ACCEPTANCE AND USAGE OF TECHNOLOGY THROUGH THE DIGITAL USER EXPERIENCE

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AI AND ROBOTIZATION IN THE TOURISM SECTOR DURING THE COVID-19 PANDEMIC: ARE ROBOTS THE SOLUTION TO PROTECT AND SAVE HUMAN LIVES?

NARJESS SAID, BEN KAOUTHER MANSOUR, NEDRA BAHRI-AMMARI

Abstract: The adoption of service robots is beneficial during the pandemic period as it reduces the threat of infection. Robots can provide services that allow human employees to remain physically distant as well as eliminate direct physical contact between them and tourists: cleaning, disinfection, food or parcel delivery, information provision, autonomous vehicles, delivery drones... (Marr, 2020; Yang et al., 2020; Meisenzahl, 2020; Demaitre, 2020).

In this chapter, we will define artificial intelligence, robotics technology, and their main applications in the tourism filed. First, we will define artificial intelligence and robotization technology, then we will present examples of their applications in the tourism field. To conclude this chapter, we will present a particular type of robots: humanoid service robots (HSR). Finally, we will explain the importance of the robots' appearance and its effect on their acceptance.

Keywords: Humanoid Service Robots (HSR), Technology Acceptance Model 3, Godspeed Questionnaire, Hotels

Introduction

The 2019 coronavirus (COVID-19) pandemic has had a global impact on the use of technologies. This crisis-intensified public interest in artificial intelligence and robotic technologies, considered as effective means to fight the pandemic. These technologies were used in different fields such as, medicine, civil protection, retail, textiles...etc.

The pandemic has clearly changed aspects of health and medical care, including surgical procedures (Steward et al., 2020; Ackerman, 2020). Robots were significantly involved in reducing the risk of infection, and they were employed in hospitals for many missions such as:

- Medical assistance: delivering medicines, tests, blood analysis (the TIAGo robot -Spain).
- Replacement of doctors and medical staff (the Tommy nursing robot - Italy) which monitors patients and checks their vital signs without any human contact.

In China, a field hospital equipped with robots opened in Wuhan (the city where the pandemic started) called the Smart Field Hospital, with a capacity of 20,000 patients. All medical services at this facility were provided by robots and other IoT devices. The goal of employing these technologies is to relieve and protect medical teams.

Robots were also used in urgent surgical interventions, "Robot assisted surgery" (RAS), to protect the surgical teams. RAS reduces the risk of contamination by body fluids and surgical gases. It also reduces the number of directly exposed medical staff (Kimmig et al., 2020). Robots were also used in physiotherapy treatments: they help to prepare patients, while respecting social distancing (the KUKA robot - Denmark).

In addition to their direct involvement in hospitals, robots have participated in accelerating the distribution of Corona virus tests in Spain: robots have distributed more than 80,000 tests per day. In Belgium, the KingFisher robot has distributed more than 1000 additional tests per day. In Germany, the Humanoid robot Pepper was used in supermarkets to remind people to respect safety measures and social distancing rules. Other types of robots, such as Drones, were also used to monitor residents' compliance with curfew in Spain. In South Korea, drones were used to disinfect and clean floors and air.

Many existing robots were modified specifically for coronavirus control, including humanoid robots developed to entertain bored patients in quarantine—such as the Cloud Ginger robot that offered useful information, social interaction, and entertainment to accompany quarantined patients. Robots have also been used to provide emotional support to isolated patients (Forman et al., 2020).

Automation and robotic technologies are considered as an effective tool to provide a high level of social distancing during an outbreak, (Seyitoğlu, & Ivanov, 2020). According to the World Health Organization (2020)-WHO, social distancing or physical distancing is a useful way to slow the spread of a virus because when people do not have physical contact with each other and when they stay away, the number of newly infected people decreases significantly.

The use of robotic technology has been proven in the fight against the pandemic. Humanoid robots were at the heart of the battle against Covid-19 and contributed to lowering human interactions and the risk of spreading the virus.

The role of humanoid robots is undeniable in many fields, hence the interest in their use. In the coming period, we will see a resurgence in tourism and an increase in travel. The adoption of artificial intelligence and robotic technology could reduce the risk of disease proliferation. Accordingly, can we consider that humanoid service robots represent a solution to save human lives?

Artificial Intelligence (AI)

The next few years will witness the mass introduction of robots; both as consumer robots (including service/companion robots) and industrial robots resulting from advances in robotics, artificial intelligence and automation. Economists expect such a trend with mixed feelings (Webster, 2017). While some explore the benefits that AI and robotics will bring to societies, others predict darker scenarios. Following advances in robotics, artificial intelligence and service automation technologies (RAISA) (Napolitan & Jiang, 2013; Warwick, 2012), companies in different economic sectors are adopting it to reduce costs, generate additional revenue, increase production or service capacity, and improve the competitiveness of their companies (Ivanov, 2017). This is true not only for manufacturing companies, where industrial robots have been used for several decades, but also for other sectors such as logistics, finance, medicine, education, agriculture etc.

The massive introduction of RAISA will lead to profound economic, social and political changes. The most obvious is the disappearance of most existing jobs. According to Frey and Osborne (2013), 47% of total jobs in the United States are likely to be replaced by AI. An economic system, based on robots, artificial intelligence and automation of services is called "R-economy, robotic economy or robonomics" (Crews, 2016).

1. Robotic economy and the fourth industrial revolution

The R-economy is a manifestation of the fourth industrial revolution: a term coined by Klaus Schwab, founder and executive chairman of the World Economic Forum, also known as Industry 4.0 (Andelfinger & Hänisch, 2017), and it is transforming the global economic landscape. Industry 4.0 describes a world where individuals move between digital domains and offline reality through connected technology (Miller, 2015). Advances in robotics, AI, and service automation allow us to predict that robonomics is an inevitable economic system (Ivanov & Webster, 2017). For this reason, economists, politicians, companies, financial institutions, education and social welfare systems, and all citizens must be prepared for its advent. Robotization will not happen overnight, but gradually, first in developed countries and then in the rest of the world.

Since R-economy is based on AI and robotization, it is essential to understand both of them and their places in this economy. The table below shows some of the research on (RAISA) in different fields.

Table 1: Research on (RAISA)

RAISA Fields	Authors
Logistics and transport	Konijn et al., (2020); Heineke et al., (2017); Tussyadiah, Zach & Wang, (2017); Maurer et al., (2016); Driessen & Heutinck, (2015); Min, (2010)
Education	Conti, & Di Nuovo, (2017); Ivanov, (2016); Timms, (2016); Park & Kwon, (2016) ; Fridin & Belokopytov, (2014)
Finance	Dunis et al., (2017)
Medicine	Shore, Power et al., (2018) ; Mirheydar & Parsons, (2013) Kaur, (2012); Broadbent, Stafford, & MacDonald, (2009).
Agriculture	Driessen & Heutinck, (2015)
Tourism and Hotels	Ivanov, Webster & Berezina, (2017); Stock & Merkle, (2017) Kuo, Chen & Tseng, (2017); Murphy, Hofacker & Gretzel, (2017); Zhang, (2019); Buhalis, & Sinarta, (2019); Leung, (2019)

1.1. Definition of artificial intelligence

The word ‘artificial intelligence’ was first introduced by "John McCarthy", an American mathematics professor, who began researching the subject in 1955. AI describes the work processes of machines that would require intelligence if they were performed by humans. Therefore, the term means "*studying intelligent problem-solving behaviour and creating intelligent computer systems*". In 1956, Professors McCarthy, Minsky, Simon and Newell along with Shannon, Rochester and other researchers established the concept of AI at Dartmouth College in the United States. Their definition of artificial intelligence referred to: "*The ability of machines to understand, think, and learn in the same way as human beings, indicating the possibility of using computers to simulate human intelligence."* Marvin Minsky, one of the creators of the concept of AI, defines it as *"The construction of computer programs that engage in tasks that are, for the time being, more satisfactorily accomplished by human beings because they require high-level mental processes such as: perceptual learning, memory organization, and critical reasoning."*

There are two levels of artificial intelligence:

Weak artificial intelligence: this denotes systems that are more or less autonomous and capable of solving certain problems. These systems are the result of programs designed and implemented by humans. Weak AI is therefore limited to a framework given by man.

Strong artificial intelligence: refers to a machine capable not only of producing intelligent behaviour but also of experiencing a sense of real self-awareness (having a mind), and real feelings.

1.2. The economic fields of artificial intelligence

In general, the economic use of AI can be divided into five categories (Wisskirchen, et al., 2017).

- **Deep Learning**

This is machine learning based on a set of algorithms that attempt to model high-level abstractions (machines are connected all the time, if one machine makes a mistake, all systems will keep that in mind and avoid the same mistake the next time).

- **Robotization**

Since the XIX^{e} century, industrial robots have been replacing employees due to technological advances. They work more accurately than humans and cost less. They offer better performance and more productivity.

- **Dematerialization**

Thanks to the automatic recording and processing of data, traditional "back office" activities are no longer required; an autonomous software will collect the information and send it to the employee who needs it. Moreover, traditional physical products (CD/DVD) become software, cloud or streaming services. Moreover, everything that is material will tend to disappear (e.g., money, event tickets, transport tickets…).

- **"gig economy" or the economy of small jobs**

The new generation of employees is known by an increase in self-employment and the emergence of new forms of work: "crowd-working" and "on-demand work via platforms, or applications". Traditional employment relationships are becoming less common. New workers are able to do different jobs for different clients.

- **Autonomous driving**

Future vehicles have the power to govern themselves by using sensors and navigating without human intervention. Cab and truck drivers will become obsolete. Then, will inventory managers and postal carriers stay in business if distribution will be done by drones!

1.3 History of AI and industrial revolutions

The world economy has undergone four industrial revolutions. A "revolution" refers to a sudden, deep and radical change. This change is possible thanks to the introduction and development of new technologies. Revolutions generally lead to deep changes in social structures and economic systems. There are very deep connections between the four industrial revolutions. Although each industrial revolution is often seen as a separate event, they can best be understood as a series of events building on the innovations of the previous revolution and leading to more advanced forms of production. "*The industrial revolutions marked the shift from muscle power to mechanical power, evolving to a stage where, with*

the fourth industrial revolution, increased cognitive power increases human production" (Schwab, 2016).

Industry 1.0: Industrialization

The first revolution began with the invention of the steam engine around 1760 which was the key invention of this revolution. Other highlights include railroads, coal mining, and heavy industry. This initial revolution is seen as the beginning of the industrial age: goods and services were produced by machines for the first time.

Industry2.0: Electrification

The second industrial revolution began with the onset of electrification in late 19th century with the invention of the internal combustion engine. This revolution is associated with the introduction of assembly lines, used for the first time in the automotive industry. This allowed for the acceleration and automation of production processes: appearance of the assembly line system, specialization of workers, and standardization of products. Electricity and oil facilitated mass production.

Industry 3.0: Digitization

The third industrial revolution started in the 1960s-1970s and was distinguished by computerization and automation through electronics. It is generally called the computer or digital revolution because it was catalysed by the development of semiconductors, mainframe computing (1960), personal computing (1970-1980) and the internet (1990). The implementation of computers, information technology and the internet in organizations allowed global access to computerization and automation of work and production cycles.

Industry 4.0: The "second age of the machine"

The fourth industrial revolution builds on the third. There is no break between these two revolutions, but rather digital technologies (computer hardware, software and networks) are becoming increasingly sophisticated and integrated, transforming societies and the global economy. This industry is characterized by a much more ubiquitous and mobile internet, smaller and more powerful sensors, and AI and machine learning.

The concept of "Industry 4.0" refers to the use of digital technologies such as information technology, mobile communication and robotics that enable

companies to react more quickly to market changes, offer more customized products and increase operational efficiency, making manufacturing operations more agile, flexible and responsive to the needs of increasingly demanding customers. These technologies enable greater productivity, dramatically reduced costs and improved product quality.

Professors Brynjolfsson and McAfee, (2014) have referred to this period as the *"second machine age."* In this revolution, emerging technologies and innovations spread much faster and more widely than in previous ones.

"Industry 4.0" will revolutionize the organization of global value chains, thanks to smart factories. Virtual and physical manufacturing systems cooperate globally in a more flexible way to optimize production and improve customer satisfaction. This enables absolute product customization and the creation of new operating models. The term "Industry 4.0" therefore refers to the optimization of the components involved in the production process (machines, operating resources, software, etc.) through their independent communication via sensors and networks. This is supposed to reduce production costs giving the company a better position in international competition.

Robots

In this section, we will define robots, then classify them in distinct categories while showing the differences between these categories and the fields of application of each of them. Robotics appeared in the 1950's, It is the product of the crossing of the needs and the availability of new technologies developed during the second world war: electronics, automation, computer science.

Originally, robots were used in an industrial context as a means of automation, particularly in the automotive industry where the levels of automation were high. Today, thanks to advances in sensor technology, in addition to industrial robots, many service robots have appeared. They are present in multiple fields. "*Robots are no longer bound to an industrial context but can operate in environments of everyday life constraints*" (Haidegger et al., 2013). Therefore, robots are divided into two categories: industrial robots and service robots.

1. Definition

The ISO 8373 standard, developed by the IFR (International Federation of Robotics) in association with the United Nations Economic Commission for Europe (UNECE, 2012), allows us to propose the following definition, *"A robot is a programmable actuated mechanism on two or more axes with a degree of autonomy, moving in its environment, to perform the intended tasks".* Robots find their applications in the so-called "4 Ds" tasks, (dangerous, dull, dirty, or dumb): They can easily perform repetitive tasks (assembly) or dirty tasks (painting), tasks that do not require any intelligence or decision-making skills (mundane/ dumb tasks), such as cleaning. These tasks can be performed perfectly by robots with a precision and reliability that humans are incapable of.

