CONSUMER'S PERCEPTION TOWARDS THE CHARACTERISTICS OF ARTIFICIAL INTELLIGENCE

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Abstract
In the present world consumers are more and more surrounded by intelligent devices, which improve their quality of life by being more efficient, quicker and by processing a big amount of data. In the same time, these intelligent devices collect information about the consumer and influence their decisions by intervening in their everyday life decisions. The purpose of this paper is to define the term "artificial intelligence" and to analyse the people's reaction and behavior towards it. In the theoretical part, there are also presented different ways in which artificial intelligence can interfere in the life of consumers, companies and the relations between them. It describes the way artificial intelligence interferes in the entire ecosystem of the company and how marketing specialists use artificial intelligence in order to satisfy their customer and meet their expectations. In the empirical part, there are presented the results of a research regarding the characteristics of artificial intelligence and the perception of consumers towards these characteristics depending on gender and age.

Keywords
Artificial intelligence, consumer, efficiency, quality of life, self-fulfilment

JEL Classification
M10, M31

Introduction
The Internet has exploded in recent years with articles about artificial intelligence and its definitions, making it very difficult to include in one definition what artificial intelligence really means. According to Laurière (1987), artificial intelligence is a relatively new science, being for the first time mentioned approximatively 30 years ago. Its mission is to reconstruct, using artificial means, intelligent actions and reasoning. According to Heudin (2019), the notion of artificial intelligence was the first time mentioned around the '50s by the mathematician Alan Turing (1950), who has raised for the first time the problem of bringing machines a new form of intelligence. He describes a test known today as a "Turing Test" in

which a subject interacts blindly with a human being, then, with a machine programmed to formulate sensitive answers. The test wants to prove that the subject is not able to differentiate between the machine and the human being, then, it can be considered as "intelligent". Artificial intelligence refers to the implementation of a number of techniques that allow machines to mimic a form of real intelligence. (Heudin, 2019). In the first part of the paper, an overview is given on the development of artificial intelligence and its impact on the relation to consumers. In the empirical part of the paper we will analyze the way in which artificial intelligence influences every day our choices, our behavior and surely, our decisions, because in our opinion artificial intelligence is equal with a decision maker. There are presented the results of a research about the different challenges of artificial intelligence in the everyday life of the consumers.

Literature Review

The implementation degree of artificial intelligence is increasingly found in numerous fields of application which makes us wonder how people and consumers react to it. Every day individuals and consumer make decisions, from situations in which they go shopping or choose a restaurant where to eat. Social media or the latest apps in a specific domain influence these decisions of consumers, which makes us wonder which the influences of these artificial devices on consumers is. Artificial intelligence help companies to influence the customer's behaviors, by making them loyal to a certain product or brand without the clients' conscience. In recent years, online shopping has increased as a result of advertising messages that appears on social media. This fact has determined marketing specialists to exploit this area and analyze the consumers' behaviors and preferences allowing them to anticipate their choices and to have an overview of these. In this way, companies will be able to understand and to know what their customers' expectations are. They will be able to create personalized offers in order to attract consumers to buy their products, by aiming to keep them loyal to their brand and to satisfy their needs (Pelau et al. 2019). The companies should know that a client who was satisfied by the quality of their products or services, by the kindness or the promptitude of their staff for the first time, will surely choose for the second time their services. For this reason it is very important to be close to your clients and to ask feedbacks, to offer discounts or different advantages. (Bertacchini et al., 2017).

The biggest advantage of artificial intelligence is the fact that it can collect and interpret a large amount of information that the human brain cannot do. By this companies can make the best decisions in order to satisfy their customers and to optimize its activities for growth and profitability. (Loison & Cisse, 2019). To anticipate consumers' behavior using machine learning algorithms, it is necessary to have a close collaboration between specialists in the field, scientists and IT in order to valorize the data and to put them in practice. There is a need for decisional assistance tools regarding the information of the consumers that can be made with data science and experts in the field but also with the help of APIs (application programming interfaces) (Loison & Cisse, 2019). The data to be analyzed and distributed refers to internal data about customers or potential customers and their behavior as well as the multiple interactions in its ecosystem, open data from social networks or other external data (Loison & Cisse, 2019).

