Opportunities and Challenges of Applying Omnichannel Approach to Contact Center

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Abstract— **The contact center is the center of communication between users and service providers through which companies strive to provide support and retain or increase the customer's satisfaction in working with the service. Today companies that provide support through contact centers add more and more independent channels including email, chat, SMS, social networks and other, without paying attention to the needs of customers nor to the potential that a particular channel delivers. In context of the contact center, omnichannel approach rises as an idea of creating the seamless and integrated environment for modern customer experience (CX) through integrated channels, which allows agents to work on a better interface and to use a richer set of customer and service data. This paper discusses the nature of applying the omnichannel approach to contact centers. To be more precise, focus of paper is on presenting the need for an omnichannel approach in today's contact centers, analyzing literature and defining opportunities and challenges of applying omnichannel approach to contact centers.**

Keywords-Omnichannel; Multychannel; Contact Centre; Customer Service; Customer Experience (CX); CRM

I.   INTRODUCTION

Internet, smart mobile devices and social media are the main drivers that bring a new era in customer service and the most significant penetration can be expected in contact centers. There is no doubt that contact centers are on the big turn on to shift to digital support [1]. In addition, the evolution of technology, digital transformations of society and market development are affecting all companies, so to support customer's needs they offer many different channels engaging with customers (multy-channel approach). However, that ad hoc solutions of adding channels, brings many open issues. The biggest one's are: *how many channels company has to have* and *how to establish their management* to provide added value. The fundamental need of most customers is *unique experience across all channels*.

However, in order to fully understand the needs of customers it is not enough just to establish contact centers with simultaneously multiple channels and allow the customers to switch between the channels. Modern customer journey includes more.

As the best approach to unify all channels and bring a value to both, the companies but also to the customers, omnichannel approach naturally occurs [3]. Although, the main area where omnichannel approach is relevant are retailing, marketing, and e-commerce [4], [5] in this paper authors will show that applying this approach for contact center can bring a significant opportunities and solve issues present in contact centers.

In this paper, authors systematize the enablers and challenges to use omnichannel approach to contact centers. The rest of the paper proceeds as follows. In section 2 the related work is listed. Section 3 contains description of omnichannel approach. Opportunities and challenges of applying omnichannel approach to contact centers are in detail discussed in section 4. In the last section, authors provide conclusions.

II.   RELATED WORK

From previous section, it is natural that a literature review is a good base to confirm this research idea. Many papers with literature reviews can be find in the context of Omnichannel retailing [6], [4], [7], [8], [9], [10]. However, in the context of applying omnichannel approach in contact centers, literature is not so comprehensive.

Saberi et al in [11] speak about issues in contact centers with focus on the role of big data in empowering the current contact centers to shift to the next generation and identify four gaps that can be the first step in this shift. Bocklund in [12] speaks about challenges and keys of success of transforming multichannel to omnichannel contact centers. Leogros et al in [13] focus on optimization of the of routing to agents and how to split their time between call and emails

in multi-channel contact center. Liu et al in [14] investigate influence of mobile channel in omnichannel banking services. Comprehensive paper with very detail literature review is written by Mirsch el al [5] about omnichannel management. Imram el al in [15] present a study to evaluate customer experience.

III. OMNICHANNEL APPROACH

Industry creates a coin *omnichannel* (omni is a latin word meaning "all", "universal") which should represent the vision of an ideal strategy in which communication with customers takes place through a set of interconnected channels (all channels together) based on the application of modern information communication technology, which would also coincide with today's behavior and habits of the customers [6],[16],[17]. As the definition itself implies, step forward is in the interaction and linking of all channels and the ability to simultaneously use and manage all channels as a whole. Instead of multiple channels, omnichannel is a single channel with multiple touch points delivering a seamless and consistent customer experience [9]. Customers are generally not a channel centric - they are goal centric, which means they think about the value and not about channels. They want quick and easy answer to their needs or desires, to browse, to buy or to get support. Customers are focused on finding a way that is nice, enjoyable and offers them good value in terms of money and use of their time [7]. Therefore, they want to choose their most preferred channel for each situation in their business relationship and switch (hopp) from one channel to another without interrupting their interaction or losing any content of interaction. As another characteristic of omnichannel approach, attention should be given to the *integration of data* obtained from different channels. Namely, most customers are prone to share their information in order to get access to specific communication channel. A wide range of information from these channels (social networks, mobile devices, etc.) can be collected in stored in the unique database, so it is necessary to examine the ways of integrating these data from all channels as well as forms of their analysis and creating customer profiles.

