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Marketing 4.0: The Revolution of Marketing Organizations Driven by Technology

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Abstract

Although technological advancements will alter the nature of marketing and the marketplace, the author of this article contends that businesses must realize that technological superiority alone will not guarantee continued success. The purpose of this paper is to provide a concise overview of the key issues surrounding digital disruption and to highlight the chances for marketing to foresee IT and take use of its advantages. One of the main goals of this article is to examine how Bulgarian millennials use social media. 3) to find ways to deploy Marketing 4.0 by encouraging agility in marketing organizations and 4) to assess how Bulgarian SMEs feel about incorporating ICT into their present marketing management practices. A suggested model of an agile marketing company follows the literature study. The D3I2C model combines digital transformation with modern marketing strategies. Academia and other groups may use it as a blueprint for how marketing departments can evolve.

I. INTRODUCTION

Due to the fast growth of information technology, the world has been in a constant state of flux over the last several decades. Academic marketing is still behind the times, even while marketing practice is evolving at a similar rate. In order to get to Marketing 4.0, the next generation of marketing strategies, tactics, tools, and practices, digital technologies are being incrementally or radically integrated with marketing operations [9]. Worldwide, creativity, competitiveness, and economic development are seeing unprecedented surges, propelled by globalization and technological advancements. In order to achieve greater work and life efficiency and to build new capacities, governments, businesses, and regular people are increasingly reliant on these enabling technologies [14]. This heavy reliance on digital technology begs the following inquiry of marketing scholars and professionals: In today's cutthroat business environment, how ready are we to take on digital disruption and make the most of Marketing 4.0?After introducing the reader to the difficulties of digital disruption, this article moves on to examine the possibilities and strengths of Marketing 4.0. A conceptual model of an agile marketing organization is derived from this study by combining qualitative and quantitative research methods. Modern marketing strategies are seamlessly integrated with digital transformation in the D3I2C conceptual paradigm. The purpose of this paper is to answer three research questions: first, how does the Millennial generation in Bulgaria use social media? second, how do small and medium-sized enterprises (SMEs) in Bulgaria feel about using information and communication technologies (ICT) into their marketing management practices? and third, how can marketing organizations apply the principles of Marketing 4.0 by encouraging agility in their workforce? First, we combed through a mountain of marketing-related and non-marketing-related literature. Then, we conducted in-depth qualitative interviews with marketing professionals, business owners, and students. Two quantitative studies (including Millennials and managers/CEOs of Bulgarian SMEs) were conducted based on the findings. At the end of the piece, the author delves into the topic of digital disruption and how to take use of Marketing 4.0's prospects.

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II. MARKETING IN THE AGE OF DIGITALTRANSFORMATION

Market globalization is closely tied to the rise of information-producing, -manipulating, -distributing, and -consuming technologies, according to Dholakia et al. [7]. These are the most significant transformational processes happening now, and they're causing businesses to rethink their marketing strategies, internal structures, and even company models. The market now revolves on information more than ever before [11]. And in a knowledge-rich, ever-changing world, marketing should acquire, handle, and distribute information quickly and effectively[1,13, 15]. Information is a company asset. At every level of the modern economy and industry, information flows are becoming more and more opaque, sophisticated, intense, and numerous. The physical market space is being transformed into a datascape as a result of these changes in information flows and processes and the significant effect of computer technology. This has led to the development of novel approaches of doing business. Due to their "interwoven informationalized" nature, the production and consuming domains within these new business models are becoming more and more difficult to distinguish [8].

A. The challenges of digital disruption

The challenges of digital disruption could be summarised in the following four global trends consideredto be disruptive forces [2, 14, 16, 17]. The first trend is the raise of urbanisation which is rooted in the changing locus of economic activities to emerging markets. Thesemarkets are going through concurrent industrial and urban revolutions which are moving the center of the worldeconomy to the East and South hemisphere. The second disruptive force is the acceleration in the scope, scale, and economic impact of technology. The rapid pace of technological adoption and innovation impacts severely the span of life cycles of companies and their products which force managers to make decisions and allocateresources much more quickly. Management and marketing staff have to deal with time pressure, with the unprecedented data revolution resulting in big data phenomenon and proliferation of technology-enabled business models. The third global trend is the aging of world population. The final disruptive force is the degree to which the world is much more connected through tradeand through movements in capital, people, and information (data and communication) flows. These disrupting patterns could be found in virtually every market and every sector of the world economy.

