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CONFIRMATION BIAS IN NEW MEDIA AND ITS IMPLICATIONS FOR MANAGERS

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Abstract: The large amount of information that we produce and receive due to the assets that the internet provides makes pivotal analyzing confirmation bias behavior on line. In previous research, some scholars have found that interactions on the internet foster confirmation bias in users while other scholars stated that the internet actually exposes users to both attitude-consistent and attitude-inconsistent content. The impact of the internet and all the possibilities that come from it on confirmation bias in a political setting has been an issue that has earned attention from many scholars, but there is a need to explore the implications of the confirmation bias phenomenon in business and marketing. This paper aims to shed light on the principal findings on the topic and present recommendations for future research.

Keywords: information, internet, social media, bias behavior, source credibility

INTRODUCTION

The internet has been a technological revolution that has changed the world. However, its impact goes beyond the technological sphere. Assessing all contributions is a challenge itself. One of the internet’s biggest impacts has been how it has changed the way people access, process, use, and create information. A phenomenon that could be named as the democratization of journalism allows anyone with a computer, cellphone, or gadget with internet access to be a producer of information and make that information available around the world. That fact gives voices to people who did not have a voice before because they did not have entrance to traditional media outlets (Gillmor, 2004). Therefore, the amount of information available has skyrocketed in the last decades, but at the same time the credibility of the information available has become blurry and difficult to evaluate. Finding credible information is a big challenge for internet users, and credibility is one of the greatest assets for producers of information.

Credibility has always been an important asset for traditional media. However, more than ever before in the history of media outlets, credibility is a critical factor for producers of information, but the characteristics that make a producer of information, site, or brand credible are not clear. Being credible is not easy, especially because credibility is not a characteristic that is generalizable for everyone but depends on the perception of everyone. A media outlet that could be perceived as credible for one person might not be credible for another individual. However, one of the most interesting findings of previous research is that people find a piece of information that supports their previous beliefs credible and disregard information that contradicts their beliefs. That phenomenon is known as confirmation bias.

According to Taber and Lodge, confirmation bias refers to the tendency to look for information that is consistent with previous attitudes about a topic and the tendency to avoid attitude-inconsistent-information (Süfflow, M., et.al 2019). This confirmation bias leads to selective exposure to information that supports preexistent beliefs and attitudes (Knobloch-Westerwick, S. et. al. 2015; Arpan & Raney, 2003; Gunther & Liebhart, 2006; Gunther & Schmitt, 2004). This is clearly not a phenomenon that was born with the internet, but some scholars have argued that the internet increases the phenomena since people can select the kind of information they want to use and disregard the kind of information they do not want to use (Süfflow, M., et.al. 2019.) Additionally, it has been found that the online confirmation bias phenomenon has impacted political behavior. According to democratic theory, confirmation bias threatens democracy because citizens are supposed to be exposed to opposing views on public affairs to form their opinions and participate in the political sphere. That democratic process prevents polarization while the exposure to channels that align with people’s views fosters it (Knobloch-Westerwick, S., et.al. 2014.) Being aware of different attitudes in society potentially increases political tolerance (Süfflow, M., et.al. 2019.)
This paper aims to explore the principal research findings about the “online confirmation bias effect” in political information.

GAZE BEHAVIOR

Some of the studies have used eye tracking tools to analyze gaze behavior because fixations seem to be related with elaborate processing and memory performance (Loftus, 1972; Wedel and Pieters, 2000), so it provides good insights about the attention that users pay to different content. Studies of eyetracking are empirical evidence of confirmation bias and attitude consistency (Marquart et al. (2016). Westerwick, A., et.al. (2017) used eye tracking to analyze gaze when users where exposed to political information. During the studies, people spent more time staring at political ads of candidates supporting their political orientation. Gaze behavior has been interpreted as the selective attention that participants have based on preexisting attitudes (Sülflow, M., et.al (2019); Westerwick, A., et. al. (2017).) Westerwick, A., et. al. (2017) asserted that when participants of their study were exposed to attitude-consistent political messages, they were not only more likely to select those messages but also tended to spend more time reading that content. However, the finding of Sülflow, M., et. al. (2019) shows that users spend the same amount of time evaluating attitude-consistent information and attitude-inconsistent information even though attitude-consistent news posts were more likely to be selected. These findings represent the contradiction between some studies that show confirmation bias behavior to impair the fixation on attitude-inconsistent information and other studies that support that the amount of time spent in both attitude-consistent and attitude-inconsistent information is the same.

In fact, the findings of the Knobloch-Westerwick, S., et.al. (2014) study during a real electoral period support the confirmation bias phenomenon. However, as other scholars have argued, this does not necessarily imply that attitude-discrepant messages are avoided. Another study that the same authors did in 2009 also supports this finding. The research found that even though people spent 36% more time on attitude-consistent content, 43% of the articles selected to read were attitude-discrepant messages. Nonetheless, the times when people decided to only read attitude-inconsistent messages were very rare (Knobloch-Westerwick, S., et.al. 2009).

THE UTILITY OF THE INFORMATION AS A MODERATOR

Confirmation bias’ influence on online behavior has been studied in different online platforms. Sülflow, M., et. al. (2019) studied the tendency that people have toward confirmation bias in political news posts on Facebook. The tendency was confirmed in Facebook news posts as well because people selected the posts that reinforced their attitudes. This result is important especially because Facebook has become an important mediator for information on public affairs since 66% of Facebook users receive news in their story lines (Gottfried and Shearer, 2016).

However, the analysis and findings about confirmation bias in these platforms are far from having consensus. Some scholars like Sülflow assert vehemently that platforms like Facebook and the internet in general foster confirmation bias behavior and lead to polarization. Nevertheless, some data indicates that friends are more diverse than expected, and there is disagreement among them (Bakshy et al., 2015), which impairs confirmation bias behavior. Because of the algorithm used by Facebook, more diverse friends represent more diverse news feeds in regard to political information (Sülflow, M., et.al. 2019). The debate then is if a diverse news feed actually guarantees less polarization. Bakshy et al. (2015) argued that even though the news feedback in Facebook is more diverse, that does not really change confirmation bias behavior (Sülflow, M., et.al. 2019.) Exposure to diverse and opposing opinions is fundamental for managing disagreement and looking for political solutions (Garrett, 2009). Nonetheless, having more diverse slates of news does not imply more involvement with opposing ideas and arguments (Sülflow, M., et.al. 2019.)

HEURISTIC CUES: SOURCE CREDIBILITY

What does influence a person’s decision to read an article against their current beliefs and attitudes? So far, researchers have found different heuristic cues or shortcuts that influence exposure to and selection of news articles. These heuristic cues could enhance or impair the confirmation bias effect in users’ behavior. One of those heuristic cues is source credibility (Sülflow, M., et.al. 2019.) Several studies indicate that source credibility plays
an important role in the selection process (Messing and Westwood, 2014; Metzger and Flanagin, 2013) (Nan, X. 2013) (Knobloch-Westenerwick, S., et.al. 2015). The experiments by Winter and Krämer (2014) showed that people were influenced by source reputation when selecting an article regardless of the content. In fact, according to Winter and Krämer (2012), source reputation plays a key role when the user does not have enough cues about the quality of the article, which is usual in the Facebook timeline (Sülflow, M., et al. 2019.) The Sülflow, M., et.al. (2019) study indicates that users both spent more time on and selected more news posts on Facebook from highly credible sources. The same findings apply for websites and social media in general (Sülflow, M., et.al. 2019.) However, the study is not clear about what requirements or steps a source of information needs to have in order to be credible. Nevertheless, source credibility has been divided into two dimensions: source expertise and source trustworthiness (Nan, X. 2013.)

The study of Knobloch-Westenerwick, S., et. al. (2014) showed that even though source credibility impacts election of articles or information to explore, the confirmation bias behavior is stronger than the source credibility influence. Therefore, if a user finds an attitude-inconsistent message, he tends to avoid that information even when it comes from a high-credible source.

HEURISTIC CUES: COMMENTS

Some research suggests that comments in posts are heuristic cues. During the Facebook analysis by Sülfow, M., et.al. (2019), comments were relevant for attention but were not for selection within the news feed. On the other hand, five years previous to those findings, studies by Messing and Westwood (2014) provided evidence that when users endorse a post on Facebook through comments, the probability that other users will select an article even when it is attitude-inconsistent information-increases (Sülflow, M., et.al. 2019.) It could be possible that the power of the comments decreased in the last years due to fake reviews on the internet. However, the comments from friends – especially close ones – are still powerful and influential. Porter et.al. (2007) assert, “In terms of specific social media channels, Forrester Research reports that only 15 percent of Americans trust posts by companies or brands on social networking sites like Facebook and Twitter (whereas 70 percent trust brand or product recommendations from family and friends) (Wasserman, 2013)” (Porter, Sweetser, Trammell, Chung, & Kim, 2007).

Regarding comments, there is a very interesting finding. If the relationship between the content of the post and the comments is negative, it attracts more attention from users. In other words, if a news post is attitude-consistent and a comment is attitude-inconsistent or vice versa, it attracts more of the attention of users. (See figure 1). This finding suggests that non-expected information could lead the user to select a post, even when the content is attitude-inconsistent.

![Figure 1: Interaction of attitude consistency in news posts and comments (n=80)](Available in: Sülfow, M., et.al. 2019.)

THE ROLE OF INDIVIDUAL TRAITS

Another noteworthy finding is that online confirmation bias behavior is influenced by individual traits. Westerwick, A., et.al. (2017) researched information processing styles along the lines of NFC (pertaining to
motivation; Cacioppo & Petty, 1982) and cognitive reflection (CR) (pertaining to ability; Frederick, 2005). This research is one of the few studies that analyzes personal traits and their relationship to the confirmation bias phenomenon. It found that both NFC and CR are moderators for confirmation bias behavior.

The NFC and CR define which of the two routes of process an individual takes when processing information – the central or the peripheral routes. The content of a message or article is more important for the central route while source clues are more important for the peripheral (Westerwick, A., et.al. 2017). Therefore, the importance of the credibility of the source is more relevant to manage the confirmation bias behavior when the user uses a peripheral route to process information.

THE ROLE OF THE INFORMATION UTILITY

Knobloch-Westerwick, S. et.al. (2014) stated that the importance of the information is a moderating factor for the confirmation bias phenomenon. In their experiment, people spent more time on attitude-consistent messages when attach more importance to the topics, but also spent time in attitude-inconsistent messages. It could be interpreted that utility considerations might reduce confirmation bias behavior either because they feel so confident about their arguments that they do not fear cognitive dissonance or because they are not sure about their arguments and want to seek counter-arguments (Knobloch-Westerwick, S., et.al. (2009).

POLITICAL AFFILIATION AS A MODERATOR FACTOR

Additionally, according to Garrett, R. K. (2009), political affiliation plays a role in the strength of confirmation bias. His study confirms previous findings that Republicans tend to seek information that supports his political affiliation and the Republican candidate, while Democrats seek information about both candidates. In fact, the conservatives are less willing to accept change (Amodio, Jost, Master, & Yee, 2007; Jost, Glaser, Kruglanski, & Sulloway, 2003; Tetlock, 1989) (Garrett, R. K. (2009). However, Knobloch-Westerwick, S., et.al. (2009) states that stronger party affiliation in general diminishes the confirmation bias behavior.

CONFIRMATION BIAS BEHAVIOR AND BLOGGING

Online confirmation bias behavior could be the basis of the early success of sites like blogs. Scholars and political researchers have acknowledged four reasons individuals visit blogs: community, convenience (deep analysis), to check information found on other media, and information seeking. When looking for political information, 63.4% respondents in the Johnson,T.J., et.al. (2007) survey admitted that they relied on blogs. One of the main findings of their research was that respondents acknowledged that the information encountered in blogs was affiliated with and biased towards one of the political parties, but that was precisely the type of information political blog users were seeking (Johnson,T.J., et.al. 2007).

In the words of Banning et.al. (2007), “These blogs are among the most read and linked to blogs on the Internet, and noted among the traditional press to be agenda-setters (Drezner & Farrell, 2004; Kurtz, 2003). This assertion is underscored by the number of public relations practitioners who see blogs as an important trend not to be ignored (Porter, Sweetser, Trammell, Chung, & Kim, 2007) and by the number of journalists who report blogs to break scandals and search for source or story ideas (Euro RSCG Magnet, 2005).” Blogs have become a powerful tool to create public opinion, and the reason they are one of the preferred sources to get information from is that politically interested users or consumers find information there that clearly presents slanted content that fosters the users’ attitudes and affiliations. In other words, confirmation bias behavior seems to be one of the main reasons for the success of blogs.

THE ROLE OF THE CONTEXT OF DIFFERENT COUNTRIES

All the research is insightful, but there is lack of information about the phenomenon outside the United States. One of the few studies that compares the confirmation bias behavior between the United States and Germany exposes the impact that context/culture have on the phenomenon in online settings. Knobloch-Westerwick, S., et.al. (2015) presented evidence that confirmation bias in selective exposure to political information is part of the internet users’ behavior in both Germany and the United States, though weaker in Germany than in the United States.
Knobloch-Westerwick, S., et al. (2015) compared behaviors between Germans and Americans in a pre-election context. According to the authors, Germans are used to information that challenges their own beliefs because the public broadcasting system and multiparty coalitional political system are designed to broadcast information about every single party in the political sphere. On the other hand, media outlets in America are strongly polarized and present slanted information that apparently influences citizens’ behavior. This work is evidence that country setting matters, but surprisingly and regardless of the differences in the media outlets’ approaches, both Germans and Americans selected attitude-consistent information, confirming the confirmation bias phenomenon. The findings suggest that people from different countries have different approaches towards political information, but confirmation bias is a phenomenon that everyone tends to have when selecting and responding to political content.

**CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS**

One of the biggest problems with confirmation bias behavior is that previous behavior is reinforced and rejection of attitude-inconsistent messages occurs. With such behavior, it is very unlikely that people would be able to even consider other points of view, which leads to polarization and zero tolerance behaviors. Thus, confirmation bias is an interesting topic to analyze in political settings, and most of the research has been done about these settings. Many of these findings can be extrapolated to other areas like the impact of the phenomenon in business and advertising. However, confirmation bias is a phenomenon that certainly has a huge impact in businesses interactions in online settings as well, so there is need for further and deeper research in this field.

After reviewing previous research about the impact of the internet on confirmation bias in a political setting, it can be noted that confirmation bias is a behavior present not only in offline settings but also in online media. This is important because it reveals confirmation bias being an inherent condition in human beings. So, it is important to understand that confirmation bias is not a new phenomenon, nor a creation of the internet and its platforms, but a human behavior that is prevalent in humans’ interactions. Therefore, managers need to acknowledge that confirmation bias influences human behavior, so it very likely that many interactions between brands and their communities are filled with confirmation bias behavior. There is need for more research that analyzes the role of confirmation bias when someone decides whether or not to buy a different brand in online settings and the role of confirmation bias in strengthening loyalty to a brand. Ignoring the effect of confirmation bias in the interactions between brands and communities in online settings could be a problem that would diminish the success achieving marketing goals in new media. In fact, one of the most important marketing goals in new media is winning new customers or increasing market share and loyalty in current customers (customer retention).

On the other hand, even though there is no consensus about whether or not social media fosters confirmation bias behavior, there are some strategies that can be practiced in social media that could diminish confirmation bias behavior when attracting new customers. As previous research has indicated, the power of comments and recommendations from friends is still strong (even though fake reviews). Platforms like Facebook know the power of recommendations from friends and show the comments of friends in a post, place content and products that friends have commented in the story lines of people, and allow users to recommend content and products to their friends. That is an opportunity for managers. However, every opportunity comes with a challenge. A manager’s challenge is to create content that is easy to engage with, so current customers can relate with and want to comment or, in the best scenario, share with a friend. Even if the friend who receives the post or advertisement holds previous negative beliefs about the manager’s brand, the probability that this person would give a chance to the brand increases, according to previous research (Wasserman, 2013)” (Porter, Sweetser, Trammell, Chung, & Kim, 2007).

Another challenge for managers is to be present in online settings. According to the research, real exposure to attitude-discrepant content exposure weakens previous attitudes. It seems that when users find half of the posts arguing against their opinion, it weakens their attitudes because an alternative view becomes more prevalent than before. For brands, this finding could suggest that it is important to be present online because what people find online could dramatically change their perception and beliefs about a brand or product. This finding and application deserves further research.
The findings about confirmation bias have an application in brand equity as well. There are sometimes when audiences hold beliefs about a brand that diminish brand equity. Some of these beliefs are held after a scandal or reputation crisis. How can a brand restore reputation after these turbulent periods? How can a brand overcome confirmation bias? The finding about non-expected information by Süßflow, M., et.al. (2019) shed light in this kind of questions. This finding suggests that non-expected information could lead the user to select a post, even when the content is attitude-inconsistent. If a brand wants to restore its reputation, online settings could be a great ally because the structure of the Internet and social media makes it easier to present non-expected information through news or campaigns. For example, one of the best recommendations found in the research is that news posts should state the title and preview information in a balanced way, avoiding emphasizing one side of the topic. If the opinion in the article is not clear in the post, confirmation bias behavior would decrease, and users would need to read the article to find out what the position of the article is. This could truly expose users to different perspectives and information about a brand, which is the first step to change attitudes and beliefs previously held about a brand. It could also be possible that in these cases the credibility of the source plays a greater role in the selection of the content to be consumed. Therefore, studies about the impact of sources’ credibility in confirmation bias is another area worthy of further study.

Some questions remain important for future research. Is just being exposed to a short amount of information placed on the posts of a social network enough to reduce confirmation bias behavior? That is one of the most valuable questions for future research. Additionally, there is need for more research that analyzes different moderators of confirmation bias behavior. Previous research has found that individual traits, the importance of the information for the user, political affiliation, comments in the content, and source credibility are important moderators under some conditions for confirmation bias in political settings.

REFERENCES

Abstract: The aim of this study is to answer the following research question: “What potential influence can artificial intelligence have on the managerial skills of supply chain executives?”. The research approach is based on three hypotheses relative to the skills of executives in the context of AI adoption and implementation. The findings of the exploratory research confirm the hypotheses. However, the extant data provide a limited perspective on the specific influence of AI on the managerial skills of the supply chain executives. Conclusions state several implications for research. Implications for practice and for major stakeholders within the supply chain are presented. Specific recommendations are made relative to the introduction of a new supply chain discipline focused on AI, in the curricula of the EMBA and MBA programs of business schools. Potential modules, their objectives and main topics are suggested.

Keywords: Artificial intelligence, supply chain, logistics, executives, managerial skills, curriculum, EMBA and MBA programs

JEL Codes: M15; M31; M54

INTRODUCTION

Recently, artificial intelligence (AI) became one of the business buzzwords used by manufacturers, logistic service providers, retailers and consultancy companies. There are experts and researchers that predict a drastic change in the status-quo and direct influence on the skill set of employees. Positive and negative implications are discussed and the possible “threats” for humans are underlined.

The new technology wave - of which artificial intelligence is integral part - develops on a strong background of traditional technologies. At present, most of the enterprise supply chains rely on technologies that were adopted up to two decades ago (Accenture, 2018). However, managers attach importance to innovation in the field of supply chain. This aspect is revealed by research carried out among leaders of logistics service provider firms and logistics business functions within product-focused firms in the United States, Sweden and the United Kingdom (Flint, Larson, Gammelgaard and Mentzer, 2005). The adoption and implementation of AI is part of the business endeavor to promote innovation in supply chains.

Within this framework, a distinct research question must also be answered, respectively: “What potential influence can artificial intelligence have on the managerial skills of supply chain executives?”.

1. ARTIFICIAL INTELLIGENCE: POTENTIAL VALUE AND MAIN DRIVERS

The artificial intelligence refers to a broad group of technologies, among which range the following: computer vision, natural language, virtual assistants, robotic process automation, and advanced machine learning.

At present, the diffusion of the AI among companies is in a preliminary stage. The integration of the AI into business processes began in only 17% of the companies from digital front-runner countries (McKinsey & Company, 2017).

McKinsey Global Institute (2018) estimated that neural networks – one of the forms of AI – can contribute with 4.9-6.4% to the revenues of the transportation and logistics sector. Thus, the potential value of the AI will reach USD 0.4-0.5 trillion in this sector.

The future evolution of the AI in the business environment is determined by the drivers of investment in this disruptive technology. The seventh edition of the annual survey conducted by NewVantage Partners in 2019 among senior executives of blue-chip companies (mostly from the financial sector, but also from healthcare and additional sectors) revealed that firms increase their investments in big data and AI, in order to accelerate their
business agility. In 2019, the major driver of investments in big data and AI was transformation/agility/competition for 91.7% of respondents, while cost savings were main driver for only 4.8% of respondents and other drivers were mentioned by only 3.5% of respondents (NewVantage Partners, 2019).

The expectations of experts relative to the AI are partially met. The specialists consider that AI has a high potential of being a business accelerator and innovation tool (Press, 2018). However, at present, the perspective is focused on the analytical and information technology aspects.

2. RESEARCH METHODOLOGY

This study aims to answer the following research question: “What potential influence can artificial intelligence have on the managerial skills of supply chain executives?”.

The hypotheses formulated in relation to this research question are the following:

H1: The current level of development of the AI technologies can make possible the enhancement of the managerial skills of executives.

H2: The use of AI can influence executives to acquire new managerial skills in order to turn into value the full potential of such technologies.

H3: The use of AI can lead to the emergence of new AI-centered jobs that will determine supply chain executives to develop their skills with the aim to manage the human resources employed in these jobs.

The type of research is exploratory and practice-oriented. There are several major reasons for such an approach of the topic. Firstly, AI is in the early development stage in logistics and supply chain management. Wide-scale adoption of AI has not been achieved yet. Secondly, the business practice in this field is more advanced than the business research on the topic. Ultimately, the decisions to invest in artificial intelligence for supply chain applications require information on the impact and potential benefits.

The study is based on the analysis of secondary sources of data.

3. RESEARCH FINDINGS

The implementation of new technologies such as artificial intelligence will increase the importance of enhancing the skill set and expertise at managerial and operational levels within supply chains.

A global survey made among business respondents from Europe, Americas, Asia, Middle East and Africa revealed that skill set and expertise are parameters to which supply chain operations are most sensitive (PWC, 2013). The survey showed that skill set and expertise rank first among the various influencing parameters, according to 31% of respondents.

People represent the major challenge to the acceleration of the transformation into data-driven companies. In 2019, the annual survey of NewVantage Partners found that 62.5% of senior executives consider people the major challenge, while 30% consider the process and respectively 7.5% the technology.

3.1. Enhanced managerial skills

The use of AI could lead to the enhancement of the existing skills of executives. At present, examples of managerial skill enhancement among executives due to the adoption and implementation of AI in the supply chain practice are rather scarce. Nevertheless, examples exist in other business sectors or business functions. Such examples can signal that similar aspects will become reality in supply chains as well.

AI does not have the full capability to handle all the strategic decisions of a company or an entire functional strategy yet. Nevertheless, the AI is capable to solve problems of strategic nature (Davenport, 2016). Thus, AI is a potential facilitator of the strategic decision making by executives in companies.

A major skill that will very likely be improved by means of AI is the capability to make strategic and operational decisions. Examples are provided by leading companies such as IBM and Netflix.

The technology group IBM acquired a five-year experience in experimenting a computer algorithm that helps decision-makers in the due diligence process for mergers and acquisitions (M&A). The algorithm M&A Pro identifies the major risks associated with the target companies. Thus, IBM improved its ability to conclude faster (even within three weeks) the entire M&A process, from company identification to due diligence and finally to
post-acquisition integration. The M&A Pro learns to make judgements on the basis of historical data relative to 28 variables relative to the target company, such as: geographic scope; region where the company has the largest number of employees; intention to expand the SaaS (software-as-a-service) business model; sales function etc. (Financial Times, 2019).

The algorithm M&A Pro provides substantial support to the IBM managers for the evaluation of the target companies. Thus, the algorithm that learns from significant amounts of data does not replace the human decision-makers in the M&A process, but complements managerial abilities by means of relevant insights to substantiate deal-making.