The main purpose of each company is to differentiate itself from its main competitors and to become a market leader. Consumer behavior, technology and the regulations in force are constantly changing, so in front of them, artificial intelligence and machine learning are absolutely necessary for companies because they provide real tools for adapting to continuously changing world. Artificial intelligence brings certain solutions to many problems that can occur throughout the entire ecosystem of the company but also in the analysis of consumers as potential customers of the company.

According to Siecle Digital (2018), nowadays consumers create 2,5 Exa-Octets data per day. The data's multiplication possibilities creates an overwhelming amount of information. Companies have to face to this abundance of data which is pouring out on the digital media that is daily used. In addition to this, data creation is exponential and which also increases the amount of data that needs to be analyzed. From the perspective of artificial intelligence this is a strength because it has the capacity to sort the information and to adapt to this dizzying increase in data. Artificial intelligence has the advantage that it can filter the data and it makes it easy for consumers to search for different information. Let's imagine how it would be if we were looking at a map trying to go from point A to point B, crazy, isn't it? Artificial intelligence is here to ease our live because it makes it possible to retrieve, compile and format the data received. Another example is the movie database Netflix. Netflix has thousands of video content from series, movies to documentaries etc. If one compares his/her Netflix account to that of your friend, it can be observed that they have different content because Netflix uses different movies or series covers depending on your ratings. This is possible thanks to the artificial intelligence which not only suggests you a list of series or movies to look at, but influences you with a selected titles in relation to your personal preferences. In this way, our ability to make decisions about the films we watch is facilitated but in the same time controlled by the artificial intelligence behind Netflix (Ludovic, 2018).

Methodology

The objective of our research is to determine the perception of the consumers regarding the factors that affect the acceptance of artificial intelligence and robots. The survey has been carried out on a number of 370 respondents, who had to evaluate situations involving individuals/consumers and robots. The survey has been carried out in the December 2019 and the respondents have been chosen randomly. They had to evaluate the questions on a Likert scale from 1 to 7 (where 7 represents totally agree and 1 represents totally disagree).

The questions have been grouped in seven categories based on the main factor which influences the acceptance of robots and their contribution to the consumers' everyday activities. These categories are: efficiency, increase in quality of life, hedonic pleasure, social pressure, learning processes, willingness to buy, self-fulfillment. Table no. 1 offers an overview on the questions and the results received. The significant differences between the respondents' choices have been tested depending on two demographic characteristics of the consumer: gender (female and male consumers) and age (people younger than 30 years and people older than 30 years).

Results and discussion

The first category contains four questions regarding the *efficiency* resulted from the interaction with artificial intelligence. When asked if the robot would perform daily activities more efficiently, the majority of women agreed more with this question as men, while the people over 30 also rated this question higher as the one younger than 30 ($M_{1a\ total}$ = 4.68, $M_{1a\ women}$ = 4.69, $M_{1a\ men}$ = 4.66, $M_{1a\ <30}$ = 4.64, $M_{1a\ >30}$ = 4.75). The accuracy which a robot can achieve in comparison to a human was rated also higher by women and by people over 30 years old, while men and younger people offered a slightly lower rate for this ($M_{1b\ total}$ = 4.72, $M_{1b\ women}$ = 4.80, $M_{1b\ men}$ = 4.64, $M_{1b\ <30}$ = 4.64, $M_{1b\ >30}$ = 4.86). The third question was related to the fact that less errors occur when the duties are fulfilled by robots. There is however no significant difference based on gender, while age is making just a tiny difference, as people older than 30 agree slightly more with this concept than the ones younger than 30 ($M_{1c\ total}$ = 4.79, $M_{1c\ women}$ = 4.78, $M_{1c\ men}$ = 4.79, $M_{1c\ <30}$ = 4.70, $M_{1c\ >30}$ = 4.94). We can however notice that the efficiency was strongly correlated with speed, as the total mean was the highest for this final question in comparison to the other three questions from this category ($M_{1a\ total}$ = 4.68, $M_{1b\ total}$ = 4.72, $M_{1c\ total}$ = 4.79, $M_{1d\ total}$ = 5.06). Women agreed more than