IV. OMNICHANNEL CONTACT CENTRE

Contact centers as the main touch point of organizations face the major issues in managing their costumers efficiently. In other words, contact centers act as a bridge between organization and their customers. How that bridge looks like in the context of omnichannel approach? The main driver for modern contact center is the desire to meet *customer expectations* with efficient and effective service and support. Organizations which have realized that are trying to build modern contact center which will include different channels of communication for digitally aware customers. However, adding channels (e.g. email, chat, social networks) looks very much like adding new silos from a technology, process and organizational perspective. Each silos has its own operating principles and interacts poorly with other silos. Delivering information and solving their issues across various channels is increasingly challenging from technology

and operations perspective. Development of contact centers can't be ad hoc as new technologies appears.

Omnichannel approach can be applied to the contact center [1]. According to the definition of omnichannel, omnichannel contact center needs to offer customers the same experience across all integrated channels, and agents who work with them a simpler interface and a richer set of data about the customers and service, as well as the support they provide.

Below this section, through literature review *benefits* and *challenges* are being discussed.

A. Analysis of Benefits

This sub section presents an analysis of omnichannel contact center benefits.

Mellinger in [18], emphasizes that the customer service in future is self-service. Most popular self-service channels, supported via omnichannel contact center will include online forums, virtual agents and mobile self-service. Xue et al. in [19] consider that higher customer efficiency in self-service channels is associated with greater profitability and has a complex relationship with customer retention. Gartner expects that, by the year 2020, 85% of the interaction will take place without involving human agent. *Non-voice interaction* is strongly going forward, which means the communication via e-mail, chat or social networks is encouraged instead of traditional telephone call.

Longelin in [20] investigated several very important benefits. First, is *gaining greater customer insights*, which lead to improved customer service. Second is *maximizing agent productivity* where omnichannel contact center can serve anywhere and any number of customers, from a couple to hundreds and even thousands at the same time (webinars and videos). This also frees agents time, so they can focus on handling issues that are more complex and bring real added value to the contact center. Agents will feel more empowered and gain a greater sense of responsibility, making them more likely to feel fulfilled and stay within the organization and finally *save on costs* because channels are more of the 'self-help' kind as many clients prefer to search for the answer themselves before turning to an agent.

Interesting empiric research on how to efficiently share agent time between two types of job (email and inbound call) in order to improve performance in contact centers is presented in [13].

Siroh in [21] discusses two omnichannel contact center benefits: *information integration* and *evolving the use of data*. Importance of information integration is connected with creating a superior customer experience and shown through scenarios:

- in which customers have to repeat the nature of a support problem with a contact center agent and point out how this can be extremely frustrating;

- when it's clear to a customer that the agent doesn't know much about him or the channels he most recently visited in an attempt to solve a problem.

Instead of bringing the conversation back to square one and annoying the customer, contact center agent can use the

customer data being generated across various touchpoints to deliver prompt, personalized and relevant support. Voice, mobile, web, social, chat, email and other channel activity can be combined with transactional, sentiment, demographic, and other data to arm contact center agents with appropriate information.

In second aspect, evolving the use of data, author points out that data is critical for advancements in service support, and that there are numerous ways in which organizations can use customer data to gain deeper insights into customer behaviors and customer sentiment to drive improved outcomes. In addition, he proposes using predictive analytics to determine the reasons why people use certain channels.

Mirsch et al. in [5] made a literature overview where they stress whole set of benefits for organization. They noted that service provider could increase awareness, trust, control over the customer, enhanced support and achieve ubiquitous personalization. Furthermore, the benefits are an improved consumer experience, increased customer loyalty, increased efficiency by channel synergy, increased organizational flexibility, improved customer knowledge because of an improved database, reduced channel conflicts, improved intra-organizational communication,