Digital disruption forces organizations to re-invent themselves at a different rate and scope. Changing consumer behaviour and purchase decision making patterns could be pointed to be the 'ultimate' driver of such organisational re-invention. The most popular marketing metrics such as market share, brand loyalty anddistribution strength are still valid but marketing management decisions should not rely on them only. Sticking to traditional and well-known practices couldcondemn organisations to fair market positions and low competitiveness level. As a reaction to the changes caused by the digital disruption organisations are reviewing their existing business models, customer offers and underlying operational processes, trying to identify and build new capabilities to win digital consumers [18]. Some of them are more sensitive to the emergent digital trends while others are lagging far behind. As a whole the organisations in knowledge-intensive industries are more adaptable and proactive in their corresponding reactions to abovementioned trends. Several categorisations of organisations based on their receptiveness to digital disruption have been developed recently [2, 3, 4, 6, 15].

Global study of digital business conducted by MITSloan Management Review and Deloitte's [10] found that implementation of digital technologies depends of thematurity level of digital business. The implementation level of the following four main digital technologies was analysed: social, mobile, analytics and cloud. It was found that maturing digital businesses are focused on integrating these four digital technologies in the purpose of transforming their business processes. Less-mature digital businesses are focused on solving discrete business problems by implementing individual digital technologies which indicates short-term orientation toward digital transformation.

Digital Quotient (DQ) score is developed by McKinsey
[6] and it is used as a metric for the digital maturity of the companies. The following three classes of companies based on their digital performance are identified by McKinsey: established leaders, emerging leaders and followers. Depending on the type of their digital strategy organisations are divided into smaller-scale disrupters,fast-followers, digital rellocaters and business model reshapers. Digitally mature companies could be considered as a typical example of Enterprise 3.0 (Table I).

TABLE I.

TYPOLOGY OF ORGANIZATIONS BASED ON THEIR 'VIRTUALIZATION'

	Traditional Enterprise	**Enterprise 2.0 and 3.0**
Model	Assembly-line-based	Service-based
Level of digital maturity	Emerging	Developing and mature
Business processes	Linear vertical processes	Dynamic collaborative
Operational management	Task-based assignments	Real-time work allocation
Management	Traditional	Kanban
Stage of marketing evolution	Marketing 1.0 and 2.0	Marketing 3.0 and 4.0
Marketing orientation	Product-oriented	Customer-oriented
Marketing philosophy	Transaction marketing	Social marketing
Organizational structure	Hierarchy / Rigid	Network / Dynamic
Production	Planned	On demand

Source: Adapted by http://www.ey.com/Publication/vwLUAssets/EY-enterprise-3-0-a-digital-enterprise/$FILE/EY-enterprise-3-0-a-digital- enterprise.pdf [Retrieved on 10 March 2016]

According to the level of their digital transformation, companies could be classified as pure-play industry disrupters at global scale (Spotify, Square, and Uber),ecosystem shapers (re-inventors) (John Deere and Schibsted), and incumbents (practitioners). Irrespective of their reactions to digital disruption all organizations are forced to change their business routine.

B. The opportunities and capabilities of Marketing 4.0

Marketing 4.0 appears as a result of the complex changes provoked by turbulent markets, aggressive global competition, demanding customers, rapid emergence of new technologies, and disruptive innovation. It could be explored as more or less extremely fast cybernetic marketing system of stimulus, feedback, and reaction with a focus on flexibility and profound understanding of business [7]. Such an open dynamic system allows a real-time monitoring of the global transactions and customer activities worldwide. Marketing system transformation calls in turn for a new approach to marketing organization.Customers are placed at the center of this new digitally- based marketing system. The system elements and their relationships should be precisely planned to stimulate customers' interactions with the products, to offer customers emotional personal experience (through the so called 'touch points') and to add value. Networks could be used as illustrative example for such a system where nodes (vertices) are the elements of the digital marketing mix and 'Organisation2Customer' interactions are the edge (links).Digitalization transforms the purchase decision making process, incl. the way customers search for information, consider and evaluate products and services, interact with the organization, and make purchases. Transformed process which replaces traditional customer purchase decision making is called 'digital consumer decision journey' [17]. Following the changes during the last decades because of the information technologies evolution, marketing is undergoing a transformation reaching its new generation - Marketing 4.0 [9]. This newgeneration is required, since customers are not only looking for products to satisfy their basic needs, wants, desires, and concerns. They also need to satisfy their creativity and values such as defined in Marketing 3.0. Moreover, they require being part of the production process (see above the 'interwoven informationalization' of business models) which is a distinctive feature of Marketing 4.0.