2. Classification of robotics

Robotics can be classified into 2 main categories: industrial robotics, and service robotics. What differentiates the industrial robot from the service robot is: first the context in which they operate (their application domains), and then their proximity to end users (Prestes, 2013).

2.1 Industrial robotics

It includes all the systems and automatons that can take charge of manipulations or production operations instead of a human operator. An industrial robot *"is a multifunctional, reprogrammable, automatically controlled manipulator that can be either stationary or mobile for use in industrial automation applications".* (Robotic Industries Association, 2009). It operates in a fully structured environment. The industrial robot has been around for over four decades. The first industrial robot was manufactured in 1961 by Unimate and was installed by General Motors.

2.2 Service robotics

Service robotics can be defined as robotics that assist humans in their professional activities or in their daily life, thus contributing to improve their working conditions, safety, and well-being. A service robot, companion robot or social robot is a robot that operates fully or partially autonomously and performs useful tasks for humans or equipment, except for industrial automation applications and manufacturing operations. *"They are machines that sense, think, and act to enhance or augment human capabilities and increase human productivity."* (Pransky, 1996).

The social robot is a mobile, autonomous machine designed to interact with humans and exhibit social behaviours such as recognizing, following, and assisting its owners and engaging in conversation. Unlike the industrial robot, the service robot shares the human environment and must interact with people in real time. In general, the actions of the service robot are determined by the information collected by external sensors. It operates mainly in a quasi-structured environment, created by humans for their own needs (e.g., home, waiting room, office, restaurant...) (Zielinski, 2010). *"Today, service robots have multiple application areas: medical robots assist in surgeries, transportation robots support logistics, and maintenance robots inspect facilities and factories"* (IFR, 2015). For these application areas, service robots - like any form of automation, promise benefits in terms of efficiency, reliability, and quality. Sprenger & Mettler, (2015) claimed that the use of robots offers companies multiple benefits such as increasing production, reducing personnel costs, and relieving employees from boring, repetitive, or dangerous tasks.

2.2.1 Classification of service robots

There are two types of service robots: professional service robot and personal service robot.

A. Professional service robot

It assists the worker in a professional environment for commercial tasks, usually performed by a qualified and specialized operator. Its functions are mainly to relieve professionals from repetitive or dangerous tasks (in a perspective close to industrial robotics), or to assist them in interventions that require a level of precision or quality inaccessible to the human operator.

In the table below, we present examples of the main applications of professional service robots. These examples are obtained from the statistics and reports of the IFR (2017), and the report carried out by the French interministerial pole of prospective and anticipation of economic mutations (PIPAME), entitled: "The future industrial development of personal and service robotics in France (2012)".

Table 2: Main applications of professional service robotics

Robot	Descriptions- Example
Agricultural robot	-Total or partial automation of agricultural tasks. -Used in green spaces, sports fields and golf courses by landscapers and local authorities
Cleaning robot	- Usually implemented in public spaces
Construction and demolition robot	-Used for specific operations in the construction industry, by civil engineers for difficult and dangerous tasks.
Logistics robot	-Automatic transport vehicle for people and goods. -Robot for sorting and preparing packages.
Public relations robot	(Reception, guide, transport of people in interactive tours...) -Can be found in public places (museums, shopping centres...) -Mission: to help visitors find their way around, to provide information, to bring a playful aspect to the museography of the place...
Medical robot	-Assistance to doctors (assistance to surgical interventions) -Assistance to paramedical staff (handling of bedridden persons) -Assistance to patients (rehabilitation assistance, prostheses or robotic orthoses - including exoskeletons in the long term).
Surveillance and security robot	The surveillance robot has two types of actions: *Surveillance in the sense of guarding (prevention of physical intrusion) *Surveillance in the sense of monitoring, which assists the human operator in the environmental or industrial surveillance of sites.
Robot assistance in the workplace. (The cobot) -	Robotic system assisting the gesture of professionals in their work environment (workshop, storage shed ...). -Mission: to assist the gestures of employees by bringing a complementary force (reduction of efforts, an increased precision)
Intervention robot	Remote controlled robot, used to perform tasks in environments that are difficult to access or dangerous for humans, or when the absence of humans makes the operation easier or more efficient. It is used in defense, civil security, nuclear, submarine, inspection and maintenance in specific environments, space exploration.

B. Personal Service Robot

The personal robot is a service robot used for non-commercial tasks. It educates, assists or entertains individuals in their homes. This category includes domestic robots that can perform daily tasks, assistance robots (for the disabled, elderly, or ill), and robots that can serve as companions or pets (Kumar, Bekey & Zheng, 2005).

Table 3: Major Applications of Personal Service Robotics

Robots	Descriptions- Example
Domestic Robot	-Performing domestic life maintenance tasks -The two most requested functions are: vacuum cleaner (Roomba) and floor cleaning robots (iRobot Scooba) -Domestic surveillance robot
Therapeutic robot "Affective robot	-Kaspar (humanoid that acts as a social companion to enhance the lives of children with autism/communication difficulties). -Paro (robotic plush in the shape of a baby seal, designed for the elderly, effective in keeping them occupied and reducing their stress levels).
Robot assistance for people in loss of autonomy	Intended for disabled, elderly, sick people. -Alert or remote presence systems -Physical assistance systems for daily life operations or travel.
Educational robot	*Function of assistance to the education of children, by creating a real interaction for educational activities (IRobiQ in Korea). *Support for robotics education (robotics kits, programmable robots, (e.g. Lego Mindstorm robots).
Playful robot	It comes in several forms: a very simple toy robot in its functionality, a more complex robot: Aibo from Sony (the most commercialized), which is fully programmable.
The specific case of the automobile	The automobile is not commonly considered as a sector of robotics because of its traditionally very "mechanical" character. However, it is undeniably the leading mass market for personal service robotics.

***Sources**: IFR, 2017; PIPAME - France, 2012*

Applications of AI and Robotization in the Tourism Sector

AI and robotization will lead to a redefinition and modification of service and product models (Ivanov, 2017). While technical development mainly results in efficiency improvements in production sectors (industry), new creative and disruptive service models will revolutionize the service sector.

The adoption of robotization in the tourism sector represents a new form of tourism called R-Tourism (Alexis, 2017). In this section, we will present some examples of the application of AI and robotization in different tourism organizations and establishments.

The tourism sector has undergone several changes and evolutions, and it is developing like any other economic sector thanks to technological innovations and the continuous development of AI. The changes, started with the web revolution and E-tourism, then M-Tourism (mobile tourism), led to an evolution of the tourism business by changing the ways of working, communicating and selling. Moreover, service robotics (R-tourism) is changing the codes of the sector, mainly in customer relationship. (Ivanov & Webster, 2017; Ivanov, Webster & Berezina, 2017). Tourism in the age of robotics or R-tourism can also be called robotic tourism. It represents a real revolution in the sector (Tung & Law, 2017), and it consists of adopting service robotics, especially humanoid robots with high artificial intelligence and capable of moving independently, interacting with humans and making autonomous decisions. These humanoid robots are capable of enriching the customer's experience, from reception to information, including queue management, while reducing costs: limiting tedious and repetitive tasks for humans for example.

The objective of adopting AI and robots in this sector is; to improve the quality and speed of service for customers, while R-Tourism can improve the quality of service and the tourist experience through the use of waiter robots, guides, housekeepers, entertainment robots, guard robots etc. (Ivanov & Webster, 2017). In addition, adoption of AI and the automation of services could improve operational processes and optimize costs (Wirtz et al., 2018) as robots are able to perform repetitive tasks without complaining, while maintaining the same quality of service and even with greater precision than humans (Osawa et al., 2017). The cost of robots is below the average yearly salary of hospitality workers (Belanche, et al., 2020). It creates a competitive advantage for service and hospitality companies (Cha, 2020). Companies that adopt service automation create a

positive word-of-mouth because of their innovative, high-tech images (Ivanov and Webster, 2017).

Service robots can be responsible for simple tasks such as maintenance, security, guarding, transport and luggage, household services, and serving in restaurants (Belanche et al., 2020), but also for higher value-added tasks such as guiding, animation, entertainment and assistance. (Ivanov & Webster, 2017) and financial investment advice (Belanche et al., 2020).

In the coming years, robotics is expected to drive two major movements in tourism, one concerning the automation of existing services, and the other the creation of new services.

1. AI, robotization and automation in the service of tourism

Artificial intelligence, service automation and robotization play a fundamental role in tourism and hospitality (Gladstone, 2016; Ritzer, 2015), and they offer many opportunities to tourism companies and contribute to the improvement of their operation and productivity by offering a constant quality of service and transferring part of the service delivery process to customers: co-creation of the tourism experience. Advanced technologies maximize value creation by making tourists more active participants in their own experiences (Buhalis et al, 2019). Service robots can improve business productivity by transferring some of the service delivery process to travellers (Leung, 2019). Furthermore, technology and AI increase customization of tourism services and the real time co- creation of customer experience as they provide a better understanding of their personal desires and needs (Zhang, 2019). The application of AI in tourism businesses has attracted the attention of many researchers such as Ivanov, Webster, Seyyedi, (2017, 2018); Borràs, Moreno & Valls, (2014). Other authors have conducted research in the area of service automation (Murphy, Hofaker, Gretzel, 2017). Automation refers to the process of using machines to perform *"a predetermined or reprogrammable sequence of tasks"* in service delivery. Tourism professionals can apply AI, service automation, and robotization in different establishments such as:

1.1 Hotels

Managers of international chain hotels adopt cutting-edge technologies to create a high-tech image (Leung, 2019). Service automation via self-service technologies and robotization offer opportunities to reduce labour costs and increase efficiency in hotel operations. In addition, as a rare and

innovative technology, service robotics can impress guests and stimulate their enjoyment. Cha, (2020) affirmed that advanced robotics creates a competitive advantage for the service and hospitality companies, and it can improve hotels' sustainable competitiveness (Kuo et al.,2017). Service robots transform the customer experience (Lu et al., 2019), and make it more fun: they make consumers feel enjoyment (Kuo et al., 2017) as they provide hedonic experiences, (Xu et al., 2020). Many hotels have adopted self-service kiosks that allow guests to automatically complete check-in and check-out procedures without the need for front desk agents (Kim & Qu, 2014). Other hotels have adopted mobile technology to improve convenience and speed of service (e.g., Berezina, 2015; Citycenter Land, LLC, 2017; Hilton Honors, 2017; Marriott International), either for check-in and check-out formalities or to communicate with guests in real time and transmit requests (Trejos, 2015), a form of M-Tourism.

For R-Tourism, robots can be used in different departments of hotels serving guests and can support employees' tasks.

Table 4: Examples of the adoption of service robots in hotels.

Hotels	Use of service robots
Hennna (Japan) (Rajesh, 2015)	-Totally robotic staff (polyglot humanoid robots): front desk agents, delivery staff, room assistants, vacuum cleaners, baggage handlers...
Aloft Hotels (Markoff, 2014)	-Employment of a delivery robot that navigates the hotel, uses the elevator and calls guests to deliver requested items.
Hilton (Hilton, 2016).	- Employment of "Connie," a concierge robot; it can communicate with guests and answer their questions about hotel amenities and services, it also suggests nearby attractions and activities. -It can learn from each interaction with guests and therefore improve its future responses.
Marriott (Belgium)	- "Mario" a humanoid robot, speaks 19 languages, greets guests at the front desk, hands out keys, and orders cabs. -It is equipped with cameras and facial recognition software that allows it to remember faces for more than six months.
Pengheng Space Capsules Hotel (china)	-The hotel has a fully robotic staff, from reception to housekeeping, luggage service, etc.
Crowne Plaza San Jose, (USA)	-There is the "Dash" robot, which runs on wireless internet and moves independently throughout the hotel. It is responsible for delivering snacks or other requested products to the rooms.

Even though automation and robotization technologies have already reached various hotel services, the adoption of these technologies remains low. Therefore, in the future, the hospitality industry may experience a greater surge in the use of these technologies.

1.2 Restaurants

The restaurant industry has automated the stages of catering and food preparation. Among the technologies most used in the restaurant industry we cite:

-**Automated ordering:** allows customers to go through the menu, see detailed descriptions and images of its items, place orders, play games while waiting for orders, and pay bills. These orders are possible through tablets (Hill, 2015) and touch screen tables (Aamoth, 2014).

Automated food delivery methods: conveyor restaurants, using mechanical conveyor belt-based delivery systems (Ngai, Suk, & Lo, 2008) and roller coaster restaurants (Blinder, 2014).

-Robots: some restaurants have adopted humanoid robots for order taking in a conversational manner (Curtis, 2016), e.g. "Pepper" at Pizza Hut which uses voice recognition and AI to communicate with customers, it is also capable of accepting payments. There are also robot chefs that prepare dishes: sushi (Sushirobo, 2016), noodles (Elkins, 2015), burgers (Momentum Machines, 2016), drinks (Sloan, 2014) and coffee (Fowler, 2017).

1.3 Theme and amusement parks

There is substantial automation in theme and amusement parks that have been for some time: tickets can be purchased online or through kiosks set up in the parks. Robots have been used for years in entertainment, Walt Disney Park in Florida has been using robots to entertain since the 1970s, (Blitz, 2016) and it continues to invest and develop more interactive robots (Hackett, 2015). In Asia, there are two major parks using many robotic technologies; Robot Land in South Korea which makes the robot the centrepiece of its theme and Ten Bosch in Japan, where service robots are widely used (Huffington Post, 2016), and considered more efficient than human employees (Niinuma, 2016).