TABLE I.   SYSTEMATIZATION OF OMNICHANNEL CONTACT CENTRE BENEFITS

	Category	Benefits
1	Interaction	Channel hopping Self service (online forums, virtual agents, chatbots) Non voice (or digital with agent) One GUI interface for agents without switching beetwen channels
2	Information	Integrated through all channels
3	Data	Evolving use (organizations can use customer data to gain deeper insights into customer behaviors (reasons) and customer desire to drive improved outcomes)) Improved customer knowledge because of an improved database Predictive analytics (social network analysis, mobile browsing analysis, sentiment analysis)
4	Technologies	Cloud computing software solutions
5	Agent/ contact center associates	One GUI interface maximize agent productivity (serve anywhere from a couple to hundreds thousands of customers) Focus on handling more complex issues More empowered and gain a greater sense of responsibility Comprehensive evaluation
6	Customer	Profiling Increased awareness, trust, and control Achieved ubiquitous personalization. Improved consumer experience, Increased customer loyalty, Superior customer experience
7	Cost	Decreasing cost in software and support
8	Channels	Compensate for a channel's weakness with another channel's strength. Reduced channel conflicts, Increased efficiency by channel synergy

	Category	Benefits
9	Organization	Increased organizational flexibility, Improved intra-organizational communication, Improved customer-company relations, Increased service quality Enhanced support for all services

improved customer-company relations, increased service quality, and the ability to compensate for a channel's weakness with another channel's strength.

Another benefit, from the technological point, is that omnichannel contact center will *integrate with advancements in cloud technology* so it is to expect that solutions will be fully cloud based [18]. That means they will be more flexible, with increased level of collaboration and data control, and enabling easier, remote access.

At the end, lets point out some more benefits for agents. In *one GUI interface* agents apply the same rules for all types of communication. Chat interaction is handled in the same way as a call, so that clients receive the same level of service regardless of the channel they use to connect. In that way, one GUI interface simplifies the agent's support process, allowing him to switch between channels and simultaneously communicate with multiple clients and prioritize management without requiring signup or switching between channels. *One dataset:* An agent can easily see user information during a call, even if previous interactions were via email or chat. This reduces the time that the agent has to spend searching for information or seeking information from users. It also provides agent with reach knowledge about customers' habits and preferences enabling him to more accurately predict his future behavior, which at the end results in satisfying their needs in the best possible way. *Comprehensive evaluation of agent*: To ensure that the omnichannel contact center provides the same user service experience across all channels, managers must be able to assess agents in each area. The omnichannel contact center can combine all the data in its unique interface to provide a unique quality assurance.

Systematization of omnichannel contact centers benefits are shown in table 1.

B.   Analysis of Challenges

This sub section presents an analysis of most typical challenges and open questions these challenges create in developing omnichannel contact centers.

According to [22] there are two customer's category: *channel-hopping customers* (in retailing they are called omni-shoppers [10]) that are actually the most profitable because of the lower cost to serve, and *digital-savvy consumers* that are mistakenly being favored by some. Interesting is that channel-hopping customers "don't want purely digital interactions; they want experiences that deliver the results they seek using unpredictable combinations of digital and traditional channels. The problem here, however, is that even those organizations that are acknowledging the importance of supporting these channel-hoppers are unable to deliver true omnichannel service through their contact centers" [22].   Why? Dimension Data [3] highlights that most contact centers will support an average of nine channels,

but this number will rise to eleven channels by the end of 2018. At the same time, they can't track a customer journey that spans across those multiples channels. Here the problem of *channel integration* arises! Very close to this is the fact that channels are being managed in silos, and data is not actively shared between them. Furthermore, they fail to collect data to review and optimize journey patterns [3].

Saberi et.al. in [11] focus on the role of *big data* in shifting the current contact centers to the omnichannel contact centers. Challenges they identify are: (1) *lack of a mechanism for cleansing customers' duplicate profiles to enhance the efficient operation* of contact centers. Noisy and inconsistent data (known as dirty data) is unavoidably present in many contact centers databases. One of the major types of dirty data are duplicate records that correspond to the unique entity of a customer (due to variations in customers' names, phone numbers and addresses). Moreover, the Internet "remembers" all the published data regardless of whether it is accurate and relevant. Authors systematize different methods for different disciplines and propose development of specific techniques for that issue. (2) *lack of interactive contact centers for customer recognition* where they emphasize problem of correct customer identification from different communication channels and suggest exploring data mining tools to help contact centers become more interactive. Namely, different communication channels use different unique identifiers (e-mail, username, telephone number etc.), so the methods for indisputable user authentication have to be defined.

The technological obstacles come in many different forms. Main technology obstacles to developing omnichannel contact center according to [3] are: integrating multiple technological systems, legacy systems inhibiting flexibility and progress but can't be replaced, stretch on resources - too many competing priorities, securing budget and cost burdens, no common strategy - solutions created in silos, lack of required technology, speed of change - technology can't keep up with requirements, maintaining a big data view across the organization.