Such an algorithm helps companies to improve their risk management. Probably, similar algorithms will be developed in the future to ensure more effective risk management in various sectors. Examples of potential applications can be foreseen in diverse fields like: evaluation and selection of the R&D projects in which to invest in the pharmaceutical and life science sectors; evaluation and choice of business partners for integrative supply chain projects; assessment and choice of locations for new distribution centers in logistics etc.

The IBM example shows that AI contributes to the enhancement of the managerial skills of making strategic and operational decisions relative to M&A. The contribution of the AI consists in the improvement of risk management based on thorough analysis of big data and insight provision.

Another leading digital player which uses the AI to improve decision-making is Netflix. The AI solutions are applied by Netflix to improve the products by better adapting them to the target users. The business objective to be fulfilled consists in maintaining and developing the number of subscribers. Netflix uses AI, data science and machine learning for the following main purposes: personalization of movie recommendations; auto-generation and personalization of thumbnails; location scouting for movie production (pre-production); movie editing (post-production); prediction of bandwidth usage to ensure streaming quality (Yu, 2019).

The practice of Netflix could be a reference for managers from other sectors that interact with business or individual customers. AI is able to enhance the skills of executives to make decisions relative to the design of product offerings with a high level of personalization. In the near future, supply chain managers will probably use the AI to customize their offerings in the online environment on platforms that provide “packages” of products and transportation services or integrated logistics services for business customers.

The AI has the potential to contribute to the development of the problem-solving abilities of humans by means of enhanced analytical skills. An experiment made by researchers from Yale University showed that autonomous agents (“bots”) can develop the analytical skills of humans (Shirado and Christakis, 2017). The experiment consisted in a networked color coordination game in which 4,000 subjects interacted with autonomous software agents. The technology led to increased human performance reflected by the decrease of 55.6% in the median time for human teams to solve problems.

Cognitive technology is able to support the employees in achieving several major types of tasks (Davenport and Kirby, 2016). Such types of tasks are the following: number analysis; word and image analysis; performance of digital tasks; fulfilling physical tasks. In the near future, we can foresee that supply chain managers will use such technology for tasks such as applying business intelligence to more effectively manage the entire supply chain; managing each business process and remotely operating logistics equipment in transportation and distribution centers.

The skill to handle multidimensional problems (Croom, 2018) will need to be developed in the context of the AI diffusion. Executives must be able to lead their teams in a dynamic and challenging environment characterized by shifts in demand, changes in delivery schedules, logistic equipment with different levels of reliability etc.

Companies and managers in the field of supply chain can jointly benefit from the adoption and implementation of the AI.

### 3.2. New managerial skills

While several existing managerial skills of executives must be enhanced, new skills are also needed to master the implementation of the AI. There is a deficit of information on this topic relative to the executives
responsible of the supply chains. The available information refers in general terms to companies, managers and employees.

Lack or inappropriate skills may become a barrier in the process of AI implementation in supply chains. For example, researchers raise questions relative to the extent to which the operational staff and management have the appropriate skills to implement the AI in the field of smart warehousing (Mahroof, 2019).

A new managerial skill to be developed by executives in order to turn into value the full potential of the AI is the capability to ensure synchronized planning.

Experts discuss about the synchronized planning made possible by the digital supply networks by means of multialgorithm forecasting (Gaus, Olsen and Deloso, 2018). In essence, the data available in the nodes of the digital supply networks (DSN) will facilitate the production planning that matches the actual market demand. Compared to the traditional supply chain which consist in a static sequence of operators, the DSN is a system of dynamically interconnected players that exchange information. In the DSN, connections are established between members that were not connected in the traditional supply chains. In contrast with the rigid planning process which is based on historical data, the DSN makes possible the planning that allows unexpected shifts and consideration of the information on the actual demand, data being obtained in real-time from the interconnected players. The use of AI in DSN “collapses tactical planning and execution” (Gaus, Olsen and Deloso, 2018). Thus, managers must develop new skills to be able to turn into value the technical opportunity of synchronized planning.

There is a need for a skill revolution (McKinsey Global Institute, 2018). The adoption of AI and of other disruptive technologies will require the reskilling of the managers and the other employees.

The reskilling process will probably include the executives with responsibilities related to the supply chains. Thus, the new skills will very likely consist in the creation of a new vision of the supply chain which is harmonized with technology. Also, the new skills will encompass the design and management of supply chain strategies systems and processes that are technology-driven. Even if several tasks will be outsourced, respectively if consultant support will be used, senior executives have to develop new abilities of making strategic decisions that rely on AI and other disruptive technologies.

As the AI technologies will become more present in companies, executives will have to develop the new skill of coordinating both the human resources and the AI. In the future, managers will be responsible to structure the relationships between strong artificial intelligence and human employees (KPMG, 2018). To accomplish this responsibility, executives will very likely need knowledge about AI and the way in which AI learns and develops its “capabilities”. They have to enhance their ability to explore and solve the issues that are perceived as sensitive by employees in terms of the new “division of labor” and “specialization”.

Executives must be able to approach the concerns of the employees, which are generated by the adoption and implementation of the AI. In this respect, they will apply and improve their skills in the field of change management and communication. Another skill will be related to the employee reskilling. More precisely, managers will have to be able not only to identify the employee tasks which are repetitive and can be accomplished by the AI, but also to support the employees to be better prepared to use AI and to turn into value its potential. This approach will require managers to fulfill “soft” objectives relative to the integration of the AI in the organizations, besides “hard” objectives. The “soft” perspective could refer to keeping the right balance in the working environment within the company, to ensure the wellbeing of humans confronted with the challenges of the new AI technologies. The “hard” perspective focuses on the potential of AI to reduce costs and to increase productivity with a direct impact on company competitiveness.

3.3. New AI-centered jobs

Specific activities within the supply chain will witness a decrease in the number of jobs due to the automation achieved by means of AI and various digital technologies. For example, the digitally-enabled automation and the AI will decrease the need for skilled workers in the field of manufacturing and transportation services. The automation potential expressed as percentage of working hours that can be automated is high. For instance, in manufacturing this potential may reach 85%, while in transportation may be 65% (McKinsey & Company, 2017, p.41). Experiments with driverless cars and trucks have already been made.
In the supply chains, the combination between the human expertise and AI potential will lead to the emergence of several AI-driven jobs. Three such jobs were identified (Hanifan and Timmermans, 2018). These jobs are generically denominated as follows:

a. trainers – with the mission to teach the AI systems how to perform within the various areas of the supply chain;
b. explainers – that have the role of interpreting the output of the algorithms in order to facilitate decision making based on AI;
c. sustainers – which will ensure the consistency of the AI systems with the ethical requirements and will avoid bias reinforcement.

Another job in the supply chains will be the new digital engineer (Hanifan and Timmermans, 2018). This job will be founded on high-level analytical skills and excellent knowledge of data science.

On short term, experts expect a significant increase in the demand for supply chain analysts (Lyall, Mercier and Gstettner, 2018). Such job will be necessary for the accomplishment of tasks such as: data validation and analysis, application of algorithms, forecasting etc.

On long term, reskilling will be necessary to turn into value the available disruptive technologies including AI among others. The new jobs will require a combination of operations skills and the ability to effectively master the wide array of new technologies.

The evolution of AI technologies will generate the need that executives become capable of identifying new opportunities for the career path of the human employees. On one side, new job profiles will evolve and on the other side, the new generations of technology-savvy employees will expect to access relevant and fulfilling career itineraries.

CONCLUSIONS

The findings of the exploratory research confirm the hypotheses H1-H3. However, the available data provide a limited perspective on the specific influence of AI on the managerial skills of the supply chain executives.

Significant implications for research can be identified based on this exploratory study. The topic of the potential influence of the AI on the managerial skills of the supply chain executives represents a relatively untapped research domain. This is a new research direction which may develop in the future. The diffusion of AI in the supply chains will augment the need for a better understanding of this topic. Consequently, research may have a valuable contribution in this field. In addition, an in-depth and quantitative perspective on the AI influence will be expected from researchers.

Further research can focus on questions relative to aspects such as: necessary shifts in the current managerial skills of executives in order to monetize the potential of AI in supply chains; specific set of new managerial skills that supply chain executives should acquire in order to make and implement strategic and operational decisions using AI as facilitator; best ways to handle the challenges raised by the management of human resources and AI in supply chains; main factors that influence the managerial performance of the supply chain executives that rely on AI in their decision-making; appropriate methods to be used for the assessment of the influence of AI on the managerial skills of the supply chain executives; effectiveness of various training and education methods that can improve executives’ skills to master AI in supply chains.

The adoption and implementation of the AI has multiple implications for the business stakeholders within the supply chains, such as companies, managers and business schools. As regards the implications for practice, several aspects may be underlined.

Firstly, there is a need for a new approach of the AI in the business context. Executives should have a perspective centered on the symbiosis between employees and AI. They must avoid the reductionist perspective of the AI impact on employment, according to which almost every human job can be replaced partially or integrally by the AI, mainly for cost savings and efficiency purposes. There are opinions according to which in 5-10 years, companies will witness the death of supply chain management (Lyall, Mercier and Gstettner, 2018). This approach is based on the idea that new disruptive technologies will replace supply chain function with a self-regulating utility capable to manage optimally the flows with limited human intervention.
The new approach could focus on how AI can enhance human capabilities at managerial and operational levels. Top market players such as Procter & Gamble and American Express have already implemented this approach using primarily the AI for augmentation, not for automation (Davenport and Bean, 2017). These top performers do not aim at replacing employees with cognitive technology, but intend to ensure a close relationship between the AI and people. The AI has a complementary role in the human decision-making process.

Secondly, companies must demonstrate continuous commitment to the organization of training programs in the field of AI for the various managerial levels. Weak AI competences may hinder the development of AI-based business models (Vinnova, 2018). Companies should become aware that training programs (from the basic to the more complex ones) which aim to develop the managerial AI knowledge and skills are a necessary investment and a prerequisite for their future growth.

Thirdly, an important implication for practice is the fact that decision-makers should develop their AI literacy. In this respect, managers must augment their knowledge and skills relative to how analytical capabilities of the cognitive technology may be integrated in the decision process. Executives of all levels have to understand how to more effectively interact with the AI in making decisions. Lifelong learning is more necessary than ever and its importance will not perish. The digital courses may be very helpful in this respect.

Ultimately, the education system has to contribute substantially to the development of the AI knowledge and skills of executives. Both technical skills and soft skills must be adapted and performed within the new supply chains that will rely on digital technologies and AI. The business school programs, especially those of the EMBA and MBA, type can substantially contribute in this respect.

In the curricula of the EMBA and MBA programs, the business schools could introduce a new supply chain discipline centered on AI. Potential titles of the discipline are: “Management of the AI-powered supply chains”; “Business perspectives of AI in the supply chains”; “Integrative management of the AI and human resources in the supply chains”.

The content of this new discipline could include several AI-focused modules. The title of the modules, their main sub-modules and topics are suggested below:

a. First module: “The technical perspective on AI for executives”. This module aims to provide understanding and knowledge primarily on AI, but also on other disruptive technologies. The main sub-modules to be approached within the framework of the technical perspective are the following:

   • **Introduction to AI.** The objective of this sub-module is to define and present AI to business executives. The technical level will be customized to participants that do not necessarily have technical background. Examples of topics that can be approached are: definition of AI; disruptive effects of AI; present stage of development of AI; foreseen evolutions in international research on AI.

   • **Types of AI technologies.** Such sub-module aims to provide depth to the knowledge of AI. The knowledge provided will refer to: range of AI technologies; main technical applications for each AI technology; advantages and limitations of each AI technology.

   • **Other disruptive technologies.** The objective of the sub-module is to ensure that executives have the capability to select the right technology for the desired type of application. The potential topics to be discussed refer to aspects such as: comparison between AI and other disruptive technologies; types of effects; technical effects of the use of such technologies; foreseen evolutions of other technologies than AI.

b. Second module: “The business perspective on AI in supply chains”. The aim of this module is to build among executives the necessary knowledge and skills to manage effectively and efficiently not only the AI, but also the relationship between human employees and AI in the supply chains. The sub-modules that can be designed to meet this aim are the following:

   • **AI application in the management process within supply chains.** The objective of this sub-module is to provide knowledge and skills relative to the use of AI in the main stages of the management process within supply chains. Among the main topics to be addressed range the following: AI-based data engineering; use of AI in the synchronous planning; AI role in selecting strategic alternatives and making strategic decisions on supply chains.
• **AI application in the logistic function.** The objective of this sub-module is to develop the knowledge and skills to adopt and implement AI in the management of different components of the logistic system of a company. The main topics will refer to the implementation of AI in logistic components such as: customer service; transportation; warehousing; inventory management; recruitment and training of the logistics personnel.

• **Joint use of AI with other companies within the supply chains.** This module has as objective to develop the capabilities of executives from the different levels within the supply network to jointly use the AI for common purposes. This objective is in line with the external integration that is a feature of supply chains that coordinate the efforts of all the partners from the providers of inputs, to processors, distributors and final customers. The main topics can include aspects like: types of joint decisions which are facilitated by the use of AI; potential benefits of the AI for the supply chain partners; potential barriers to the common use of AI.

c. **Third module: “Making the business case for the AI in supply chains”.** The aim of this module is to support executive efforts to evaluate the opportunity for AI adoption in the supply chains of their companies and to promote AI with clear and relevant argumentation. The sub-modules and the main topics addressed are the following:

• **Expected outcomes of the AI.** The objective of this sub-module is to help executives identify the potential results of the AI adoption and implementation. The main topics to be considered are the following: impact on company performance indicators (revenues, productivity, profitability etc.); impact on managers and on the operational personnel; effects on human relationships; effects on the relationships between employees and AI; methods to measure the impact of AI on the company and on the supply chains.

• **Estimation of the total cost of AI ownership and use.** The objective of the sub-module is to ensure that executives have a complete perspective of the AI adoption and implementation. The main topics relative to the total cost can encompass costs such as: cost of evaluation of the alternative AI solutions available on the market; cost of the acquisition of the AI solution; costs of the recruitment, hiring, motivation and evaluation of managers and other employees specialized in the field of AI and AI-powered supply chains; costs at other levels within the supply chain; costs on short-term vs costs on long term; costs of outsourcing AI knowledge and skills; costs of the necessary organizational redesign etc.

d. **Fourth module: “The ethical perspective on AI in supply chains”.** The new discipline must include a module on ethical aspects of the AI adoption and implementation in supply chains. The objective of the module is to ensure that executives are capable to properly orient the organizational efforts related to AI. As main topics can be enumerated:

• **Ethical dilemmas.** The objective of the sub-module consists in familiarizing executives with ethical dilemmas relative to the AI. Examples of possible topics are: role of humans vs role of AI; priority of AI or humans in final decision-making; investing in AI that will lead to employee redundancy etc.

• **Recommended ways to handle ethical issues.** The objective of the sub-module is to provide guidelines relative to the executive conduct in handling ethical dilemmas and issues related to the adoption and implementation of the AI in supply chains. The use of case studies could be a useful method to clarify such methods.

The new supply chain discipline centered on AI will require continuous updates under the impact of the AI development due to new technology research. Such a discipline may increase the attractiveness of the EMBA and MBA programs as long as participants are provided real support for the difficult decision of adopting AI in the supply chains.

The future will provide new opportunities to company executives as regards the competitiveness focused on a dynamic mix of humans and AI technologies in the supply chains. In this context, supply chain executives should raise to the level of the AI challenges by means of new knowledge and skills.
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GENERATION Z –
KEY FACTOR FOR ORGANIZATIONAL INNOVATION

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Abstract: The digital revolution is definitely a risk-generating one. It depends only on managers if they consider this new risk spectrum to be a threat or an opportunity. Generation Z is represented by so-called digital natives. Given this, they can be a valuable and key resource within an organization. This research evaluates the different generations coexisting today on the labor market, with an emphasis on the Z generation, through the level of innovation that they bring to the organizational level. On one hand the paper analyzes the internal environment of the organization and on another hand, the market represented by Z-generation consumers, emphasizing the challenges a manager must face within this Industry 4.0 era.

Keywords: Generation Z, performance, innovation

INTRODUCTION

Nowadays we are all surrounded by technology. The “Digital Revolution” is considered to be the 4th Industrial Revolution in history. In other words, “Digitalization of the Economy”, a combination of new technologies, the progress of robots, IoT (Internet of Things), “big data”, 3D printing, including for transplant organs in medicine, virtual reality, genetic changes, artificial intelligence and shared economy are elements that no longer belong to the Science Fiction domain. The Fourth Industrial Revolution has the potential to increase revenue and raise the standard of living of the population throughout the globe. The path of digital business transformation is vital for companies if they want to be effective and avoid insolvency.

On the other hand, the core of any business is represented by people (even if we talk in term of labor force or in terms of clients). Therefore, with every generation there is, there shall be of shift of doing business.

In 2000 Kupperschmidt [1] stated that the term generation represents “a group that shares the birth-years and birth-places and critical-social events at the same time.” As the starting year and the ending year of each generation are a debate topic and there are different opinions in literature concerning the classification of generations, the authors took into consideration the following, proposed by J. Schroer [2] and Pop D and Pop M [3]

Generations are built of people who were born during a certain period of time and who were exposed to the same events, have been impacted by similar technologies and spend their lives under equitable conditions [4]. According to Burrus [5], every generation is most likely to form different needs, aspirations and wants accordingly to the various periods of their lives when their responsibilities and tasks change.

This research evaluates the different generations coexisting today on the labor market, with an emphasis on the Z generation, through the level of innovation that they bring to the organizational level. On one hand the paper analyzes the internal environment of the organization and on another hand, the market represented by Z-generation consumers, emphasizing the challenges a manager must face within this Industry 4.0 era.

The literature survey conducted within the present research revealed that innovation toward a company can be defined as an activity that results in a new or significantly enhanced service or service, as well as solving an organizational problem with the aim of improving work productivity, technical and organizational improvement. [6]
<table>
<thead>
<tr>
<th>Generation</th>
<th>The interval of birth years</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Silent Generation</td>
<td>1925 - 1945</td>
<td>Born in a time marked by the Great Depression and World War II; They have a secure moral, are managing, responsible, hardworking, and love their family.</td>
</tr>
<tr>
<td>The Boomers</td>
<td>1946 - 1966</td>
<td>The optimistic generation that had significant economic opportunities specific to the post-World War II period; become individualists, oriented to their interests, and skeptical towards the media.</td>
</tr>
<tr>
<td>Generation X</td>
<td>1967 - 1976</td>
<td>It is the generation of children with divorced parents, raised by a single parent; it is considered the most educated generation ever so far, with the highest percentage of graduates; they are pragmatic but cautious.</td>
</tr>
<tr>
<td>Generation Y</td>
<td>1977 - 1994</td>
<td>Technology-oriented generation; the individuals of this generation are creative, sophisticated in knowledge, skeptical of the traditional marketing elements, loyal to the brands they like; it is considered to be the generation that seeks mentoring, counseling, but also wishes respect, inclusively by the quality products and services it targets; it is the first generation of digital natives.</td>
</tr>
<tr>
<td>Generation Z</td>
<td>1995 - 2012</td>
<td>The individuals of this generation are growing up with the computer and mobile phone at hand; they have easy access to the internet; they are multitasking; they are getting bored quickly; in short, they are: digital, social, global, mobile, flexible, independent and visual; have entrepreneurship ability;</td>
</tr>
<tr>
<td>The Alpha Generation</td>
<td>2013-</td>
<td>It is a generation that is now born and the studies on it are still in progress; it is considered to be the most educated generation, willing to learn, best placed financially and with the highest life expectancy; they are oriented to the present, the past is less critical; are very social but on-line; it is difficult to communicate face to face with the individuals of this generation, even the communication with their parents being considered severe.</td>
</tr>
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</table>

The main objective of the present paper is to analyze Generation Z both at workplace and in terms of consumption behavior as most authors when assessing this generation consider that is very different when compared with its predecessors. In authors’ perception, “being different” is an important innovation factor.

**GENERATION Z AT THE WORKPLACE:**

Researchers have demonstrated that each generation has different attitudes towards work and workplace [7,8]. Therefore, employers and Human Resources (HR) managers should anticipate workplace needs and change their strategy for recruiting, motivating and retaining these emerging young workers who will be arriving very soon.

![Figure 1: EU labor market in 2019](image)
Experts [9] predict that by 2020, the Y Generation will make up 35% of the global workforce and “Generation Z” will make up 24% of the global workforce. So in only one year, more than half of the entire workforce population around the world will be made up by younger workers. The European Union (EU) labor market in the first quarter of 2019 can be visualized in figure 1.

Given the EU28 population, the participation with 19.8% of Gen Z in the EU28 is a huge human resource for society.

By understanding the characteristics and the preferences of the Generation Z, recruiters will be able to attract and retain the best candidates. Furthermore, the employers will be able to motivate them to do their best at workplace [10]. As preferences of work and workplace are different for different generations, it is vital to understand the preferences of the Gen Z so that the channel of communication is recognized and a good environment is created in the organization. It is also significant to understand what motivates them for the organizational throughput. The preferences of Gen Z based on the available literatures are as follows:

(a) Bascha [11] emphasizes that they prefer transparency, self-reliance, flexibility and personal freedom are non-negotiable aspects of Gen Z work ethics and overlooking them could result to frustration among peers, less productivity, low morale and a lack of employee engagement. They expect to be informed, to be allowed to be retorted, and to have their responses heard and acknowledged.

(b) Max Mihelich [12] stated that they must have adequate freedom to ascertain themselves and get immediate acknowledgement. Also, as this generation has never lived in a world without a smart phone or an iPad, they expect to use these devices when going to the office.

(c) Dan Schawbel [13] concluded that they want that their managers to listen to their ideas and value their feelings. It indicates that the place of work should be less about working experience or age and more about ideas and contributions.

(d) According to Teresa Bridge [14], they prefer work environment that support mentoring, learning and professional development opportunities. The individuals of Generation Z have the impression that their education has not given the required skills to deal with the real-life problems. Work place that encourages their entrepreneurial skills, work environment which is sociable and allowance for flexible schedules are the attributes that the Generation Z looks for a job.

(e) They desire office workplace that is easy to adjust within. They value arrangement and certainty in the workplace and find intricate planning layout undesirable [15]

Table 1: A Critical evaluation of Gen z at workplace [16]

| Career Goals                  | Build several parallel careers, have several jobs simultaneously |
| Work environment              | Office, home desires flexible schedule |
| Technology                    | Creates own documents, databases, uses web for research, email 24/7 |
| Client orientation            | E-mail/IM/Text |
| Retention                     | Personal relationship |
| Mentoring                     | Constant feedback needed |
| Motivators                    | Maintain personal life |

What does this mean for recruiters and employers? That they will have to come up with innovative and out of the box ways to attract and retain them. Because Z individuals are the generation that before “buying” anything, even a company or a job in this case, they will search the internet for opinions, just as they do before buying something online. This means that you – as manager will have to pay more attention to the employer brand because now, he will say his word more than ever.

And, just as importantly, you will also need the tools used by HR people to keep up with the moment and technology. From applications to social platforms, the HR manager will have to tailor his personalized recipe for the recruitment and retention of Generation Z.
Furthermore, the recruitment process has to keep up with the technological changes. This means including fewer words and bureaucracy and more applications, video content and virtual reality.

Unlike their older “brothers”, Millennials, the youth of Generation Z put less value on money and they are less geared toward material gains. An essential aspect for them, more important than their salary, is to have a coherent and transparent career plan. They are more interested in pursuing their passions and doing what they like than making money. They would rather know that at some point they will be able to advance in their careers and what they have to do to get there, because a job that pays their bills and so much is not among the things they want. They want to know that what they do matters in the overall good of the company and that their work will make a difference.

Another consequence of the economic context in which Generation Z was formed is the fact that it needs more stability and security than the Millennials, which will make it more loyal to the employer that offers what it wants.