1.4 Meetings and Events

The meetings and events industry has adopted much of what hotels and restaurants have instituted, automating many of the services. The most widely adopted technologies in this sector are: kiosks and information booths, robot baristas and bartenders, drones to serve, remote-controlled robots, holograms and mobile telepresence technology.

1.5 Cruises

Cruise ships have robot bartenders capable of preparing and serving passengers, such as the "Ovation of the Sea", a new cruise ship from the American-Norwegian company Royal Caribbean.

1.6 Travel agencies and tourist information centres

Currently, travel agencies and tourist information centres have adopted kiosks providing information on destinations, tourist resources, packages and offers. Robots can be adopted as sales agents in travel agencies or as guides during sightseeing tours: (robot guides can provide detailed information and two-way communication with the tourist).

1.7 Museums and art galleries

Museums and galleries have long adopted kiosks, displays, and audio guides to provide information about exhibitions (Lee, 2016). Mobile apps and QR codes are also finding their way into museums and galleries, allowing visitors to receive exhibition information on their phones, while augmented reality through smart glasses provides a unique experience for visitors (Tom Dieck, Jung & Han, 2016). In museums and galleries, there are two types of robots: robot guides and robot explorers (Ivanov et al., 2017).

- Robot guides are responsible for providing information about the exhibits, answering visitors' questions, directing them to different parts of the museum/gallery. Examples include the Luxembourg Museum of Modern Art or the Tokyo Museum of Science.
- Robot explorers; their mission is to replace visitors who are unable to visit the museum (physical handicap, health condition, distance). They also help to protect fragile or inaccessible tasks (night museums, precious collections). Example: the Norio robot at the Château d'Oiron.

1.8 Airports

Automation plays an important role in airports' efforts to facilitate traveller experience, expedite service, increase efficiency, and ensure security. Airports have integrated self-service check-in kiosks that allow travellers to check in and print their boarding passes and check their bags without employee assistance (Duell, 2014) and (Nicas & Michaels, 2012). Travelers can also use boarding passes on their smartphones to walk through the airport and board the plane via self-service gates (Nicas et al., 2012). Several airports around the world have begun to adopt robots, primarily for tasks such as: guiding, informing, entertaining, they are also used for cleaning, shopping, and delivery.

Table 5: Example of airports using robots

Airport	Example of robot	Description- Role
Düsseldorf (Germany)	"Ray" The valet	-Robotic forklift that parks vehicles for passengers in a hurry using a mobile app.
Indianapolis (USA)	Semi-human shaped robot	-Wearing a blue shirt, it greets passengers upon arrival, directs them and answers all kinds of questions
Paris (France)	"Sheldon"	-Welcome agent, it helps passengers to order their tickets, he indicates their way, and he answers their questions.
Geneva (Switzerland)	The bag-drop robot	-Meets customers outside the airport, scans the boarding pass, prints luggage tags and stores them in a special compartment.

***Source*:** Future Travel Experience, (2016)

1.9 Car rental

Automation of services in car rental companies is currently quite limited. For example, customers of some rental companies, can (un)lock their cars with a card or mobile app. Robots have not yet been adopted, but the first autonomous cars have already invaded the streets and are expected to become "the new normal" in the car market in the next 5-10 years. As a result, car rental companies will use robots in the form of autonomous cars (Tussyadiah, Zach, and Wang (2017).

Humanoide Robots and the Effect of Robot Appearance

The purpose of our study is to understand the acceptance and adoption of robots, especially humanoid robots by customers in tourism establishments. Humanoid service robots have specific characteristics that make them unique and stand out from other types of robots. In this section, we will introduce humanoid robots and try to explain the importance and effects of the robot's appearance on its acceptance referring to Mori's "The Uncanny valley" theory.

1. Definition of humanoid robots

The first use of the word ‘humanoid’ appeared in 1918. A humanoid robot is a robot whose overall physical appearance is based on that of the human body (having a human shape or human characteristics). In general, a humanoid robot has a torso with a head, two arms and two legs. On the other hand, some humanoid robots model only a part of the body, for example from the waist up: they have only the head (face with eyes and mouth). Professor C. Enault proposes the following definition *"A humanoid robot has a physical appearance close to humans, it can move in environments designed for humans with a gait identical to humans, use tools or devices designed for humans, and also communicate with us in a multimode way."*

Also called (HSR): humanoid service robots (Stock & Merkle, 2018), their missions is to assist human users in various contexts, such as retail, hospitality, education and healthcare, etc.

The first humanoid robot P2, was developed by the company Honda in 1996. It is a complete and autonomous humanoid robot, capable of walking on two feet, climbing stairs and manipulating objects with its hands. Humanoid robots that look like males are called "androids" and humanoid robots that look like females are called "gynoids". These humanoid robots are developed to perform tasks and be useful for humans, and they can help people with reduced mobility, as well as the elderly or sick. Among the most popular humanoid robots we mention: ASIMO and NAO

ASIMO: developed by Honda to carry out tasks that are dangerous for humans. It is capable of moving in hostile environments. It is characterized by great flexibility and mobility: it is able to modify its trajectory while walking, go up and down stairs, and keep its balance on

moving surfaces. It can also detect the movement of objects, recognize faces, understand human speech, and study the environment.

NAO: An autonomous humanoid robot, with an average height of 57 cm, developed by the French company "Aldebaran Robotics". This robot is able to interact with its environment thanks to the multiple sensors it has. It is a "companion robot", with many functions, such as playing chess, soccer ... Nao is able to transmit its emotions through many facial expressions. It is intended mainly to facilitate the life of humans: it will be able, thanks to its voice synthesis, to read texts on the Internet, it is also able to play the role of a gym coach, tell jokes, and remind patients of medication time.

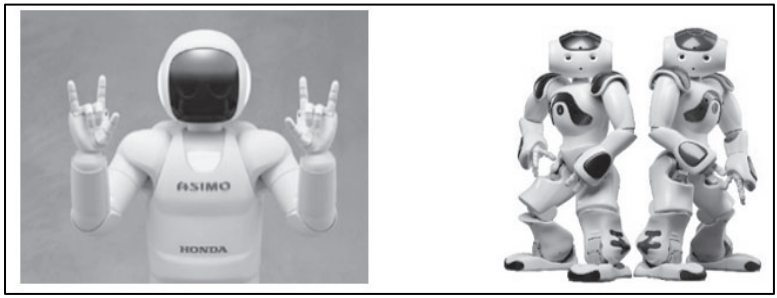

Figure 1: Examples of humanoid robots: ASIMO and NAO

Some humanoids look so much like humans that they could be mistaken for living beings: this is the case of the "Geminoid HI-1" robot, which perfectly resembles Professor Hiroshi Ishiguro, director of the Robotics Laboratory of Osaka University, Japan, and of the "Geminoid DK" robot, which is a copy of the Danish Professor Henrik Scharfe.

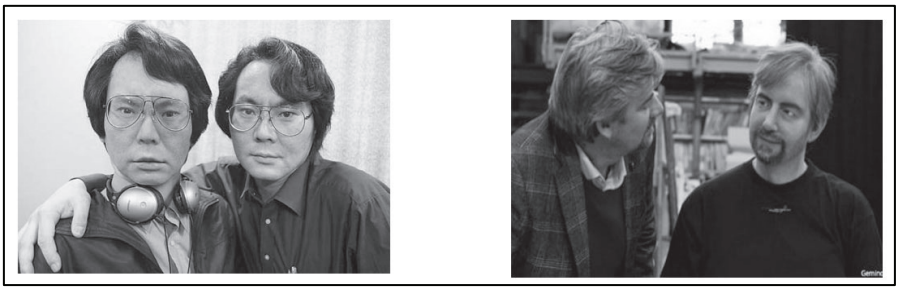

Figure 2: Examples of humanoid robots: Geminoid HI-1 and Geminoid DK

2. The effect of the robot's appearance

A robot is a complex machine. Although many service robots are intended to interact with humans, users are not usually expected to know them in great detail. However, the physical form of the robot can help users develop an idea about its nature and capabilities. Users can judge the general characteristics of a robot by simply evaluating its external features. "*Even when little information about a subject is available in the environment people form quick impressions about an entity,"* (Bar, Neta, Linz, 2006; Kelley, 1950). In the absence of more concrete data, individuals often extract certain cues from the external appearance of their target of analysis. Such cues can range from physical attractiveness, gender, clothing, facial asymmetry, and skin textures to expressive nonverbal behaviour (Weibel, Stricker, Wissmath, & Mast, 2010). These cues are organized and interpreted based on a pre-existing schema, mental models or belief systems (Smith, 1984; Snyder & Cantor, 1979). To ensure successful human-robot interaction, Kanda, Miyashita, Osada, Haikawa, and Ishiguro, (2008) proposed that the robot should be given a form that allows people to intuitively understand its behaviour. It has also been suggested by Goetz, Kiesler & Powers, (2003) that an appropriate match between the appearance of a robot and its task could improve its acceptance. Social or companion robots, as interactive supporting technology, must have an appearance adapted to their target users and their systems should match the expectations of the population they are meant to help (elderly, dependent, special needs, disabled...). MacDorman, Green, Ho, & Koch, 2009, stated that *"age, health status, personality, and culture are factors that can influence users' evaluation of the robot's appearance. "*. An appearance that evokes negative emotions in one individual may receive a neutral or positive evaluation from another. For example, children between the ages of three and five were afraid of the android "Repliee R1," while one-year-old babies were attracted to it (Minato, Shimada, Ishiguro, & Itakura, 2004).

3. Human-likeness of robots

The human-likeness of a robot can be analysed by finding similarities between the physical structure of the robot and the human body. A robot that has a human shape or bears human features such as face, arms and legs is generally considered more human than a robot that has a distinctly mechanical appearance. Research is still underway to assess how much users would want a robot to look like a human. The design of the robot

should not be scary, repulsive, or anxious to users, but rather it should generate good impressions, so that users feel comfortable initiating and maintaining interactions with the robot (Disalvo, Gemperie, Forlizzi, & Kiesler, 2002).

4. The Uncanny Valley Theory

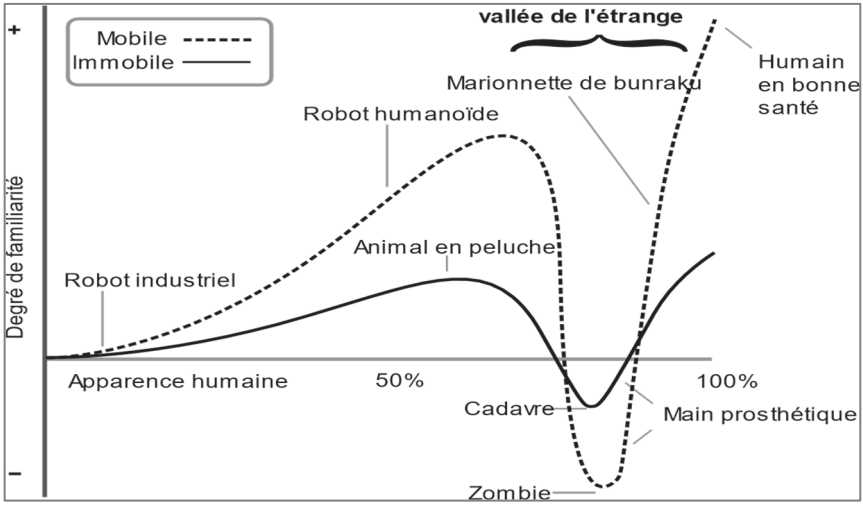

Figure 3: The Uncanny Valley Theory curve
Source: Mori (1970)
*The region of downward slope of familiarity with increasing similarity is called the uncanny valley

Being a very popular theory in the field of HRI, it attempts to link the human-like nature of a robot with the level of familiarity evoked in the person interacting with it. Mori (1970) hypothesized that as robots become more and more like humans, people's familiarity with them increases until this relationship ceases: beyond a critical point, the robot's appearance becomes more human-like but the appearance no longer evokes a sense of familiarity, rather the robot is perceived as strange in its appearance. According to Mori (1970), a prosthetic hand illustrates this situation; with the improvement of technology, a prosthetic hand has become indistinguishable from a real hand, especially when viewed from a distance. However, when an individual shakes the prosthetic hand, they are surprised by the lack of soft tissue and the cold temperature, thus after a tactile interaction, the prosthetic hand is no longer felt as familiar despite

its true resemblance to a human hand. This may be due to a mismatch between the appearance of the object and the person's expectations.

Mori (1970) also argued that while "the human resemblance of the robot" can further increase to almost fully match the appearance of a human being, familiarity will be further increased and be maximized when the robot is indistinguishable from a real, healthy person.

5. Studies and research on robot appearance

Studies on preferences for robot appearance have provided mixed results. Walters, Syrdal, Dautenhahn, Boekhorst & Koay; Ezer, (2008) found that young adults had a preference for a human-like appearance of robots. However, compared to others, introverts and emotionally unstable individuals were found to be more likely to prefer mechanical-looking robots (Walters et al., 2008).

The following table presents research conducted in this area.

Table 6: Research on robot appearance

Authors	Studies	Results
Robins, et al. (2004)	-Study of the effect of human-like robot on the level of interaction with children with autism.	Children with autism preferred interacting with a simple, featureless robot to a more human-like robot.
Hinds, Roberts & Jones (2004)	-Evaluated people's response to the robot's human-like nature when it played the role of a co-worker	Employees feel more responsible when working with a mechanical-looking robot than when working with a human-looking robot. -In professional environments, robots must look mechanical.
Woods (2006)	-Examining the relationship between robot appearance and robot personality with children aged 9-11 years.	- a robot with mixed human-robot characteristics is considered more friendly than a robot with completely mechanical appearance - Purely human-like robots are judged to be the most aggressive.