men with this fourth question which stated that a robot could fulfill daily activities faster than a human ($M_{1d\ total} = 5.06$, $M_{1d\ women} = 5.20$, $M_{1d\ men} = 4.92$, $M_{1d\ <30} = 5.02$, $M_{1d\ >30} = 5.15$). The second factor which has been analyzed in order to see if it affects the acceptance of artificial intelligence was the ***increase in quality of life***. For this second category, we observed that the total means of the three questions are the highest in comparison to the ones from all the other six categories, which shows that the increase in quality of life is particularly high rated as an important influencer in the acceptance of artificial intelligence in our life. The first question was referring to the fact that activities completed by robots are making our life easier and in this regard, men offered a higher rate to this statement than women, same as people over 30, in comparison with people younger than 30 ($M_{2a\ total} = 5.23$, $M_{2a\ women} = 5.20$, $M_{2a\ men} = 5.26$, $M_{2a\ <30} = 5.21$, $M_{2a\ >30} = 5.27$). The second statement checked to the possibility of having more free time thanks to the use of a robot. While the total mean was particularly high, there seem to be no big differences between the answers based on gender or age ($M_{2b\ total} = 5.36$, $M_{2b\ women} = 5.37$, $M_{2b\ men} = 5.35$, $M_{2b\ <30} = 5.36$, $M_{2b\ >30} = 5.36$). The last question stated that people can concentrate on more complex activities, if the robot is helping out with some of the duties. In this situation, we have slightly higher rates given again by men, in comparison to women and by older people, in comparison to younger generations ($M_{2c\ total} = 5.34$, $M_{2c\ women} = 5.28$, $M_{2c\ men} = 5.39$, $M_{2c\ <30} = 5.27$, $M_{2c\ >30} = 5.45$).

Table no. 1 Factors that affect the acceptance of artificial intelligence

Item	Total mean	Mean Wo-men	Mean Men	Mean Age< 30 years	Mean Age> 30 years
1. Efficiency					
a. The robot performs the activities more efficiently	4.67	4.69	4.65	4.63	4.74
b. The robot completes the duties more accurately	4.71	4.79	4.63	4.64	4.86
c. Less errors occur when duties are fulfilled by robots	4.78	4.78	4.78	4.70	4.93
d. The robot fulfills the activities faster	5.06	5.20	4.92	5.01	5.15
2. Increase in quality of life					
a. Activities completed by the robot are making my life easier	5.23	5.20	5.26	5.21	5.26
b. I have more free time thanks to the robot	5.36	5.37	5.35	5.36	5.35
c. I can concentrate on more complex activities, if the robot is helping me out with some of the duties	5.33	5.28	5.38	5.27	5.44
3. Hedonic pleasure					
a. The interaction with the robot is fun	4.63	4.61	4.65	4.55	4.78
b. The interaction with the robot is fascinating due to the novelty degree it brings with	4.85	4.91	4.79	4.77	4.99
c. I feel like I am part of a science-fiction movie while interacting with robots	4.40	4.45	4.35	4.27	4.64
4. Social pressure					
a. The ability to interact with robots is highly valued by other people	4.26	4.31	4.21	4.15	4.45
b. All my friends have robots which help them with their daily activities	3.16	3.15	3.17	3.13	3.22
c. All people I value use robots in their daily activities	3.20	3.12	3.27	3.18	3.24
5. Learning processes					

a. The interaction with robots requires specific learning processes	5.06	5.05	5.06	4.97	5.22
b. I'm open to learning the required commands in order to optimize the activity with a robot	5.09	5.16	5.01	5.13	5.00
c. I find it easier to perform some activities alone instead of giving the required commands to a robot	4.49	4.53	4.46	4.46	4.56
6. Willingness to buy					
a. I would like to interact with a robot which can help me with my daily activities	4.66	4.66	4.67	4.63	4.72
b. I wish I had a robot to help me with my daily activities	4.87	4.86	4.88	4.91	4.80
c. I am willing to buy a robot which can help me with my daily activities	4.51	4.51	4.50	4.47	4.57
7. Self-fulfillment					
a. I think the interaction with a robot will not affect my social relationships with family and friends	4.67	4.66	4.68	4.72	4.56
b. The interaction with a robot is strict professional and is not affecting my feelings towards other people	4.99	4.99	4.98	4.93	5.09
c. I don't think I will be addicted to a robot	4.91	4.87	4.96	4.83	5.06
d. I don't think that performing activities with a robot can affect my personality	5.10	5.14	5.05	5.06	5.17
e. I don't think that performing activities with a robot can reduce my human social skills	5.06	5.16	4.95	5.09	5.01