If a manager wants to attract and retain a young Z, he should show them what opportunities for growth and career advancement offers them, rather than offering them a very high salary.

As they are the Digital Generation, they know very well in which corner of Google to search and find the information they need. Born between the release of the smartphone and the iPad, nothing escapes them; they can find the most hidden details of what interests them because they know where to look for and what to look for. It is both a threat and an opportunity at the same time, and a manager should focus on the latter when building the organizational brand.

**GENERATION Z AS CONSUMER**

The marketing strategy designates the defining lines of the attitude and behavior of a company in order to achieve certain objectives. It is represented by the set of concrete objectives to be achieved over a period of time, of the means and methods by which they are transposed into practice, expressing the trends and demands that are required to achieve the established performances, whose level is measured by means of economic indicators such as: volume of activity, market share, profit, etc.

In an increasingly competitive business environment, companies rely on efficient advertising planning to convey at best their messages about their products and services to their potential customers. Success is the art of communicating creatively, at the right times, through the right means of mass communication, because the average consumer is assaulted with hundreds of advertising messages daily and needs something that makes your company’s advertising impose itself in front of others.

Targamadze [17] identifies the following features of Generation Z: growing hyperactivity, infantilism (lack of maturity), communicative, multimedia literacy, social autism, consumerism, lack of skills in analytical evaluation of a text and rendering its meaning, individualism, unwillingness to work in groups, Internet addiction, lack of self-confidence, social media addiction, distraction, different ways of reading and thinking, restriction of interest only to such activities that are interesting and relevant to them, preferring intensive work, curious, result oriented, impatient, usually not able to complete their work, etc.

Ozkan and Solmaz [18] identified 5 factors that determine the purchasing preferences of them. These factors have been named as Internet affect, product description, external factors, deals and product identity. Marketing specialists are currently focusing on new techniques and ways to maintain a constant relationship between brand, product and consumer. They use the five media channels, namely: television, print media, radio, cinema and outdoor panels, combining traditional promotion with new elements that bring the brand image less aggressive to the public’s attention.

This generation motto is “my style and my rules”. The online avatars of these people go beyond reality, and makeup products are primarily tested on smartphone screens. The vast majority use the mobile phone from the moment they wake up. So, companies should aim for the fact that a classic monologue brought in front of them via the TV will not make a substantial profit.

It is mandatory for advertising campaigns to be tailored to interact with generation Z. These ads must be placed in games on social media sites (e.g. Facebook, Instagram). A study made by a media agency showed
that 77% of young Z are passionate about games and mainly watch the accounts of the people who make vlogs on this topic. Also, young people consume 99% video content (Facebook video, YouTube video…). Therefore, traditional TV campaigns are no longer the key to success and brands are beginning to change their strategies and directions in the coming years. More and more companies are present in the online environment through various forms. Gen Z prefers ads that are funny, have interesting design and especially that have music in the background.

It is recommended that companies continue to use traditional promotional media to reach the Z generation, because young people are still open to television ads and billboards, even if they are more present in the online environment.

Companies should also understand that the use of invasive formats does not increase sales but even drives away all consumer generations, but especially generation Z. The latter are more attracted to innovative and mobile-friendly or interactive online formats.

Finally, it is recommended to create funny ads, which contain quality music or a pleasant, surprising melodic line and focus more and more on the design. In the case of video clips, it is good for them to offer stories, plots, action.

CONCLUSIONS

The majority of Gen Z staff have short-term desires and are not planning long-term employment in one company, they are ready to leave their current employer in search for better opportunities, innovation, novelty. This lack of loyalty to their present employer and fast changing priorities of Gen Z require permanent adaptation to their needs and values, active permanent communication, quick reaction to change and continuous innovation in the companies. [19]

Technology is their essential part of their lives and prefers organizations that are at the pole position of workplace that supports and allow them to communicate, edit documents and advance work regardless of geographies or time zone obstacles. Companies need to be able to identify with generations, with consumers, have certain attitudes and values to maintain over time, always be consistent and convinced of their policy to connect with different categories of people across the globe. world.

Thomas J. Barratt stated in 1907 that “tastes change, fashions change and the advertiser has to change with them. An idea that was effective a generation ago would fall flat, stale, and unprofitable if presented to the public today. Not that the idea of today is always better than the older idea, but it is different – it hits the present taste”. This saying is truer than ever nowadays when Generation Z is at its beginning in terms of employee life and in terms of consumer force.

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MANAGERIAL CHALLENGES AND LIMITATIONS TO INNOVATION AND GROWTH IN ROMANIAN PROJECT BASED COMPANIES IN THE ICT SECTOR

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Abstract: One of the fastest growing and most productive sectors of Romanian economy is the ICT sector. Romania has historically had a relatively large pool of well-educated IT engineers to organize this industry around. Consequently, both Romanian and foreign owned ICT companies, have been opened and growing at a fast rate. Nevertheless, the sector faces challenges to its ability to climb up the value chain and international competitiveness. Some of these are external challenges such as international competition or the national supply of software engineers which has been reaching its limits. Others are internal managerial/organizational limitations related to how companies in Romania are able to adapt and innovate. This paper focuses on the later: internal challenges and limitations that project and technology-based companies in Romania face which may their competitiveness and ability to grow. Christensen’s theoretical framework is employed in looking at organizational limitations at three levels: the management of resources, processes and values. We also rely on management literature related to project based organizations (PBOs). Suggestions of such limitations and challenges faced by project-based firms operating in the Romanian ICT sector are developed based the authors’ experience of working with such companies in the last 10+ years. This paper concludes that oftentimes some specific basics of project and organizational management are systematically ignored or misapplied, fact that may lead to significant inefficiencies. Overcoming these limitations is essential for companies to succeed and grow in the medium to long term.

Keywords: Project based firms; project management; Information and Communication Technology (ICT); Innovation

JEL Codes: M100 Business Administration: General

INTRODUCTION

The Information and Communications (ICT) sector has been one of the most dynamic in the Romanian economy and in comparison to EU ICT sectors, as Figure 1 below shows. In the interval 2000-2017 the sector has registered 251% growth which translates to an annualized average compounded growth of 7.2% well above the average growth of the Romanian economy.

This sustained growth was much due to the existence of a well-qualified and, proportionally to the population, numerous workforce, given a strong tradition of education in technical universities in Romania. This pool of ICT engineers enabled Romanian companies in the sector to grow and attracted numerous foreign companies. Large multinational players in the field such as Microsoft, Intel, Oracle, etc. have opened branches in Romania. Romania itself has produced some “unicorns” through companies like UiPath or Bitdefender.

However, there are significant challenges to this sector. Some of these challenges are related to the international competition. Others link back to the domestic supply of qualified IT personnel: despite the proportionally large workforce, the demand is even higher. Still other kind of challenges are managerial and relate to Romanian companies’ abilities to manage their activities efficiently.

This paper focuses on managerial challenges and limitations for Romanian companies in the ICT sector. Much of the work in the ICT sector is project based. We therefore look at the suggested managerial issues from a project management, but also from a “meta-project management” perspective, i.e. the management of the project-
based organization. Our suggestions of managerial issues are based on a combined decades long experience in working for or with such organizations. Since this experience was not planned and structured for the purpose of this paper, it does not have the character of a case study. However, we see this as a useful exercise in hypothesis generation for what may be some managerial challenges and limitation in Romanian IT, project-based companies.

![Figure 1: ICT Sector Growth in Romania and EU28 (constant 2019 Euros at PPP, 2000=100%)](image)

**THEORETICAL FRAMEWORK**

Projects are understood as “planned set of interrelated tasks to be executed over a fixed period and within certain cost and other limitations” (BusinessDictionary.com, n.d.). Unlike other work organized as processes, projects have unique goals and take place over a defined period of time (Scarlat, 2014). Project work is increasingly important in a modern neo industrialized economy (Ekstedt et al., 1999). For many firms/organizations, projects represent a large part, a majority or even the totality of their economic activity. This has led to an increasing focus of the management literature on project-based firms or organizations (PBOs). Project work tends to be more prevalent in industries producing complex products or services (CoPS) (Hobday, 2000, 1998). Such sectors are the film industry (Baker and Faulkner, 1991; Ferriani et al., 2009), music (Lorenzen and Frederiksen, 2005), construction (Eccles, 1981), biotechnology (Powell et al., 1996), etc.

Project work is very widespread also in the IT sector, be it hardware, software, multimedia or IT related business services (e.g. consultancy) (Ibert, 2004; Sydow et al., 2004). While some work in the IT sector is organized around providing Commercial-off-the-shelf (COTS) products (e.g. selling hardware products like laptops or mobile phones, or software packages, etc.)– and this can be a very lucrative business especially for large scale production, much of the rest of the IT sector produces integrated and customized solutions (for private or public organizations). Integrated and customized solutions are usually built on various hardware and software technologies which require integration (interconnection and working together), customization and often significant software code writing. The later kind of products and services are more amenable to project work.

A PBO means more than simply having most of one’s work organized a projects. PBOs may also refers to how a firm/organization is organized to manage projects. “In contrast to the matrix, functional, and other forms, the PBO is one in which the project is the primary unit for production organization, innovation and competition” (Hobday, 2000). Depending on how much of their business is based on projects, organizations/firms may be structured differently from the more classical functional shapes to the pure PBO. Based on prior literature distinctions, Hobday proposes a typology of 6 types of organizational forms from pure functional to PBO:

A. Functional;
B. Functional Matrix;
C. Balanced Matrix;
D. Project Matrix;
E. Project-led Organization;
F. Project Based Organization.
In the following we employ the concepts of the project-based organization literature to analyze some challenges and limitations of Romanian IT sector project-based firms. We also find it useful to employ Christensen and colleagues’ (Christensen, 1997; Christensen and Overdorff, 2000) threefold distinction between: resources, processes and values to structure the focus of our analysis. While their attention was rather more focused on disruptive changes and innovations, we find this framework useful even if we talk of more gradual changes.

MANAGERIAL CHALLENGES AND LIMITATIONS IN ROMANIAN IT SECTOR COMPANIES

Resources

_Human resource planning and allocation._

Because of the temporary nature of projects planning and allocating human resources PBOs in general and IT PBOs in particular is specifically challenging. At peak times the demand may stretch the internal resources of a firm, while at other times low demand may lead to unused resources and inefficiencies. This is why careful attention to resource planning and allocation is a must in such companies. Yet, many of the companies we encountered had a rather casual approach to this aspect.

Although formally it was recognized that this was an important aspect, in practice there was little systematic approach to resource planning. This happened at both project management and meta-project management levels. At project management level, human resource planning is often vitiated by the fact that the project managers themselves are overworked often having to manage several projects at the same time. In addition, key senior resources such as technical leaders or senior analysts are not allocated early in the project such that work, and resource planning would be as realistic as possible. At meta-project level the approach tends to be rather less systematic than it needs to be, partly because people in charge of taking an overall picture of project needs are not the same as the actual decision makers. The work of the former is not given the attention it needs, as the later tend to be overwhelmed by current issues and emergencies (often for lack of earlier planning).

An additional issue in human resource planning is that often management tend to underplay the actual resource needs of projects. Absent a systematic view of projects' needs and trust in the needs evaluation process, the view of management is that downplaying the resource needs is not just a reflection of lack of available resources at times, but it is viewed (often wrongly) a means to achieve efficiency by telling project managers to do with less. Some managers are hesitant to commit of resources thinking that maybe they can do without and thus save – in the end – financial resources. Sometimes that lack of understanding from management of some project work, or the work of some specialists, or of the scaling of work with an increased complexity of projects, may reinforce this attitude.

The end result is that projects, either encounter delays (and resources still need to be involved later), or the end result may lack in quality which may jeopardize the relationship with the client. The paradox is that not allocating resources in time and sufficient quantity may result in more resources having to be used in the end since some work done in a hurry and understaffed may need to be redone.

The lack of a systematic approach to resource planning an allocation leads to a domino effect in such companies. Projects and project managers are always scrambling for qualified human resources. Many allocations are provisional, PMs may be promised resources on paper, but when it comes to their actual involvement they may nor receive them as scheduled (delays, different people than promised doing the work, etc.) PMs have to waste time as they need to lobby the human resources or management to actually obtain the needed personnel to do their work. Conflictual dynamics may arise also as PMs compete for resources in an environment with unclear rules for resource allocation. This may lead to a domino effect between projects. If one project is in crisis (because of lack of appropriate planning) then resources may be taken from other projects to mitigate that crisis, but this may lead other projects to enter a crisis situation. To cope with the ongoing resource allocation issues, managers/decision makers end up not having much time for systematic planning, which leads to the whole cycle repeating.

_Technological resources_

IT services companies never work from scratch. They need other technologies supplied by other IT companies to complete their work. Whether they use them as base/platform technologies on which they build, or they use
them as tools to manage various internal core work (code writing, testing) or auxiliary functions (accounting, document management, etc.). Our experience with the use of such resources is that while such companies do indeed use such various technologies, the approach to their use is unsystematic and often unbudgeted at company level, except for project specific budgets for licenses needed for those specific projects.

It is most often employees in an ad hoc manner that decide which software solutions to use for coding, testing, specifications writing, graphical design, etc. Most often is open source solutions are satisfactory then they are downloaded and installed without hesitation (which may pose other problems of security, compatibility, etc.). The problem appears when such solutions are not satisfactory. For few such technologies a company wide approach is taken for example for purchasing office packages which all employees use. However, the renewal of licenses is rare, leading to the internal use of obsolete versions.

Other technologies which are not so widely used such as expensive graphics packages require a complicated back and forth between employee and management, with that technology being either rejected (or their purchase and installation indefinitely postponed) or their purchase significantly delayed. Some solutions for internal auxiliary functions such as internal document and process management solutions are often not used at all, leading to internal requests and various other processes being handled in the old paper-based manner.

Knowledge resources

Learning and knowledge management are inherent problems for PBOs (Hobday, 2000; Scarbrough et al., 2004), and Romanian IT companies seem to be no exception here. But it seems that many problems can be avoided through a more systematic approach to knowledge management.

In the cases we worked with, there was usually little systematic approach to building on previous knowledge. This partly relates to planning technological work within projects. The choice of technologies used was often made in an ad hoc manner by experts, however without a wider view of what work had been already carried out by the company. Little reuse of prior work was done leading to both waste of human resources in “reinventing the wheel” but also to little knowledge building and valuing prior knowledge and experience.

Further on, and more directly related to knowledge management, the mechanisms for reusing knowledge are usually rather ad hoc and not based on a comprehensive and technology supported approach to knowledge management. Knowledge about work carried out in prior projects is held by the teams who worked on those projects and documentation, while stored in an electronic format in a network folder, access to those files is not systematically managed and searchable. Accessing old files requires usually informal ad hoc discussions with project managers or other members of the team to identify possible relevant information and then obtaining more detailed files if they are identified as relevant. The unavailability of the PM or other senior team members (temporary or permanent, if the person left the firm) leads to the almost impossibility to find out that relevant information. Despite this problem, it is rare that such companies implement an internal searchable project knowledge system.

Process and organization

Larger Romanian IT companies doing significant project work tended to be organized in ways that reflected some degree of departure from classical functional organizations, but far from having made significant steps toward the organizational style of a PBO. Wider departments tend to reflect some functional lines and account types depending on the type of clients (e.g. education, healthcare, etc.) but the kind of experts working within those departments are most of the time the same across departments with some variations and some experts having a need to be more specialized in that specific are, while others’ competences being completely transferable across areas and departments. Planning and allocation decisions belong to departmental managers. Project managers have little autonomy and control over resources which contributes to the problems described above. Some departments such as financial, marketing or legal tend to be mostly organized like classical departments, seeing themselves as serving the company, while their project involvement is seen as secondary and limited. Project managers have little to no control over resources coming from these departments. For every task they need to make a specific request, and this request is answered depending on overall availability of personnel in such departments.
Related to overall processes in such companies, there tend to be some disconnect between formal processes and the way actual activities take place. As mentioned with regard to human resource planning, some degree of formal resource planning takes place and is done by specialized personnel. However, many of the shorter-term personnel allocation decisions tend to trump formal planning, as many urgencies are seen to take precedence. Similarly, as mentioned, technology management is rather unsystematic and unplanned. Where larger Romanian companies often “excel” is in having a multitude of paper-based procedures and forms for internal bureaucratic work, but little effort is made towards their digital implementation.

Values

Many of problems illustrated earlier, have their manifestations and lessons at the values level. The rather unsystematic approach to planning human or other resources illustrates a certain attitude toward systematic management. On the one hand there is a certain complacency with regard to what carefully planned management can achieve, and an abandonment in the face of chaotic circumstances. One cannot do much in long term planning, rather one is bound to deal with problems as they appear short term. On the other hand there is some pretense or “realism” of this style of management: management as dealing with chaos is good “realistic” or “real world” management, while management based on principles, planning instruments, etc. is rather theoretical and belongs in the books.

Other issues discussed, especially issues related to the management of technology tools and knowledge management illustrate a gap between predicated and practiced values. Romanian IT companies like to perceive themselves as innovative and modernizers of their clients. However, all too often, such companies fail to modernize themselves in the process, forgetting the adage that change comes from within. This may also lead to a culture of cynicism and disengagement among employees.

CONCLUSIONS AND LIMITATIONS

This paper has reflected on some managerial challenges and limitations of the management of Romanian project-based IT companies at the level of resources, processes, and values.

The main limitation of our paper is that of being the result of a rather post factum reflection of the author’s experiences of working for or with Romanian companies in the ICT sector. As such the study lacks the systematic pre-planned nature of a comparative case study analysis. Nevertheless, we believe our analysis is a good beginning of studying this area and may be a source of hypothesis generation for future more systematic approaches to empirical data collection. We think that our experiences expose some relevant challenges and limitations of management in the Romanian IT sector. Overcoming these may enable this sector to further advance and become more innovative and competitive. That said, much work is needed in the research and practice of management in this sector to achieve such results.

REFERENCES

THE GROUND RULES FOR MANAGERS AND LEADERS IN THE CHANGE MANAGEMENT PROCESS OF DIGITIZATION

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Abstract: Digitization is here to stay for a long time, like an investment. In this effort, organizations embark on a caterpillar-to-butterfly metamorphosis, even if some of them don’t realize that by buying or creating a new digital technology is not enough. Managers and leaders have to build also new capabilities and knowledge over time. There is no recipe for going digital, but some aspects should be clarified for managers and leaders, because they face an increasingly complex world. The author has chosen to focus on the business and management aspects of digitization, knowing a priori that it has broader effects on the future of work and on social welfare. The core idea of the paper is centered on the ground rules for managers and leaders in the change management process of digitization, as follows: a relevant mindset correlated with the culture, new skills and roles included in an adapted structure for the digital journey of their organizations, employees involved in the decision making process, strategic scanning for the future, wise digital endowment based on sufficient allocated resources, everything being under the umbrella of top commitments.

Keywords: Adaptation, Change, Change Management, Digital Technologies, Digitization, Internal Organization, Management Approach, Organization, Performance Improvement, Reorganization, Science

JEL Codes: D23, L22, M10, O32, O33.

“When digital transformation is done right, it’s like a caterpillar turning into a butterfly, but when done wrong, all you have is a really fast caterpillar.”

George Westerman
Principal Research Scientist with the MIT Sloan Initiative on the Digital Economy

This world is characterized by the implementation of new digital technologies, causing disruption and determining that the rewards for success and the penalties for failure are becoming ever greater. The new families of digital technologies, such as: social media, big data, and artificial intelligence (AI), emerged affecting economies, sectors and companies.

Let’s see which are the five more important aspects of Digital Transformation (DT) in the business world and not only:

I. The whole economic potential daily absorbs digital technologies
II. Digital changes everything, even personal life
III. Competition in DT has Agile as a new but tough ally operating in rapid learning
IV. In the digital process, sometimes, self-reinvention is the way
V. The appropriate mindset for management is key in the digitization journey

According to McKinsey Global Institute (MGI) the pace of adoption digital technologies into organizations of the United States, Europe, and China, is far from the digital frontier, on average, they have stood since 2015 at only around 20% of the total ICT potential [1].

The digital survey of MGI which was continued in 2018, reveals a low appetite for growing to only around 25 percent of the potential, by sectors: “only 26 percent of worldwide sales were made through digital channels, only 31 percent of operations volume was being digitally automated, and 25 percent of interactions in supply chains being digitized. The largest share of digitization related to the automation of internal operations at 30 percent” [1].
Executives with MBAs, I recently discussed with about digitization, share a belief that despite the growing access to data over previous decades, digitization is just starting and they feel unprepared for this long journey, the digitization discipline being a new entrant in business schools.

Digital Transformation is less about technological expertise than it is about preparation of leaders, managers and employees to buy-in the change process and integrate the organization’s systems with the new digital technologies. While this work of shaping the digital future of organizations is ongoing, below there are proposed six ground rules to be followed by managers and leaders:

1. Right **Mindset** – The relevant mindset has to be correlated with the culture
2. Right **Skills and Roles** – Talent management in DT has to invent new roles
3. Right **Strategic Scanning** - Scan the environment to understand the future
4. Right **Employees** – Have them buy-in the process to diminish biases & errors
5. Right **Resource** and **Utilization** – Enough resources should be allocated
6. Right **Top Commitments** – Without these the process is compromised

![Figure “The House of Ground Rules” graph: The six simultaneously ground rules for the effective management of the digital transformation](image)

1) **The Right Mindset** – The relevant mindset has to be correlated with culture

Generally, for individuals, not only for managers and leaders, everything starts with their mindsets. This is the foundation that should be first adjusted for success in the digitization endeavor.

The effort to learn, grow and change is compulsory for a successful digitization and in this regard Carol Dweck [2] Mindset theory, could help. There are two basic mindsets which shape lives: Fixed and Growth. Persons with a Fixed mindset believe that their skills and abilities are fixed whereas persons with a Growth mindset believe that they can do anything. That is why Growth mindset has to be adjusted for the individuals undertaking the challenging digital transformation process.

There are many leadership theories, and each one often reveals a part of leadership but the Growth Mindsets can impact a manager and leader’s performance from the beginning to the end. Despite the feelings that some issues are outside the comfort zone of one theory, the essential is to see continuously the big picture and the final goal. On the other hand, leaders have to prepare their companies for the digitization effort.

According to a theory of organizational behavior, called “absorptive capacity”, companies which strive to get knowledge, skills and ideas build the capacity to absorb new ideas faster, recognizing the value of new information that might apply to commercial needs.

Leaders, being aware that knowledge is cumulative, they should implement new ideas from simple to complex and prepare the land for future absorptive capacity of employees. Organizations can’t run before they can...
walk. In short, building capabilities and knowledge is the prerequisite for the special change journey of digitization.

One relevant example about mindset evolution is the renowned Caterpillar enterprise for tractors that are now equipped with internet-enabled sensors that provide data to customers and itself for smarter maintenance and performance.

Another aspect of digital transformation is that it could be used as a Trojan horse for cultural change. That is to do the sort of cultural work that you have sought for years but for which you never had the context. Since digitization is in fact about integration, introducing cultural redirections as part of the digital transformation can make the changes and challenges along the process easier to “swallow”. So, think of digitization as your chance to finally do the material changes to your business model and boost motivation. We can expect that the most important effects of digital cultures on the organizational behavior emerging on the road to digitization to be as follows:

- increase the customer centricity
- proliferation of measuring tools
- organizations will focus again on meritocracy
- toleration for failure with a benefic increase on innovation, because employees will be able to extract learnings from errors.

Amazingly, these cultural changes, if sustained, might at least be useful like the specific digital changes in these organizations.

2) The Right Skills and Roles in a new Structure

Many different skillsets will be necessary for the organization's digital journey. Digitization is in fact computing technology and data, smart devices being conceived with unprecedented power and bandwidth for gathering reams of data. In the 1990s, to analyze data it was a whole of a story starting from capturing data in surveys, interviews, focus groups and data aggregation, after that machines creating charts and tables to be analyzed. Now that we have information from the many digital products the key is to extract meaning from all these data, effort done by some new personnel roles with new skills. So, talent management in DT has to invent new skills and roles, such as CAO (Chief Analytical Officer) and/or CDO (Chief Digital Officer) [3] in an adapted new structure.