Bartneck, Kanda, Ishiguro & Hagita (2009)	-Comparison of individuals' reactions to the H1-1 Geminoid, and their reactions to its human look-alike.	-Participants could hardly tell the difference between the robot and the human -Participants' liking for the two stimuli was not significantly different. This implies that people can like a human and a human-looking robot to the same degree.

These studies show that the appearance of the robot affects how individuals interact with it, their perceptions of the robot's personality, and their preferences. In summary, attitudes towards human-looking robots seem to be influenced by factors such as: age, individual personality, and the role of the robot. Users' perceptions of robots, influenced by their appearance, affect their acceptance and adoption, hence the importance of conducting studies on the subject.

5.1 Elements of robot appearance

A. The structure of the robot

It is important to evaluate the body parts (organs) that people want in the robot, not only to appear more functional but also more friendly and acceptable. It is also interesting for robot designers to know the appropriate size and whether the size should be adjustable. Ezer and colleagues (2008, 2009) conducted studies in which they asked participants to imagine a robot they would like to have in their home, then describe and draw it, then they analysed the descriptions and drawings based on a coding scheme that evaluated the essential characteristics of the robot's appearance and the differences between human-like and machine-like robots. The results of the study were as follows:

- ❖ **Height**

- Most participants (81%) indicated that the robot should be less than or the same height as the average human adult.

-Only one study participant indicated that the robot was taller than an adult person.

-Most of the rest (15%) described the robot as having a variable height.

❖ **Body characteristics**

-Half of the participants indicated that the robot should have a head and 40% attributed a face to their robot.

-The most prominent facial features were eyes, mouth, nose, and ears. Almost all participants wanted their robot to have two arms.

-Most imagined their robot as mobile and having two legs (55%) wheels (39%) or treads/tracks (5%).

This study also showed that young adults imagined their robot to have a more human-like overall appearance than older adults.

❖ **Facial features**

Disalvo et al, 2002 conducted a study on head design for humanoids. They found that 62% of the variation in the perceived human likeness of a humanoid is explained by the presence of facial features. The nose, eyelids, and mouth were found to be the facial features that best distinguish the humanoid robot.

Creating human-like robots that individuals will adopt may require more than simply adding facial features or a human form. The required aesthetic approach must focus on the structural consistency of the robot, as this affects its appearance and, therefore, can promote acceptance. Veryzer & Hutchison, (1998) stated that **unity and prototypicality** are important visual aspects of product design: unity refers to how well the different elements of a product correspond aesthetically with each other. Prototypicality is the degree to which a product represents a category (Barsalou, 1985). There are many examples of humanoid robots that do not meet the criteria of unity and prototypicality of design, e.g. the H-type robotic arm is a very realistic looking arm, but it is attached to a headless body; Albert Hubo is a robot that has a face very much like Albert Einstein's but its body is distinctly mechanical. Despite a close resemblance to some human characteristics, these robots may not be perceived as highly human because of their structural inconsistencies: if the robot’s head is wider than its height, it is perceived as more robotic (less human-looking), (Disalvo, Gemperie, Forlizzi, & Kiesler, 2002).

B. Gender of the robot

Although humanoids are modelled on the overall structure of a male or female, many existing robots have no apparent gender. Some studies have attempted to examine whether people would assign a gender to a robot even when its appearance was not clearly indicative. Sung, Grinter and Christensen (2009) found that adults associate a gender with Roomba, a robot vacuum cleaner, despite its distinctly non-human appearance. Other studies (Bumby 1999; Woods, 2006) assessed children's perceptions of robot gender and found that most children between the ages of 9 and 11, assigned a gender to robots, particularly the male gender. Overall, the research on assigning gender to robots is inconclusive, then further refinement and research is needed to better understand when and why users assign a male or female gender to a robot.

Nonetheless, when the gender of the humanoid robot is clearly evident, it may influence how people evaluate it. Siegel, Breazeal, and Norton (2009) found that people tend to evaluate the opposite gender robot as more credible, trustworthy, and engaging.

5.2 Culture

Lee et al, (2016) investigated the effect of culture on the evaluation and acceptance of robots based on their appearance. They examined the impact of robot design types (biologically or functionally inspired design) on robot evaluation, usefulness and purchase intention in Korean and Japanese cultures. The results showed that individuals perceived robot familiarity, intelligence, and acceptance differently. The authors claimed that effective choice of the type of design approach can improve robot acceptance.

Compared to functionally designed robots, biologically inspired robots were found to be more effective in emotion-related situations by being more familiar and empathetic to people. For Breazeal et al, (1999), this approach is more effective in enriching social interactions. Studies suggest that robot designers should consider not only robot design types, but also cultural differences for better customer acceptance and satisfaction.

6. Robot appearance response measures

Most studies investigating the "uncanny valley" theory, measured participants' responses to different human-looking robotic agents. The original paper on

the uncanny valley theory, written in Japanese, used the term "shinwakam" for the dependent variable (Bartneck, Kanda, Ishiguro, & Hagita, 2009; MacDorman et al., 2009). There has been inconsistency on how "shinwakam" is translated. The most common translation is "familiarity" (e.g., MacDorman, Minato, & Ishiguro, 2006). According to these authors, this means roughly a level of comfort. However, Bartneck et al, (2009) pointed out that "shinwakam" is not a standard Japanese word and is not found in any Japanese dictionary, but it is a combination of two distinct Japanese words: "shinwa" which means to be mutually friendly or like-minded and "kan" which means: to have the sense of. Even with these meanings of the two components of "shinwakan", it is unclear how to map its nuance into an English term. Accordingly, different researchers have used different dependent variables to measure participants' reactions to robotic agents and virtual characters based on their appearance. However, this construct remains ambiguous.

Familiarity is likely to change with increased interactions: what seems strange at first may become familiar after a few encounters. Furthermore, high familiarity does not necessarily imply approval or acceptance, likewise, low familiarity does not always imply rejection, as it means that people never like innovation or creativity.

In reviewing the literature, we found other subjective measures used to assess people's opinions of the appearance of robots such as:

- **Likability,** used by Bartneck, Kanda, Ishiguro, and Hagita, 2009; Groom et al. 2009; Mathur et al. 2009.
- **Attractiveness** Vs repulsiveness, used by Schneider, Wang, & Yang, 2007; Chen, Russel, & Nakayama, 2010.
- **Anxiety** developed by Nomura, Suzuki, Kanda, & Kato, 2006
- **Perceived eeriness**, MacDorman and Ishiguro, 2006

Conclusion

Artificial intelligence is changing the global economy, and humanoid robots are in a process of development. They are becoming increasingly sophisticated and more intelligent. Given their importance, it is essential to provide researchers with a model that can evaluate their acceptance in a holistic way, taking into account their capabilities, technical skills and design.

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PERCEIVED BENEFITS AND RISKS OF P2P PLATFORMS USING BLOCKCHAIN TECHNOLOGY

NESRINE BEN AMOR, IMENE BEN YAHIA

Abstract: Blockchain-based applications have become increasingly common in the fields of information systems and financial services. Despite this enthusiasm and interest with respect to blockchain technology, previous studies have focused on aspects other than marketing. This chapter explores consumer acceptance based on the perceived added value of blockchain technology when it is implemented in online platforms and websites. Given that cryptocurrency platforms are the best-known applications of blockchain technology, participants having experience with bitcoin were selected for the analysis. Sixteen in-depth interviews were conducted. The results of lexical and thematic qualitative analysis identify four main benefits and five perceived risks related to blockchain implementation. This research is intended to enhance managers' understanding of the opportunity presented by such technology and advise them on better ways to benefit from it.

Keywords: Blockchain technology, P2P, online platforms and website, consumer acceptance.

Introduction

Blockchain is one of the most remarkable technological innovations of the 21st century. It was firstly defined by Nakamoto (2008) as a "trust-free" solution, to prevent the so-called "double-spending problem" without the need for a trusted centralized authority. In fact, blockchain technology eliminates the need for a trusted third party (e.g. insurance company, central bank or government) that checks every transaction and consequently incurs a mediation cost, which increases transaction cost. In addition to double spending prevention and low-cost transactions, blockchain technology reduces the length of the manual transaction process (Lantmateriet et al., 2016). According to Tschorsch and Scheuermann (2016), blockchain also

increases transparency and ensures the validity of transactions systems. Blockchain has revolutionized various industries due to its key characteristics such as transparency, privacy, security and immutability. Thus, blockchain technology has transformed how to deliver products and services, offered new insights to obtain a competitive edge, and improved financial and operational performance (Marsal-Llacuna, 2018).

In recent years, blockchain-based applications have become increasingly common in the fields of accounting and financial services. Blockchain has also been applied to other fields, such as higher education, healthcare and the public sector. At an academic level, research on blockchain has rapidly developed (Puthal et al., 2018). However, despite this enthusiasm and interest concerning blockchain technology, previous studies have been focused on fields other than marketing (management, information policy, finance, etc.). Kizildag et al. (2019) divided the comprehensive research coverage of blockchain technology into two major segments: financial services (e.g. innovative payment) and non-financial services (e.g. supply chain management, tourism and information economy). The majority of studies have been conducted from an organizational and stakeholder perspective, but not from a consumer perspective. For instance, Janssen et al. (2020) address multiple challenges and complexities across technical, social and regulatory areas in terms of organizational adoption. Yet, blockchain technology was developed not only for the sake of companies. It was actually developed mainly for peer-to-peer communication. Consequently, the authors have recommended to study this technology from a marketing perspective. Risius and Spohrer (2017) state that future studies need to "provide insights on why people use the technology and what features enhance or constrain its dissemination among the society". In fact, a comprehensive understanding of blockchain's perception and acceptance by consumers is still missing.

The objective of this chapter is to understand the added value of blockchain technology when it is implemented in online platforms and websites, and to explore consumer acceptance. The notion of customer values represents a core concept in the marketing literature (Grönroos, 2006; Holbrook, 1999; Woodruff, 1997). Customers are constantly looking for value optimization, making it necessary for companies to understand the specific drivers and barriers with respect to values (Kleijnen et al., 2007). At a practical level, investigating the added value of blockchain technology may help managers increase their understanding of the opportunity presented by such technology and advise them on better ways to benefit from it. For any transformative technological innovation to realize its expected benefits, it needs to be widely adopted and diffused.

Blockchain technology

Blockchain is a new technology, known for its decentralized system of data management and peer-to-peer nature. Previous studies have defined blockchain technology in different contexts **(Table 1)**. In almost every case, blockchain is basically defined by its characteristics, its actors and its nature. For example, Viriyasitavat and Hoonsopon (2018) define blockchain as "a technology that enables immutability and integrity of data in which a record of transactions made in a system are maintained across several distributed nodes that are linked in a peer-to-peer network". Hoxha and Sadiku (2019) define it as "an open and decentralized ledger, which effectively records transactions between two parties in a verifiable manner". The definition of Saberi et al. (2019) seems to be the most holistic one. They defined blockchain as "a distributed ledger technology that employs chain transactions with continuously growing blocks and secures all transactions or data using cryptography".

Table 1: Blockchain technology definitions

Authors	Definition	Field
Viriyasitavat and Hoonsopon (2018)	"A technology that enables immutability, and integrity of data in which a record of transactions made in a system are maintained across several distributed nodes that are linked in a peer-to-peer network."	Industrial information integration
Davidson et al. (2016)	"Blockchain is a distributed ledger technology (DLT) with an established protocol (e.g. proof of concept) as a way of obtaining consensus in the distributed network."	Information Polity
Hawlitschek et al. (2018) as cited in Boukis (2019)	"Blockchain constitutes a peer-to-peer technology that was introduced as a solution to the so-called 'double spending problem' (i.e. a potential flaw in a digital transaction in which money can be spent more than once, as the copies sent on the internet are not unique)."	Product and brand management

Pilkington (2016) as cited in Boukis (2019)	"Blockchain is a large distributed digital database (or ledger) that stores records of transactions."	Product and brand management
Hoxha and Sadiku (2019)	"A blockchain is an open and decentralized ledger, which effectively records transactions between two parties in a verifiable manner."	Management
Zhao et al. (2016)	"A distributed database comprising records of transactions that are shared among participating parties."	Financial innovation in electronic commerce
Saberi et al. (2019)	"Blockchain technology is a distributed ledger technology that employs chain transactions with continuously growing blocks and secures all transactions or data using cryptography."	Manufacturing technology
Risius and Spohrer (2017)	"Blockchain technology refers to a fully distributed system for cryptographically capturing and storing a consistent, immutable, linear event log of transactions between networked actors."	Business and information systems engineering

Something that is very noticeable in the above definitions is that the word "bitcoin" does not appear—despite the fact that it was at the origin of blockchain creation. This demonstrates that blockchain technology can exist outside cryptocurrencies, and is considered to be a system for managing all types of transactions. In almost all these definitions, blockchain is essentially defined by its characteristics, its actors and its nature. Moreover, the word "distributed", associated with words such as "ledger", "digital database", "nodes" or "system", is predominant in every definition. Almost all the definitions also mention the record of transactions function and the peer-to-peer nature of the network. However, a difference between these definitions is that some of them mainly consider blockchain as a solution, while others consider it as a database for recording transaction data in a ledger. For example, blockchain is considered as a solution by Hawlitschek et al. (2018). They take into account the origin of conceptualizing blockchain technology, and define blockchain as a solution to the so-called "double spending problem". Davidson et al. (2016) describe blockchain as a way of obtaining consensus in the distributed network. In other words, blockchain can provide consensus, which is a dynamic way of reaching agreement in a group.

Blockchain technology is considered promising and innovative, and has a substantial influence on industry. It is the foundation of many cryptocurrencies, such as bitcoin (Wang et al., 2019; Li et al., 2017), and can be classified into public and private chains. In the public blockchain network, there is no limit set by management, and anyone can join the chain. The public model allows for self-certification of participants to join or quit at will and has decentralized trust with no central identity management. Private blockchain networks are closed groups that support models with centralized identity and membership requirements, making overall control much easier, but with limited participation. Although they are secure and efficient, private blockchains could be vulnerable to manipulation due to centralized governance.