Organizations need to identify the optimal mix of self-service, phone service and assisted service for their customers, to try to provide the nearest best fit [23].

Mirsch et al. in [5] made a literature overview where they address a list of obstacles for organizations willing to implement omnichannel approach. They mentioned understanding the need to acquire, allocate and change resources and channel integration, enabling seamless and consistent consumer experience across all channels; the sharing of common resources; the generation and integration of analyzable data across all channels, achieving a seamless view of the consumer; and the use of certain channel synergies.

Ensuing investment for the right IT infrastructure must also be addressed when several channels are managed in an integrated system. A further challenge is the justification of channels because channels are measured separately. In isolation, a channel may not be profitable; however, within the omnichannel setting, a single channel may support overall performance. Therefore, the true performance of single channels is more difficult to evaluate.

Systematization of omnichannel contact center challenges is shown in Table II.

TABLE II.   SYSTEMATIZATION OF OMNICHANNEL CONTACT CENTRE CHALLANGES

	Category	*Challenges*
1	Organizational	Silos versus integration Performance of single channels and their synergy
2	Channel	Number of channels Channel integration Customer identification and authentication through channels Channel-hopping Justification of channels existence
3	Data	Lack of a mechanism for cleaning customers' duplicate profiles Lack of interactive SW for customer recognition Creating and optimizing customer journey Synchronization of collected data
4	Technology	Integrating multiple information systems or legacy systems Solutions created in silos Lack of required technology Speed of change – technology vs requirements
5	Management / Governance	Implementation of IT service management (ITSM) as a prerequisite Defining a thoughtful implementation strategy

At the end authors are addressing main challenges that have to be solved:

- **Data acquisition through channels**. Data can be collected manually by agent or automated by synchronizing data from different communication channels. The automated way is faster, but it is technically more demanding.
- **The privacy of data**. No matter how data are collected, the issue of data privacy is extremely relevant. It remains to determinate which data can be collected without permission (public), with permission, and which cannot be collected. According to the new GDPR regulation in EU, question *why* organization wants to collect data arises as well. For each purpose, organizations should get a special customer's consent.
- **Customer identification and authentication through channels**. Issues are connected with attributes that serve as identifiers (usually email address, telephone number or username) and the fact that the same customer can contact help desk through different communication channels using different identifier, which do not necessarily have to be familiar to help desk.
- **Synchronization of collected data**. Issue connected with previously mentioned challenge of customer

identification and authentication through different communication channels. After the customer has been unambiguously identified and authenticated, his data from different communication channels is being synchronized and stored in unique database.

- **Integration of all channels**. Mainly technical issues and one solution can be building a whole contact center platform (develop new software from the scratch not to upgrade existing).

V. CONLUSION

Modern contact centers face multiple challenges associated to customer demands, including unconsolidated customer data, limited understanding of the interaction related to troubleshooting, and poor synchronization or adaptation of customers' interactions from various channels.

In this paper, authors propose using omnichannel approach to contact centers. After analyzing the relevant literature, systematization of opportunities and challenges was made. Authors analyzed different positive characteristics of applying omnichannel approach to contact centers and created tabular view by main categories. The same principal is used for defining challenges and obstacles present in realization of that concept.

All researched literature suggests that the shift towards omnichannel approach in contact centers is necessary today. However, clear guidelines, transformation steps and strategy are still missing. The biggest obstacles identified are the technological realization of channel integration, customer identification and authentication through channels, data acquisition and privacy through channels and synchronization of collected data. It is clear that in coming years, because of the opportunities it brings, contact centers will become omnichannel but still increasing efforts towards has to be done.

The need to define the omnichannel approach to contact centers is more than clear. The main drivers of omnichannel contact center development are *technology evolution* and *changes in customer requirements and expectations*. However, to establish it in company could be unexpectedly difficult.

As a future work, authors plan to work on creating comprehensive *omnichannel contact center implementation strategy* which will describe how this transformation should look like. Authors scratch on that segment and already identified four main stages of omnichannel contact center implementation strategy. These stages are: Design, Orchestration, Monitor and Adjust.

In addition, authors would like to define *omnichannel contact center customer experience model* and factors which could be used to evaluate this model to understand how customers behave.

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