Source: Own research results

The third factor which has been analyzed was the ***hedonic pleasure***. Based on these results, we attempted to determine if the interaction with artificial intelligence is nowadays based on simple pleasure or curiosity. However, this category of questions had rather lower ratings when it was associated with words as "fun" or "science fiction" and higher ratings when correlated with the high degree of novelty which artificial intelligence still brings with it. When asked if an interaction with a robot is fun, people over 30 years old rated this statement with a higher mean in comparison with people under 30 years old, while the gender did not make such a big difference ($M_{3a\ total}$ = 4.64, $M_{3a\ women}$ = 4.62, $M_{3a\ men}$ = 4.66, $M_{3a\ <30}$ = 4.56, $M_{3a\ >30}$ = 4.78). The fact that the interaction with the robot is fascinating due to the novelty degree it brings with was rated higher by women and by people over 30 in comparison to people younger than 30 ($M_{3b\ total}$ = 4.86, $M_{3b\ women}$ = 4.92, $M_{3b\ men}$ = 4.79, $M_{3b\ <30}$ = 4.78, $M_{3b\ >30}$ = 4.99). Finally, the feeling of taking part to a science-fiction movie while interacting with robots is more pregnant in women than in men and also in respondents older than 30 in comparison to the ones below the age of 30, as expected ($M_{3c\ total}$ = 4.41, $M_{3c\ women}$ = 4.45, $M_{3c\ men}$ = 4.36, $M_{3c\ <30}$ = 4.28, $M_{3c\ >30}$ = 4.64).

The next factor which was evaluated is the ***social pressure***. This category of questions had the smallest ratings if we compare the total mean of this factor with the ones from the other six categories, which means that the respondents did not consider that the social pressure would be an important factor in deciding to interact with an artificial intelligence system on a daily basis. When asked if the ability to interact with robots is highly valued by other people, women agreed with this statement more than men. Moreover, people older than 30 found this statement significantly more true than respondents younger than 30 ($M_{4a\ total}$ = 4.26, $M_{4a\ women}$ = 4.31, $M_{4a\ men}$ = 4.22, $M_{4a\ <30}$ = 4.16, $M_{4a\ >30}$ = 4.45). The overall ratings were particularly low for the second statement which said that all their friends have robots which help them with their daily activities. A significant difference is again brought by the age groups, as people over 30 gave a higher rating to this statement than the ones younger as 30 ($M_{4b\ total}$ =

3.17, $M_{4b\ women}$ = 3.15, $M_{4b\ men}$ = 3.18, $M_{4b\ <30}$ = 3.13, $M_{4b\ >30}$ = 3.23). The last question checked if all people the respondents value are using robots in their daily activities and while the total mean is the lowest in comparison with all the other total means from all categories, we noticed a difference between the responses based on both age and gender: in general, this statement was rated higher by man than women and by people over 30 than people under 30 ($M_{4c\ total}$ = 3.20, $M_{4c\ women}$ = 3.12, $M_{4c\ men}$ = 3.28, $M_{4c\ <30}$ = 3.18, $M_{4c\ >30}$ = 3.24).

The learning processes which respondents are willing to undergo in order to be able to properly interact with robots and artificial intelligence is another factor which can influence the overall tolerance towards the use of technology in our everyday life. This is one of top three factors which was rated by the respondents, which means that it was significantly important for their decision of accepting help from artificial intelligence systems. Both women and men agreed to the same level that the interaction with robots requires specific learning processes, while people older than 30 found this statement particularly more true than people under 30, for which the learning processes are probably something they deal with every day and to which they are already used to ($M_{5a\ total}$ = 5.06, $M_{5a\ women}$ = 5.06, $M_{5a\ men}$ = 5.07, $M_{5a\ <30}$ = 4.97, $M_{5a\ >30}$ = 5.23). As a reinforcement to this theory, people younger than 30 agreed more with being open to learning the required commands in order to optimize the activity with a robot than people older than 30 ($M_{5b\ total}$ = 5.09, $M_{5b\ <30}$ = 5.14, $M_{5b\ >30}$ = 5.01), while the mean for women was also higher than the one for men ($M_{5b\ women}$ = 5.16, $M_{5b\ men}$ = 5.02). However, there are no differences based on gender for the last statement, which implies that in many situations they find it easier to perform some activities alone instead of giving the required commands to a robot ($M_{5c\ total}$ = 4.50, $M_{5c\ women}$ = 4.46, $M_{5c\ men}$ = 4.46). Significant differences are only based on age, as respondents older than 30 rated this statement higher than respondents under 30 ($M_{5c\ <30}$ = 4.46, $M_{5c\ >30}$ = 4.56).