Blockchain technology benefits

Garg et al. (2021) have divided the perceived benefits of blockchain technology, based on the framework of Koppenjan and Groenewegen (2005), into institutional, market and technical indicators. Institutional indicators describe benefits that are derived from governance, cultural and regulatory domains. Blockchain can help develop a culture of minimizing fraudulent transactions and increase trust. Records become auditable by including the appropriate origin of different accounts and documents. Blockchain offers market-based benefits, which are described under performance and business processes. Cost reduction and minimization is one of the key parameters in enhancing the performance of financial services (Karamchandani et al., 2020). Business processes also improve with real-time information, eliminating intermediaries and aligning processes. With respect to technical indicators, blockchain facilitates data quality by providing adequate protection, accuracy and control. It also offers enhanced security and an automated recordkeeping system along with faster disbursement and settlement. In any system, the architecture needs to be robust and resistant to disruptions.

Another benefit of blockchain is its impact on trust. According to Shin (2019), trust is a key component of blockchain technology. In this vein, Botsman (2017) stipulates that blockchain arguably transforms not only the way we exchange value but also who we trust. In other words, in blockchain platforms, participants do not need to directly trust each other to perform a transaction, they only need to trust the blockchain itself. Hence, whether and how much users trust blockchain technology plays a crucial role in blockchain success (Shin, 2019). Rachel Botsman describes the traditional trust stack in terms of three levels: people have to first trust

the idea; they must then trust the platform; and finally, they must trust other users. In the blockchain context, people no longer have to trust other users. However, they still have to trust the idea and the platform. Shin (2019) examines the relationships among privacy, security and trust. His findings show that blockchain users predominantly resorted to the heuristic of trust to make judgments on privacy and security. These findings are in line with previous studies that have examined the influence of security and trust (Lemieux, 2016; Mou et al., 2017).

In the consumer-brand relationship context, Boukis (2019) argued that the wider adoption of blockchain could restore or enhance consumers' trust in brands in three ways: through enhancing brand transparency; through reducing counterfeit consumption; and through increasing brand trust in online marketplaces. Regarding trust in online marketplaces, Boukis (2019) argued that blockchain could decentralize trust in two ways. The first way is at the seller level, by attaching trust to the seller on various marketplaces rather than to the sites themselves. Put differently, users no longer need a third-party to verify transactions made between each other, every transaction is recorded and visible, and no reviews can be falsified (Subramanian, 2018; Hawlitschek et al., 2018). This is a very important detail with respect to a service provider or seller. Second, blockchain platforms could prove vital in restoring or enhancing trust at the product level, where brand promises remain a key reference point (Kosba et al., 2016; Subramanian, 2018).

Blockchain technology characteristics

The rise of blockchain technology and its success stems from its unique technological characteristics, which interest both users and practitioners. As stated by Choo et al. (2020), due to its nature, blockchain can provide security, privacy, decentralization, anonymity and immutability. Risius and Spohrer (2017) argue that blockchain's key properties, such as integrity, resilience and transparency, make it an attractive option to revolutionize business processes. Against this backdrop, a literature review pointed out many blockchain characteristics. An overview of academic papers on blockchain shows that the characteristics identified are almost the same, but differ slightly from one context of use to another **(Table 2)**. The most cited characteristics in previous studies are as follows: transparency (Viriyasitavat and Hoonsopon, 2018; Basden and Cottrell, 2017; Boukis, 2019; Risius and Spohrer, 2017); immutability/irreversibility (Crosby et al., 2016; Till et al., 2017; Reddick et al., 2019); decentralization (Boukis 2019); security (Lantmäteriet et al., 2016; Hoxha and Sadiku, 2019); confidentiality (Lee and Pilkington, 2017; Martinovic et al., 2017); peer-

to-peer (Hoxha and Sadiku, 2019); and trust-free (Risius and Spohrer, 2017; Wang et al., 2019; Boukis, 2019).

Table 2: Blockchain technology characteristics

Characteristics	Citations	Field
Transparency	"Transparency can be enhanced according to the degree of information disclosed to the public outside the system" (Viriyasitavat and Hoonsopon, 2018).	Industrial information integration
	"All parties have to give up control of their data, which results in wide transparency to all transactions taking place in blockchain-based networks" (Basden and Cottrell, 2017).	Management
	"The type and features of every transaction made in blockchain networks are visible to any party with access to the network" (Boukis, 2019).	Management
	"Each participant can see all of the information instantaneously as any change made in one node is reflected immediately among other nodes in the network" (Killmeyer et al., 2017).	Government innovation
	"Blockchain technology enforces transparency and guarantees eventual, system-wide consensus on the validity of an entire history of transactions" (Risius and Spohrer, 2017).	Business and information systems engineering
Immutability / Irreversibility	"One unique feature of blockchain technology is immutability, which implies that once data are written to the blockchain, no one – not even the system administrator – can change the data" (Reddick et al., 2019).	Information polity
	"Once any transaction is made and entered into the decentralized blockchain database, the records cannot change; this is because they are linked to all transactions previously made" (Crosby et al., 2016).	Technology business Innovation
	"A significant feature of blockchain is that once a user records the data within it, making changes in the future becomes very difficult" (Biswas and Gupta, 2019).	Computers and industrial engineering
	"By design the blocks are resistant to any data modification" (Till et al., 2017).	Global health

Near real time updates	"Blockchain … ensure transactions are taken in near real time" (Iansiti and Lakhani, 2017).	Management
	"Blockchain data remain consistent, time-stamped and accurate" (Boukis, 2019).	Management
Low-cost	"Blockchain could dramatically reduce the costs of record keeping" (Iansiti and Lakhani, 2017).	Management
	"The elimination of intermediaries from peer-to-peer transactions makes the transactions quicker and more cost effective" (Boukis, 2019).	Management
	"With blockchain technology, brands can limit or remove costs and eliminate non-value adding activities at the intermediation layer" (Rejeb et al., 2020).	IT
Decentralization	"The first unique facet of blockchain is the default use of a decentralized digital database, which refers to the fact that a decentralized copy of any blockchain transaction exists for other users of the network" (Boukis, 2019).	Management
Security	"A blockchain is a continuous list of records divided into blocks, which are connected and secured to one another by using cryptography" (Hoxha and Sadiku, 2019).	Management
	"The slow and inefficient real estate transactions process can be improved through a blockchain technology, which is a much more secure technology than manual processes that take place in real estate transactions system" (Lantmäteriet et al., 2016).	Electronic commerce
Confidentiality	"Blockchain provides a simple and efficient method of recordkeeping in the public sector that preserves the integrity and confidentiality of records" (Martinovic et al., 2017).	Technology and government
	"Blockchain networks could be used for the safe storage of large amounts of anonymous customer data, ensuring individual anonymity whilst also allowing third parties to use this data to offer more value to their customers" (Lee and Pilkington, 2017).	Consumer electronics

Peer-to-peer	"The blockchain is usually managed through a peer-to-peer network, which strictly follows the protocol of validation of new data blocks" (Hoxha and Sadiku, 2019).	Management
Trust-free	"In contrast to the traditional trust mechanism where a central party (e.g. an insurance company, a central bank, or the government) is needed, blockchain is a 'trust-free' solution, where the technical part assures the transactions not to be altered as long as it is logged on the blockchain" (Wang et al., 2019).	Information management
	"It allows even parties who do not fully trust each other to conduct and reliably control mutual transactions without relying on the services of any trusted middlemen" (Risius and Spohrer, 2017).	Business and information systems engineering
	"Users interact with each other without having to use a trusted third party, and blockchain itself ensures data integrity" (Boukis, 2019).	Management

Theory of consumption values

The theory of consumption values (Sheth et al., 1991) posits that customers derive multiple values from their interactions with firms' offerings. It has been acknowledged as the dominant theoretical lens in the values literature (Sweeney and Soutar, 2001). The theory has proved its effectiveness in many contexts, such as online and offline retailing (Carlson et al., 2015; Kleijnen et al., 2007), mobile social media (Carlson et al., 2019), wireless telecommunications industry (Karjaluoto et al., 2012) and mobile banking (Berraies et al., 2017).

The theory suggests different types of values, and includes (i) functional, (ii) emotional, (iii) social, and (iv) epistemic values. Functional value pertains to whether a product is able to perform its functional, utilitarian or physical purposes (Sánchez-Fernández and Iniesta-Bonillo, 2007). In addition to instrumental benefits, emotional value refers to "the fun, enjoyable, positive feeling and emotional responses aroused during the use" (Sánchez-Fernández and Iniesta-Bonillo, 2007). Customers also acquire and consume products or services to enhance their social image (Belk, 1988). Products or services can convey symbolic meanings, and thereby are likely to mirror individuals' status and enable them to

construct a positive social reputation (Varshneya and Das, 2017), and even respect and admiration in their social environment (Lin and Bhattacherjee, 2010). Epistemic value refers to "the capacity of the product or service to surprise, arouse curiosity or satisfy the desire for knowledge" (Roig et al., 2006, p. 270), and is triggered by customers' intellectual curiosity or desire to search for novelty (Sánchez-Fernández and Iniesta-Bonillo, 2007). The perception of epistemic value is consequential and purposeful to many customers (Carlson et al., 2019), suggesting that epistemic value could determine intention (Wu and Chang, 2016).

Method

Given that cryptocurrency platforms are the best-known application of blockchain technology, participants having experience with bitcoin were selected. Sixteen in-depth interviews were carried out. At the beginning of each interview, the authors briefed each panel expert in detail on the study purpose and objective. The respondent shared his/her experience with platforms using blockchain technology before focusing more deeply on the perceived benefits and the perceived risks. Respondents were aged between 22 and 27. They were males (81.25%) and females (18.75%). Eight of them were students and eight were in employment.

The study was conducted during a lockdown due to the Coronavirus pandemic. Consequently, interviews were carried out online via the Messenger application. This tool eliminated any risk of missing important information since all the responses were either written or voice messages, and everything was recorded. The entire conversations were transcribed to analyse the content and obtain a wealth of information (Triki, 2010). Collected qualitative data was analysed using vertical and horizontal thematic analysis.

Findings and Discussion

According to the interviews, all the participants are interested in cryptocurrencies or have already traded cryptocurrencies. They are owners and non-owners of bitcoin. Some individuals have already traded bitcoin (9 respondents out of 16). Others have never owned bitcoin but are interested in it (7 respondents out of 16). Those who are interested in bitcoin are mainly computer programming enthusiasts, technology enthusiasts and speculative investors. These profiles are mainly in the field

of IT (computer engineer, computer scientist, etc.) and management (marketer, financial analyst, etc.).

The lexical and thematic qualitative analysis identified four main benefits and five risks of blockchain adoption. These are discussed below.

Perceived benefits of platforms endowed with blockchain

The results underline different benefits perceived by users of the blockchain platform, which can be categorized into four types: functional benefits, economic benefits in terms of ability to make and save money, transactional benefits in terms of anonymity/privacy and security, and epistemic benefits in terms of curiosity and the pleasure of discovering new experiences.

- **Functional benefits**: The analysis of the interviews shows that consumers associate blockchain platforms with their utility as a means of payment to buy goods and services from online sites (that allow payment with bitcoin). One respondent illustrates: *"I was interested in bitcoin because I wanted to buy a service online … but bitcoin was the only means of payment to have this service".*

- **Economic benefits**: Foreign purchases typically involve fees and exchange costs. Since Bitcoin transactions have no intermediary institutions or government involvement, the costs of transacting are kept very low. This can be a major advantage for travellers. Additionally, any transfer of bitcoins happens very quickly, eliminating the inconvenience of typical authorization requirements and waiting periods.

- **Transactional benefits**: Respondents also mention the **anonymity/privacy** offered by blockchain: *"you can't know who's the sender or the receiver… you can't know their locations, their names or even their email addresses" (M, 23 years). "It is a kind of transaction storage in an anonymous and transparent way" (M, 25 years). "All of these qualities made blockchain transparent, private and secure" (M, 22 years).* **Security** is also mentioned by respondents: *"Blockchain! its security. Finding out about blockchain's security made me do transactions thanks to its digital signature and similar stuff around it" (M, 23 years). "I think it is trustworthy because it is secure and unhackable" (M, 24 years). "I know that blockchain secures transactions" (F, 24 years).* Other respondents add*: "Nobody can steal anybody's bitcoin or other crypto" (M, 22 years). "I trust a cryptocurrency because it's backed by the*

blockchain and the blockchain is a very secure way to save data such as transactions, addresses and their amounts (when we talk about cryptos)" (M, 27 years). "I know about blockchain that it is an account in which bitcoin transactions are recorded and it is very secure so it is not possible to hack it" (F, 24 years). In the same vein, other interviewees confirm the security of the platform as follows*: "Yes, blockchain is an information system or database where information on the purchase and sale transactions of cryptocurrencies is stored in the form of grouped and secure blocks" (F, 28 years).*

- **Epistemic benefits**: Novelty emerges as one of the most relevant perceived benefits that motivates individuals to have an interest in bitcoin or other cryptocurrencies. Indeed, 2 respondents out of 16 affirmed that they were interested in bitcoin because it was something new that everyone talked about. Respondents affirmed that their interest in bitcoin starts out of curiosity. They wanted to discover the novelty of the cryptocurrency world and to satisfy their desire for knowledge by learning more about the cryptocurrency market and how it evolves, and how to trade and how to gain and make money. Moreover, the interviews show that individuals with an interest in cryptos are individuals who do a lot of research about cryptocurrencies and about blockchain technology. They are technology enthusiasts. In this context, some respondents illustrate: *"One of my main motivations was that I have a lot of project ideas in my mind and every new technology could help in some way. So, I have always been aware of every new tech that drops" (M, 23 years). "My self-confidence and motivation to learn more about blockchain" (M, 23 years). "At first it was out of curiosity" (M, 23 years). "I found that blockchain is a technology that interests me a lot and I thought that it is very important to learn more about it" (M, 26 years). "I was motivated to get to know all about both blockchain and bitcoin because I'm a tech addict and I've always been aware of all new technologies, tech discoveries and inventions" (M, 22 years). "Well, actually it was due to curiosity, and I had to know" (F, 25 years).*

Perceived risks of platforms endowed with blockchain technology

When investigating respondents' perceptions of blockchain, many evoked barriers related to bitcoin involvement, such as financial risks related to value fluctuation and the wallet loading process. However, the purpose of this study is around the perception of the platform endowed with

blockchain and not blockchain itself. Therefore, five perceived risks are distinguished: risk of privacy and data traceability, risk of fraud by platform providers, risk related to the technology, risk related to the identity of partners, and risk related to the legal framework.

