels at the stage of searching for information about the product (comparing offers) for the RTV - research results

	Stationary store	Online store aggregator	Call centre	Social media	Sales representative	E-mail	Mobile apps	Traditional mail	MLM	Fairs, events, shows	Self-service stores
<b>Responses</b>	10	104	10	42	13	13	26	13	10	12	9
<b>Mode [%]</b>	50	50	5	25	5	5	24	5	5	4	5
<b>Median [%]</b>	30	50	4	18	5	7	15	5	5	7	5
<b>Average [%]</b>	38	54	8	24	11	7	18	8	6	11	5
<b>MAX [%]</b>	10	100	38	100	34	15	50	24	11	25	8
<b>MIN (&gt;0) [%]</b>	3	14	3	5	3	3	4	3	3	4	3
<b>Std Dev</b>	0,2	0,23	0,10	0,16	0,09	0,03	0,13	0,05	0,02	0,07	0,01

*Source: Own research.*

**Table 2.** Popularity of customer service channels at the stage of searching for information about the product (comparing offers) for tania elektronika – research results

	Stationary store	Online store / aggregator	Call centre	Social media	Sales representative	E-mail	Mobile apps	Traditional mail	MLM	Fairs, events, shows	Self-service stores
<b>Responses</b>	86	100	11	31	12	14	21	11	10	11	9
<b>Mode [%]</b>	50	100	6	24	6	7	5	5	5	4	4
<b>Median [%]</b>	50	50	5	18	5	7	13	5	5	6	5
<b>Average [%]</b>	49	59	7	22	7	10	17	6	5	6	6
<b>MAX [%]</b>	100	100	24	56	32	38	44	12	9	15	11
<b>MIN (&gt;0) [%]</b>	6	13	3	4	3	3	4	3	3	3	4
<b>Std Dev</b>	0.31	0.28	0.05	0.14	0.07	0.08	0.11	0.02	0.01	0.03	0.02

Source: Own research.

**Table 3.** Popularity of customer service channels at the stage of searching for information about the product (comparing offers) for droga elektronika – research results

	Stationary store	Online store / aggregator portals	Call centre	Social media	Sales representative	E-mail	Mobile apps	Traditional mail	MLM	Fairs, events, shows	Self-service stores
<b>Responses</b>	85	104	9	41	11	13	17	10	11	13	9
<b>Mode [%]</b>	50	50	4	24	5	5	5	5	4	5	5
<b>Median [%]</b>	39	50	5	24	5	5	16	5	5	5	5
<b>Average [%]</b>	42	59	8	27	7	7	17	4	6	7	5
<b>MAX [%]</b>	100	100	32	100	28	15	47	5	16	24	10
<b>MIN (&gt;0) [%]</b>	4	11	3	5	3	3	4	3	3	4	4
<b>Std Dev</b>	0.24	0.26	0.08	0.22	0.06	0.03	0.13	0.01	0.03	0.06	0.01

Source: Own research.

The study examined customer service channels are as follows, Stationary store, (e.g., CCC store), online store / aggregator portals, (e.g., allegro, ceneo, ebay), call center, (e.g., helpline), social media, (e.g., facebook), marketplace, sales representative, (e.g., solicitor), e-mail, (e.g., newsletter, leaflet), mobile apps, (e.g., glovo, amazon go), traditional mail, (e.g., a letter, leaflet), MLM (multi-level marketing), (e.g., Avon), fairs, events, shows, self-service stores, (e.g., carefour express 24/7).

The most popular information search / comparison channels for the analyzed products include, Stationary store, online store / aggregator portals, social media and mobile apps. Despite some differences in detailed results (% of respondents' indications), this tendency is constant for all product categories (RTV, cheap and expensive electronics). The results from the categories: number of responses, fashion, median and average value indicate the dominant importance of both the traditional store and the online store channel / aggregator portals. The comparison of these results with the category of the maximum value (when max = 100%) shows that for a certain group of customers these channels are the only channels from which customers obtain information about products.

