Enhancing the Experience of the Digitally Conscious Customer

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Abstract— **Digital innovations have caused a shift in customer expectations, resulting in a new kind of modern buyer – the digitally conscious customer. The customer experience plays a crucial role in digital transformation and vice versa – a lot of digital transformation initiatives arise from customer's pain points, business innovation needs and growth imperatives on understanding patterns of digital purchasing culture, eliminating information seeking barriers, enhancing virtual social interactions, and overcoming challenges of digital literacy. The focus of the research is on the transformation of purchase process. The research aims to understand the new, digital customer journey and behaviour changes patterns, and map the transformation process of value-based purchase and retail processes. For scholars and practitioners, it is necessary to understand who is driving the change in the modern world – the digital technology phenomena or the customer value-push approach. The research contributes to the practical understanding of how digital innovations have affected the online information seeking process and what barriers in communication have arisen, such as how online social interaction and information filter bubbles affect customers and at the same time how the Zero Moment of Truth (ZMOT) and "dark social" phenomenon affect companies' strategies. Customer journeys are becoming more extensive and versatile, but also challenging. Thus, the result of the research contributes to future mapping the compromise between purchase & retail processes for the Modern Customer Journey in the digital age.**

Keywords - digital journey; customer journey; digital innovation; digitalisation; customer experince.

I. INTRODUCTION

The dynamic world we live in is continuously and rapidly changing. The ubiquity of the information communication technologies has transformed the customer experience. The influence of current digital technologies on the lives of individuals and communities is evident, and one may claim, unprecedented. Mark Weiser [1] 30 years ago in his essay "The Computer for the 21st Century" wrote that "the most profound technologies are those that disappear...", they "will be so ubiquitous that no one will notice their presence" because these technologies will become inseparable and indistinguishable from everyday life. The aim of the present paper and the ongoing research conducted by the authors is to investigate how digital innovations affect user behaviour.

Digital innovations have caused a shift in customer expectations [2], resulting in a new kind of modern buyer culture – the digitally conscious customer. The customer experience plays a crucial role in digital transformation and vice versa – a lot of transformation initiatives arise from customer's pain points (such as purchase convenience, online research, website navigation, checkout process, etc.), business innovation needs and growth imperatives on understanding patterns of digital purchasing culture, [3] eliminating information seeking barriers, [4] enhancing virtual interactions, and overcoming challenges of digital literacy. The digital age, introduced to customers via emerging technologies and digital innovations, is inevitably changing patterns of societal progress, consumption culture, human interaction, values, [5] and even (virtual) identity [6].

Embracing digital transformation requires companies to identify technologies, that are applicable to their strategy and how those may be enacted in the business offerings. As digital technology burrows deeper into the organizational processes and market offerings, it will inevitably affect business strategies, as firms revaluate their perceptions of themselves, as well as their relationships with partners and customers [7]. Firms are feeling the pressure not just to alter their existing business models, but also to operate a portfolio of different business models to cope with increasingly volatile customers preferences, who demand both, flexibility and personalization of products and services [8].

Culture is the informational basis of human society, a vital condition for its existence. As such, culture is inseparable from the information and information technologies. Levin and Mamlok [9] argue that the widespread use of digital technologies constructs and arranges virtual cyberspace that has become an integral part of people's existence. Yet, cyberspace does not replace the familiar reality, but rather complements it and becomes its integral part. Perhaps, the most decisive change relates to the replacement of the traditional concept of the human being as a separate entity by a new ontological self-perception of human beings as an information organism, interconnected with the entire world.

Communication has a tremendous effect on our lives; transformation of the way how people interact with each other, gain information, and learn new things has also been affected by digital innovations. Cultural changes or modification of society values and habits are influenced by

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innovation and invention, globalization and cooperation, and the digital innovations are the drivers behind this.

The societal progress would be impossible without digital innovations and interaction between society and technology. Practitioners and scholars state that the customer is the one who is driving the changes which shape the process of digitalization. The challenge is that companies' strategies remain behind the speed of transformation [10]. New technologies have also created novel challenges for companies to understand the changing behaviour of customer.