- **Risk of privacy and data traceability:** This refers to cybersecurity concerns when collecting bitcoin. Respondents mention*: "I was collecting bitcoin on Faucet sites with a fake email, I use neither my last name nor my first name, and each time I visit a site I change the VPN and I set a new country" (M, 23 years). "I always think that there is a sort of data traceability hidden somewhere so that they can track our activities and, of course, how much money we bought and sold and from which websites and stuff like that" (M, 23 years). "The virtual world is not safe ... it's about security and privacy" (F, 25 years).*

- **Risk of fraud by platform providers:** When converting bitcoin into cash: *"There was a Tunisian website named 'Nooqood.biz' (or something like that), so at that time, I started spending MY OWN money and it was kind of risky because they could've easily taken the money and not paid me back with bitcoin" (M, 23 years). "Risk of fraud when converting your cryptocurrency into real money and high taxes" (M, 23 years).*

- **Risk related to the technology:** *"because it is computerized, no matter what level of security there is, it may be that one day you wake up and you will not find anything" (M, 26 years).*

- **Risk related to the identity of partners:** *"As long as I cannot know the person who sent me cryptos they are not to be trusted, because the source of the money can be drug or arms trafficking; if it will no longer be anonymous, at that time they can become trustworthy" (M, 25 years).*

- **Risk related to the legal framework:** *"There was also a legal risk, as bitcoin is new and associated with the dark web" (F, 24 years). "Cryptocurrency could encourage money laundering etc. and because it is not going to be an international currency, I gave up" (F, 24 years). "Cryptos are associated with money laundering, the sale of drugs and weapons" (M, 25 years). "There is not a legal framework which protects you in case of theft, you can do nothing" (M, 26 years).*

Conclusion

Blockchain technology is among the most trending technologies, and is attracting a great deal of interest from academic and practitioner communities. This chapter investigates the perceived benefits and risks of platforms endowed with blockchain technology based on a qualitative study within the blockchain ecosystem. This study provides a foundation for future research in the field of blockchain. It enriches the literature and contributes to blockchain-related studies. At a managerial level, blockchain technology is still in the early stages of experimentation. Because consumers play a vital role in their bottom line, firms need to take into consideration consumers' behaviour in regard to their acceptance and use of blockchain. Identifying the benefits and risks perceived by consumers may enhance blockchain diffusion and acceptance. In addition to the perceived benefits, the banking industry can offer better products based on customer and market demand. Firms can benefit from blockchain technology to promote and foster trust; for example, by ensuring that their services are trustworthy, respect privacy, and are secure. The research results show that blockchain is also associated with some risks. It is necessary to put in place a range of security and privacy-enhancing measures. Trust in decentralized systems is even lower among risk-averse consumers.

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DOES ONLINE DELIVERY SUIT FINE-DINING RESTAURANTS?

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Abstract: The hospitality industry has been particularly affected by Covid-19. This first chapter digs into the hospitality service and explores the coherence of online platforms with the sector of luxury restaurants. In fact, the advent of Covid-19 has replaced the physical dining experience with digital food-delivery platforms. The chapter argues that online platform performance is positively correlated to customer satisfaction. In addition, business should draw attention to congruency as an important determinant of satisfaction. Recommendations to fine-dining restaurants include developing customer-centric criteria for selecting a food-delivery partner, developing an in-house food-delivery platform, and preparing physical facilities to positively affect customer perceptions of sanitation.

Keywords: Restaurant industry, online delivery platforms, customer loyalty, technophilia.

Introduction

During the end of 2019 to the current situation in 2021, the world faced a pandemic caused by the spread of Covid-19 that was caused by a newly discovered coronavirus that started spreading from Wuhan, China, to the rest of the world (WHO, 2019). This pandemic has made many, mostly social and economic, changes to the world. From a social dimension, it has changed people's way of life, starting with self-isolation, social distancing, and taking extra sanitary measures to prevent getting infected (WHO, 2019). Distance learning and working from home became the new norm in 2020. Coffee shops and restaurants are no longer places for people to meet and socialize as they have been replaced by the Zoom online meeting room, the Party House app, or Google Duo (Koeze & Popper, 2020). Some people were able to keep up with this change; others suffered from

depression and other emotional problems during the quarantine imposed by some governments (Schraer, 2020). From an economic dimension, Covid-19 has a major impact on many industries, including the hospitality industry. In many countries, tourism activities stopped when airports and airlines declared that they would stop their operation because of the pandemic (Al Jazeera, 2020). Malls, restaurants, cinemas, and most of the recreational centers shut down for a while causing many companies to go bankrupt or declare their final closure as they could not survive (Al Jazeera, 2020). Currently, the restrictions are easing gradually around the world, but the pandemic has left major losses behind it.

Looking closely at the restaurant industry and its operation during the lockdown, most of the restaurants have used online-delivery platforms to keep their business running and deliver food to their customers (Guszkowski, 2020). Fast-food restaurants, in addition to other casual dining restaurants, were already using online-delivery platforms before the pandemic. However, fine-dining restaurants were never seen on such platforms, but the pandemic has forced them to join the platforms to survive during the tough times of lockdown and uncertainty. In fact, this category of restaurants offers a full experience for customers and not only food. Thus, the customer presence in the restaurant is crucial. The food presentation is part of this whole experience; it would be hard to present the delivered food to the customer the way it is presented at the restaurant (Igor, 2020). Another reason could be that fine-dining food preparation takes a long time, whereas fast foods are faster; this is what the customer is looking for. However, the pandemic has forced them to adjust their operations and join delivery platforms to survive. It has become normal to see McDonald's logo next to Nobu, a Japanese fine-dining restaurant, while scrolling down the delivery application. This indicates the large shift in the marketing paradigm of fine-dining restaurants. Therefore, the aim of this chapter is to explore how customers perceive these online platforms in terms of online characteristics and mostly in terms of their congruency with the luxury image of the fine-dining restaurants and to investigate the impacts on customers' attitude and behaviors. In addition, because some consumers may be more enthusiastic than others toward digital innovation, the research also considers the moderating effect of technophilia as it may shift the influence of online platform evaluation on consumers' behavior. Consequently, this research's questions are as follows: "*What are impacts of fine-dining restaurants online platforms on customer loyalty?" What are effects of technophilia?*

This research will help fine-dining restaurants in making important marketing decisions for the post-pandemic period. It will also help them understand the important aspects of the online-delivery platforms to their customers. This chapter first presents food-delivery platforms to underline the importance of the congruency between the perception of the platform and the image of the fine-dining restaurant. The conceptual model will then be developed before our research methodology is approached. The chapter continues with the discussion of the results and concludes with contributions, limits, and future research avenues.

Food-Delivery Platforms

Digital platforms have become an interesting area of research in the academic literature, as scholars investigate their business approach, effects on consumers, and overall benefits to society. Joaquin and Gabriele (2020) define it as a social and technological platform that allows agents to deliver digital innovation to customers. The digital platform creates value for the business through economies of scope in supply or demand, or both. The authors distinguish digital platforms from marketplaces, by explaining that marketplaces involve communities of buyers and sellers, who are exchanging information, coordinating among themselves, and finalizing transactions in the market. However, the digital platform does not involve buyers and sellers exchanging information. Instead, it provides information to buyers and provides the coordination, instead of leaving it to buyers and sellers. Parker et al. (2016) explain that digital platforms are a "layered architecture of digital technology, combined with a governance model" (p. 256). Constantinides et al. (2018) describe digital platforms as "a set of digital resources—including services and content—that enable value-creating interactions between external producers and consumers" (p. 381). Digital platforms are common in e-commerce across different sectors, among which is the food and beverage industry. In fact, the global food-delivery industry is worth €83 billion, which represents 4% of food sold in restaurants and fast-food chains (Hirschberg et al., 2016). Although the traditional food-delivery approach still represents 90% of the total market, the digital food-delivery platforms are catching up. Hirschberg et al. (2016) explain that there are two types of digital food-delivery platforms: the aggregators and the new-delivery players. The Aggregator platform allows customers to compare menus and place an order from any desired restaurant. The customer logs in to the website or mobile app to compare the food menus, prices, and customer reviews. When satisfied, the customer chooses a restaurant and places an order. They take this order

and pass it on to the restaurants, which then cook the food and arrange delivery themselves. For this service, the Aggregator receives a fixed percentage of the value of the food order. Examples of this are GrubHub in the United States and JustEat in the United Kingdom.

The New-Delivery platform performs the same customer journey as the Aggregator platform, except that it handles the delivery by itself (not the restaurant). Like the Aggregator receives a fixed percentage of the value of the food order, the New-Delivery platform receives a fixed percentage of the food order value but also charges the customer an amount, making money from both a restaurant and customers. By providing the logistics transportation network, the New-Delivery platform can provide services to restaurants that do not have their own in-house drivers. This allows the New-Delivery platform to sign on many more restaurants and to offer people more options to choose from (Hirschberg et al., 2016). Therefore, the presence of New-Delivery platforms has provided fine-dining restaurants with another way of serving their customers. Examples of this are Talabat and Carriage in Qatar and Deliveroo in the United Kingdom. By 2021, it is expected that the digital food-delivery platform will represent 60% of the total market (Hirschberg et al., 2016). On the one hand, this is beneficial to restaurants. Platforms such as Talabat are making it easier for customers to search for food and receive it without any issues. The method of logging in to an app to place an order improves the convenience and happiness of the customer (Joaquin and Gabriele, 2020). In addition, digital food-delivery platforms offer restaurants digital assets to manage food orders and a logistics network fleet of riders who carry food in a timely manner. This way, they benefit the restaurants on several levels (Pigatto et al., 2017). However, restaurants, particularly fine-dining restaurants that depend on their image and high-class brand, must decide whether they will join these platforms and how they will maintain their unique image, in a technology that is available to every other restaurant in the country.

Image congruency in the upscale fine-dining restaurant

The image of an upscale fine-dining restaurant contains two aspects: the tangible and the non-tangible (Oh, 1995). The tangible refers to physical qualities that can be seen by the customer, such as the location of the restaurant; the layout; the look and feel of the menu; and the attractiveness of the paintings, art, and other decorations. The intangible refers to human qualities that the customer can feel and hear, including the friendliness and

professionalism of the service staff, the knowledge and creativity of the chef, and the general atmosphere of the restaurant. Lindquist (1975) outlined nine elements of a restaurant image. They are 1) **merchandise**—the quality, selection, style, and pricing of products and services offered by the restaurant; 2) **service**—the overall service, service of the staff, doormen, and delivery service; 3) **customers**—the social class of the customers and image of the guests who come to dine at the restaurant; 4) **physical facilities**—the lighting, washrooms, use of paintings and art, look and feel of the dining tables and chairs, and any other natural accessories; 5) **convenience**—the general convenience offered by the restaurant; the convenience of the location; and the convenience of parking, entering and exiting the restaurant; 6) **promotion**—the advertising of the restaurant, the use of symbols, colors and other visual elements; 7) **atmosphere**—anything that helps the customer feel warm, happy, accepted or delighted to be at the restaurant; 8) **institutional factors**—the reputation and reliability of the restaurant; and 9) **customer satisfaction** after the dining experience. With this definition, Lindquist (1975) demonstrated that image is not only the physical aspects of a restaurant; it extends to the level of customer service, the location of the restaurant, and the general reputation of the restaurant. Therefore, a customer can have an image of a restaurant even before visiting it, based on institutional factors and the advertising and marketing they see about the restaurant. Lin and Mattila (2010) investigated the image congruency in restaurants. They explained that the tangible aspects of an image in a luxury product can be called the service landscape (servicescape), whereas the intangible aspects of an image can be called the service encounter. They both affect the customers' emotions. In a study of 478 customers visiting a Japanese luxury restaurant, Lin and Mattila (2010) found that customers focus on the overall experience of visiting a luxury restaurant—both the service landscape and the service they receive. In particular, the congruency between the two elements is what drives customer satisfaction. This suggests that the global fit and coherence between both the actual food that customers receive, the service of delivering the food, and the physical environment in which they receive it are important to the perception of luxury.

Review of the literature has indicated that most articles are focused on the luxury goods and products (which are tangible), rather than luxury services (which are intangible). Besides, some factors that influence customer loyalty of luxury goods may be insignificant in predicting customer loyalty of luxury services (Yang and Mattila, 2016; Shukla and Purani, 2012). Also, no research has been conducted to show how

restaurants can demonstrate innovation and promote themselves, when the customer is connecting to them through a third-party (the digital platform). With the rise of digital food-delivery platforms, the tangible element may become less important—the customer is not visiting the restaurant, but instead ordering the food from the convenience of their home. Therefore, there is no chance to impress them with the location, lovely layout, art, paintings, and other physical qualities of the restaurant. On the food-delivery platforms, such as Talabat, there is no difference in location of the Michelin-starred restaurant and the fast-food restaurant. With this aspect of image reduced or completely removed, the restaurant can only rely on the intangible aspect of an image to fight for customer loyalty.