Subsequent results provide respondents' answers to questions about the preferred channel of implementation of individual stages of the purchasing process and possible complaints (excluding the stage of searching for information / comparing offers) (Tables 4, 5 and 6). The tables present the most popular "paths" of the process for each of the analyzed purchasing categories (paths with a small percentage share in the research results were omitted). The results were sorted according to the decreasing number of respondents' indications. Additionally, the results were supplemented with:

- number of changes in the "pathway" (number of customer service channel changes at each stage),
- number of different channels in the "pathway" (the number of different channels making up the entire "pathway" of customer service).

For the radio/tv sets product category, the most popular paths are (Table 5): Stationary store (55 indications) and online store / aggregator portals (13 indications) and the 3rd path combining these channels (11 indications).

**Table 4.** Preferred customer service "pathways" for the category of the radio/tv set product – research results

Stages of the customer service process					Number of occurrences of a given pathway:	Number of changes in the pathway:	Number of different channels in the pathway:
Purchase	Payment	Delivery/ Reception	Complaint	Returns			
Stationary store	Stationary store	Stationary store	Stationary store	Stationary store	55	0	1
Online store	Online store	Online store	Online store	Online store	13	0	1
Online store	Online store	Stationary store	Stationary store	Stationary store	11	1	2
Total 79 responses for 3 „pathways” (over75%) (n = 104 respondents)							

**Source:** Own study.

In the category of "cheap items" products, the most popular paths are (Table 5): Stationary store (40 indications) and online store / aggregator portals (35 indications) and

the 3rd and 4th paths being a combination of these channels (10 and 7 indications respectively).

**Table 5.** Preferred customer service “pathways” for product category “cheap items” - research results

Stages of the customer service process					Number of occurrences of a given pathway:	Number of changes in the pathway:	Number of different channels in the pathway:
Purchase	Payment	Delivery/Reception	Complaint	Returns			
Stationary store	Stationary store	Stationary store	Stationary store	Stationary store	40	0	1
Online store	Online store	Online store	Online store	Online store	35	0	1
Online store	Online store	Stationary store	Stationary store	Stationary store	10	1	2
Online store	Online store	Online store	Stationary store	Stationary store	7	1	2
Total 92 responses for 4 „pathways” (over 88%) (n = 104 respondents)							

*Source:* Own study.

In the "expensive items" product category, the preferred paths include (Table 6): Stationary store (42 indications) and online store / aggregator portals (27 indications) and 3 paths that are a combination of these channels (11, 6 and 4 indications respectively).

**Table 6.** Preferred customer service “pathways” for products category “expensive items” – research results

Stages of the customer service process					Number of occurrences of a given pathway:	Number of changes in the pathway:	Number of different channels in the pathway:
Purchase	Payment	Delivery/Reception	Complaint	Returns			
Stationary store	Stationary store	Stationary store	Stationary store	Stationary store	42	0	1
Online store	Online store	Online store	Online store	Online store	27	0	1
Online store	Online store	Stationary store	Stationary store	Stationary store	11	1	2
Online store	Stationary store	Stationary store	Stationary store	Stationary store	6	1	2
Online store	Online store	Online store	Stationary store	Stationary store	4	1	2
Łącznie 90 wskazań dla 5 powyższych „ścieżek” (ponad 86%) (n = 104 respondentów)							

*Source:* Own study.



## 5. Conclusions

The analysis of the scientific literature (Scopus and Web of Science databases) showed the lack of detailed, deeper studies dedicated to multi-channel purchases of consumer electronics. The selection of publications led to the listing of only 10 items potentially convergent with the topic of this article. Most of the publications concentrate fragmentarily only at a certain stage of the purchasing process, e.g., searching for information about a product, making a purchase or making complaints.

The obtained research results are a source of information on customer preferences throughout the entire purchasing process. The paths with only the internet shops / aggregation portal and stationary store channels dominate. Customers move freely between these channels, returning to the previous channels in the subsequent stages of the purchasing process, which is understood as the heterogeneity of the customer service path, or going through the entire purchasing process in one channel, i.e., the homogeneity of the customer service path.

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