The question is to hire internally or externally? The 2019 report in MIT [4] has an answer: “We find that the decision to hire a CDO from inside or outside the organization is linked to the ambiguity of the role. Low-ambiguity roles, such as those focused primarily on digital marketing or IT, require high levels of digital competence but only medium levels of internal credibility. By contrast, CDOs with high-ambiguity roles require very high levels of internal credibility” [4].

Starting at the top of the organization, the Chief Digital Officer (CDO) is the most visible new role in the hierarchy, sometimes confused with the Chief Technology Officer (CTO). CDO is a knowledgeable person in digital technology that must be able to make the connection to the core business model, aligning with the marketplace and culture. Since the CDOs are usually roles with high-ambiguity due to the lack of clarity in the tasks they have to develop, the recommendation is to have this individual from the inside of the organization, because he/she should have a deep understanding of the whole business in order to be the facilitator and the integrator in the process. In this regard, how companies design their processes will also mean the difference between success and failure in tracking external change and adapting to it.

Another key function that emerges as digital leader might be the Chief Analytical Officer (CAO). The CAO provides input into operational decisions on the basis of the analysis and his/her experience in statistics, marketing, finance, and operations. Depending on the type of the organization, CAO might be a member of its highest level of management.

3) The Right Strategic Scanning

The right strategic scanning of the business landscape has the purpose to understand what is happening in the market and determine what it's possible and most likely to occur. Looking at the disrupters that could potentially threaten the company, managers and leaders constantly have to re-examine the strategy, in order to
absorbing the newest technologies and exploiting the opportunities. Scanning should involve imagination about new threats, guiding finally the management towards digital solutions obtained for example through combinations and reverse thinking.

It is vital that companies to combined creativity, testing and collaborative processes to search new spaces, to recombine existing resources and to define their own digital path. One size is unlikely to fit all. “The secret” to all of these insights is to use innovation work approach through connecting many more people than usual and creating a collaborative workplace.

4) The Right Employees

The right employees for the change process are those that buy-in the process and are willing to diminish biases and errors. For this reason, they must be involved in the decision-making process of digital transformation through creative collaboration of multiple individuals.

The usual resistance aspect in the change process is that employees perceive as a threat the necessity to learn new technologies. This real situation might be solved if the management is able to understand the necessity of a special rewarding system, in addition to the existing one, to be implemented in order to balance employees' efforts of involvement in digital initiatives.

Another type of threat is perceived by the middle management. They may resist for the simple reason that a digital idea or an initiative lacks value in their mind. This is another situation which is due to the lack of clarity coming from their leaders who sometimes, are unable to explain what employees have to achieve and how their skillsets fit into the strategy for change or to learn what needs to be learned. The clarity in explanation should bring an image of market opportunity and chance for personal development of employees with the occasion of the digital transformation process. In this regard, employees and middle managers, have to be retrained in specific skills that may be valuable and perfectly adequate for new digital technologies.

Finally, resistance may come from the lack of real power and status allocation for the new roles. Leaders, therefore, need to make sure that digital roles and the adapted organizational structure give the power to do their work. In the past, the digital management was not as important as today and that is why the top management should adapt the structure and give more power to digital leaders, as one important part of the digitization strategy. As we can see the real change is not just digital because there is a paradigm shift in the way we view organizations. This shift is brought by Agility and the assumption that things will change very quick should force us to be able to react to change and adapt. Traditional organizations were built around static hierarchies, whereas agile organizations are made up by “network of teams” [5], that work in rapid learning environments and short decision-making cycles. As a result, organizations are slowly decentralizing and making employees more autonomous.

If we want intrinsic motivation and do not rely on extrinsic motivation as organizations are used to, managers and leaders need to provide purpose, mastery and autonomy in the digital transformation process, using what Daniel Pink explained in his book “Drive”.[6]

5) The Right Resource and Utilization

Enough resources should be allocated and the investment has to be wise and professional to avoid waste. In Europe, the resource context is given by the European Commission “allocation of more than EUR 6 billion funds earmarked for digital R&I in the program’s (Horizon 2020) last phase (2018-20), of which EUR 1.7 billion will be allocated to the Digitization Focus Area” [7].

To keep up with the new world of technology, public investment should be balanced by investment from the private sector. In this regard, EC “set up a series of public-private partnerships (PPPs) in cybersecurity, high-performance computing, 5G infrastructures, photonics, big data, electronic components and systems, and robotics. These PPPs bring together European industry, researchers, academics and the European Commission to cooperate in R&I” [7]. In the same time, high-tech sectors face severe competition from other parts of the world, Europe having SMEs lagging behind and consistent disparities in digitization between regions. As a result, the private sector in EU doesn't have to miss the above-mentioned opportunities, such as PPPs. For Romania, a valuable guiding document in the digital transformation is the „Manifesto for a digital Romania” [8].
6) The Right Top Commitments that Can Support Your Digital Journey

It seems that, digitization, strongly rises a new form of resistance to transformation. This is the fear of self-reinvention coming from the top of the organization. Usually, the idea for digitization starts from employees working in small teams, often in the IT department, but initiatives without “blessings” from the top management are finally compromised. That is why, managers and leaders that are used to hear that digitization efforts have to be driven from the top, are wrong. They need agile reaction to digital events not only coming from outside of the organization but also from the internal initiatives. The internal change initiatives are easier to be “swallowed” in the transformation process. All these efforts should become part of the core business and the management should set some clear, high-level policies and structures. In this way, the digital projects will have the necessary recognition power to be integrated with the core business. Therefore, concrete strategic commitments need to be made from the top management before initiatives can be disruptive internally, or may vanish forever. These strategic commitments, will normally have implications in the existing incentives structure, decision processes, and customer policies, all of which having to be examined and possibly modified.

CONCLUSIONS

Digital Transformation is less about technological expertise than it is about preparation of leaders, managers and employees to buy-in the change process and integrate the organization’s systems with the new digital technologies. Since digitization is in fact about integration, introducing cultural redirections as part of the digital transformation can make the changes and challenges along the process easier to “swallow”. These cultural changes, if sustained, might at least be useful like the specific digital changes in these organizations.

The right competence-credibility balance is essential in choosing the best digital leader. “The decision to hire a CDO from inside or outside the organization is linked to the ambiguity of the role” [4]. Although external candidates can bring digital experience to organizations, they may strive to build credibility in the organizational change process. Internal candidates have an inherent advantage due to their knowledge of rules, structures, and contexts hidden to outsiders.

Strategic scanning should involve imagination about new threats, guiding finally the management towards digital solutions obtained for example through combinations and reverse thinking. “The secret” to all of these insights is to use innovation work approach through connecting many more people than usual and creating a collaborative workplace.

One of the usual resistance aspect in the change process is that employees perceive as a threat the necessity to learn new technologies. This real situation might be solved if the management is able to understand the necessity of a special rewarding system, in addition to the existing one, to be implemented in order to balance employees’ efforts of involvement in digital initiatives.

Employees and middle managers, have to be retrained in specific skills that may be valuable and perfectly adequate for new digital technologies.

Concrete strategic commitments need to be made from the top management before initiatives can be disruptive internally, or may vanish forever.

In a nutshell, digitization needs a common vision and work on a shared culture, autonomy without chaos and much more involvement of people than in usual change processes.

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TIME MANAGEMENT – IMPORTANT NECESSITY IN THE PRESENT DIGITAL WORLD

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Abstract: The proposed topic becomes more actual, because time represents an irreversible and limited resource, and the tasks seem unlimited in a continues changing world. In the same time, the life rhythm accelerates, especially in the professional area. From that perspective, time shows as the most important resource. A good time-management may lead to an improvement in the quality of life. The paper is structured in three directions: defining the concept of time management and identification of the elements that affects it, presentation of some aspects regarding the way time is perceived in multinational companies in Romania, and presentation of some methods and tools that can increase the efficiency of time usage.

Keywords: time management, efficiency, hierarchy, planning, organizing, stress.

JEL Codes: L2, M14, O20

INTRODUCTION

Most of active people are facing the issue of the lack of time in solving daily professional tasks, but also the daily personal tasks. The more the stress due to lack of time increases, the less is the efficiency in solving the issues: they are postponed every day, they are approached superficially, they are left unfinished and, in this way, they become more and more. The time cannot be “lengthened” and we cannot control the time itself. The 24 hours can make the difference between productive people, who reach their targets and the ones who have the feeling that they are more and more stressed, and the day is always shorter. So, what can be done? Here below will be presented some rules, principles, methods, tools, that can contribute to changing our vision on the way people are using the time, with a view to increasing the efficiency and lately to achieve a better life.

TIME MANAGEMENT – CONCEPT, NECESSITY, AND THE IMPORTANCE OF EFFICIENT MANAGEMENT OF TIME

Before defining time management, we need to specify some guidelines that could contribute to a better understanding of the concept. Time is an abstract physical size and the chronological elapse of hours, days, years is a constant and measurable phenomenon. There are some differences between the time, as a real physical size and the perception of time. Every person’s perception of time is certainly changed during a lifetime, according to the unfolded activities. The individual experience of time is purely subjective. Albert Einstein was the one who has changed radically the prospect upon time. More than that, the perception is totally different from a human being to another, according to more factors. The specialists in neurosciences and psychology (James Kellaris, David Eagleman, Steve Taylor), through their recent researches, explain the way people perceive differently the time and its consequences on human reality. The technology changes time perception. Recent studies prove that technology is a real trap for time perception. The more the people are involved in a computer work, or simply in social networks, the perception of time is accelerated, and the brain cannot perceive the time really. The management of time should take into consideration these aspects connected to the physical and measurable dimensions of time, as well as the subjective perception of time.

Within an organizational context, time management could be defined as “a personal process of programming, anticipating and reacting in a planned manner, predictable, effective and efficient of the activities in a certain period of time”. (Godin, S., 2007). To reach this target, i.e. the use as efficient as possible of the available time is based on “a set of rules and principles, practices and systems for achieving efficiently a certain activity.” (Deaconu A., et al., 2004).
The necessity and importance of a good time management come out at least from the following reasons, presented in Table 1, which shows the factors on which time management can act and the consequences of a good time management.

Table 1: The value of time management

<table>
<thead>
<tr>
<th>Factors</th>
<th>Explanations/Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>The time is considered the most important stress factor with important consequences on: diseases, lower productivity, increase of accident rate and staff fluctuation. An efficient time management could lead to eliminating and serious diminishing of the stress due to the lack of time.</td>
</tr>
<tr>
<td>Reaching the targets</td>
<td>The purposes and objectives of the companies could be reached by a better planning which supposes also a better estimation of the deadlines necessary for reaching the targets. Many times, the managers think first to the time necessary to achieve a certain project and then they think to the other resources.</td>
</tr>
<tr>
<td>Emotional balance and well-being</td>
<td>The performance is in a tight connection with the emotional balance and the well-being. The efficient management of time affords the achievement of a balance between the time dedicated to the professional life and to personal life, with a view to let also some time for family life and to do pleasant things out of working time. At the same will increase the well-being mood and the feeling of self-fulfillment. To this respect very important is also the positive thinking.</td>
</tr>
<tr>
<td>Creativity</td>
<td>The creativity is extremely important both in professional and personal activities. Even the finding of new methods, techniques and tools for saving time means creativity. By developing creativity can be brought improvements to time management.</td>
</tr>
<tr>
<td>Efficiency and effectiveness</td>
<td>In the business world the time is similar to productivity, mostly from the physical point of view. More than that, by applying and using successfully time management methods, techniques and tools affords the increase of the efficiency by saving time and diminishing the effort, and at the same time the increase of the effect by doing the needed things and in the way, we need (effectiveness).</td>
</tr>
</tbody>
</table>

TIME MANAGEMENT – METHODS, TECHNIQUES AND TOOLS, USED FOR TIME MANAGEMENT AND TIME SAVING

The good management of time does not consist in the control of time itself, but in the way the time is used by managers and employees, by using new methods, techniques and tools, observing some principles: So, a good time management depends on management system and on every manager as well as every employee. Therefore, it can be said that time management starts with every person’s management and the main cause of failure is the lack of self discipline. To this purpose, a more important role is played by manager who establishes some rules.

Before presenting some methods, techniques and rules used for making time management more efficient we need to present some principles and basic rules which should be taken into consideration and without which is hard to imagine an efficient management:

- **Pareto Principle**, or the Rule 80:20, which is also applied to the time management, says that from all the outcomes achieved by a person during one day, 80% of them are achieved with 20% of the effort and the rest of 80% of the effort generates only 20% of the outcomes, so there is plenty of room in order to become more efficient; that will suppose that we have to identify which are the important things which mean 80%
from the outcomes and which are the less important, but consume 80% from the effort;

- Establishing General and Specific Objectives, for every sector of activity: the objectives should be measurable, real, realistic, achievable, relevant, and to have deadlines: the objectives represent the start point for time management and they give the strategical direction of companies’ acts.

- Ranking and Prioritization of activities, basic principle that could be applied for every activity, for every job. The activities or “the things to be done” are ranked according to their importance and emergency. To this respect it is very useful the Matrix Urgent and Important that will be presented as a tool for time management;

- Time Planning and Programming, daily and weekly, according to the needs and using certain specific tools for every job and every field of activity;

- Positive thinking and emotional balance. Without them no activity may be successfully finished. Positive thinking helps in focusing the energy necessary to fulfill the tasks in time, increasing of satisfaction and establishing a good mood. It also allows the overcome of the crises generated by the lack of time and finding the right solutions. The positive thinking does not change the situation, but it can change the way we react.

The methods and tools used to manage time and to increase the efficiency of time usage may differ from a company to another, depending on their management system and activity domain (Stoica, M., 2010). The most used are as follows:

- Management by objectives by using the mechanisms for establishing and planning the strategic, tactical and operational objectives that allows the activities’ planning and a rigorous and realistic allocation of time reserves.

- Activity journal, used for activities’ planning, which represents a mirror of all the daily activities, including breaks, discussions with colleagues, lunch, etc. For each activity one must record the duration, the mood, or the energy consumption. An analysis of the journal for a certain period allows the identification of the important or not important activities, the day period the energy is at maximum level, time crises, etc.

- For managing the daily activities in multinational companies there is another document, more complex, like a spreadsheet, containing columns for key areas, objectives, deadlines, costs, and other details like is presented in figure 1.

- For activities’ ranking, one may use the important/urgent matrix as a matrix used for time management (Covey, S., et al., 1994).
With the help of this matrix, the activities can be ranked based on their relative importance and urgency (see figure 2):

- Situation/quadrant 1 – urgent and important tasks. These are the most important, urgent, and strongly linked to objective achievement. They must be solved;
- Situation/quadrant 2 – not urgent but important for objectives achievement. They do not have deadlines, therefore can be postponed.
- Situation/quadrant 3 – not important but urgent tasks, like unexpected situations that do not have a direct link with the activity or the personal task and can be delegated.
- Situation/quadrant 4 – not important and not urgent activities, like phone calls, social networking, etc. Those activities must be eliminated.

Multinational companies also use “priority lists” (see figure 3).

Depending on the necessities imposed by their activities or projects carried out, companies may use other tools to increase the efficiency of time usage, like: Gantt charts used for project scheduling by using the start and the finish dates of each activity, Priority matrix, to rank the activities by comparing the value of a task fulfillment with the necessary energy to fulfill it, Ansoff matrix to evaluate the priority of the activities based on risks, etc.

Recently, the multinational companies started to use modern tools for time counting, like a diversity of software that help them to manage time in an adequate way, applications for electronic devices, etc. One of them is Kanban method that groups the activities of a project in three categories: activities to do, activities in progress, and finalized activities. In this way, every member of a team will visualize the status of a project. The main purpose of the method is to increase the co-operation within the team, reduce the duration, increase the quality, etc. (Anderson, D., 2010)

PERCEPTION AND ATTITUDE TOWARDS TIME IN MULTINATIONAL COMPANIES

Recently, there were a lot of discussions on the attitude of the multinational companies towards time, especially regarding the way they must act to avoid having slow, exhausted, unhappy employees.

Following are some features of the organizational environment (management and managers, organizational culture, employees, attitudes, behaviors) that may have important consequences on applying principles, methods, tools used in time management.

The fact that multinational companies have heavy workload, high rhythm and countless daily tasks for employees, and high level of stress is well-known. In this context, the time management is a vital necessity taking into consideration the intercultural side. Different individuals have different perception and attitude towards time and a different vision on the way the tasks must be fulfilled. Diversity and adaptability are very important characteristics of the organizational environment and must be considered in the projects carried on by the companies.
In many multinational companies there are strict rules for metering the time necessary for fulfilling different activities (time tracker, timesheet, etc.). The managers place emphasis on planning and organizing, but that does not exclude the existence of some shortcomings generated by the high pressure of results and profitability, not necessarily linked to the mission and goals of the companies. Depending of the general and specific objectives, in terms of turnover and profit, the activities are planned for each department and sector well in advanced before the deadlines. Even there is a mechanism for authority delegation, many times is rigid and imperfect.

Often, in the multinational companies the decisions come from the head-office, the parent company situated in another country without taking into consideration the jet lag, the way the time is perceived, the mentality, habits, the work style, etc. Thus, one may call for a video conference at the end of the day, or during the holydays. Those kinds of situations, together with short deadlines can generate internal tensions. It is well-known that multinationals the deadlines are many times unrealistic because the management is focused on obtaining high benefits in short time. The employees are encouraging to be better but through hyper competitiveness with more of stress because of deadlines.

Many times, while trying to make a good impression, the Romanian who work in multinational companies are the last that leave for home, work overtime, even without payment. They think, this way will show their involvement and will be in the boss’s good graces. They are not confident in their forces and place themselves in an inferior position against the employer. Romanians are prone to make sacrifices and place there carriers first.

On the other hand, there are Romanian or foreign employees who consider that through labor contract you are leasing your professional skills for eight hours daily, from Monday to Friday to an organization where they play a certain role and is the organization’s task to organize the labor process and to use their skills and knowledge as good as possible. However, most of the time the managers from multinational companies consider overtime as expensive exceptions and their constant presence proofs a poor organization, the existence of adaptation problems, necessity of training courses, etc.

Following are some traits that characterize the perception of Romanian employees and managers who work in multinational companies regarding time: mentality, attitudes, and behaviors (even if those aspects are mainly negative, this does not mean that there are not many efficient employees who succeed to well manage the time):

- Superficial treatment of the planning phase of a project (budget, estimated time of work, resources) in the desire to end this stage as soon as possible;
- Romanian employees do not announce early if they feel overloaded with activities and prefer to work overtime, or on weekends to complete tasks and for fear of not being considered ineffective;
- Employees from multinationals in Romania tend to estimate unrealistic times in solving problems, and to promise that they will finish their tasks faster without taking a time margin for unforeseen situations;
- The failure to fully understand the procedures on which activities are carried out may lead to the exceeding of time limits and the occurrence of errors;
- Doing the easy things, and to which they are better first and to postpone more complex tasks because they do not have a clear vision of how to solve it, create problems with the ranking of activities by urgency and importance;
- Romanian employees often do not know to say no. Although they may have a long list of tasks to settle, when they are asked for help in solving other new tasks, which do not normally return to them, they avoid refusing and can stay overtime;
- Although there is a whole series of time-counting tools required to carry out activities, many employees do not understand the practical usefulness of this planning and fill in these lists in a superficial way, in a hurry, at the end of the day;
- In the end, many employees feel stressed especially because of lack of time, tired and less efficient.

CONCLUSIONS

The technology changed the time perception in the sense of accelerating the sensation of time leakage. Therefore, it is necessary to use certain methods and tools to save time, to assure the efficiency of time usage. Social Media becomes the greatest online time consumer. That is why, access limits should be laid down to
it. At the same time, it is necessary to better manage the emails: for example, you can check the email once a day and it is not advisable to start the day answering e-mails, inbox with as few unread messages, etc.

For a better time-management, it is necessary to identify “time thieves” and to draw up a list of the most important ones for their elimination.

The analysis of behavior and habits towards time and the identification of the behavioral style (from the obeyed employee, who has problems to speak but helps everyone, to the versatile, perfectionist employee, working hard, rigid, etc.) is essential for each employee. Awareness of the behavioral type can contribute to the improvement of the work style.

Many multinational companies can be considered models in terms of applying methods, techniques and tools for saving time, being a large difference between the public and private sectors. There are a multitude of tools for time metering, but sometimes too cumbersome and that require a lot of time to fill in. In the same time, one may observe a concern for introducing more effective new methods and tools.

One of the skills required by the current digital stage relates to the knowledge, appropriation and mastery of the methods and tools necessary for the management of time, as time becomes an increasingly important resource.

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BIG TECH, BIG COMPETITION PROBLEM?1

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Abstract: Digital platforms have been well recognized by consumers in terms of their benefits mainly because platforms make information more accessible and communication easier, create new business opportunities and increase choice of products and services. Their development has facilitated people’s lives in various ways, from shopping to social interaction. However, digital platforms significantly control consumer data and from competition law perspective, they have gained significant market power to the extent that many of them are raising concerns not only about competition but also about consumer protection and privacy. That is why many countries are studying the negative effects of the market power of these platforms and are exploring ways to deal with the related challenges. Against such background, the first part of the paper brings to the fore the specific features of digital platforms, the changes they have brought to the global business landscape and the competition concerns arising from big technology. In the second part, the focus is on the analysis of economy platform implications for competition law and policy and its enforcers. In the third part of the paper, the adequacy of current competition policy tools to deal with the challenges arising from digitization is assessed by examining a series of cases handled by European Commission in the digital area. In the end, some concluding remarks will follow.

Keywords: digital economy, competition policy, online platforms, big data, algorithms, market power, innovation, dynamic markets.

JEL Code: L00

INTRODUCTION

The platforms provide a digital infrastructure for a variety of services, including marketplaces (Amazon), application stores (Apple), social networking sites (Facebook) and search engines (Google). They enable market players to offer a variety of goods and services through channels and to customers that were previously inaccessible to them in whole or in part.

Presently, they cover a wide-ranging set of activities including online advertising platforms, marketplaces, search engines, social media and creative content outlets, application distribution platforms, communications services, payment systems, and platforms for the collaborative economy.

Large technology companies have changed the global business landscape. If in 2009, the top 10 global companies by market capitalization included only one technology company and three oil and gas companies, in 2019, the list includes six technology companies and one consumer services company that is a large online marketplace (tables 1 and 2).

Among all these industries are largely dominated by US companies.

Table 1: Top 10 most valuable companies in the world, January 13, 20192

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amazon Inc</td>
<td>Retail business</td>
</tr>
<tr>
<td>2</td>
<td>Microsoft</td>
<td>Software development</td>
</tr>
<tr>
<td>3</td>
<td>Alphabet Inc*</td>
<td>Internet</td>
</tr>
<tr>
<td>4</td>
<td>Apple Inc</td>
<td>Electronics, information technology</td>
</tr>
<tr>
<td>5</td>
<td>Berkshire Hathaway Inc</td>
<td>Insurance, finances, railway transport, utilities, food and non-food products</td>
</tr>
</tbody>
</table>

* Alphabet has been the parent company of Google since 2015.

1 The opinions expressed in this paper are those of the author and do not necessarily reflect the views of his institution, nor do he engage the institution in any way.

2 https://fxssi.com/top-10-most-valuable-companies-in-the-world
The rating is based on market capitalization. The market capitalization is calculated by multiplying the number of shares issued by the company by the value of one such share.

With regard to specific sectors, Amazon held an over 90 per cent share in five different product markets in the first quarter of 2018, Facebook is the leading social networking site, with a 68.95 per cent share as at February 2019 and Google dominates the search engine market, with an 89.95 per cent share as at January 2019.

In Europe, the Digital Single Market has been both a key pillar and a game-changer for digital services and electronic platforms. One of the main goals of the Commission’s Digital Single Market strategy is to grant better access for consumers and businesses to goods and services, for example by ensuring compliance with EU competition rules, ending unjustified geo-blocking, and enabling cross-border portability of online content services.