For practitioners and scholars, it is necessary to investigate emerging digital innovation in the consumption culture and value-based retail process. Understanding how customers react to personalized ads and how those affect buyers' behaviour and priorities may ease the digital innovation adoption process for companies [11].

The rest of the paper is structured as follows. In Section II, we describe the planned methods that are going to be implemented to gather data; in Section III discusses the key aspects of digital transformation and digital innovations; in Section IV the digital customer journey challenges are discussed; in section V the profile of the digitally conscious customer is discussed; section VI presents the further research objectives.

II. METHODS

The main methodology of the further research is analysis of consumer data, literature review, consumer interviews, customer surveys, social media monitoring, survey data from an online panel, secondary data analysis (previous research, statistics, etc.), questionnaires and case studies analysis. The empirical approach is addressed through experiments of purchase and retail processes. The customer perspective we plan to investigate via surveys, questionnaires, interviews, focus group discussion, primary and secondary data review. Customer data we aim to collect with the help of commercial providers and to analyse it themselves. After data review it is planned to test out theories and hypotheses via dialogues and surveys. To address company's perspective, we aim to conduct dialogues, questionnaires, secondary data reviews. Case studies are going to be analysed. Based on the results, there will be developed strategies for practitioners to understand the opportunities to reach the satisfaction equilibrium between customer and retailer. Via qualitative research, there will be investigated the cultural characteristics of the customer journey and retail process. The developed strategies are going to be piloted and then conducted the second round of collecting the customer and retailer vision and feedback.

Data will be collected fully anonymised with use of a mixed method approach for the triangulation of data. We aim at carrying cross-European empirical studies to understand the comparative perspectives of digital customer journeys. We aim to develop the field of purchase and retail processes for modern customer journey conceptually and empirically; establish collaboration with the stakeholders (digital customers and online retailers; practitioners and scholars). The present paper is based on literature review.

III. DIGITAL TRANSFORMATION

Literature does not provide a generally accepted definition of digitalization nor digital transformation; however, some scholars argue that digitalization as a technology-induced transformation process improves organizational flexibility, agility, and responsiveness by simultaneously aligning its operations, strategy, business processes, and organizational and IT structures to technological advancements [12]. Digital transformation cannot be exclusively focused on the technologies, it includes alignment of organizational leadership, relationships with partners and customers, resources, technology, processes, structure, and culture with a strategy that supports them and serves as a basis for achieving a competitive advantage. According to Denner [13], digitalization of products and services is a fast-moving, global megatrend that transforms value networks across all industries. Legner et al. [14] describe digitalization as a pervasive force, that involves transformations of key business operations and affects products and processes, as well as organizational structures and management concepts.

There is no commonly agreed definition and set of differences between digitalization and digital transformation, and scholars continue to use the terms interchangeably, without clear statement what is understood by the certain terms. Henriette et al. [15] define digital transformation as changes in the ways of working, roles, and business offerings caused by adoption of digital technologies in an organization, or in the operation environment of the organization, including process level, organization level, business domain level, society level. It affects organizational strategies and challenges existing business models to be reconsidered and disrupted [16]. Existing business models are being optimized, transformed by reconfiguration and extension, but some devoured by more adjusting competitor.

Digital transformation provides companies with an opportunity to improve their performance, increase reach and ensure better results by using digital innovations [17]. Those bring new actors, structures, practices, values, and beliefs that complement or disrupt existing practices within organizations and industries by affecting all key processes in the organization [18]. New business model typology based on the smartization of products and services has been introduced. In the world of Industry 4.0, sustainability of business models is being questioned. Digitalization has its impact on collection of operational data through sensors with low human intervention, enhances efficiency of data sharing among digital units through connected devices [19].