The sixth factor we attempt to analyze is the respondents' *willingness to buy* an artificial intelligence system. When asked if they would like to interact with a robot which can help them with their daily activities, the means were very similar to both women and men ($M_{6a\ total}$ = 4.67, $M_{6a\ women}$ = 4.66, $M_{6a\ men}$ = 4.67). However, the two age groups offered a slight difference with their assessments, as people over 30 were more open minded to this idea than people younger than 30 ($M_{6a\ <30}$ = 4.64, $M_{6a\ >30}$ = 4.73). While having to assess the wish of having a robot to help them with their daily chores, there was again no significant difference between gender groups ($M_{6b\ total}$ = 4.88, $M_{6b\ women}$ = 4.87, $M_{6b\ men}$ = 4.89) However, this time people younger than 30 rated this wish higher than people older than 30 ($M_{6b\ <30}$ = 4.91, $M_{6b\ >30}$ = 4.81). Finally, the actual intention to buy a robot which can help them with their daily activities was again not very different based on the gender of the respondents, but again on their age with a surprising result, as this time people older than 30 found themselves more ready to actually make an acquisition of a robot or of a system of this kind, while people under 30 do not have such a strong intention, leaving it to the level of a wish ($M_{6c\ total}$ = 4.51, $M_{6c\ women}$ = 4.52, $M_{6c\ men}$ = 4.50, $M_{6c\ <30}$ = 4.48, $M_{6c\ >30}$ = 4.57).

The last category consists of five statements which refer to the degree of people's *self-fulfillment* which can affect or not the tolerance towards artificial intelligence. The first statement implied that the interaction with a robot will not affect the respondents' social relationships with family and friends. While there was not a big difference between men an women, the people younger than 30 rated this statement significantly higher than people under 30 years old ($M_{7a\ total}$ = 4.67, $M_{7a\ women}$ = 4.66, $M_{7a\ men}$ = 4.68, $M_{7a\ <30}$ = 4.73, $M_{7a\ >30}$ = 4.57). However, the situation shifted in the opposite direction in the second case, where people older than 30 agreed more that the interaction with a robot is strict professional and is not affecting their feelings towards other people, while people under 30 years old had a smaller mean ($M_{7b\ total}$ = 4.99, $M_{7b\ women}$ = 5.00, $M_{7b\ men}$ = 4.99, $M_{7b\ <30}$ = 4.94, $M_{7b\ >30}$ = 5.09). People older than 30 years old also strongly believed that they will not develop an addiction to a robot. The mean was also higher for men than for women for this statement ($M_{7c\ total}$ = 4.92, M_{7c}

women = 4.87, $M_{7c \, men}$ = 4.97, $M_{7c \, <30}$ = 4.84, $M_{7c \, >30}$ = 5.07). The female group and the people over 30 also offered also a higher rate to the statement which implied that that performing activities with a robot can not affect their personality ($M_{7d \, total}$ = 5.10, $M_{7d \, women}$ = 5.14, $M_{7d \, men}$ = 5.06, $M_{7d \, <30}$ = 5.06, $M_{7d \, >30}$ = 5.17).

The last question was meant to assess if performing activities with a robot will not reduce peoples' human social skills. To this, women strongly agreed that their social skills will not be reduced, while men had a lower mean and people under 30 had a slightly higher mean than people over 30 ($M_{7e \, total}$ = 5.07, $M_{7e \, women}$ = 5.17, $M_{7e \, men}$ = 4.96, $M_{7e \, <30}$ = 5.09, $M_{7e \, >30}$ = 5.01), which can suggest that people older than 30 are assessing this statement with more caution.

The overall means per each factor can be found in Table no. 2. At this point, we find it also interesting to analyze which factors were rated as more important and which were rated as less important in the decision of interacting or not with a robot on a daily basis.