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TABLE II.

EARLY AND MATURE DIGITAL ORGANIZATIONS

Critical Success Factors (CSFs)	**Level of digital maturity**	
	Low	**High**
Scope of transformation	Partial	Full
Focus of digital transformation	Operational	Strategic
Investment in digital capabilities	Small scale (focused)	Large scale
Technical capabilities (big data analytics, DCM, SEO, etc.)	Less important (strong and adaptive culture)	Crucial
Marketing organization	Hierarchy / Rigid	Network / Agile

Marketing 4.0 could be easily implemented by digitallymature organizations (Table II). According to BCG research [20] many best-in-class marketing organizations act more like technology companies, using agile

Figure 1. Key characteristics of Marketing 4.0

techniques which are typical for software development to speed up their marketing activities, e.g. the scrum approach. With the acceleration of product life cycles and the shortened planning timeframes, organizations must adapt quickly, especially regarding the human factor and business work-flows. In this sense, it could be said that Marketing 4.0 differs in terms of timing, talent management, data and analytics, degree of centralization and marketing organization models (Figure 1).

Regarding *timing*, cascading planning and scrum approach are usually applied. Cascading planning reflects the self-generating and self-renewing process of organizational development in extremely dynamicenvironment. Applying the scrum approach each marketing initiative is developed in multiple sprints (2 to 4 weeks each) which provides an opportunity for timely modifications in case of changing customer requirements.This approach is quite useful during the fine-tuning stage of new product development process. *Talents* are crucial for successful implementation of Marketing 4.0. Many companies report a lack of qualified analysts and data experts. Despite the new marketing competencies which are required by the staff, new marketing technology roles are emerging, e.g. customer experience officer, content officer, multi-channel campaign manager, data scientist, data storyteller. As it was mentioned information-producing, -manipulating, -distributing, and –consuming are becoming critical for companies survival. That is why*data and analytics* are of vital importance. The following three functional areas appear in this field: data management, advanced analytics, consumer insights. *Marketing organization* varies from fully centralized, hybrid to decentralized where marketing efforts are distributed to brands and business units. Marketing organization models are usually centered on products, segments, channels, geographies or functions.

C. D^3I^2C conceptual model: How to benefit from digital disruption by utilising the opportunities of Marketing4.0

This section presents the D^3I^2C conceptual model (Design-Direct-Develop-Interventions-Innovation- Capabilities) which is developed as a framework to support the establishment of agile marketing organizationas a response to the digital transformation of businessmodels. The conceptual model is based on the literaturereview and author's previous research [19]. It isgeneralized to make it applicable to companies at differentstages of digital maturity. D^3I^2C conceptual model (Figure2) reflects the notion of marketing management inMarketing 4.0 as self-generating and self-renewingprocess of activating, adapting and anticipating thechallenges of the extremely dynamic environment(represented by the never-ending cycle of improvement in the center of the figure). The first part of D^3I^2C model reflects the stages of marketing management process in Marketing 4.0 which are delineated as follows.

During the **Design stage,** organizations should focus ondevelopment of proper metrics corresponding to their level of digital maturity. Lack of coherent digital strategy is one of the main barriers for the companies in early maturity and developing digital phase.

Digitally mature companies have to deal with the security issues as the most critical component. The main threat during the selection of proper marketing metrics is related to the management decision making process. Instead of determine business objectives that marketing supports and the frequency and granularity of required data, sometimes the managers choose those analytical results which support their intentions or attitudes instead of priorities of the organization. Such gap or discrepancy between perceived and objective informational needs of the organization could sabotage organizational efforts toward digital transformation and could be defined as 'digital marketing myopia'.