In order for Europe to reap the full benefits from the platform economy and stimulate growth in European platform start-ups, harmonised rules at EU level such as the General Data Protection Regulation and the Network and Information Security Directive are important to facilitate growth and quick scaling up of innovative platforms.

Further, online platforms are subject to existing EU rules in areas such as competition, consumer protection, protection of personal data and single market freedoms. Compliance with these rules by all including platforms is essential to ensure that all players can compete fairly. This create trust for both businesses and the general public to confidently engage with online platforms.

**CHARACTERISTICS OF DIGITAL PLATFORMS AND THEIR CHALLENGES FOR COMPETITION POLICY**

The digital transformation has changed business models, methods of production and distribution, and the

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way firms compete. Digital platforms function with algorithms, which are designed to collect and process data, with decisions made based on that data. Such platforms require high up-front sunk costs and have low marginal costs. The technologies used for the collection, storage and processing of large amounts of data can be costly but, once a system is operational, the marginal costs related to additional data are low, and the data can help improve the algorithms to provide better and more personalized services to consumers. According to the OECD, this cost structure is characterized by high economies of scale and scope and can therefore facilitate market concentration of big data in the hands of a few players 8.

The value of the EU data economy was more than €285 billion in 2015, representing over 1.94% of the EU GDP. Due to a year-on-year growth rate of 5.03%, this value increased to €300 billion representing 1.99% of the GDP in 2016 9. If favourable policy and legislative conditions are put in place in time and investments in ICT are encouraged, the value of the European data economy has been forecast to reach to €739 billion by 2020, representing 4% of the overall EU GDP.

Therefore, the ability to use data to develop new, innovative services and products is a competitive parameter whose relevance will continue to increase.

According to the European Commission, an online platform is considered as "an undertaking operating in two (or multi) sided markets, which uses the Internet to enable interactions between two or more distinct but interdependent groups of users so as to generate value for at least one of the groups" 10. Platforms involve services and activities such as marketplaces, social networking, search engines, payment systems and video sharing.

In a previous paper entitled “The impact of the digital economy’s development on competition” 11, the stocktaking of the economic literature and the competition authorities’ enforcement actions in online markets, in particular and in digital markets, in general pinpointed towards certain characteristics of digital platforms that make difficult competition analysis. Thus, one important feature of digital platforms is the presence of data-driven network effects between the two different groups using the platform.

The network effect refers to the effect that one user of a good or service has on the value of that product to other existing or potential users 12.

For example, people may wish to use Facebook for social networking simply because their friends do so. The value of using digital platforms directly depends on the number of users. Such platforms benefit from two user feedback loops, as follows: on the one hand, a company with a large base of users is able to collect more data to improve the quality of the service and, this way, to acquire new users and on the other hand, companies are able to explore user data to improve advertising targeting and monetize their services, obtaining additional funds to invest in the quality of the service and attracting again more users; these interminable loops can make it very difficult for any entrant to compete against an incumbent with a large base of customers 13.

With respect to the presence of the network externalities in two-sided markets, we argued and further explained in a much elder paper entitled “Refusal to grant access – from the dual perspective of the competition protection legislation and the sector regulation” 14 that the relative prices charged to each side of the platform are tightly inter-related due to the fact that the two-sided platform has to coordinate demand among two interdependent

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12 Organization for Economic Cooperation and Development (OECD), (2017), Network Effects and Efficiencies in Multisided Markets - Hearing on Re-thinking the use of traditional antitrust enforcement tools in multi-sided markets, Competition Committee meetings, 21 -23 June.
14 Prof. Dr. Gheorghe OPRESCU, Dr. Daniela ELEODOR, (2013). Refusal to Grant Access – From the Dual Perspective of the Competition Protection Legislation and the Sector Regulation, the 6th IBAB International Conference entitled Transforming Business, Transforming People - The Art and Science to Build High-Performance Organizations in Global Environment.
customer groups. So, a price change on one side of the market has positive feedback effects on the other side of the market and this is actually what greatly complicates the relevant market definition and the establishment of dominance in the case of digital markets similarly to the telecommunication industry.

As we have seen, online platforms are characterized by having high switching costs, economies of scale and levels of control of data, all of which creating barriers to entry. For example, Google can use the search data of users to improve its search engine algorithms whereas new entrants to the market do not have this advantage. Data and network effects lead thus to a “winner-takes-all” strategy in digital platform markets. Firms therefore “compete for the market” instead of competing in the market.

For instance, in the case of platforms such as Facebook and Google, there is consensus that each side should be defined as a separate market as long as consumers, advertisers, content providers and any other agents involved do not engage in transactions with each other, because products are perceived to have different degrees of substitutability on each side of a platform; for example, social networks and search engines may be regarded as substitutes by advertisers but not by consumers.

For all the reasons presented above, successful digital platforms such as Amazon, Apple and Google may have acquired significant market power by developing products to closely match the requirements of consumers. In addition, the market power and dominance in certain markets of key platforms may affect small innovative companies and their access to these markets. This is due to the fact that dominant platforms may own and operate infrastructure or provide a service on which traders and developers depend, and they must compete with the service provider in these markets. I shall further expand on this issue in the third part of the paper.

Dominant platforms have also expanded into other related businesses, with the objective of accessing more data. For example, Google gives its Android operating system free of charge to mobile telephone manufacturers, thereby enabling it to collect user data.

The development of the digital economy and of Big Data has raised also concerns that users of online services may lose control over the way that their data is collected and used. In such a dynamic environment, more and more commentators expressed concerns whether competition enforcers world-wide still have the appropriate tools to safeguard effective competition in digital markets. However, on 11 October 2018, DG Competition Director-General Johannes Leitenberger argued in a speech addressing current challenges for competition policy and enforcement, including digital platforms, algorithms and the relevance of data that the primary challenge of competition law in the era of digitisation is to capture the relevant facts, in a precise but timely manner in order to allow for a precise and timely resolution of the relevant legal questions.

At his turn, Angel Gurria, Secretary General of the OECD expressed concerns with respect to the declining trends of competitive intensity in certain digital markets, the growing market power of certain digital platforms, the decline in the entry of new players and the rise of level concentration in certain markets during a conference on Competition and the Digital Economy, within the framework of the 2019 French G7 Presidency. He noted that the indicators developed by OECD suggest that in digitally-intensive sectors, mark-ups charged by firms over their costs are at up to 55% higher than those in less digitally-intensive sectors. In addition, aggregate productivity growth has been sluggish in most OECD countries over the past decades. On average, across the EU, 33% of large firms perform big data analysis, while only 19% of medium-sized and 11% of small-sized firms do so.

Since the benefits of competition deal with lower prices, higher productivity, more innovation, easier access to markets and reduced income inequality, Governments and competition authorities across the G7 have begun to assess whether existing policy frameworks must be adapted in response to digitalization. These efforts have culminated in several initiatives, including the report on “Unlocking digital competition” prepared for the UK

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19 G7 Conference on Competition and the Digital Economy, jointly hosted by the French Ministry of the Economy and Finance, the Autorité de la concurrence (the French competition authority), the OECD and the Banque de France June 3, 2019.
Government, the hearings held by the US Federal Trade Commission on “Competition and Consumer Protection in the 21st Century”, the “Competition policy for the digital era” report commissioned by the European Commission, the establishment of the Competition Law Commission 4.0 in Germany, the mandate to the Canadian Competition Bureau in the context of the Government of Canada’s Digital Charter, the report of the Study Group on Data and Competition Policy commissioned by the Japan Fair Trade Commission.

CONTRIBUTION OF COMPETITION POLICY TO THE DIGITAL CHALLENGES

Against these challenges, we shall now investigate whether competition authorities are prepared to deal with these dynamic changes in the market environment posed by the digital.

The growing importance of online platforms, the digitalization, the technologic convergence and the implementation of certain disruptive innovations represent current trends that offer major benefits to the economy and society.

Due to the challenges posed by the quick pace of technological development that has changed the nature of markets and the business models, some competition authorities stepped in and started to employ additional criteria for the definition of the relevant market in digital sectors. For example, Germany revised its competition law in 2017 to adapt its legal framework and tools to the new features of the digital economy, and introduced a provision recognizing free products or services provided by platforms as a market, stating that “the assumption of a market shall not be invalidated by the fact that a good or service is provided free of charge” (section 18(2a))\(^{20}\).

Again, in Germany, in a recent decision with regard to Facebook\(^{21}\), the Federal Cartel Office defined the relevant product market as a “private social network market” and its market definition analysis included considering the various online services referred to as social media and their competitive relationships, as well as direct network effects and the extent to which digital platforms shaped by network effects can show flexibility in adapting the products they offer\(^{22}\).

We note also that in this case, a lack of voluntary consent for a specific type of data processing was construed as an exploitative abuse by the German Competition Authority. In other words, if a dominant company makes the use of its service conditional upon users granting the company extensive permission to process their personal data, this can be taken up by the competition authorities as a case of “exploitative business terms”. It also means that the intersection of competition, data protection and consumer policy seems to be particularly important for the digital economy, where transactions involving the transfer of personal data play an central role.

Actually, EU Commissioner Margrethe Vestager\(^{23}\) argued in a Conference at Digital Life Design that she doesn’t think competition enforcers need to look to competition enforcement to fix privacy problems. But that doesn’t mean that competition enforcers will ignore genuine competition issues just because they have a link to data.

In 2018, the Commission started a reflection process how competition policy can best serve European consumers in a fast-changing world. To this end, the Commission externalized a Report on the future challenges of digitization for competition policy\(^{24}\) that has been finalized by the special advisers on 4 April 2019\(^{25}\).

The report made clear that, despite all the changes that digital technology has brought to the markets, the basic principles of competition policy are as relevant as ever. The same report suggests antitrust enforcement might be appropriate, if authorities find powerful platforms trying to make it harder for users to multi-home.

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\(^{20}\) See https://www.gesetze-im-internet.de/englisch_gwb/englisch_gwb.html#p0024.

\(^{21}\) Case B6-22/16, Facebook, February 6, 2019.

\(^{22}\) Federal Cartel Office, Germany, 2019a, Facebook, exploitative business terms pursuant to section 19(1) GWB [German Competition Act] for inadequate data processing, Case summary, 15 February.

\(^{23}\) Competition in a big data world\(^{2}\), speech held on January 17, 2016 at Digital Life Design.


\(^{25}\) See: http://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf
ANTITRUST ENFORCEMENT, PILLAR OF INNOVATION IN THE ONLINE MARKETS

The Google Shopping Case

In June 2017, the Commission found that Google abused its market dominance and imposed a fine of EUR 2.42 billion on Google for giving its comparison-shopping service an illegal advantage on its search engine results pages. The Commission’s decision ordered Google to comply with the principle of giving equal treatment to rival comparison shopping services and its own service. Google’s conduct as being discriminatory is a theory and practice that applies as much in offline as in the online worlds. This is actually an old fundamental principle of the EU competition rules – the fact that dominant companies have a special responsibility not to use their power in a way that undermines competition.

On the occasion of the European Consumer and Competition Day held in Bucharest, on April 4, 2019, Commissioner Vestager underlined that if you searched Google for a product that you wanted to buy two years ago, every single offer at the top of the page would have come from Google Shopping. Today, three-quarters of those search result pages have at least one offer from Google’s rivals in the box at the top – and about 40% of the clicks in those boxes go to one of those rivals.

In conclusion, there appears to be a theory of harm based on discrimination on which European Commission underpins its decision. The decision has been appealed to the General Court of the European Union and gives rise to interesting questions from a consumer welfare perspective because discrimination has ambiguous effects. It might, indeed, represent a malign exercise of market power but equally, it could represent from Google’s perspective the optimal way of recovering the firm’s investment in the capital required to supply a product or service.

In the future, we might see more cases like Google Shopping where European Commission or other competition authorities from Europe have to require platforms to treat other companies’ services equally with their own.

To prevent such a scenario, in February 2019, the European Parliament and the Council reached an agreement on EC proposals for new regulations, to make sure that platforms treat their business customers fairly and transparently. And that sort of regulatory approach could be a useful model, to tackle other problems which the platform economy creates.

A priority of the Romanian Presidency at the EU Council was to promote fairness and transparency regarding the activity of electronic platforms and on-line intermediation services hosted by them. The digitization and use of data, algorithms and electronic platforms can promote competition and stimulate competitiveness, offering SMEs opportunities for developing business models, while maintaining a variety of offers for the final consumer, under the conditions of applying clear, transparent and uniform rules at the level Union. In this regard, under the aegis of the Romanian Presidency of the EU Council in the first semester of 2019, the negotiations on the proposed EC Platform to Business Regulation have been finalized, in order to meet the challenges facing the digital economy.

The Google Android case

For decades, companies have tried to protect their dominance by locking customers into exclusive deals. This was the case in the Android case, where the Commission fined Google EUR 4.34 billion for breaching EU antitrust rules on 18 July 2018.

The Commission found that Google had imposed illegal restrictions on Android device manufacturers and mobile network operators to cement its dominant position in general internet search by paying phone-makers and operators not to pre-install other search apps.

The case is a good illustration of how the tendency of dominant digital companies to strengthen their
dominance plays out on the ground. The case shows how the undisputed leader in the EU market for desktop search did not rely solely on competition on the merits in its efforts to extend its position to a related market – mobile search. Google’s behaviour denied other companies the chance to compete on the merits and to innovate. Most importantly, it denied European consumers a genuine choice of services and the full benefits of innovation.

**Google Search case (Adsense)**

The Commission has also investigated and sanctioned Google’s abuses of dominant position with fines amounting to €1.49 billion in another case, concerning Google search advertisements that appear on other websites. Google has abused its market dominance by imposing a number of restrictive clauses in contracts with third-party websites which prevented Google’s rivals from placing their search adverts on these websites. The misconduct lasted over 10 years and denied other companies the possibility to compete on the merits and to innovate and consumers the benefits of competition.

Google’s rivals were not able to compete on the merits, either because there was an outright prohibition for them to appear on publisher websites or because Google reserved for itself by far the most valuable commercial space on those websites, while at the same time controlling how rival search adverts could appear.

**Merger control**

**Facebook/Whatsapp merger**

When Facebook notified the acquisition of WhatsApp in 2014, it informed the Commission that it would be unable to establish reliable automated matching between Facebook users’ accounts and WhatsApp users’ accounts. However, later on, the Commission found out that, contrary to Facebook’s statements in the 2014 merger review process, the technical possibility of automatically matching Facebook and WhatsApp users’ identities already existed in 2014, and that Facebook was aware of such a possibility. In May 2017 the Commission imposed a fine of EUR 110 million on Facebook for providing incorrect or misleading information.

**Microsoft’s takeover of LinkedIn**

In 2016, Microsoft paid $26 billion to acquire LinkedIn. The price paid was for user data and its revenue-earning potential and not for capital, brands or intellectual property. That is why the EC investigated in this case...
whether Microsoft/LinkedIn merger might have anticompetitive conglomerate effects i.e. if other competing professional social networking platforms would be unable to match the data-driven. The Commission found that Microsoft/LinkedIn would have the technical ability and commercial incentive to pre-install LinkedIn with its ubiquitous Windows operating system. The Commission also found that this behavior would be likely to significantly impede effective competition due to powerful network effects. In other words, the more professionals that use LinkedIn, the more valuable it becomes to other members of LinkedIn and the more attractive it becomes to non-members of LinkedIn. In the end, the merger was cleared because Microsoft offered behavioral remedies according to which he committed to stay apart from the things the Commission was concerned about.

CONCLUSIONS

We’ve seen, throughout the paper, how digital technology has impacted competition in the last few years. Competition policy and its enforcement has contributed to the implementation of the Digital Single Commission’s strategy, creating new growth and generating hundreds of thousands of new jobs, by means of a number of investigations in the information, communication and media sectors.

The EC has dealt with digital platforms in its three decisions against Google which show that competition in the market is crucial if consumers are to benefit from the highest possible quality, choice, and follow-on innovation.

We’ve looked also at whether mergers, like Microsoft’s takeover of LinkedIn, might let companies monopolise the data that you need to compete. Again, in merger control area, Facebook/Whatsapp merger reveals that the companies’ obligation in a merger investigation to provide correct information that is not misleading according to EU Merger Regulation applies, regardless of whether the information has an impact on the ultimate outcome of the merger assessment.

The Facebook case handled this year by the Bundeskartellamt from Germany shows that from the perspectives of the legal certainty for the sake of businesses, a clear delineation between privacy data rules and competition rules should be required. On the other hand, the existence of a connection with privacy data rules should not be a reason for setting-aside the enforcement of the competition rules.

The main takeaways about the current dynamics of digital markets and its implications over the competition law and policy are the following:

(i) Digital markets are different due to specific features such as multi-sidedness, network effects etc.;
(ii) Competition dynamics leads to increase of barriers to entry, change in incentives and a winner-take-all race;
(iii) Failures in digital markets may require some form of regulatory response in order to promote market trust. Due to the commons goals of competition law enforcement, data protection and consumer policy such as the promotion of market trust, consumer choice and consumer welfare, effective and timely responses to such failures may benefit from a closer dialogue and cooperation among different agencies such as that envisaged in the reform of the Regulation on Consumer Protection Cooperation and as provided for in the General Data Protection Regulation.

In this regard, it is essential that the authorities responsible for the implementation of public policies targeting the markets affected by innovation, should take into account, first and foremost, the long-term interests of consumers;

(iv) Competition authorities should continue to take data into account in their work - whether in reviewing mergers of firm datasets that could generate durable market power, or in preventing abusive conduct by dominant firms to use data to exclude their competitors from the market.

In conclusion, in such a dynamic environment, the competition authorities will need to be especially vigilant on the way that dominant platforms set the rules for those markets so that they do not misuse their power to hinder opportunities for innovators for the detriment of consumers. However, that doesn’t have to mean changing the rules of the game. Competition tools and rules continue to be well suited and sufficiently broad and flexible.
to accommodate the digital reality by addressing potentially anticompetitive behavior by players in the digital era. Only the understanding of the behaviours that may harm consumers requires to be permanently updated.

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THE ROLE OF CSR POLICY AND DIGITAL MARKETING IN GEORGIAN QVEVRI WINE BRAND DEVELOPMENT

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Abstract: Georgia the country is motherland of wine. Republic of Georgia is the cradle of wine. Georgian Qvevri wine is said to be first ever produced wine in the world. Georgian wine is one of the most important goods produced here. Country of Georgia is small developing country with small GDP, while we are the home country of wine production. CSR policy management play the significant role in product and company development. Examining CSR strategies of Georgian wine on the example of Georgian wine maker companies would give us necessary information. Not many Georgian companies are doing CSR policy management for development of brand. So we conducted the research about which CSR techniques were used by Georgian vineries. We analyzed the situation and created plan which we suggest companies to implement. In modern world there’s no business that can exist without digital marketing. We conducted an experiment to analyze what kind of impact can have digital marketing on brand recognition. We created social media pages for new unknown Qvevri wine brand Rtvelo and started its promotion only by means of social media. We collected all numbers and summed up the situation on social media market about Georgian Qvevri Wine industry.

Keywords: CSR, Digital Marketing, Qvevri Wine, Promotion

JEL Codes: M, M3, M31,

ROLE OF CSR AS A MARKETING TOOL IN QVEVRI WINE BRAND DEVELOPMENT

“Corporate Social Responsibility is an ethical management concept where companies aim to integrate social, economic and environmental concerns along with the consideration of human rights into their business operations.”

While the underlying purpose of CSR is to advance a specific cause that benefits society, don’t be fooled into thinking that it can’t also have a positive impact on your own company. A strategically developed, properly implemented CSR program can directly enhance a brand’s ability to create and maintain a positive image in the consumer marketplace.

Don’t feel bad if you have profits on your mind whenever you approach the subject of CSR – you aren’t alone. “One of the main reasons companies engage in socially responsible behavior is the possible financial gain that can come from it,” management expert Timothy Creel explains. “Recent studies show that companies engaging in socially responsible behavior tend to show long-term financial gains and increases in value.”

CSR is very much a long-term play, however. Companies tend to show financial losses in the first three years. It isn’t until 36 or 48 months down the road that benefits begin to kick in. But when they do, the impact can be instrumental in terms of marketing and branding.

The reason why CSR builds brand equity is largely psychological. As Creel notes, “Positive feelings are related to social approval and self-respect. Brands that evoke positive feelings make customers feel better about themselves.” Remember that most purchases aren’t about satisfying a need. Sure, there are instances where customers need products to survive, but most purchases are rooted in wants. When a company is able to tie a purchase that is otherwise seen as non-essential to something larger than the product, customers have an easier time validating the purchase in their minds.

Another branding-related benefit of CSR is the sense of community it creates. Creel points to how Lowe’s donates materials and provides volunteer hours to Habitat for Humanity, which allows the company to form connections in local communities. These connections fuel the brand’s image and result in better connectivity.

Ultimately, a commitment to serving others has an impact on sales. According to a survey from Better
Business Journey, 88 percent of customers say they’re more likely to buy from a company that supports and engages in activities that improve society. (Alton, 2017)

We conducted a small scale research to find out Georgian Wine companies understanding of the role of CSR and extent of its application. The same companies mentioned above were used to find out the answer to the problem stated above. The results of the survey are provided below.

1. Applying CSR policy:
   A. Helps company maintain positive image
   B. Helps company increase sales
   C. Helps company improve quality of production
   D. Is company’s promotional activity

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<th>Applying CSR policy</th>
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<tr>
<td>Helps company maintain positive image</td>
<td>40%</td>
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<td>Helps company increase sales</td>
<td>20%</td>
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<tr>
<td>Helps company improve quality of production</td>
<td>10%</td>
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<tr>
<td>Is company’s promotional activity</td>
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This question allowed us to check up the previous question. We were able to realize how well Georgian wine company management representatives understood the term CSR policy. By looking at the answers of this question we could clearly cognize that the people managing Georgian wine companies have lack of knowledge in the study field.

2. Do you apply CSR policy? If yes what kind of activities does your company do?
   A. Yes
   B. No
The company representatives answering yes were asked to explain by what kind of activities they were applying CSR policy. Most of them clarified that they were hiring people from nearby areas and that was taking care of the environment by their opinion. They elucidated that they considered that was more than enough expression of CSR policy implementation. Only Rostom Sesiashvili owner and manager of Sesiashvili Cellar in Kvareli had pretty much acceptable attitude towards the subject. He explained that his company is managing trainings and courses for vineyard workers in Kvareli area to simplify working process for them and to be guaranteed to get proper service and properly treated vines. He said that he is trying to interest youth of Kvareli in winemaking and he is managing open lessons for high school students about winemaking, bottling and branding. How come Sesiashvili turned out to be the only one wine company owner taking care about the environment of existence.

### 3. CSR can be done:
- A. Outside the company
- B. Inside the company
- C. Including both company staff and environment company exists in

<table>
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<th>CSR can be done:</th>
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<tbody>
<tr>
<td>Outside the company</td>
<td>60%</td>
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<tr>
<td>Inside the company</td>
<td>10%</td>
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<td>Including both company staff and environment company exists in</td>
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This question allowed us clarify managers’ understanding and showing them “right way”. As it is clear most of them thought CSR can only be done outside the company while it is significantly important to do CSR inside the company to increase productivity and make company stronger and more stable in long term prospective.

4. As we have discussed your company is not actively managing CSR policy. Do you feel the need of it or do you think your management strategy is worthy and you don’t feel you need changes?

Most of the managers realized the importance of CSR and that it will have significant impact on their companies development. However they still remain to be on the position where they don’t consider having enough financial resources to implement CSR policy. To be honest they still believe it’s a waste of money. On the other hand the expressed their readiness to participate in CSR campaigns organized by the government or non-governmental organizations.