Table no. 2 Overview of total means for each factor

Factor	Total	Women	Men	Age < 30 years	Age > 30 years
1.Efficiency	4.8116	4.8700	4.7520	4.7495	4.9246
2.Increase in quality of life	5.3094	5.2851	5.3343	5.2837	5.3563
3.Hedonic pleasure	4.6324	4.6622	4.6020	4.5374	4.8053
4.Social pressure	3.5435	3.5299	3.5574	3.4899	3.6412
5.Learning processes	4.8841	4.9178	4.8497	4.8574	4.9326
6.Willingness to buy	4.6847	4.6828	4.6867	4.6743	4.7036
7.Self-fulfillment	4.9502	4.9689	4.9312	4.9325	4.9825

Source: Own research results

It can be noticed that the seven factors were rated in the next order, based on the influence they have on the interaction with artificial intelligence: ***increase in quality of life, self-fulfillment, learning processes, efficiency, willingness to buy, hedonic pleasure, social pressure.***

Table no. 3 Differences in rating the influence of the factors depending on gender and age

Factor	Differences based on gender (**M** total women) – (**M** total men)	Differences based on age (**M** total >30) − (**M** total <30)
1.Efficiency	0.12	0.18
2.Increase in quality of life	-0.05	0.07
3.Hedonic pleasure	0.06	0.27
4.Social pressure	-0.03	0.15
5.Learning processes	0.07	0.08
6.Willingness to buy	0.00	0.03
7.Self-fulfillment	0.04	0.05

Source: Own research results

Moreover, women found efficiency, learning processes and hedonic pleasure particularly more important than men, when it comes to the decision of accepting artificial intelligence and robots in their lives, while men found in general the increase in quality of life and the social pressure more important than women. People older than 30 years old attributed more importance to factors such as hedonic pleasure, efficiency and social pressure than people younger than 30 years old. These can be observed in table no. 3.

Conclusions

The results of the research show that the main reasons of consumers to accept artificial intelligence is the improvement of the quality of life, while social pressure of having a robot is the least important factor. With the presence of robots in the everyday life of consumer, they have to be aware that each click or action on the internet or on social media is recorded, compiled and analyzed. Therefore it can be concluded that there is a compression of the physical and virtual reality. The algorithms provide consumers with the products and services they expect, saving time and increasing the efficiency of processes. With artificial intelligence consumers can do a lot of things both in the professional and in the private life.

We can conclude that our behavior is influenced by artificial intelligence much more than we think. This makes us wonder and also sets the research questions for the future of how far will the development of artificial intelligence go and of how will the lives of consumer change. The results show that younger consumers are more open to artificial intelligence, fact confirmed in previous studies (Pelau & Ene, 2018). Therefore it can be concluded that ther applications and use of artificial intelligence and robots will increase in the future.

Acknowledgement

References

Bertacchini, F., Bilotta, E. and Pantano, P., 2017. Shopping with a robotic companion. *Computers in Human Behavior,* 77, pp.382-395.

Heudin, J.C., 2019. *D'où vient le concept de l'intelligence artificielle?* [online] Available at: <https://www.futura-sciences.com/tech/definitions/informatique-intelligence-artificielle-555/> [Accessed 15 January 2020].

Laurière, J.L., 1987. *Intelligence Artificielle. Résolution de problèmes par l'Homme et la machine*. Vol. 1. Paris: Eyrolles.

Loison, A. and Cisse, A., 2019. *Rôle de l'Intelligence artificielle, IA dans la relation client.* Nanterre: Livre Blanc.

Loison, A. and Cisse, A. 2019. *Anticipez le comportement des clients avec l'IA pour mieux y répondre*. Namterre: Livre Blanc.

Ludovic, L., 2018. *Nous sommes influencés par l'IA bien plus que nous le pensons*, [online] Available at: <https://siecledigital.fr/2018/04/23/influence-intelligence-artificielle/> [Accessed 9 February 2020].

Oracle, 2020. *Qu'est-ce que l'intelligence artificielle?* [online] Available at: <https://www.oracle.com/be-fr/artificial-intelligence/what-is-artificial-intelligence.html> [Accessed 25 January 2020].

Pelau, C., Stanescu, M. and Serban, D., 2019. Big-Data and Consumer Profiles – The hidden traps of data collection on social media networks. In *Proceedings of the 13th International Conference of Business Excellence (ICBE)*, pp.1070-1078.

Pelau, C. and Ene, I., 2018. Consumers' perception on human-like artificial intelligence devices. *Proceedings of the 4th BASIQ International Conference on New Trends in Sustainable Business and Consumption (BASIQ)*. Heidelberg, Germany, pp.197-203.

Turing, A., 1950. Calculating Machinery and Intelligence. *Mind*, New Series, 59(236), pp.433-460.