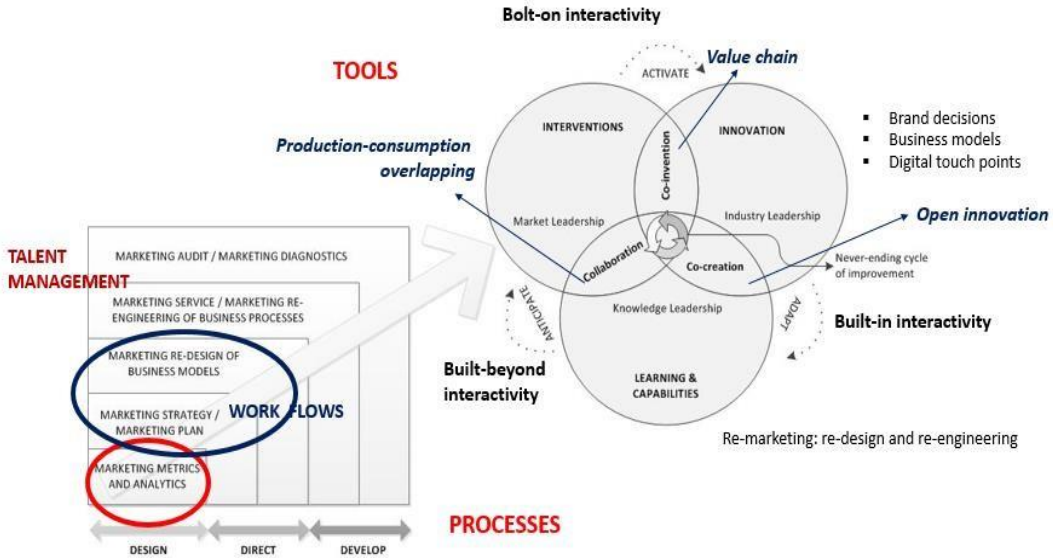

Figure 2. D^3I^2C (Design-Direct-Develop-Interventions-Innovation-Capabilities) conceptual model

Note: This model is constructed by the author

'Direct' stage is concerned with digital marketing strategies development. Usually early digital companies rely on customer- and profitability-driven marketing strategy. Developing and mature digital companies predominantly focus on transformation, innovation and decision making.

Successful realization of third stage (**Develop**) dependson talent development and leadership. Early digital companies are characterized by a "Silo" culture. Developing digital companies are trying to develop integrating culture while the culture of mature digital companies is integrated and innovative. Investment in digital skills varies substantially between these types of companies, starting from approximately 20% for early digital companies and doubling at each next level. The same is valid for the digital skills of the leaders.

The second part of D^3I^2C model comprises the tools which organizations could apply in order to implement theabovementioned stages. The first tool (Interventions) reflects marketing activities aimed at macro environmental disturbances, incl. market barriers and regulations. These activities are part of the organizational strategies for change. Sustainable market leadership could be achieved by co-inventions in the value chain through 'open' competitive reactions. Co-inventions provide an opportunity to overcome the barriers and to spread the risk. The second tool (Innovation) reflects the innovation activities of companies comprising 'hidden' competitive reactions to market changes on brand instead of mass markets. The most important activity is to synchronize thechanges in the business model design (aligned with the human resources and their competencies), on one hand and on the other hand, to brand decisions by target markets. Digital

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'touch points' through which customers gather emotional brand experience are extremely important, especially for digitally matured companies. Co- creation (see overlapping zone on Figure 2) reflects collaboration of organizations with their customers during new product development process. Open innovation couldbe used as well, since it is a customer-centric innovation process, where value is co-created together with selected customers. Its pure digital form is realized through avatar-based marketing [11]. Learning and capabilities comprise the third tool of the model. The dynamic development of creative-value competences in accordance with the currentbusiness model and management decision making processare vital here. The 3A (Activate – Adapt – Anticipate) arrows represent the stages of the process of digital transformation (Table III).

During the Activate stage marketing interactivity isadded on to business processes and activities. It is not yet integrated into the business model and it is viewed as a cost factor which needs to be limited as much as possible especially when companies follow cost-based strategy. The critical areas requiring management attention include resources, market performance, access to data, cost-value proportion.

Marketing interactivity during the Adapt stage is involved in every business process. Environmental changes, incl. customer needs and requirements are immediately assessed (through big data processing and real-time analytics) and built in to all business processes.

TABLE III.