### THE RESULT OF THE ANALYSIS

The research gave us the results and findings that gives us ability to sum up the whole picture. The main problem in the study field exposes to be lack of knowledge of management tools. Managers of the research companies don’t have clear understanding of Corporate Social Responsibility and its usefulness in future development. Some of the wine company managers even explained that it’s their obligation to somehow participate in activities to take care of the environment they operate in, and it has been the tradition for long; but they do not have answers on the questions if they plan Corporate Social Responsibility activities in order to develop brand recognition and maintain stability in long run. They explained that they perceive it as a charity, whenever you can afford to do it you do it, but you don’t have to, as they pay taxes to government they feel not having any other obligations.
RECOMMENDATIONS REGARDING TO CSR

Georgia a small developing country, with small companies that don’t have profits in millions, with great traditions and is moving forward to become EU member, needs more development and knowledge in business field. Especially agriculture is the sphere that gives most power to Georgian economy. There are more than 300 winemaking companies in Georgia and it is dramatically important for the country to give proper knowledge to each of wine company manager. More government intervention is needed to increase understanding of CSR and make it clear how big importance it carries for their own companies. If government organizes trainings and courses for Georgian wine company managers for broadening their knowledge in management we will get better atmosphere to exist in. As we mentioned above there are more than 300 winemaking companies in Georgia, if each of them starts implementing CSR policy and starts treating better the environment they operate in, the whole business situation can start improving. Georgian people love competitions and love to beat their competitors, it doesn’t mean in bad way. Government can use these traits of characteristics of Georgians and manage competitions, who applies the best CSR strategies annually, between winemakers, that will encourage wine companies think more about their surroundings than they used to.

Another recommendation for winemaking companies is to realize that it’s not that expensive to take Corporate Social Responsibility actions.

- Easily they can handle trainings for workers they hire to broaden their knowledge of vine making and gardening.
- It won’t cost much to make general cleaning days once a month in two including all company stuff to clean up the entire neighborhood of their company, they will not only make the environment cleaner and better but also will be able to give the example to new generation and involve people living around.
- Planting trees even in Georgia, the country that is already green, is useful and helpful.
- Giving little funding to local schools to develop sports life every year is the action every Georgian wine company can afford nowadays.
- Building small pet houses for abandoned animals is the most loyal action they can make. Gulf is the gasoline company in Georgia that builds houses for dogs at their gas stations so that dogs can have a shelter and workers feed them everyday.

DIGITAL MARKETING ROLE IN BRAND DEVELOPMENT OF QVEVRI WINE RTVELO

In order to test some of marketing strategies which we consider relevant in regards with Qvevri Wine in general, a new Qvevri Wine brand “Rtvelo” created by our family Company. This gave us an opportunity to try out in practice our new marketing method. The brand Rtvelo was developed in 2017 based on authentic national Qvevri wine production method in our family wine cellar – Marani in Kvarveli Region. Wine material – grapes is basically collected from family vineyards situated in Kakheti, Telavi Region. Our family has been making wine for generations since the WWII. Since 2014, we have been involved in growing a new vineyard the main goal was to revive ancient species of grapevines, such as Kisi and Khikhvi. Though our vintage is large enough to start producing wine according to traditional Kakhetian method, we decided to make Qvevri wine, though in small quantities in our ancient family Marani. The capacity of our old Marani is maximum 10 tones. Different size Qvevris are situated in this cellar including a small-size Qvevri – called “Zedashe”, which was meant to be taken and donated to the Church for religious rituals. Therefore, we revived ancient Family traditions together with renovating our Marani.

Wine brand name chosen by is an original one us because it sounds very familiar to many who are familiar with Georgian viticulture terminology. Rtveli in Georgian means harvesting ritual of grapes. The word Rtveli is associated with traditions and brings to mind positive emotions in every Georgian’s heart. Rtveli is a process where a lot of friends and relatives of the vineyard owner’s are involved. During picking grapes traditional Georgian songs are sung, poems are read, even Georgian dances take place in the vineyard after they finish picking grapes and have a feast. In the evening after grape harvest, Georgian “Supra” is held – it is a traditional dinner with “Tamada” – the leader and a toast master of the feast saying toasts and leading the evening; and all the traditional entertainments are included.
Word Rtvelo is the part of a lot of national words like SAKA-RTVELO - which means Georgia in Georgian language. KA-RTVELI - means Georgian person, while letter “O” in the end of Rtvel_O expresses the passive form when addressing the words said by someone. Letter “O” in the end of Georgian words and names is used to call someone, address to someone. To sum up the meaning of Rtvelo, therefore our choice is a truly national Georgian word, and it is already understood and cherished in every Georgian’s heart. Another reason for giving this name to our Qvevri wine is to let the foreigner customers also know a key word not only of viticulture but in Georgian language in general. Let the word Rtvelo be associated with Georgian traditions of Rtveli, Qvevri winemaking and Georgian Supra.

**Software marketing strategy** has been chosen for **Rtvelo brand promotion**. Early, in 2018, we started using digital marketing for advertising Rtvelo. For this purpose, we created Instagram and Facebook pages for our brand. Since then, we have been permanently adding new posts describing Rtvelo wine and telling and retelling different stories and disclosing scientific information about Qvevri winemaking and brand creation. Digital marketing is the best gift of 21st century to business people because it allows everyone to promote their brand in any country without even leaving their own house. It is the cheapest and the fastest way of brand advertisement.

From time to time we also applied paid Instagram and Facebook promotional tools, boosting posts, to reach out more and more potential customers. The first focus country in our marketing strategy is Georgia because we believe that no product can achieve success abroad which is not recognized and loved in its original country.

5$ daily boost allowed us to reach about 400 social media user who showed some interest or revealed any connection with wine. So business owner is allowed to talk directly to about 400 people who can become the engaged customer of his product in future. On the other hand it is very important to choose the correct content for your posts.

We want to introduce several Instagram marketing tools that are making our job easier, faster and smarter. First of all any Instagram account needs to get followers. Page admin has to identify the audience he needs to get. After that a little research is needed to find biggest influencers in your field. In our case we had to search for the world known winemaker companies, brands whose Instagram pages have great amount of followers (Wine_advocate, the page of a publisher, wine journalist of The Premier Wine Review Magazine; Chandonusa, wine company having 38.6K followers, which was created in France and is operating in California, and so on). The tool to attract follo were of big influencers is “Kicksta”. Kicksta rationalizes this process by taking responsibility on doing the biggest work to do. On Kicksta page admin submits the accounts whose follower he needs to gain the program puts likes on the posts of people (users) who are the followers of the top influencers. Such kind of actual relations are positive way to gain Instagram followers for your account. And Kicksta allows you get your job done without performing all the manual work by yourself.

Another issue and one of the most important one is how good photos you upload on the Instagram. Because first attraction is generated by the photos. VSCO and PS express are the photo-editing tools applied by us to remake photos for our Instagram posts. Photos are the most engaging content on the Web, with visual posts producing 650% higher engagement than posts with only texts. So therefore Instagram is a countless platform to involve your potential customers and keep them reappear for more. So photo-editing platforms allow us create most interesting and engaging content.

One more Instagram marketing tool we use is Woobox. This platform allows us quickly and effectively create and implement campaigns for our followers. Competitions, giveaways are the best engaging activities performed on Instagram nowadays. Such kind of activities are supporting the increase of brand awareness.

Influencer marketing is one more important aspect of creating a great Instagram follower audience. As we have mentioned we have already found influencers who are giants in wine field. FameBit is a tool that allowed us to connect directly with the ones who are interested in new campaign opportunities. By means of FameBit system we were able to set up budget, what king of campaign we needed, and we were rapidly connected the influencers appropriate for our needs.

It is a fact that analytics are very important to define how the audience responds to our business. Iconosquare is a tool helping us to analyze actions based on the content that was posted or which Hashtags were used. It lets us identify small details that can build up or are harmful for our campaign.
It is very important to be easily discovered on the Instagram. Hashtags are very used searching tools (leading to average 12% engagement). To benefit from Hashtags, it’s important to know which ones to use. AutoHash is an instrument that provided us with the list of relevant Hashtags based on the objects shown on each photo. by means of AutoHash we were choosing best Hashtags for each post and were able to increase the engagement of new audiences.

One more instrument we are actively using is Planoly. This tool is very time consuming for us, as we are able to plan Instagram activities a week ahead and puts everything into action.

CONCLUSIONS

Georgia a small developing country, with small companies that don’t have profits in millions, with great traditions and is moving forward to become EU member, needs more development and knowledge in business field. Especially agriculture is the sphere that gives most power to Georgian economy. There are more than 300 winemaking companies in Georgia and it is dramatically important for the country to give proper knowledge to each of wine company manager. More government intervention is needed to increase understanding of CSR and make it clear how big importance it carries for their own companies. If government organizes trainings and courses for Georgian wine company managers for broadening their knowledge in management we will get the better atmosphere to exist in. As we mentioned above there are more than 300 winemaking companies in Georgia, if each of them starts implementing CSR policy and starts treating better the environment they operate in, the whole business situation can start improving. Georgian people love competitions and love to beat their competitors, it doesn’t mean in bad way. Government can use these traits of characteristics of Georgians and manage competitions, who applies the best CSR strategies annually, between winemakers, that will encourage wine companies think more about their surroundings than they used to.

Using digital marketing as a tool for promoting wine brands has the great importance in 21st century. Nowadays outdoor commercials and traditional promotion methods have stepped back while digital marketing via social media has become the most popular source for implementing marketing strategies. We have created digital marketing model for our new wine brand Rtvelo using Instagram as a promotion platform. In our example we have clarified how to implement correctly marketing strategies created for wine brands. The example of Rtvelo will allow new comers to wine industries to understand how to use digital marketing as a source for promotion. It will also be a good case for researchers to realize the importance of experimental research method. Thus we have created successful wine brand in the republic of Georgia which has clear strategy to implement CSR policy for brand development and use it as a marketing tool and well developed digital marketing strategy.

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THE RELEVANCE OF SOCIAL MEDIA MARKETING SKILLS FOR MANAGERS IN A CHANGING DIGITAL WORLD

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Abstract: Today social media is taking over the world. Digital advancements have opened gates to many social media platforms and applications. Social media managers must grow social media skills to succeed in this evolving world. Social media establishes a web presence, social media culture, and tone in the market. The goal of the study is to analyze the relevance of social media marketing skills and to emphasize an extraordinary impact social media presence has. The study explores the top fifteen social media marketing skills to succeed in a changing digital world. The study used probability simple random sampling method. Respondents were selected from a specific target population. Research results were gathered for comparative analysis. The findings on the research were corresponding to the views expressed in the literature review. The research met all of three objectives of the study and showed the relevance of social media marketing skills for the social media managers.

Keywords: Marketing, Digital World, Social Media Skills
JEL Code: M31

INTRODUCTION

Nowadays social media marketing is a growing trend which is an e-word of the mouth between businesses and customers. The advertising world has changed from traditional to digital marketing. Businesses want the feedback. They want to hear, feel and understand the customer and vice versa. Today, businesses listen to what customers have to say. Customers create the value of the brand from social media activities. They read reviews, watch the content stories, expect engagement, etc.

The study collects information about valuable information received from social media, influences on consumer behavior, businesses vs customer’s engagement on social media, social media marketing as part of the college curriculum, etc. Accordingly, the research tells us how valuable it is for managers to have a strong social media marketing skills in a changing digital world.

LITERATURE REVIEW

Social media plays a huge role in communication between decoders and encoders. According to (Zarrella, 2010, p. 1), social media is best defined in the context of the previous industrial paradigm. Traditional media is one-way, static broadcast technologies. (Zarrella, 2010, p. 3) continues that new web technologies have made it easy for anyone to create-and, most importantly- distribute their own content. A blog post, tweet, or YouTube video can be produced and viewed by millions virtually for free. Based on that if brands are not on social media they will fall behind with their competitors.

(Stokes & Quirk, 2013, p. 366) states that social media is behind the explosion of content on the internet, as various channels have allowed anyone with an internet connection to create and share content easily and for free. (Zarrella, 2010, p. 3) attests that advertisers do not have to pay publishers or distributors huge sums of money to embed their messages; now they make their own interesting content that viewers will flock to.

(Zarrella, 2010, p. 8) clarifies that whether you are part of a small, medium, or giant business, or are and individual entrepreneur, your customers are using social media, and there’s no reason you shouldn’t be, too. It costs almost nothing, it’s easy to get started, and it can have an enormous financial impact on your business. (Evans, 2008) states that social media, like any other form of expression that takes its roots in word of mouth, cuts both ways. It can boost viewership and purchase by reinforcing the underlying marketing message just as easily as it weakens intent and the like hood of successful conversion.

According to (Brunswick Group LLP, 2019), there is no reason for a CEO to sit on the sideline-in every
industry we found a Connected Leader. The article continues that potential employees use social media to research the leadership of future employers and by a more than a 2 to 1 ratio say they would prefer to work for a CEO that uses digital and social media as opposed to one that does not. It clearly is indication that modern managers need to have a social mediial marketing skills.

**SOCIAL MEDIA MARKETING SKILLS**

The study identified the top fifteen social media marketing skills that are vital for the social media managers in a changing digital world. Those skills are collected from literature studies and analysis. The study believes that managers have to have an active role in social media, consequently a social media knowledge.

Here are social media marketing skills:

- **Public Speaking** – A key aspect of communication and it is an ability to speak clearly with public while representing your brand or company. Only knowledge of keyboard and online platforms will not give an advantage
- **Improvisation** – ability to handle a wide variety of circumstances with humor, compassion, and empathy. This skill gives a key advantage dealing with extreme situations
- **Statistical Analysis** – knowledge of what works, what might work, and why it might work. Ability to integrate social and company outcomes by data and metric analysis.
- **Community Management** – knowledge of how to be in touch with the online community and spread the reach. Assists in building long lasting relationships with brand users and creates customer loyalty
- **Content Curation** – knowledge of how to modify content; when, what and where to share. It is a whole concept of being familiar with different audiences, and sharing attractive contents.
- **Communication Skills** – ability to have self-confidence to speak and do business with customers, colleagues, etc. in a fast-paced environment. This skill is how to encoding and decoding a message
- **Listening** – ability to listen carefully, actively and aggressively to your digital community. Listening is key part of communication flow. Listening skill will either elevate a brand success or vice versa.
- **Writing** – keeping your audience with attention-grabbing and creative headlines. Another key aspect of communication and it has its vital place in social media. Creating a forty or eighty word messages is a skill which needs a firm mind
- **Creativity** – regularly coming up with original, innovative, and engaging ideas for social media campaigns. Social media users are demanding and they usually get bored when content shared does not hook them. It might result in losing followers
- **Pattern Recognition** – knowledge of how to identify and capitalize on patterns in real time. This skill allows to read along the lines and identifying right flow. It is an ability to see and predict next few steps. In social media to have an advanced game gives competitive advantage
- **Visual Thinking** – an ability to have an artistic mind to deliver visual messages. Social media is fast moving, and managers need to advance their visual presence. Today, one visual add might make more sense than 140-character message
- **Relationship Building** – constantly been in touch with influencers and followers to build the credibility of the brand. Social media influencers carry an enormous number of followers. It is suggested for brands to have a several brand influencers
- **Flexibility & Ability to Learn** – ability to learn on-the-fly. It is to quickly adapt to the changing environment and to respond quickly. Always to be in a moment and in search of new solutions
- **Strategic Thinking** – A game of strategy is a big deal in social media. It helps to define, analyze, implement, and control digital environments for calculated campaigns on a various social media platform
- **Marketing** – knowledge of basic marketing principles to engage and adapt quickly in the social media environment. It is essential to know key marketing elements for success
RESEARCH METHODOLOGY AND DESIGN

The goal of the study is to analyze the relevance of social media marketing skills and to emphasize an extraordinary impact social media presence has. The study used probability simple random sampling method. Respondents were selected from a specific target population. The survey had 15 questions. The first four questions were about the demographics; the next 11 questions were rating questions, where respondents had to rate social media marketing skills, social media platforms, etc.

The research questionnaire was designed using Questionpro platform. The questionnaire included text, multiple choice (select one, select multiple, drop-down select), and basic matrix (multiple-point scale) style questions. The aim of the study was to test a theoretical knowledge about social media marketing skills and its importance based on literature review.

STUDY POPULATION

The population of the research was individuals who were social media and marketing enthusiast from around the globe. Out of 96 individuals reached, only 80 participated in the study. All participants were helpful and willingly took part in the study.

LIMITATIONS OF THE RESEARCH

The study investigates the top social media marketing skills obtained from a literature review. There was limited literature available about specific social media skills to study. The time of the study was limited. It would be beneficial to have observations and conduct a survey on a bigger scale. It would increase value and create even bigger magnitude to the research. There was no opportunity to pre-screen respondents for objectivity.

HYPOTHESES

The following hypotheses can be formulated for this study:
- **Hypotheses 1**: Social media marketing skills have a positive impact on managers in a changing digital world
- **Hypotheses 2**: Quality of social media marketing skills determine a level of engagement between businesses and customers

RESEARCH OBJECTIVE

The objectives of the study include the following:
1. To find out the importance of social media marketing skills for managers
2. To prove that social media marketing skills carry the value for business and customers
3. To attest that social media marketing is an extraordinary force for the digital world

DATA ANALYSIS

The target population of the research was social media enthusiast around the globe who could give proper feedback regarding social media marketing skills. Between June 8-19, 2019, 96 individuals were personally contacted. All participants were helpful and were eager to participate in the research. An online questionnaire on Questionpro was the instrument used to collect and analyze data.

Respondents were from Georgia, the United States of America, the Netherlands, Germany, Italy, Australia, Colombia, Bolivia, New Zealand, Belgium, Croatia, Ukraine, Romania, etc. Male to female ratio was 46.25% against 52.5%.

Figure 1 shows that majority of the respondents believe that social media marketing skills are valuable for managers. 60.49% of respondents believe that it is “very valuable”, another 35.80 % says it is "valuable". Only 3.7% believes that is not as important and have responded “Neither”. No respond believed that social media marketing skills are “not valuable” or “less valuable".
Figure 1: How valuable is for manager to have a social media marketing skills?

Figure 2 shows that respondents have a strong feeling that all social media marketing skills are very important for the managers. Individual analysis of each skill shows that approximately 48.26% rate “very important”, 38.7% rate “important”, 10.4% rate “on average”, 1.26% “not important, and 0.58% “less important”. 0.8% chose “unable to rate”. Numbers indicated on the scale are mean scores that each skill individually received.

Figure 2: How important are the following Social Media Marketing skills?

Figure 3 shows that respondent preferences vary in selecting a top social media marketing skill. 18.99% selected “communications skill” as a top skill, followed by “creativity” 15.19% and “strategic thinking” 15.19%. Skills that did not receive a top selection are “pattern recognition” 1.27%, “community management”, “visual thinking”, and “listening”, all with 2.53%.

Figure 3: Top Social Media Marketing Skills
Figure 4 shows how respondents are engaged on social media platforms. The highest engagement is on Facebook 40.21%, followed by Instagram 24.74%, LinkedIn 17.01%, Twitter 7.22% and others with 1.03%.

Figure 4: The most frequently used Social Media Platforms

Figure 5 shows that respondents are engaged on social media platforms. 42.5% spend “between 1 to 3 hours” on social media. Next, 25% spend “between 30 min to 1 hour on social media”. followed 20% spend “between 3 to 5 hours”. Interestingly 5% spend more than 7 hours and finally 2.5% spend “less than 30 min”, “between 5 to 7 hours”, and “others” on social media.

Figure 5: Time spent on Social Media Platforms

FINDINGS AND DISCUSSIONS

The survey data shows that respondents believe that having social media marketing skills are valuable. It is a small-scale survey; however, the literature review supports the idea. According to (Brunswick Group LLP, 2019) employees prefer their CEO’s engaged on social media.

The study questioned about businesses having their own digital marketing department. 81.48% thinks that a great idea. A respondent 37361382 says “it depends on the type of business it is, what their goals are, and other actions they have to have their business reach the potential of those personal goals they have”. A good statement, however, in today's world people look for information on social media, therefore it is suggested to have some time of social media presence.

The data about the importance of social media marketing skills did not surprise. Respondents believe that all fifteen skills are important. There is a slight difference between them. When analyzing each skill individually, all respondents believe those skills are very important. Obviously, social media marketing is not attractive to many, however, we must look at changing the digital world and accept the future which is in digital presence.

Respondents were able to select top social media marketing skill. According to the study, “communications skills” took the top spot (Figure 3). If we compare Figure 2. And 3, we will see that data might not match. However,
as a researcher, it is an interesting comparison. I believe that all those skills based on their value, importance and top ranking are interdependent on each other. I will argue that managers must develop top skills in areas of their interest, though, they cannot ignore other skills. They need to be well rounded.

The study asked to rank following statement "social media marketing has to be part of the marketing curriculum at universities/colleges". Figure 6 shows that more than 50% of respondents believe that it should be part of a college education. About 30% says “maybe”. From readings and personal observations, I believe society is not ready yet for a changing global world. They do see changes in preferences and digital influence, but they tend to ignore it. Respondent 37331151 says “from the marketing point of view, social media marketing does not seem a big, as bold that would get a major. It should not be more than one passenger in a car, meaning depending on a country it should not be needed to create a major like that”. Respondent does bring a good point for discussions. Many countries are developing social media marketing majors, but for many developing countries it is hard to believe in it. However, my country is moving that direction. There are not many professionals who understand the true meaning of social media marketing and its value. Majority of the people think that it is just to post something on Facebook. As a researcher and lecturer, this is what I try to teach and push on my students. I want them to know that the title “Social Media Marketing manager” does not mean anything if you don’t have at least some of those fifteen skills to lead the marketing department.

![Figure 6: Social Media Marketing Major](image)

The study commands that social media establishes a web presence, brand image, social media culture and a tone in the marketing. More than 80% of respondents agree with this statement. Consequently, managers need to develop social media marketing skills to better lead their organizations in a changing digital world.

**CONCLUSIONS**

To conclude, the findings on the research were like the views expressed in the literature review and all-around remarks. The research findings show that social media marketing skills are important for the managers and give a recommendation that managers need to develop those skills, especially the younger generation of managers. A digital world is fighting time. Some skills will be good today, but not effective tomorrow. Managers need to adapt and learn quickly. The research findings show that respondents are aware of a changing digital world and are satisfied with what they do now.

The research met all of three objectives of the study. It proved that social media marketing skills are important for managers and carry enormous value moving forward in a changing digital world. It verified that social media skills link businesses and customers. It enables the encoder to send a message and be received by the decoder. To create a valuable message, all fifteen social media marketing skills discussed in the study have extraordinary power.

A changing digital world is not going to stop. Digitalization will continue with the same pace, or even faster. As marketers, researchers and lecturer we must contribute to the society spreading awareness and preaching about social media marketing roles. We should push on students to learn those skills, so they will be better
professionals in their field of careers. Any professional, no matter of their field of operations need to be aware of social media marketing skills.

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Abstract: Technological development has contributed to development of artificial intelligence. Self-learning machines have become more and more popular in the world. Investments, on development of artificial intelligence, are on the rise in various countries. This particular study emphasizes the limitless potential of this technology. Self-learning machines have been integrated into different fields. Various digital algorithms are implemented in digital marketing as well. According to the results, this technology facilitates the process to learn online consumer behavior and attitudes. Study highlights the importance of creativity, mathematical skills, analytical skills, basic understanding of technologies and knowledge of communication in humans. These skills have been stated as the requirements of artificial intelligence for digital marketers, in order to exploit the technological advancement and promote prolific marketing campaigns.

Keywords: Artificial intelligence; Digitalization; Required skills; Marketer skills; Marketing and technologies; Digital skills

JEL Code: M30

INTRODUCTION

Globalization, digitalization and innovations have changed the environment in various industries and have increased new requirements. 21st century has already become a century of digitalization and technological advancements. Digitalization is a vivid example of technological development and is directly linked with innovations, which is dependent on knowledge and technology transfer. Knowledge, technology, and innovation transfers constitute a huge digital chain and contribute to development of artificial intelligence. The potential of artificial intelligence is on the rise and it is limitless. This technological advancement requires different skills from humans. Despite advantages, some of the people believe that artificial intelligence is a threat to humanity and it is capable to replace humans in future. People, from different fields, have dissimilar and contradictory opinions. The aim of this article is to highlight the process of knowledge, technology and innovation transfer. Furthermore, the article discusses required skills of artificial intelligence in digital marketing and evaluates prospective threats.