Innovation concept has been popularized and studied by Schumpeter [20]. He described innovations as creative destruction or a process of industrial mutation [21] that continually changes the existing, destroys old and creates new. Innovation, is traditionally perceived as a creative disruption thus, presenting a threat to traditional business models, current organizational structures, and well-established business operations [22]. Innovation is the core of transformation, and the concept of digital transformation is closely related to the definition of innovation. Innovation

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is understood as a process of a new or substantially improved product, idea, method, or business process being implemented or commercialized in the market or organization, creating a new value for the consumer, competitive advantage new industries and job positions and forms along with catalysing the economic growth [23]. Digital innovation is understood as implementation of the new digital technologies either to the existing practices with an aim of their optimization or introducing new process. According to [6] the digital concerns arisen from digital transformation are lack of clear vision, customer expectation, outcome ambiguity, familiarity over innovation, socio-technical misalignment, and cultural inertia.

The traditional ways of doing business have changed dramatically with the emergence of new information technologies. The Internet of things, machine learning, artificial intelligence, cyber-physical systems, cloud computing, wireless networks, robotics, augmented reality, big data analytics, and simulations are some of these key digital technologies. Nowadays, all physical devices can connect to the Internet. Cyber-physical systems incorporate the functions of computing, communications, precision control, coordination, and autonomy. Cloud technologies can be used to increase data sharing across company boundaries, improve agility and flexibility of system performance, and reduce costs by bringing systems online. Simulation optimization-based tools are used for complex systems and automation technologies. As a result, systems are becoming smarter by using these technologies. These means provide opportunities for enhancing customer journey and improving customer experience. Moreover, big data and analytics are used for scaling and evolving information technology. The data with larger volumes and speeds can be analysed more precisely and faster decisions can be made with these technologies. The ability to adopt digital innovation is becoming a vital mechanism for organizations [24]. The capabilities of digital innovations bring great potential for companies to enhance customer experience, improve communication with purchasers and better understand clients' needs.

In the frames of the present paper and further research, the focus is on the digitalization of consumption and its social, cultural, ethical, political, and economical implications. It, thus, answers the call for more research on how customers react to personalized ads and how it affects buyer behaviour and priorities, consumer activities such as the purchase, comparison, and examination of goods [25]. The rate at which digital technology can spawn new the "smart" products and services is matched only by its ability to extend the reach and range of social interactions via ubiquitous infra-structure and malleable platforms [26].

TABLE I. DIGITAL TECHNOLOGIES AND CUSTOMER JOURNEY

The technologies used within customer journey		
Technology	***Description***	***Impact***
Data mining (DM)	Companies use DM capabilities for building the customer-centric approach that focuses on client's pain points in digital customer journey (classification, regression, clustering and association) [33].	Companies can improve digital customer engagement and the related key performance metrics.
Eye Tracking	Contemporary eye tracking technology offers an objective way to document digital users' activities on retailers' websites and mobile app [27].	Companies can reveal consumers' visual attention and see how they evaluate the product or service.
Google Analytics	Web analytics allow companies to track the behaviour of customers visiting their websites, measure web traffic and analyse commercial activity [28].	Application of Google Analytics and AI benefits to optimization of the customer experience and enhance the customer journey.
Internet of Things (IoT)	Internet-based structure for remote locating, sensing, and/or operating the components with real-time data flows between them. IoT contributes to information collection, automating transaction, purchase maintaining and servicing [29]	Companies obtain massive data on consumer behaviour. Arising privacy issues include identification of features unknown to the user, localization and tracking, profiling, making private information public and linking separate information that the user does not like to be linked.
Augmented Reality (AR)	AR creates an add-on and interactive experience of a real-world environment through computer-generated displays, thereby creating more interactive, vivid, and richer experiences for consumers [30].	Companies are able to enhance customer engagement and customer journey by implementing AR, VR and MR. AR is being commercialized actively, meanwhile VR and MR are held behind due to the lack of suitable devices. These technologies facilitate imagination, complement to the physical world, appropriate visualization [32].
Virtual Reality (VR)	Entire environment simulation.	
Mixed Reality (MR)	MR is used for combination of the real and virtual worlds in order to produce new visual environments where physical and digital elements co-exist and interact in real time.	
Artificial Intelligence (AI)	Computer programs that understand user queries and complete a limited set of tasks asked by the users [31].	Companies automate process of advising, and customizing, giving feedback, and recommending additional consumption. Users obtain enhanced decision making.