STAGES OF DIGITAL TRANSFORMATION IN MARKETING 4.0

Stages of digital transfor mation	**Integration in marketing management**	**Focus of marketing strategy**	**Approach**
Activate	Bolt-on interactivity	To retain current market positions	Static
Adapt	Built-in interactivity	Product-Market re-positioning	Dynamic
Antici-pate	Built-beyond interactivity	Re-marketing (re-design and re-engineering)	Pro-active

Note: Activate, Adapt and Anticipate stages are adapted by van Kessel,

Organizations anticipate change through scenarios or dynamic planning and cascading management. At thisstage organizations are ready to act and respond quickly in a balanced manner through interventions. C-level accepts change as a core business issue, and digital capabilities arepart of a dynamic decision process. This enables preventive actions and response mechanisms to operate smoothly and quickly. Collaboration is a necessity at this stage. It provides greater awareness of organizational partners and supply chain, and the ability to influence and learn from the whole ecosystem.

III. RESEARCH METHODOLOGY

A. Anticipating the logic of D^3I^2C conceptual model the following research questions are defined for the empiricalstudy: 1/ to analyze social media usage by Millennial Generation in Bulgaria; 2/ to evaluate the attitudes of Bulgarian SMEs toward ICT implementation in their current marketing management practices and 3/ to identify the possibilities to apply Marketing 4.0 by fostering agility employment in marketing organizations. *Qualitative stage*Qualitative study includes in-depth interviews with experts, marketing managers, focus group discussions, andcontent analysis to identify the most important key areas for capacity building which are required by Marketing 4.0.Five in-depth interviews with experts are conducted followed by two sessions of brainstorming. Four focus group interviews are undertaken with employees in ICT companies. Content analysis is based on collected publications in specialized blogs and web posts. As aresult a draft conceptual model is constructed. The model has been "fine-tuned" during a series of workshops with representatives from companies working in knowledge- intensive industries.

B. Quantitative stage

The empirical analysis is based on data collected through two online questionnaires. Both questionnaires are developed using the LimeSurvey software platform. The first questionnaire consists of three sections. The first section explores the main characteristics of Internet behavior of Millennials. The questions in second section are designed to collect data about social media usage as well as about the attitudes toward the most popular social media. Third section is devoted to the attitudes toward mobile apps. Non-probability sampling method is used to form the sample. The link to the online survey form was spread through social media and e-mails. A voluntary sample comprising 458 respondents from four major cities in Bulgaria (Sofia, Plovdiv, Varna, and Bourgas) was formed. Data were collected in May 2016.

The second questionnaire is used to collect information from managers/CEOs of Bulgarian SMEs. The questionnaire consists of three sections and a demographic part. The first section explores market orientation of companies. The marketing management strategies of companies are investigated in the second section of the questionnaire. The attitudes of managers of analyzed companies toward ICT implementation in their current marketing management practices are explored in third section. The questionnaire was sent to quota sample (by size) of Bulgarian SMEs in June 2015. A total number of 325 returned questionnaires are analyzed. The collected data are recorded, filled, and processed using SPSS 19.0. The analysis is done using χ^2-test, t-test, t-test for paired samples and non-parametric ANOVA.

V. CONCLUSIONS, LIMITATIONS AND IMPLICATIONSFOR FUTURE RESEARCH

The changing role of information and communication technologies in marketing poses a substantial challenge to both marketing academics and practitioners. The survey clearly demonstrates that marketing management of Bulgarian SMEs is undergoing substantial transformations while facing widespread restructuring, talent deficiencies and disturbed marketing metrics mindset. Unfortunately, the author found out that even medium-sized Bulgarian firms are managed as family business which leads to misperception of their strategic marketing intentions. Bulgarian firms are willing to initiate a change in order to improve their competitive position but focusing on "wrong" development drivers such as costs and investments and relying mainly on internal resources. The last two factors are typical for organisations with a dominant focus on organisational stability and controlwith a time span of impact not more than 1-2 years.Reliance mainly on internal resources during the first stages of companies' life cycle puts the organisation into arepetitive loop of organisational learning instead of giving it a "push" for further development (e.g. 3A cycle, see Figure 2). Bulgarian companies are still in transition from Activate to Adapt stage, except those of them which operate on international markets or IT companies. Dynamic macro-environment forces organisations to open their systems which confronts the notion typical for closedsystems to rely on internal resources.

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