KNOWLEDGE, TECHNOLOGY AND INNOVATION TRANSFER

Innovation and technology transfer are built on knowledge, which has significant impact on development of various fields. Without specific knowledge, it is impossible to turn their idea into innovation. Based on Porter (1980), knowledge has significant influence on the competitive advantage. Knowledge transfer from one unit to another can increase and improve performance and quality. Process is concerned with interaction between people, which can contribute to innovative ideas. (Ingram, 2000) People should accumulate experience and knowledge to utilize them in a way that will help discover something new (Lubatkin et al., 1998) Technology transfer is firmly interconnected with knowledge. The concept of technology does not emphasize just the method to create product. Technology transfer focuses on the knowledge utilization and process of product or service development. (Bozeman, 2000) Rose et al. (2012) claims, that technology transfer is dynamic. Technology is an intangible asset and is linked with tacit knowledge. (Radosavljevic, 1999)

Innovation is firmly linked with knowledge and technological transfer. Types of innovation are different. It can be radical, as well as incremental. Incremental innovation is comprised of minor changes in products or services in the existing markets. Radical innovation is related to radical changes in the market. (Pham-Gia, 2011)
DEFINITION OF ARTIFICIAL INTELLIGENCE

According to Jones (2015) intelligence is related to the ability to take the right decisions. Word intelligence does not refer to only humans it can be applied to technologies as well. Artificial intelligence is clever software, which contain ability to plan and solve problems. It is a clear example of innovation and technological development. It has direct influence on production of services and products, and is potential to acquire labor market. (Cockburn et al., 2018) Humans have 5 senses: vision, touch, hearing, smell and taste. Artificial intelligence is concerned with three elements: detect, deliberate and develop. It can analyze data, evaluate it and has self-learning ability. (Warwick, 2013) Kulkarni and Joshi (2015) define artificial intelligence as software based system to solve problems related to identification, authentication in security and decision making process. Akdeniz (2016) defines artificial intelligence as a whole universe of computer programming and the most effective algorithm, which resembles humans’ intellect and humans’ behavior. Borana (2016) interlinks artificial intelligence with computer science and physiology intelligence. Moreover, it has roots in logic, mathematics, computations, psychology, cognitive science, biology and neuroscience. The technology is actively implemented into practice in Europe, United States, India, China and Japan. Mostly the attention is focused on development of a new artificial intelligence information communication technology (ICT) and robot technology (RT). (Lu et al., 2018) It is estimated that by 2020 expenditures on artificial intelligence will reach 45 billion US dollars. (Forbes Technology Council, 2018)

POTENTIAL OF ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING

Artificial intelligence is used in different fields, in financial sectors, manufacturing and in marketing as well. This technology has potential to imitate and simulate human behavior. Capabilities of artificial intelligence are boundless. The System is focused on self-learning techniques, whereby it can keep development without human’s interference. Artificial intelligence is effectively integrated into marketing activities. (Sterne, 2017) Big online data has increased importance of artificial intelligence in marketing. Huge potential of artificial intelligence in digital marketing is caused by the neural networks and the skill of “self-learning”. Artificial intelligence has potential to learn data deeply and offers various tools for analysis. It provides digital marketers with possibility to learn customers’ digital reactions and behavior based on collected data. Moreover, this advanced technology anticipates prospective results and helps digital marketers to predict consumer consumption intentions in advance (Ruan and Siau, 2019) Digital channels have already attracted attention from marketers and 25% of budget is always devoted to digital marketing activities. Moreover, 80% of companies focus on technology oriented capital expenditures. Potential of artificial intelligence in marketing is repetitive. The technology supports solely some of the activities. These days, artificial intelligence based decisions involve digital activities, promotions, advertising, website operations and optimizations through online channels. However, creative brand activities are still controlled by humans. Humans are still in charge of the whole processes. Artificial intelligence and digital algorithms facilitate processes in marketing and contribute to right decision making process. Campaigns are initiated by humans and evaluated by artificial intelligence. As reported, artificial intelligence has capability to support single marketing tasks, instead of taking the whole responsibility. Though, it has substantial future in marketing as it is self-learning technology. (Sterne, 2017) Büchner & Mulvenna (1998) claim that technological and internet development have contributed to marketing intelligence. Development of artificial intelligence promotes accurate data collection methods. Artificial intelligence increases importance of analytical processing and data mining. Furthermore, Kose and Sert (2017) draw attention to links between content marketing and artificial intelligence. Artificial intelligence makes process of content marketing more adaptive, flexible and interactive on digital channels. Van Laar et al. (2017) discuss integration of digital skills with skills of 21st century. The authors’ framework is based on seven major skills, which are: technical, information management, communication, collaboration, creativity, critical thinking, and problem solving. Moreover, the formation includes skills related to: ethical awareness, cultural awareness, flexibility, self-direction, and lifelong learning. The authors claim that development of digitalization has aroused importance of new skills. New generations have to concentrate on acquisition of these skills, in order to increase their competitiveness and potential in digital world. Employability is depended on digital techniques and approaches. Recent developments of the artificial intelligence have facilitated the automation. It has become a source of micro targeting marketing practices and various simplified services. Therefore, artificial intelligence is
presumed as a consumer well-being oriented technology. However, it may influence negatively on people and is capable of negative consequences as well. (André, 2018)

THREATS OF ARTIFICIAL INTELLIGENCE

As proved by Makridakis (2017) artificial intelligence will bring substantial changes and will increase unemployment. Artificial intelligence is very firmly integrated into marketing and sales. As claimed, robots will replace salespersons and marketers in future. Self-learning machines will become less dependent on humans and will be able to release self-updates. (Siau and Yang, 2017) Professor Stephen Hawking, proved that further development of artificial brain will lead people to serious negative consequences. Everyone, whose potentiality is constrained by slow biological evolution, will be replaced with self-learning robots. For example, Cleverbot is software, which has skills to learn from the past conversation. Participants were not able to analyze that robot was on the other side of the conversation. Moreover, Elon Mask claims that clever machines will destroy millions of jobs and change labor market. (Cellan-Jones, 2014) Furthermore, artificial intelligence development is linked with apocalyptic nature of science fiction. (Geraci, 2007) Artificial intelligence has potential to act like a human and better. In comparison with human minds, decisions, which are taken by artificial intelligence, are based on facts, instead of emotional expressions. It can work 24/7 without recessions. Additionally, it has better memory and requires few training than humans. (Borana, 2016) According to Harris (2010), artificial intelligence aims to solve the problems, which are more difficult to be solved by humans’ brains and it can replace importance of humans in many fields. Huang and Rust (2018) developed theory, which proves that artificial intelligence is capable to replace humans with robots at service tasks. The theory includes four intelligences, which are required to complete various service tasks. These are: mechanical analytical, intuitive and empathetic. The authors claim that currently it is very possible to replace humans with robots at the task level. Although, further development of the technology will make it feasible to displace people from their job positions and replace them with robots. It will occur, when artificial intelligence reaches ability to control all tasks. As claimed, Humans replacement with robots will increase depression level in population, crime and poverty as well.

METHODOLOGY

Methodology is defined as a plan of research, which is concerned with various methods. Every research requires particular approach, in order to reach objective. (Jonker & Pennink, 2010) Due to peculiarity of the research objective, the researcher focused on structured interviews with marketing managers and social media administrators in Georgia, to analyze opinions regarding potential, possible threats and required skills of artificial intelligence in digital marketing. Because of limited time, number of interviewees was 8 and the duration of per interview was 20 minutes. Interviewees were employed in e-commerce and telecommunication sectors, where digital marketing promotions are conducted actively. Interviewees were asked question about potential of artificial intelligence in digital marketing, required skills for digital marketers and prospective risks. As stated by Anderson & Arsenault (2005) Interviews provide researcher with possibility to get as much information as possible from respondents. However, interviews require coding and interpretation. Therefore, thematic analysis was considered for this particular article to highlight key points and categorize answers. As claimed by Braun et al. (2019), thematic analysis is the most appropriate way to code interviews and categorize answers.

INTERVIEWS AND ANALYSIS

According to interviewees, technologies play significant role in digital marketing and its potential is limitless, as well as boundless. Based on artificial intelligence, it is very possible to learn consumer behavior and focus on the most appropriate segment. Digital algorithms track users, collects data and provides us with results regarding their online behavior. Moreover, artificial intelligence offers estimation of results before digital campaigns. Interviewees opinions match with Sterne (2017) that digital algorithms provide tools to optimize campaigns and spend our budget more efficiently. Social media channels are a vivid example of how this technology works in the field of marketing. As reported, it contributes to optimization, promotion and learning processes. Role of artificial
intelligence has been increasing into marketing. Major advantage of it is concerned with process of “learning from the customers” It provides huge data, with which digital marketers can identify, learn consumer behavior and attract new consumers.

With reference to required skills, interviewees agreed with Van Laar et al. (2017) and emphasized importance of creativity, analytical skills, mathematical knowledge, and basic understanding of internet. These are skills, which digital marketer needs to deal with new technologies and to get the most out of artificial intelligence. Furthermore, as claimed, based on creativity, humans will be able to compete with artificial intelligence and decrease risk of replacement. Creativity and content management are deemed the most required skills in digital marketing, to use technologies in more effective way and to have fruitful promotional campaigns. Creativity is considered as the skill, which is not provided by the current technologies. Therefore, digital marketers should become more creative to make promotions more efficient through online channels in conjunction with artificial intelligence.

As regards to threats, at the current stage of development, it can be said that in digital marketing artificial intelligence does not constitute serious threat to humanity. Currently, it works on individual tasks, and does not take responsibility for the whole marketing processes. However, as it has been reported, if humans do not limit capabilities and development of self-learning machines, threat of replacement will increase and will become practicable. Interviewees agree with Makridakis (2017) that development of artificial intelligence will cause changes as it will become potential in future to replace humans and increase unemployment. Moreover, self-learning skills of artificial intelligence will decrease role of humans in digital marketing analysis. Based on self-analysis, artificial intelligence will have potential to conduct self-promotions through digital marketing channels.

**CONCLUSION**

To conclude, interviewees agree to the fact that potential of artificial intelligence is high in digital marketing. It has potential to learn consumer online behavior effectively and offer various segmentation options to reach prospective consumers through digital promotions. Leaning consumer behavior is one of the most essential factors in marketing. Artificial intelligence facilitates this process and provides possibility to reach the most interested customers, who may become consumers. With connection to required skills, creativity, analytical thinking, mathematical skill, and basic knowledge of technologies are considered important. Moreover, knowledge of communication and languages can be deemed asset. According to the collected results, currently, artificial intelligence works on just single tasks. However, threats of the human replacement are still uncertain and might be high in future if humans do no limit technologies. This article is limited, as it does not draw any comparison.
Marketing is not only fields where artificial intelligence is effectively integrated. Moreover, discussion over threats of artificial intelligence in the field of marketing is presented generally in this article and does not draw detailed conclusions. Further research can be conducted into different fields to make comparison and to investigate artificial intelligence in more details.

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MOTIVATION MANAGEMENT: TOWARDS A DIGITAL PARADIGM

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Abstract: Motivation management consists of different components, the most important of which are the management of incentives, value management and management of organizational culture. Each of the selected objects of management actions is characterized by certain contradictions that need to be worked out at the level of individuals, at the level of groups and at the level of team formation. The most important contradictions of that kind are the contradictions between short-term and long-term interests, between formal and informal institutions, between the management of people and the management of tasks, between the concentration and delegation of authority. Under the digital age arising, group motivation management and team building work do not become more complex, they take on a different shape. Organizations become more virtual, working hours are more flexible, and general staff meetings are more rare. Values are becoming more and more individualized, and the responsibility for executing large areas of work is increasingly assumed by one person, whose functions are selection and training of employees necessary to solve the tasks facing him.

Keywords: motivation management, digital economy, virtual organizations, team building, training of employees, organizational culture.

JEL Codes: M50, D83, A13

INTRODUCTION
Change management, the ability of organizations to adapt their market behavior and internal structure to the needs dictated by new technologies are of crucial importance under permanent technological shifts experienced by the global economy today.

The most important part of change management is motivation management. The internal innovation system of the company, institutions and decision-making algorithms, the dynamics of value chains depend on how the relevant processes are organized within the framework of intrafirm management.

The widespread implementation of information technology requires changes not only in the organization of work, but also in matters of staff motivation.

SEVEN ELEMENTS OF MOTIVATION MANAGEMENT
Motivation management consists of a series of elements that logically follow each other and represent contradictory entities. Their totality, imbued with a single logic, is presented in Figure 1. Conventionally, they can be divided into three groups – the management of incentives, values and organizational culture. Let us briefly list these contradictory elements and identify their role in the general concept of motivational management.

1. Short-run and long-run interests. The meaning of this contradiction is that each agent at the same time pursues certain goals, the achievement of which is possible and meaningful on different time horizons. This fact of simultaneously achieving goals, the return on which occurs at different periods of time, implies the need to allocate resources between short-run and long-run objectives.

This contradiction has deep roots in the process of human labor. In contrast to the vital activity of animals, human labor is aimed not only at meeting human needs directly, but also at creating certain conditions and prerequisites for this satisfaction of needs to become possible. Hence the contradictory nature of all human activity follows and the failure of artificial concepts (for example, the Pareto-efficiency concept), which are based on the assumption that each agent is concerned with the short-run maximization of his utility function in every moment.
The most obvious expression of this contradiction is the innovator’s strategy in a technology market. There is a certain group of agents investing in the development of technology at the initial stages of its development and consciously condemning themselves to lose in the short term in order to get higher returns in the future. Without such agents, no technical progress in a society would be possible, and today, when high technologies are massively introduced into production processes and people’s livelihoods, the innovator’s strategy focused on long-run success inevitably becomes more and more widespread.

2. Material and moral incentives. The numerous strategic management guidelines that have emerged in the last 15-20 years emphasize the importance (and perhaps even the primacy) of moral incentives, but do not provide important details, namely – the creation of moral incentives that can significantly affect the economic choice of an employee is not always in the competence of his employer. Most often, an employee gets a job, primarily referring to material remuneration for work, and finds moral satisfaction (communication, recognition of merit, pleasure from the growth of his skills, etc.) outside the organization where he realizes his ability to work.

In addition, the onset of the information age creates the preconditions for the erosion of both the concept of the working day and the concept of the workplace. If the job is to think, then does it matter where the worker is physically present? Today, one third of all employees in the US economy are freelancers participating in temporary intellectual and creative projects and not having a permanent job. These people are paid only for their work, not for their presence in the workplace. In the future, the share of such employees around the world will increase, and thus, the possibilities of moral incentives for employees by their employers will steadily decrease.

3. Individual and collective incentives and values. The dilemma between individualism and collectivism in any situation contains a contradiction due to the fact that in the overwhelming majority of activities the final result depends on collective efforts, and the question of the motivation for this activity is decided for each individual employee. To be or not to be a part of a team is not a simple question not only in team sports, but also in many varieties of business.

For example, when a person participates in a competition (vocal, dance, creative), what is its goal? Colleagues who are not too familiar with how the relevant labor markets are structured will say that the goal of participating in any competition is winning. However, for most participants this is not the case. The main goal is to obtain a profitable contract, a well-paid job at the end of the competition.

The same motives compel some players in team sports. Although textbooks assert that the team acts as a single agent with its single utility function, in real life this is only partially true. The task of each player is to prove himself and get a better contract. How the team plays is not indifferent, but it is not a value priority for the majority of those who take part in the game.

Therefore, the employer has a difficult task – to determine the measure of individual and collective responsibility, to streamline individual and collective values. The principle “you can die, but a friend must be saved” is good only for those activities where the contribution of everyone to the overall success is crucial and
there is no value higher than mutual assistance (as it was, for example, in a primitive community). In most types of business, even if it is a staff-dependent business, it’s unwise to proceed from this principle. You can not reduce the grade of the whole class for a test work, if one student made a mistake. Do not underrate the work of a scientist, if his individual results are very strong, but published in a trash journal or publishing house, and so on.

Working with group values is extremely difficult and is fraught with an aggravation of conflicts within the company, caused by incorrectly defined boundary between individual and collective responsibility for achieving results.

4. Formal and informal institutions. The general pattern is that the formalization of institutions is carried out until the investor’s marginal revenue exceeds his marginal costs for its implementation. Therefore, in any, even a very formal system, there are gaps that are not a subject to formalization.

Formal institutions are able to regulate the actions of agents more or less vague and provide for a more or less distinct price of nonlegality (liability for breach of the framework of conduct prescribed by an institution). In this sense, the procedure for calculating the tax is very different, for example, from the coaching setup for the game.

The introduction of formal institutions, as a rule, causes adverse selection in local markets. Attempts to quantify and express quality indicators lead to the fact that agents seek not to improve the quality of their actions or results, but to improve the quality indicators, which is not at all the same thing. Therefore, the use of formal institutions for the purpose of motivation should be undertaken with caution, aware of the constraints and very relative adequacy.

It can be argued that the more information-intensive the economy becomes, the more standardized (and exposed to formal institutions) procedures of industrial production, but the less formal the parameters of creative activity of workers.

5. Mission and function.

Let’s give a simple life example. On the city beach in Miami, a signal was received that a few dozen meters from the beach, on the “wild” part of it, a man is drowning. The rescuer, who was closest at the scene for the accident, rushed there and helped save the man. When he returned to his workplace, he was awaited by the news that he was fired: leaving the duty station without permission, he thereby endangered lives of people who were swimming in the area of the city beach entrusted to him [The rescuer in the US …, 2012].

The fulfillment of the mission of the rescuer did not meet with the understanding of the management, since in this case it goes against the function, for performance of which the employee receives a charge. The price of nonlegality in this case was dismissal. Such examples can be given quite a lot.

In early 2019, social networks in Russia stirred up a case that arose in one of the Ural villages. In the autumn of last year, a resident of the village slipped on the steps of a village shop and fell, the result was a ragged wound, which the local surgeon processed and sewed. At the same time, he violated the standards of medical care, for which strict observance it was necessary to take her to the emergency room, which, taking into account the waiting in line, would result in a loss of at least two hours, and in this situation, blood loss could be critical for a person’s life. After two months, the wound healed safely, resident’s health was fully restored. However, officials of the local Ministry of Health, upon learning about this story, expressed displeasure, promising to punish the doctor if this situation recurs [The Russian doctor …, 2019].

In this case, the standard of care imposes strict requirements on the sterility of tools and materials, whereas the period of time from the moment of access to a doctor to the moment of medical care is not subject to regulation, since, due to the remoteness of medical institutions from some localities, there is no certain agent to whom responsibility for compliance with this parameter can be assigned. The contradiction between mission and function, as in this case, is often expressed in the dilemma between the agent's internal value system (morality) and the system of instructions, standards and regulations (legacy) (Figure 2).

Many processes in knowledge-intensive (and other staff-dependent) industries are not subject to standardization from the outside, setting internal standards is often a function of company management, and the discrepancy between these standards often deepens the contradiction between mission and function that may be experienced by workers at all levels. Such situations occur, for example, in team sports, where the player’s
mission is to play well, and his function is to train hard, and only this allows him to earn a place in the lineup. The change of the head coach of the team often leads to a complete reassessment of the players, to their radically different division into advanced and lagging behind, since it leads to a radical change in the imputed standards of training.

6. People oriented management and task oriented management. In some cases, the manager must make a choice between stimulating individuals and promoting them (which is reasonable if he is ready for long-term cooperation with them) and encouraging certain tasks (and this is necessary if the quality of the task performance is crucial for the final result).

Every manager faces a similar contradiction. On the one hand, he manages a certain circle of people for whose job satisfaction and remuneration he is responsible. On the other hand, he must functionally provide a solution to a certain range of tasks and is responsible for the result.

Under the industrial production, people are usually interchangeable (although this rule is not absolute). The stronger the shift towards information production, the stronger the desire of some managers to turn any business into a staff-dependent and to solve very different tasks, managing the same team or at least not changing the lineup of key performers. People-oriented management thus dominates, although the permanent expansion of regulations and standards makes employees more interchangeable in those business processes as well.

![Figure 2: Contradiction between a mission and a function](image)

7. Concentration and delegation of authority. There is a problem that does not have universal recipes. Both extremes are equally bad because they make it difficult to manage the organization and the certain processes occurring in it. For each specific set of situations, there is a menu of possible solutions, the application of which makes it possible to understand whether the implementation of management decisions facilitates an increase or decrease in the level of concentration of authorities.

Outsourcing in decision-making is possible, but when delegating authority in a particular area, you need to be aware of what it is done for, what tasks your subordinates do best to solve [Petukhov, Nizhegorodtsev, 2016].

Note that in all seven stages described, motivation applies to individual workers, starting from the third stage, group management occurs, and the tasks solved in the last three stages concern, moreover, the formation of teams. Team management does not imply that all team members have a single system of values, but within the team it is necessary to have a division of functions that ensures an internal value creation process.

**LEADERSHIP STYLE MATRIX**

The last two stages of the motivational management methodology described above predetermine the so-called leadership style. One style differs from another in a key management object (focusing management decisions on managing people or managing tasks) and a key method of management (level of concentration and delegation of authority).
A guide directed at a person performing a function is humanistic. The manual directed to the function performed by man is mechanistic. If the key method of management is concentration of powers, such leadership styles are called authoritarian, if delegation of authority is called liberal. At the intersection of the respective two axes, a leadership style matrix arises (Figure 3) [Shklyaev, Nizhegorodtsev, 2015].

![Leadership Style Matrix](image)

**Figure 3: Matrix of leadership styles**

The authoritarian-mechanistic leadership style is called **bureaucratic**. The key success factor for this style of leadership is the algorithm, the rules. In any management process, situations arise when there is no room for fantasy and improvisation, and the only thing left to do is to follow the instructions strictly. For example, this applies to compliance with safety regulations, traffic regulations, and actions in emergency situations. In such situations, the bureaucratic leadership style is indispensable and the only one leading to success. Accordingly, the key dysfunction in this style of leadership is a poorly compiled regulation.

The liberal-mechanistic leadership style is called **technocratic**. A manager sets goals for employees and allows them to achieve the goals by any way they want. This is result-oriented management. The key success factor is the right goal, and the key dysfunction is goal-setting dysfunction.

Authoritarian-humanistic leadership style is called **emotional-willed**. The leader charges employees with enthusiasm, he acts as their mentor, guru, spiritual leader, who leads his team to new heights. Properly chosen vector of changes with this style of leadership is a crucial success factor, and the key dysfunction is the dysfunction of the control mechanism.

Liberal-humanistic leadership style is called **democratic**. Here, a key factor for success is a properly aligned relationship in the team. To preserve the team and individuals in its composition, you can sacrifice some effective management schemes, so this style of leadership rarely allows you to succeed in the short term. At the same time, it is clear that as the introduction of information technologies into production processes, any business process becomes personnel-dependent, therefore, the degree of delegation of authority in the long-run horizon inevitably increases, and the management of people prevails over the management of functions and processes.

The key dysfunction in this management style is the interaction dysfunction, a classic example of which is the swan, cancer and pike from the famous Krylov fable. This is a typical example of how a democratic leadership style turns into liberal connivance, when a chief assigned three employees to solve the problem jointly, but did not appoint the eldest among them (responsible for the final result).

Of course, no leadership style is found anywhere in a “pure” form. Their very selection is the result of a certain abstraction. With only some degree of conditionality, it can be argued that one or another leader is a “technocrat”, “democrat”, etc. In the ideal case, the manager should be able to apply any of the described
leadership styles when necessary, just as a mechanic choose the tool he needs at the moment from his box, depending on the nature of the task he faced.

None of the leadership styles is better or worse than others. There are tasks for which a certain leadership style is fruitful and appropriate, and for solving other types of problems it may be completely unsuitable. Therefore, it is meaningless to discuss the advantages and disadvantages of leadership styles in terms of the dichotomy between good and bad. As the ancient Romans said, our shortcomings are the continuation of our virtues (this idea is often attributed to François de La Rochefoucauld).