Conceptual Framework

The framework suggests that online-delivery platform evaluation along with the congruency between a fine-dining restaurant and the online-delivery platform affects customer satisfaction, which in return affects customer loyalty. The framework also considers the moderating impact of technophilia (Fig. 1).

Impacts of online-delivery platform evaluation and its congruency with a fine-dining restaurant on customer satisfaction

Within the hospitality industry, there is extreme competition from all types of food and beverage providers, who target the same customers in a region or country. This competition means that most customers now have access to a greater choice of restaurants, better value for money, and a higher level of service from many suppliers (Kandampuly and Suhartanto, 2000). Against this ocean of competition, the successful upscale fine-dining restaurant must learn how to create loyal customers (Semercioz et al., 2015; Harrington et al., 2011). Customers who are loyal tend to buy more often from the business and spend a larger share of their income at the business, are often less sensitive to price than other customers, and help the business to increase sales through positive word-of-mouth actions (Williams and Naumann, 2011; Almedia and Bremser, 2013).

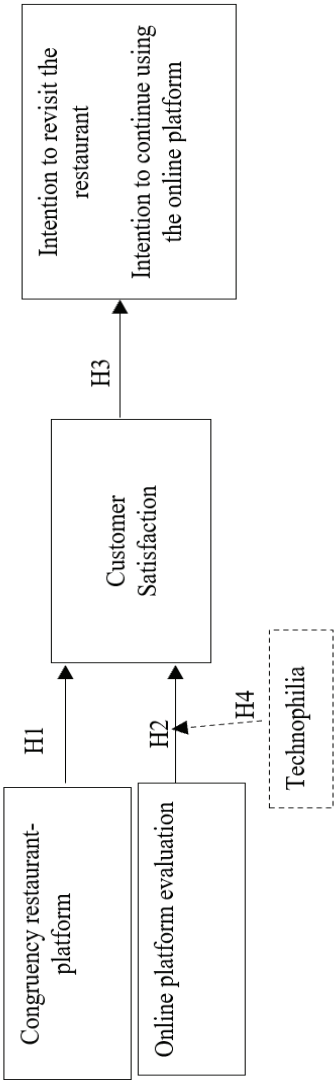

Fig. 1. Fine-dining online-delivery platform affects loyalty

The literature review has indicated that online platforms such as Carriage and Talabat are making it easier for customers to search for food and receive it without any issues. Indeed, the method of logging in to an app to place an order improves the convenience and happiness of the customer (Joaquin and Gabriele, 2020). By ordering their food from digital platforms, customers can access food from anywhere they want, including their favorite restaurant, at the convenience of a single button click. In using the food-delivery platforms to order food, customers are able to fulfill the need or desire for their food, thereby taking a step toward customer satisfaction (Oliver, 1997). Suchánek and Králová (2019) demonstrated the influence of perceived product quality on customer satisfaction in the food sector. The servicescape, the core product (i.e., the food served), and service encounters (i.e., customer−employee interactions) are positively linked to satisfaction. Consequently, there is the following hypothesis:

H1: Online platform evaluation affects positively customer satisfaction.

As previously mentioned, when customers respond to service settings, it is the total or holistic configuration of stimuli that determines their responses to the environment (e.g., Holahan, 1982; Lin, 2004; Oakes & North, 2008; Lin, 2010b). Since consumers expect the physical environment to fit the product or the service, satisfaction with a consumption experience is partially determined by the perception of overall "goodness of fit" (e.g., Mattila & Wirtz, 2001). For example, Mattila and Wirtz (2006) demonstrated that the service environment's actual arousal level needs to be congruent with prior expectations. They demonstrated a significant interaction effect of perceived congruency on satisfaction. Lin and Mattila (2010) suggested that perceived congruency between the servicescape and the core product has a positive impact on pleasure. Chen-Yu et al. (2016) investigated the effects of image congruency on luxury fashion brands. Through a survey of 217 online shoppers in the US, the authors found that image congruency and brand experience together created the brand affect and significantly influenced the trust that consumers placed in brands. This in turn influenced the intention to repurchase the brand. Consequently, the following hypothesis is formulated:

H2: Congruency with the restaurant affects positively customer satisfaction.

The impact of customer satisfaction on customer loyalty

Past studies have largely demonstrated that customer satisfaction has a positive influence on customers' intention to repurchase and recommend goods and services (Andaleeb & Conway, 2006; Cronin & Taylor, 2000). Nezakati et al. (2011) have demonstrated a positive relationship between customer satisfaction and customer loyalty across the hospitality industry. Akbar and Parvez (2009) demonstrated that customer satisfaction engenders customer loyalty. Abbasi et al. (2010) have discussed that the customer satisfaction can be fetched from different independent variables, e.g., service quality, atmosphere, and price, and it further leads to customer retention. Service quality is the predictor of customer satisfaction, which in turn predicts customer loyalty (Farooq et al., 2019). In line with these studies, the following hypothesis is derived:

H3: Customer satisfaction affects the customer's intention to revisit a fine-dining restaurant (a) and to use the online platform to order (b).

The moderating effect of Technophilia

Osiceanu (2015) defines technophilia as the "attraction, enthusiasm of the human individual to the activities which involve the use of advanced technologies. It is expressed by easy adaptation to the social changes brought by technological innovations (Osiceanu, 2015, p. 1138). The author explains that societies using technology to drive a more effective and efficient way of life tend to have higher levels of technophiles. Ronit (2011) explains that technophilia is indeed driven by a greater understanding of the concerned technology, a willingness to adopt it, and an experience of its rewards. In particular, the perceived ease of use of the technology, the perceived usefulness of the technology, and the user's adaptive digital literacy from existing knowledge are transferred onto the new technology being used, and they influence users' acceptance of the new technology. The comfort level with which a customer readily adopts and adapts new technology leads to a more effective use of technology in daily life (Osiceanu, 2015). By experiencing the rewards of using the online food-delivery platform, notably fast and convenient service, wide search options and restaurant choices, and the opportunity to have food conveniently delivered at home, it is possible that the greater the technophilia of customers, the greater is the relationship between their evaluation of the online food-delivery platform and satisfaction. In other words, the strength of the impact will depend on how enthusiastic customers feel toward the

innovation of an online-delivery platform for fine-dining restaurants. From this, the following hypothesis is derived:

H4: Technophilia strengthens the positive impact of the online platform evaluation on satisfaction.

Methodology

With the current situation of the spread of Covid-19, this research used an online survey. Almost 52% of the world population and almost 92% of Qatar's population have access to the internet (Qatar Internet Users). Data were collected using a respondent-driven sampling method founded by Heckathorn (1997, 2017) because it will rely heavily on respondents disseminating the survey within their social networks and through social media applications such as WhatsApp. A total of 212 responses were gathered. Respondents were almost half males (51%) and half females (49%), which helps in ensuring that the research responses are not gender-biased. Forty-nine percent of them were between 21 and 35 years old; 32% were between 36 and 50 years old; 14% were above 50 years old; and 6% were younger than 20. The majority of the respondents (84%) reported that they had a diploma or higher qualification, and only 16% reported that they had a high school certificate only. Finally, 72% of the respondents reported that they were employed; 4% were self-employed; 9% were retired; 8% were unemployed; and 7% only reported that they were students. All measurement scales were extracted from the literature and adapted to the needs of this study (Table 1). The collected data were verified in terms of outliers. Also, it should be noted that all of the survey responses were mandatory, to avoid missing values. The normality of the variables was checked. During the exploratory analysis, principal component analysis (PCA) was applied to determine the quality of representation of the measurement indicators through the use of the Kaiser Meyer and Olkin indicator, as well as the Bartlett Sphericity Test. After the item's purification, the explained variances of all variables were superior to 70%, and the reliability of the measurement scales is verified using the Cronbach Alpha indicator (Cronbach Alpha ≥ 0.7) (Carricano et al., 2010).

Findings and Discussion

Assessment of the measurement model

To conform to the accepted procedure for Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) (Davis et al., 2017; Bagozzi and Yi, 2012), the first step was to conduct a Principal Component Analysis (PCA) and a CFA on all variables. Then, a SEM was conducted on the whole model. Cronbach Alpha values and Composite Reliability scores were used to assess the reliability and internal validity of all scales. All Cronbach Alpha values are higher than 0.70 (Naylor et al., 2012). The convergent validity was assessed in three steps. First, all item loadings were higher than 0.5. Second, the Composite Reliabilities were higher than 0.70 (Naylor et al., 2012) (Table 1). Third, all AVE values exceeded 0.50. In addition, the squares of the correlations among the constructs were lower than the corresponding AVEs; this indicated satisfactory discriminant validity (Chin, 1998) (Table 1 and 2).

Variable	Items	Loadings	Reliability
Evaluation of Online Platform ((Thirumalai and Sinha, 2010)	On a scale of "Not at all" to "Highly," rate the online platform of the restaurant: (1) Platform performance (2) Shipping and handling charges on-time delivery (3) Order tracking (4) Product met expectations	 0.807 0.840 0.849 0.742	0.825
Congruency of platform and restaurant	- This platform is an appropriate channel for this fine-dining restaurant. - The platform shared the same values as the restaurant.	0.925 0.925	0.830
Technophilia (Globisch et al., 2017)	- I get very enthusiastic about technology. - I keep up to date with new technological developments. - I am often the first in my group of friends to acquire a new technology.	0.826 0.891 0.833	0.802

	- I was happy with the order		0.915
Customer satisfaction (Cakici et al., 2019)	experience using this platform.		
	- I was contented with the order	0.90	
	experience using this platform.	0.94	
	- Overall, I was satisfied with the order experience using this platform.	0.92	
	- I intend to continue choosing		0.825
Intention to revisit (Cakici et al., 2019)	this restaurant post Covid-19.	0.871	
	- I consider this restaurant to be	0.820	
	my first choice.	0.912	
	- I feel better when I go to this restaurant post Covid-19.		
Intention to continue using online-delivery platforms (Shah et al., 2020)	- X app will be my first choice		0.955
	when I need to make a purchase.		
	- I will regularly repurchase from	0.949	
	this app.	0.969	
	- I intend to use the X app first	0.955	
	for my next purchase.		
	- I expect to repurchase from this X app in the near future.		

Table 1. List of items and Reliability

Testing the indirect impact of the platform characteristics on revisit and re-use intentions

Regression analysis indicates that 60.4% of the total variation in customer satisfaction can be explained by evaluation of an online-delivery platform and image congruency. Both independent variables have positive impacts (0.393 and 0.523), but the evaluation of the online platform has a higher impact on customer satisfaction than image congruency. Therefore, both hypotheses 1 and 2 are validated. Furthermore, results indicate that the relationship between customer satisfaction and revisit intentions is statistically significant (p = 0.002). Therefore, H3a is accepted. In addition, the R squared value is 41.9% for the relationship between customer satisfaction and current repurchase intentions, which is statistically significant (p = 0.000). This indicated that there is a positive relationship between customer satisfaction and customer intentions to repurchase food from the fine-dining restaurant through an online food-delivery platform. Thus, H3b is accepted. These findings conform to previous research that demonstrates that one of the main drivers of customer satisfaction with food-delivery platforms is the convenience provided with respect to ordering, paying for, and receiving food (Joaquin

and Gabriele, 2020). Although the physical environment is no longer available because of the pandemic, the service through which food is delivered is now being performed provided through food-delivery platforms, and the luxury restaurants are still able to affect the customer's experience of the actual food they received.

Testing the moderating effect of technophilia

Results of regression with interaction effects indicate that the moderating effect of technophilia is not significant (p = 0.638, much greater than 0.05). Therefore, H4 is rejected. The reason for this could be that the majority of the sample are technophiles and are all familiar with new technology, particularly the online food-delivery platforms surveyed. This rationale is supported by the demographic findings of the survey, which indicated that 54% of respondents were aged 35 years or younger and are most likely digital nomads who are comfortable with the latest technology. In addition, the survey was distributed online; therefore, completion of the survey itself suggests a basic level of technophilia.

Conclusion

Gursoy et al. (2020) found that nearly 25% of customers would only feel comfortable to visit a restaurant in person and sit in the physical space when their country has fully controlled the ability to test and isolate every Covid-19 case and that 14% of customers would only feel comfortable to visit the restaurant when a vaccine is widely available. For all of these reasons, the need to ensure customer loyalty and continued business survival has perhaps never been greater, and fine-dining restaurants will need to learn how to adapt to the new approach of serving their customers remotely from a distance, rather than inside the physical space. Finally, even after the movement and restrictions are lifted, and people begin to come out of their houses and resume normal activities, the economic situation of many customers will change as a result of the coronavirus. Experiences such as going to a fine-dining restaurant will become a luxury that many cannot afford (Chang, 2020). Therefore, they must learn how to compete for their customers in the digital platforms and to maintain the important brand image that sets them apart from other types of restaurants.

The findings of this research reveal that the online-delivery platform evaluation and congruency affect positively satisfaction, which in turn affects intentions to revisit and repurchase from fine-dining restaurants.

The homogeneous nature of the sample resulted in technophilia having no moderating effect on the relationship between evaluation of the online platform and customer satisfaction.

Based on these findings, the research presents the following recommendations. First, restaurants should develop customer-centric criteria for selecting a food-delivery partner to work with. Restaurants should take these criteria on board when comparing and selecting food-delivery platforms. They may also develop their own in-house food delivery or even partner with some other fine-dining restaurants to implement a new online-delivery platform dedicated for them as luxury restaurants.