Table 1 presents non-exhaustive list of the emerging digital technologies used by retailers to better understand and enhance customer journey as well as their engagement.

By integrating Cloud services with its AI tools, companies can realize dynamic landing pages with personalised content based on users' past behaviour or project their behaviour. Additionally, companies, that invest in digital technologies, can achieve in-depth insights into the

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effectiveness of its social media marketing efforts through certain cloud-enabled functions. These insights allow to create more relevant and personalised offers for users. In the age of social media, businesses have lost quite a lot of control over how their brand is perceived. However, on the other hand, they have gained a lot of third-party voices that can help them promote their brand. Social media is a much cheaper and more accessible form of advertising for businesses than traditional media, representing a huge opportunity. What businesses need to consider in their engagement strategy in social media is how they can make their messaging contextual and consistent to their target audience. This is especially if their main buying segment is millennials, who tend to be extremely active and vocal on social media and look for brands that align with their values and beliefs.

IV. DIGITAL CUSTOMER JOURNEY

Digital customer journey and digital customer behaviour change patterns are not yet clearly defined. The research, on which this paper is based, aims to offer a better understanding of these concepts and an integrate technological (embodiment), psychological (presence), and behavioural (interactivity) perspectives to propose a new taxonomy of purchase and retail process in the digital age, namely the complementary models, presenting the value-based compromise between purchase & retail processes for modern customer journey in digital age. The models and the equilibrium will assist in enhancing digital customer journey and provide better opportunities for retailers for economic growth. The research aims to provide a better understanding of the cultural differences in customer behaviour change patterns and digitalization of customer journey; analysis of the digital environment complementary elements' effect on the purchaser and retailer; map of the social and cultural aspects interactions with digital innovations.

There is no one unique, or even one-industry comprehensive strategy approach for the customer journey digitalization. Digital technologies have affected consumption practices – changes in customer behaviour, values and loyalty, increased influence of judgements from social media, [33] personalized ads, filter bubbles [34] [35], information asymmetry and social virtual inclusion affect customer's digital journey. Due to the information filter bubbles, barriers in communication and the non-transparent nature of algorithmic filtering digital users are not aware of being in an information asymmetry. The patterns of purchase process transformation arise from the customers' changing priorities, barriers in communication and social interaction, information seeking challenges and habits. Digital literacy of customers also is an important aspect in the transformation process, it is affected by the filter bubbles, dark social (non-traceable source of feedback or way information sharing) and "zero moment of truth" (ZMOT) [36] phenomena. ZMOT is related to the digital value: the degree to which one actively searches for and trusts other users' feedbacks on their shared experiences of a product. Aside with the purchase process, changes arise with the effect on digital innovation on social anxieties, feelings of (in)security, customer loyalty and emergence of such phenomena as "virtual identity" [37].

In the transformation process the focus of companies' (retailer) perspective lies on the value-based retail chain. Is not clear, how do the global interaction, the necessity of implementing sustainable approach and meeting the customers' needs affect the development of the value-based retail chain. Practitioners are aware, that nowadays, it is the customer, who has the power of setting the values, thus the customer value-based proposition is crucial for companies' livability. Digital innovation has provided new possibilities for retailers, but simultaneously have arisen challenges that affect companies' data analysis and strategy [38].

With the present paper and further research, we aim to understand the transformation process of the purchase process, and what are the drivers behind (virtual identity, customer changing values, customer loyalty factors, etc.), explore what are the modern barriers in the information seeking and communication processes (information asymmetry, social online interactions, dark social, filter bubbles, ZMOT, etc.), understand, what are the challenges of digital literacy. We aim to map the change patterns brought by digital innovation, that have affected the consumption culture, user's identity formation, social interactions in the online world and understand the possible future scenarios.