For example, in every large company, in one form or another, there is a human resource management system, in particular, an adaptation program for newcomers – employees who recently came to work for the company. However, in some cases, adaptation is entrusted to the tutor, in other cases – to the mentor. The difference between them is that the tutor is assigned to a specific set of tasks for which he teaches and gives advice (like as a teacher of the subject), and the mentor is attached to a person or group of people whose membership in the company he oversees (he teaches a certain group of people at once everything they need to know).

Simply put, a tutor teaches something, and a mentor teaches someone. The work of a tutor is aimed at a function, and the work of a mentor is aimed at a person. None of these approaches is better or worse than the other. Each company resorts to specific algorithms for solving these issues based on the specifics of the tasks it solves.

CONCLUSION

The emergence of the era of information technology domination assumes that management is becoming increasingly liberal, and distant employment is becoming more and more common. Production meetings are transferred to online conferences, and interfirm standards are unified and often acquire industry-specific status, as happened with the arrangement of letters on a typewriter keyboard. The workers’ value system, on the contrary, is becoming increasingly individualized, which makes it difficult to motivate specific, strictly defined actions, but it facilitates participation in temporary communities, thanks to which the fragmented personality finds itself in a labyrinth of identities.

In other words, a person becomes more multifaceted and diverse in its manifestations, but the basic motivational tools do not complicate by this, they are simply used in other (digital) formats. Therefore, managing change, a modern organization must be prepared transgress some rules, dictated by its own organizational culture.

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BUILDING PROGRESSIVE FUTURE: HUMAN – AI COLLABORATION

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Abstract: Today the world is experiencing extremely a huge digital transformation led by Artificial Intelligence (AI). Being digitally changed the whole human-world industry. In the digital era customers became internet users. Additionally, organizations try to implement AI applications and try to be digitally active to reach their potential customers through the internet and to reinforce their relations toward customers. In fact, organizations’ digitalize their businesses. Digital thinking becomes one of the required skills at a current time. With digital literacy skills people can benefit from the world. According to statistical portal, Statista 4.4 billion people were active internet users in April 2019. The rapid growth of mobile devices and internet users, contributed our society’s reorganization into so called “network society”. Artificial Intelligence is increasing and developing fast. Human and AI Collaboration brings significant achievements to the companies.

Keywords: AI, Artificial Intelligence, digital, machine learning, network society, AI tech...

JEL Code :033

INTRODUCTION

Ongoing wave of the world’s transformation, also known as “fourth industrial revolution” led by AI delivers enormous challenges and opportunities to the society. Furthermore, it can be a profound change of human’s history.

Humans implement AI in the firms to provide better customer service. To make their communication toward society easier, more simple and more reachable.

Today being digitally literate is a power for better future. We can meet AI in almost all business sectors, as Artificial Intelligence is developing rapidly by the help of human’s great mind.

The goal of this paper is to show progressiveness of Human-AI collaboration.

Research objectives – research and define what type of Artificial Intelligence are used in the banking sector.

Research methods – to be suitable and satisfactory results, qualitative approach, thematic analysis will be conducted during the research.

LITERATURE REVIEW

What is Artificial Intelligence (AI)?
The term Artificial Intelligence was coined by John McCarthy in 1956.

“The 1956 Dartmouth Artificial Intelligence (AI) conference gave birth to the field of AI, and gave succeeding generations of scientists their first sense of the potential for information technology to be of benefit to human beings in a profound way”. (Anon., n.d.)

According to John McCarthy (2007) Artificial Intelligence is:

“It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable”. (McCarthy, 2007)

The English Oxford Living Dictionary describes AI as:

“The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages”. (Oxford, n.d.)

Based on Bernard Marr (2018), as time proceeds definition of Artificial Intelligence changes by its objectives and for what purpose its system was created.

Dramatical development of Artificial intelligence drives some negative doubts in society. Fear of losing jobs,
fear of becoming uncontrolled and harm people.

Even Though today is the transformative era of machine intelligence, and the AI is on the pace of development, it is quite crucial to define its real future risks. Based on the question of the Q&A with five experts conducted by Dan Robitzski “When you think of what we can do – and what we will be able to do – with AI, what do you find the most unsettling?”, (Robitzski, 2018) the answer of Irakli Beridze (Head Of The Centre For Artificial Intelligence And Robotics At UNICRI, United Nations) was:

“Certainly, my conviction is that AI is not a weapon; AI is a tool. It is a powerful tool, and this powerful tool could be used for good or bad things. Our mission is to make sure that this is used for the good things, the most benefits are extracted from it, and most risks are understood and mitigated”. (Robitzski, 2018)

Answer of Hava Siegelmann (Microsystems Technology Office Programs Manager At DARPA)

“Every technology can be used for bad. I think it’s in the hands of the ones that use it. I don’t think there is a bad technology, but there will be bad people. It comes down to who has access to the technology and how we use it”. (Robitzski, 2018)

In fact, it appears that AI by itself cannot be harmful for society, but it can be used wrongly by someone who wants to damage the life on the earth.

According to the research, involving 1500 companies, conducted by H. James Wilson and Paul R. Daugherty, detected that companies who use human and AI collaboration have significant achievements rather than companies who display employees.

“Many companies have used AI to automate processes, but those that deploy it mainly to displace employees will see only short-term productivity gains. In our research involving 1,500 companies, we found that firms achieve the most significant performance improvements when humans and machines work together. Through such collaborative intelligence, humans and AI actively enhance each other’s complementary strengths: the leadership, teamwork, creativity, and social skills of the former, and the speed, scalability, and quantitative capabilities of the latter”. (Wilson & Daugherty, 2018)

As I mentioned before, we can meet AI almost in every fields. Especially it is utterly suitable in banking and other financial sectors.

International MBA Congress held in Cracow, Poland during 17th –19th may 2019 at Cracow University of economics, was dedicated to digital transformation, and how human-artificial intelligence collaboration can shape our future life for B2B as well as for B2C.

During the conference was presented Cracow’s one of the leading bank’s virtual digital assistant. Mission of this AI powered voicebot was to make banking easier for consumers. Voicebot offered consumers different types of bank services, such as: creating bank accounts, money transfer and other bank services. Digital virtual assistant’s progressiveness and its successful functioning were mentioned during the conference.

As stated in the research managed by Kumba Sennaar (2019) gives us AI analysis of America’s 7 Top Banks. One of the objectives of the this paper was to find out “What types of AI applications are currently in use by customers and employees and what applications are in the works at banking leaders JPMorgan Chase or Wells Fargo?”, (Sennaar, 2019) It appears that Wells Fargo uses a AI powered chatbot through the Facebook Messenger. Bank of America adopted an intelligent virtual assistant named Erica in their system. U.S bank announces new position “Artificial intelligence Innovation leader. JPMorgan Chase implemented Contract Intelligence (COiN) platform designed to “analyze legal documents and extract important data points and clauses.”

“Our own AI Executives Consumer Use Consensus shows “chatbots” as the most likely innovation of greatest consumer impact in the next five years”. (Sennaar, 2019)

**RESEARCH**

We meet Artificial Intelligence in banking sector In Tbilisi, Georgia. The leading banks are TBC Bank and Bank of Geogia in Tbilisi Georgia. Two of them have totally distinctive communicational methods toward their customers.

Bank of Georgia is always on the side of innovation, but they do not use digital virtual assistants and chabots. We meet chatbot and virtual digital assistant in TBC Bank. From the latest news, one of the banks that operates
in Georgia, Tera Bank introduced Tera Botin. Tera Botin is a financial assistant chatbot, that helps consumers to make bank operations, but the research on it right now is impossible, because it was introduced in July 2019. A little time passed, just couple of days, accordingly to make some analysis on this application is impossible.

As I mentioned before the goal of this paper is to show progressiveness of Human-AI collaboration and to define what type of Artificial Intelligence are used in the banking sector. Correspondingly, I conducted interviews and the respondents were Alexander Makashvili, Head of Marketing Analysis and Insights At TBC Bank and Irakli Beridze, Head of the Centre for Artificial Intelligence and Robotics, United Nations, UNICRI.

Q&A with Alexander Makashvili:

Q – Generally what do you think about Human-AI Collaboration?
A – With the help of AI humans can automate certain tasks that remain virtually impossible for humans. AI Can boost human’s analytic and decision making.

Q – What types of AI (Digital virtual assistant (voicebot / chabot) are currently in use in TBC Bank?
A – The projects implemented through the Artificial Intelligence in TBC Bank are: Ti Bot- the first Georgian speaker chatbot and voicebot in Mobile Banking. Ti Bot was created with the machine learning method. According to that function, chatbot analysis received information and responds to the questions with the ready-made answers. Likewise people can interact with the chatbot with voice.

Q – When was AI Powered Chabot created?
A – Chat bot, known as Ti Bot was created in 2017.

Q – What kind of services Chabot can offer us?
A – Ti Bot can help consumers with the money transfers. With the checking balance on the card, filling balance on the mobile, providing information on currency courses, scheduled events, nearby ATMs and about the weather.

Q – Do people use Chabot for making banking transactions?
A – Yes, it is actively used and is very popular, especially in the young generation.

Q – Was chabot upgraded and have added some other banking services during its existence? If no, why? If yes, what are they?
A – Two years of its existence, Ti Bot developed and added some features. From the very beginning, Ti Bot could only talk cheerfully about the weather and could only provide information about the currency courses. Over time, new money transfer function, Ti Transfer was added to Ti Bot, (with the help of this function Ti Bot was awarded, as the best alternative payment project in Payments award)

Q – What were the expectations and what is the reality? Case of Chabot
A – Expectations are justified. Mission was to make banking operations easier to the consumers through the innovative and easily use channel. The result was satisfactory, more than that, with its natural and humanlike talks consumers love Ti Bot.

Q – Nowadays banks are using AI virtual assistants to make banking easier to consumers. How do you see the future of banking automation? Are you with your team considering implementing digital virtual assistants in banking?
A – We have already a voice assistant in Mobile Bank and in Ti Bot, which can help with money transfer. We consider and working out on the issue to add some other functions to the voice assistant in the future.

Q&A with Irakli Beridze:

Q – Generally what do you think about Human-AI Collaboration?
A – Human-Machine Collaboration has been the key to human technological progress in the past. The crucial difference today, with the rise of AI, is that the capacities of AI tech are reaching beyond human limits of understanding. Generally speaking, we’re developing technologies whose mechanisms and products outsmart our engineering insights. We might have to learn to consider them as assistants rather than tools, but this remains to be seen. Partnering with machines is definitely the way to go, as long as we don’t lose oversight on trust, explain ability and security.

Q – With the help of AI can we build a progressive future? And if yes – what can we expect from Ai-Human Collaboration?
A – Like Alan Kay said, the best way to predict the future is to invent it. We are definitely capable of building a progressive, human-centered future with the help of AI, but it all depends on whether we’re able to work together towards a peaceful collaborative paradigm. AI is not advanced enough yet to make existential recommendations to us, for example, but it is already at the stage in which it can predict patterns and analyze data much faster than any human mind could. The combination of pattern-prediction accuracy from AI and reasonable deliberation from collaborative human teams is the best we can hope for in the years to come.

**CONCLUSION**

To conclude, human-AI collaboration, together can build a progressive future. Artificial Intelligence will replace tasks and not jobs. The tasks that remains virtually impossible for humans. Especially, implementing AI in companies creates more jobs to handle its system. With the help of humans great mind and Artificial Intelligence’s possibilities world can create a better environment for the society. Analyzing researches what have been done by other experts and what was conducted in this paper, shows us that society’s demand increases on better, easier technologies, machines. Virtual assistant Erica and chatbot Ti Bot are good examples of that. To sum up, from the human and machines collaboration we are able to build a better, human-centered future.

**REFERENCES**


MANAGERIAL SKILLS CAN BE PROVIDED BY THE UNIVERSITIES IN THE DIGITAL ERA

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Abstract: Digitalization alongside with being beneficial for the world, makes changes in many aspects, which requires new skills not to lag behind and stay on the surface. Digital sources have already become inseparable part of any realm regardless their specification. Digitalization is defined by scholars as “changes associated with the application of digital technology in all aspects of human society” (6) (Stolterman & Fors, 2004). It is quite difficult to imagine the field and business being successful and able to work neglecting digital world, that is the reason why managers have to be integrated with the novelties and work in cooperation with the electronic devices. Education is one of the fields where digitalization plays great role. The purpose of this paper is to discuss the skills changing digital era requires from the higher educational institutions and the mental challenges of the 21st century, without which it will be difficult to feel as part of the digital society.

Keywords: Digitalization, managerial skills, higher education, 21st century skills

Jel Code: I20

INTRODUCTION

The 21st century being called the Information Age naturally requires being digital. Considering the fact, that information is easily available, the skills crucial for challenging world have changed. If in the near past being active, flexible and adaptable was not so important and necessary for establishing oneself, new era has changed the approaches and made people to think about developing those skills.

Nowadays, all the ambitious higher educational institutions have started strengthening themselves by stressing on the skills they are able to provide students with. One of the main components students expect after finishing education – career opportunity, can be guaranteed to some extent in case student is ready for the challenging market.

The main idea of the 21st century skills is to make person competitive and challenging not only on the labor market, but in the social relationships also.

The main objective of the present paper is to highlight skills necessary in the changing digital era.

Questions for the objective 1: To determine whether the 21st century skills are really valuable and significant in the Digital era.

1. Which skills do you consider to be significant for the digital era? Do you agree, that critical thinking, problem-solving, communication, teamwork, leadership, creativity, etc. are crucial skills for the 21st century?
2. Are the skills required in the 21st century really different from the ones significant in the previous century?
3. Can the 21st century skills be defined as managerial skills or at least supportive for managers?

Questions for the objective 2: To determine if teaching methods based on digital tools support developing the 21st century skills.

1. Can the teaching method be determiner of developing managerial skills?
2. Does the involvement of digital tools in teaching process improve understanding and developing the 21st century skills?

1. DEVELOPING MANAGERIAL SKILLS IN THE DIGITAL ERA

1.1. 21st century skills and their significance
After transitioning from the 20th Industrial Century, to the 21st Information Century the world has realized, that the skills that lead success in the Industrial Era are no longer sufficient for success in the 21st century (Kivunja, 2015). Current century is the new era, which requires, that its generation had skills necessary for problem solving and thinking logically.

Besides core subjects necessary to be taught at the universities there exist the 21st century themes. During the forum for “Partnership for the 21st century skills” those skills were stressed. As it is shown on the figure 1, the 21st century themes are as follows: life and career skills; learning and innovation skills; information, media and technology skills.

Charles Fadel (2008) defines, that according to the discussions above mentioned include:

Life and career skills:
- Flexibility and adaptability
- Initiative and self-direction
- Social and cross-cultural skills
- Productivity and accountability
- Leadership and responsibility

Learning and innovation skills:
- Critical thinking and problem-solving
- Creativity and innovation
- Communication and collaboration

Information, media and technology skills:
- Information literacy
- Media literacy
- ICT (information, communication, technology) literacy

Skills listed above are called applied skills by Fadel et al. in contrast with the basic skills/subjects taught by the schools or universities, or even personal characteristics of different persons.

Why are teaching the 21st century skills so important? In the changing world new challenges have been arising from year to year, so without preparing new generation for it the world will be vast, boring and dangerous for them. Nowadays, students are being prepared for the jobs and technologies not even existing yet (Fadel, 2008).

Kivunja (2015) states, that “today’s workforce in the Digital Economy is fraught with volatility and uncertainty” (2), so changing market demands of the Information Era requires not only being resilient, but also having correct reactions.

![Figure 1](source: Charles Fadel)

Curiosity, tolerance towards challenging and different ideas, imagination, self-confidence are the skills the 21st century requires in the social era. The person with these characteristics and skills is able to transform crisis. The skills allow people to express their talents. “Creativity is perceived not only as the expression of human potential, but also understood as fundamental for societal growth” (5) (Nakano & Wechsler, 2018).
1.2. Contemporary teaching method and its connection with developing 21st century skills

Different skills can be taught by family members and school teachers since childhood, but as higher education is responsible for personal development of a person, universities should provide students with most important skills.

According to Nakano & Wechsler (2018) teaching students that they should think beyond subjects taught and discover their own ways is crucial. One of the main thing to be considered in this process is new teaching strategies, which will help them to develop required skills in the 21st century.

During past several years teaching methods in higher education have drastically changed. One can very rarely meet to a professor who does not include technology in teaching process (Kulkarni, 2013).

Involving technology in teaching process can occur in different ways, but the leading universities have developed more clever approach, turning it into teaching method. The method is called flipped classroom, which is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by students at home before class session, while in-class time is devoted to exercises, projects or discussions.

In their article Mortensen and Nicholson (2014) tried to investigate if above mentioned methodological approach could increase critical thinking. They used collected data and held anonymous surveys at the University of Florida. The authors did the experiment, dividing groups into two parts. They all had the same mentor and the same exercises to do, but in different environment. The results showed that, the attendance did not differ significantly between two groups, but after assessing the exams, it was clear that the students attending flipped classroom had better results in the exams, than those attending the traditional one. The authors state that: “students taught in a flipped format not only excelled above their peers taught in a more traditional lecture format, but they also developed greater critical thinking skills when challenged with various exercises throughout the semester” (4) (Mortensen & Nicholson, 2014).

2. FINDINGS AND DISCUSSIONS

For the secondary data of the present research, different topics were analyzed in order to understand the selected topic more deeply. According to it the significance of developing the 21st century skills for establishing managerial skills was outlined.

The literature above had revealed that Information Age has its own requirements, without which being competitive is extremely difficult. But, the statements discussed in the literature had to be checked. For the research below the author used qualitative method of investigation, such as thematic analysis. The respondents were chosen according to their characteristics. Lecturers and educational experts would be the most competent in the issue, that is why, they were asked the questions shown in the Introduction part, their answers were transmitted to the research paper without significant changes, though the responses are shortened, remaining core accents. Two of the respondents were educational experts, one of them even involved in reforms regarding higher education in the Ministry of Georgia. As for the lecturers, one of them represented Black Sea International University, another one Theatre and Cinema University of Georgia, the third one Caucasus International University teaching English Language, Script Writing and Law correspondingly. Three of the respondents answered questions verbally, taking an approximate 15-20 minutes each, including discussing the topic itself for more clearance. The other two respondents filled paper form with exactly the same questions and explanations.

Q: Which skills do you consider to be significant for the digital era?

Respondent 1: Agrees with the definition of the 21st century skills and thinks, that computer literacy is an inevitable need of the Digital Era.

Respondent 2: Thinks, that communication and critical thinking are the skills without which it would be significantly difficult to survive in the 21st century labor market. As for other so called the 21st century skills, agrees, that they are very much supportive and need-to-have abilities.

Respondent 3: Agrees, that all the skills mentioned above are very important for the 21st century – the digital era. In this century, with a number of information around, it is difficult to achieve success in any field if one is not able to use creativity and adapt the information accepted to personal needs and interests. Besides, critical
thinking and problem-solving are essential skills while processing information. As for the communication with the right people, sharing ideas, experiences and practices are one of the crucial things that should be taken into consideration.

Respondent 4: Agrees with the importance of the listed ones, however believes that in digital era the most important skills are adaptability and creativity. Digital society is on the fast track and people need to adapt to the change and be creative. Others are crucial, however, those mentioned above will take individual long ways.

Respondent 5: Agrees with the importance of the 21st century skills, though considers, that communication is number one vital thing among them.

Q: Are the skills required in the 21st century really different from the ones significant in the previous century?

Respondent 1: Thinks, that the previous century was not as challenging as we have it today. The needs were different, thus changing world has required significantly different new skills.

Respondent 2: Considers, that basic, factual knowledge, so much important in the previous century is in the “backstage” nowadays and applied skills are much more significant. Discussions and expressing ideas are in high demand.

Respondent 3: Thinks, that the skills of the 21st century are definitely different from the ones of the previous century. The main accents in the previous centuries were on declarative knowledge that meant the knowledge of facts, rules, theories, etc. Nowadays, procedural knowledge is prioritized and the important thing is practical use of knowledge, more thinking, more analysis, creativity, and flexibility.

Respondent 4: Thinks, that if talking about the education, nowadays everything is about applied science, believes that the 21st century is about involvement in real life cases, projects and learning from it. Modern society is also more dependent on technologies and worldwide web.

Respondent 5: Considers, that while the previous century needed more basic knowledge, nowadays significantly different skills related to performance are crucial.

Q: Can 21st century skills be defined as managerial skills or at least supportive for managers?

Respondent 1: Defines the 21st century skills more supportive for managers, than as managerial skills itself.

Respondent 2: Determines to be supportive for managers definitely, but they are not the only managerial skills, as managers need much more skills, including one of great importance - time management.

Respondent 3: Does not think that above mentioned skills are only managerial skills. But, of course, they are supportive for successful managers.

Respondent 4: Determines mentioned skills as mostly supportive skills for managers. Every manager will have some type of talent. Skills are accessories that managers or leaders carry. Therefore, thinks that those skills are supportive, which they should use in various situations.

Respondent 5: Thinks, that the 21st century skills are undoubtedly supportive to managers, moreover, without them managing any field will be extremely difficult.

Q: Can the teaching method be determiner of developing managerial skills?

Respondent 1: Considers, that teaching method can be supportive, but not fully determiner of managerial skills.

Respondent 2: Thinks, that teaching methods are very much important in developing different skills. Innovative methods support in teaching process, but the background of student is also significant when it comes to processing information.

Respondent 3: Considers teaching methods to be very important for developing specific skills. Various intelligences of a person certainly define his/her interests and profession. Though, teaching in the right circumstances can help developing necessary skills.

Respondent 4: Answers - yes and no. Considers, that it must be combination of both sides. If only one side is committed in development process, it will not do well. Teaching method cannot solely determine development of the managerial skills. The learner is the most important player. Learner needs to understand and critically evaluate benefit of teaching.

Respondent 5: Thinks, that those skills are supportive in process of developing managerial skills. Correctly
chosen and used teaching method can definitely strengthen at least several crucial skills with students.

Q: Does the involvement of digital tools in teaching process improve understanding and developing the 21st century skills?

Respondent 1: Thinks, that Digital Era definitely requires usage of digital tools, which helps much better understanding and develops managerial skills.

Respondent 2: Considers, that, not only improve, but electric devices are number one tools in developing important skills for the 21st century. The fact, that perception of discussed subject is easier in case of visualization is inevitable.

Respondent 3: Thinks, that digital tools are very flexible, attractive and simplify gaining knowledge. They enhance developing some necessary skills in shorter period.

Respondent 4: Definitely. Nowadays distance education and e-learning are on the rise. Many countries and institutions are investing in digital tools. However, we also have to think that there are many countries who are also skeptical about digital developments. Today, institutions need to invest in developing the 21st skills. That will make learners more adaptable to the digital era.

Respondent 5: Definitely yes. Even more, teaching without using digital tools is unimaginable fact in the 21st century. Visual support in process of teaching simplifies subject understanding.

Table 1:

Analyzing the answers given from the respondents the importance of the 21st century skills is clear, but among number of skills required by the digital era the most important ones were revealed. The results are evident on the table 1. Besides importance of the 21st century skills, the concern of the paper was to make it clear whether the universities obtain opportunity to strengthen those skills with students. The results of the research show, that teaching methods using information technologies are connected with the Information Age skills and affect them positively.

Considering the fact that the respondents were from different fields and backgrounds, the result can be generalized, though further research and discussions would be interesting and helpful as well.

CONCLUSION

After the previous Industrial Century, digitalization has shown its great power changing the dimensions of the world and turning it into different place. Empowering electronic devices changed the attitude towards requirements also, since the jobs have been created never existing before.
Educational institutions are responsible for preparing generations for the challenges Digital Era sets for them. Innovative and effective use of digital sources in teaching process can provide students with the skills vital for the 21st century. Skills mentioned in the article above, are so called the 21st century skills and management of any company can hardly be imagined without them.

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