Despite the popularity of digital innovations among customers and retailers, knowledge of their impact on the customer journey remains limited. The main priority for retailers is to better understand the customers behaviour and their values and then to enhance the journey of digital purchase [39]. No prior research has analysed in the depth digital innovation affection on customer values, identity, behaviour, and journey. Processes, data, agility, prioritization, technology, integration, information, business and IT alignment, digitization etc. all matter but are conditions for better customer experiences.

V. DIGITALLY CONSCIOUS CUSTOMER

Smartphones, mobile apps, machine learning, and artificial intelligence provided customers the opportunity to get what they want and when they want it. This has contributed to a shift in customer expectations and created a new kind of consumer – one that has changed the way business is done in specific industries. The concept of digital customer engagement refers to encouraging users to obtain digital channels across various industries remotely [27]. According to [27], there's lack of studies concerning the factors affected by digital customer engagement. Thus, it is crucial to understand digital customer's profile.

Disruptive technologies that reduce friction for the customer journey tend to be the ones that enhance the customers' experience. There is a strong correlation between the effort score and the customer satisfaction levels — the lower the effort required by the customer to conduct business with a company, the higher their satisfaction level. The customer experience plays a crucial role in the digital transformation, many digital transformation initiatives arise from customers pain points. These are caused by the increasing importance of an end-to-end customer experience

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improvement approach, which in turn is, among others, caused by changing customer expectations and customer experiences.

According to [40], the digital customer experience and electronic word of mouth (social media) also played positive role on promoting brand image. Digital customer experience through e-commerce and electronic word of mouth played positive role to boost brand image, brad image had positive role to boost supply chain image and finally promoted the performance of the sustainable supply chain.

VI. Conclusion and Future Work

In the digital consumption process on one hand is the customer, on the other is the retailer. In the future we aim to continue the research by approaching this phenomenon from the perspective of business interactions and social consequences to map the state of current situation of barriers in information seeking, lacking digital capabilities, changing patterns of customer loyalty, patterns of customer behaviour changes. Further research requires to relate these occurrences from historical and geographical perspectives' differences and provide scenarios on future changes. It is necessary to test empirically the findings of the present research. The added value from interdisciplinarity is the comprehensive understanding on the research questions, it provides understanding for stakeholders on how deep the business, society and technology are connected.

Besides adeptly performance of high-quality academic research, meticulous examination of practitioners' case studies, and big data analysis of digital customers and online users, it is a crucial need to have a real dialogue with the society, respectively with representatives of different age, gender, and cultures. The public engagement is needed to address the research questions of digital customer priorities, barriers in information seeking, social interaction, social anxieties, feelings of insecurity and customer values. To better understand the current state of digital customers and online users' feeling of inclusion and level of social media judgement affection is not enough to analyse raw data and or perform single questionnaires. The data obtained from digital innovation agents about digital consumption is needed, but it is limited by the information asymmetry impact, filter bubbles and other restrictions and inequalities put by digital technologies. For making research as close to the real situation are needed participatory dialogue events such as focus groups and workshops. We plan to engage society in panel debates, focus groups dialogues, workshops, media engagement and webinars first to inform society (to assist them in understanding the problem the project addresses), to hear out their feedback on the project analysis and research results, involve society to ensure that the research is on the right path in understanding and considering societal challenges in the usage of digital technology in purchasing process. The societal engagement aims to obtain the clear perspective of the research issues and enhance the result quality.

Enhancing customer digital journey requires creative approach, in the future research we aim to investigate if the human personnel can be replaced by the emerging innovations. It is assumed that historical and geographical comparison will help understand the process and address challenges in developing Modern Customer Journey. The future research aims to provide better understatement of digital literacy in consumption, map of digital innovation effect on the digital user and clear definition of cultural differences. For stakeholder communities the benefit of the present research is the awareness of digital innovation potential (positive and negative), ways of overcoming the digital challenges, enhanced customer journey and better value proposition from retailers.

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