Second, restaurants may also take greater control of their image congruency by developing the in-house food-delivery service. They may use the food-delivery channel as an avenue to express their values and demonstrate clearer alignment to the customer between the platform used for food delivery and the restaurant itself. One such example is W Hotel and its new service, W2GO. Prior to the Covid-19 pandemic, the restaurant offered no delivery services. When Covid-19 started, the restaurant initially began offering its products through Talabat but has since switched to its own branded service, W2GO.

Like all studies, this research has some limitations. First, data collection was conducted online. It would have been more accurate if data were collected in fine-dining restaurants or administered by restaurants to their customers. Second, the study focuses on customers' perception. Future research may get the fine-ding restaurant owners' opinion about delivering online and about the different challenges that they faced during the pandemic.

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INSTAGRAM, THE NEW "ELDORADO"?: AN EXPLORATION OF ONLINE SHOPPING

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Abstract: The e-commerce shopping experience has been the subject of several studies on online shopping through social media. However, the functionality of shopping via Instagram presents itself a new ground for researchers. This study then attempts to explore the factors that influence consumers, who have had at least one shopping experience via Instagram, to make purchases via Instagram. Accordingly, the central question this study tries to answer is: What are the factors that influence consumers' attitude towards shopping via Instagram? In order to meet these objectives, an exploratory qualitative study was carried out based on semi-structured interviews, part of which was subjected to a projective analytical technique. The results showed that the factors that motivate internet users to shop on Instagram relate to perceived usefulness, perceived ease of use, positive WoM, perceived online shopping experience, novelty of technology and attitude towards Instagrammers. However, the barriers to shopping on Instagram that emerged from this study relate to perceived risk and negative W-O-M.

Keywords: Instagram, Online shopping, motivations, brakes.

Introduction

Social networks offer practical, direct and expressive tools and have found themselves, since the advent of the Internet, in demand in the fields of marketing and communication, thus offering brands other avenues of expression. Through new image social networks such as Instagram, communication through image seems to be a new El Dorado for marketing, which integrated this type of application into their digital strategy to better disseminate their brands. They are encouraged to develop their creativity to differentiate in a particularly increasingly competitive environment. Indeed, this communication tool does not only aim to

inform, attract, arouse desire and be noticed but to diffuse a positive image. According to Dan Frommer in Business Insider (2010), Instagram is an online photo-sharing, video-sharing, and social networking service that allows its users to take photos and videos, apply digital filters to them, and share them on various social media platforms.

Instagram is one of the most influential social networks today. It is the most popular among other social networks that allows to follow friends, but especially trends that inspire their users. Since November (2016), Instagram has stood out with a feature that allows its followers to track photos posted on the app which facilites purchases. According to Century Digital, this functionality has been established as follows: “Once you click on the 'Tap to View Products' button located on the image, the brand and price of the product is displayed. Therefore, the user can click to find more information before continuing on the site itself. In addition, it will allow brands to link their site directly to the app and users will no longer have to juggle Instagram and their browser. “More than one in three Instagrammers say they have purchased a product that was discovered on Instagram, making it a key part of the customer journey”. Several researchers have claimed that social media marketing is all about understanding how technology enables people to connect socially through social networks and how companies can benefit from this understanding. Which leads us to confirm the crucial role of social media and understand the means companies have to use to provide the necessary information to their customers (Bashar et al., 2012). In fact, online shopping is defined as a process that encompasses reactions between Internet users and the tools used to make the purchase online, namely merchant websites and online communities (Michaud-Trévinal and Stenger, 2014; Bahri-Ammari et al., 2021). However, the main problems with e-commerce are two: customer trust and payment methods. As for trust, it could be improved by ensuring the security of personal data and the validity of users during interaction. For payment methods, the customer's request must be answered as quickly as possible (Syuhada and Gambetta 2013; Bahri-Ammari et al., 2019). In the literature, e-commerce shopping experience has been the subject of several studies on online shopping through social networks. However, the functionality of shopping via Instagram presents itself a new ground for researchers. This study attempts to explore the factors that influence consumers, who have had at least one shopping experience via Instagram, to make purchases via Instagram. Accordingly, the central question this study tries to answer is: What are the factors that influence consumers' attitude towards shopping via Instagram? The objectives of this study are twofold: (a)- Identify the motivations and obstacles of users towards

online shopping via Instagram, and (b)- Explore user intent for online shopping functionality via Instagram. In order to meet these objectives, an exploratory qualitative study was carried out based on semi-structured interviews, part of which was subjected to a projective analytical technique.

Theory-wise, this study aims to enrich the literature on shopping via Instagram and identify the dimensions influencing consumers to make online purchases via Instagram since these latter were not addressed by researchers. The managerial interest of this study consists in showing managers the motivations of consumers regarding the adoption of the functionality of shopping via Instagram in order to understand their behavior, on the one hand, and possibly act on these factors, on the other hand.

Online shopping

The proliferation of web 1.0 and 2.0 has led the virtual world to a much more pragmatic vision. Indeed, the name of web 2.0 is frequently used in the professional field (Girard, 2015) and more specifically in the online commerce sector. Accordingly, an online shopping experience is based on an interaction between an individual, tools in a specified location and a specific period of time (Arnould and Thomson, 2005). In this regard, platforms and websites have become the main link for consumers and one of the fundamental levers for business growth (Jouffroy, Ber and Tissier, 2010). The shopping experience is one of the most important factors that motivate consumers to have an online shopping experience (Wang et al. 2007). However, the shopping experience leads the consumer to have the same shopping experience in different ways, taking into account the social context of the products and services in which they shop (Edgell et al. 1997). Two types of online shopping experiences have been identified in the literature, those of services (Jüttner et al. 2013) and those of online communities (Nambisan and Watt, 2011). Other authors have emphasized the “meta-shopping experience” which includes the experiences of the different channels and environments available for the simple reason that it is difficult to distinguish between the “offline” shopping experience and the online shopping experience (Antéblian et al. 2013). According to several marketing researchers, shopping occupies a very important place in the daily life of consumers compared to other activities (Holman and Wilson, 1978; Voss, 1979). However, for companies, shopping is not only

a buying-oriented activity, it is about attracting customers to the product (Peterson et al. 1997).

Online shopping: a multidimensional concept

The experience of contracted shopping has been the subject of several studies in the literature in order to better understand the phenomenon and recommend the appropriate business strategies (Holbrook and Hirschman, 1982; Roedherer, 2012a; 2012b; Antéblian et al. 2013). However, and in parallel with consumer experience literature, several studies have been conducted on the online shopping experience. It has been defined as a complicated experience that consumers engage in while shopping online. In other words, it is also a process that covers reactions between buyers through tools to make the purchase within an online environment such as merchant sites and online communities (Michaud-Trévinal and Stenger, 2014). They have shown that the online shopping experience is based on four dimensions.

- *The physical dimension:* refers to the characteristics of the online experience, namely the duration of the experience carried out and the sensory dimension of the experience on the merchant site, but also it includes the relationship between the environment and the consumer.
- *The ideological dimension: based on consumption and more precisely on values, symbolic notifications and shopping traditions.*
- *The pragmatic dimension:* it has two components. The first denotes the actions and gestures related to the use of online instruments and all the shopping experiences that give rise to shopping habits. The second, however, denotes the acquisition of the online environment through routines.
- *The social dimension:* it refers to the socialization mechanics experienced by the Internet user during shopping on the network and the acts of assistance in the purchase decision (go back to Internet user comments, to friends on Facebook, etc.). These four dimensions are complementary and interrelated in the process of an online shopping experience.

Online shopping goals

According to the literature on shopping activity, a merger has been found between shopping behavior perceived as a "constraint" and shopping

behavior perceived as "pleasure". Then, most researchers have considered that there are two types of buying motivations: utilitarian motivations and hedonistic motivations. These two types remain valid in the case of online purchase. Indeed, studies have shown the advisability of the opposition between the hedonistic dimension and the utilitarian dimension of perceived value, on the one hand, and the consumption experience on the other hand (Childers, Carr, Peck et al. Carson 2001; Mathwick, Malhotra and Rigdon 2002). According to Childers, et al. (2001), consumers seek the hedonic dilension in an interactive environment more than a physical shopping environment. However, these two environments reveal different shopping experiences even though the items purchased may be identical. To this end, online shopping offers a wealth of information, relative anonymity and above all more fantasies / surprises (Wolfinbarger and Gilly, 2001).

Online shopping orientation

Approaches to the purchasing process differ depending on past purchasing experiences and the set of values of each individual (Babin et al. 1994). Therefore, evaluation of the shopping experience is made on the basis of what it provides to the consumer in relation to the values they are looking for. Indeed, the orientation of shopping is defined as the attitude of the individual towards several forms of distribution (Filser, 1994, 2002). It is made up of quantitative and qualitative, objective and subjective factors. It has been used to select consumers based on their purchasing habits and trends and to indicate the reasons why they resort to such type of purchase. It also explains the change in the shopping environment for consumers (retail stores, supermarkets, catalog shopping, teleshopping and the Internet). The development of online shopping marked the start of a series of changes in the shopping environment. Indeed, these changes are marked by the purchasing preferences of consumers who increasingly shift to online shopping (Bellenger and Korgaonkar 1980; Girard, Korgaonkar and Silverblatt, 2003; Williams, Painter, and Nicholas, 1978). Several studies on the orientation of shopping have evoked the cognitive and affective characteristics of the consumer (Tauber, 1972; Westbrook and Black, 1985) as well as their typologies (Darden and Ashton, 1975; Darden and Reynolds, 1971). The motivations are mainly the needs and expectations of consumers, while the typology subdivides buyers according to criteria including shopping motivations. These two concepts have also been used in research on the directions of consumers to shop online. To this end, Tauber (1972) added personal (pleasure, sensory stimulation, physical

activity) or social (communication with others) motivations. A shopping experience gains value by touching its goals or by bringing pleasure and / or fun. Today, researchers in consumer behavior evoke two values to the shopping experience which can co-exist at the same time (Babin et al. 1994): a utility (convenience, economy and the search for assortment) and another hedonic (hedonism and social interaction).

The importance of online shopping orientation

Few studies have focused on the relationship between shopping orientation and online shopping (Girard, Korgaonkar and Silverblatt, 2003). However, it has been established that the shopping orientation makes the individual distinguish between Internet shopping and any other form of retailing and explains such a distinction (Swaminathan, White and Rao, 1999).

Much research has been carried out on the principle that online shopping is economical, convenient, motivated primarily by functional advantages. Other studies enriched this trend with other online shopping motivations that are not yet present. Some studies presented the benefits of the online shopper versus the offline shopper (Donthu and Garcia 1999; Swinyard and Smith 2003). Others are interested in the influence of shopping orientation on online behavior. Indeed, some research shows that the orientation of online shopping influences the perception of expected benefits as well as the formation of attitudes (Childers et al, 2001; Mathwick et al, 2001). Dahlèn and Lange (2002), indicated that online consumers are not very logical and rational, in that they do not organize their purchases and do not care about the price. However, Hoffman and Navak (1996) are among the first to point out that expected benefits and online behavior are hampered by the user's purchasing motivations. In addition, Childers et al (2001) showed that the usefulness, ease of use and enjoyment of online shopping can condition the attitude towards online shopping. They found that hedonic motivations are more essential to making online shopping a reality than utilitarian ones.

Moreover, several other studies showed that the pleasure of shopping is a main determinant of consumer behavior and that it is strictly linked to the attitude towards online shopping as well as to the online purchasing intentions (Koufaris et al. 2002). According to Gefen and Straub (2003), the importance of social motivation in online shopping has encouraged researchers to develop and study the relationship between social presence and online trust or the relationship between social presence and online loyalty (Cyr et al, 2007).

Consumer behavior towards online shopping

Online consumer behavior, and more specifically their shopping behavior and decision to buy on a shopping site, is now a crucial managerial issue because of the increase in online sales (Santrot, 2001). Indeed, consumer behavior on a shopping site can be defined as being a shopping activity carried out by a consumer through a computer, during which the individual is connected to an online shopping site (Haübl and Trifts, 2000). The online shopping site presents buyers with a commercial offer (product, price, promotions, service, etc.) in a space that is close to reality (Hoffman and Novak, 1996) while keeping certain familiar elements (visual identity, organization by department,…). It targets the function of the marketing channel that touches on information, sales and services (Peterson et al, 1997). However, the most important characteristic of a store is interactivity such as that with the company, with other shoppers and with the tools themselves (Hoffman and Novak, 1996). This is the main advantage of the Internet (Steuer, 1992). Accordingly, interactivity gives the consumer the opportunity to choose and build the product or offer that best meets their needs, to have a good relationship with the brand, and to transform the content and the form of mediated space in real time (Steuer, 1992). In this regard, the customer is a co-actor of the commercial offer placed in front of them and of the space in which the products are displayed. In addition, depending on the individual characteristics displayed on a website (Alba et al., 1997), each consumer offers a specific content and page organization. Therefore, the rules of behavior of the online consumer must be different from those of the physical environment (Novak et al, 2000).

Consumer behavior in a physical environment and on a commercial site

For several years, research has shown that consumer behavior towards the physical environment includes two main dimensions namely: shopping behavior (perception, selection and attendance of points of sale) and evaluation of the offer that results in a purchase decision. These two dimensions at the point of sale have frequently been studied separately, except for Monroe and Guiltinan (1975) who studied them together. Shopping behavior is a collection of activities, such as the reflection of motivations and the decision-making process (Guiltinan and Monroe, 1980). These activities are either of the type of attendance: behavior oriented towards an objective and experiential behavior (Babin et al,

1994), or evaluation of the offer. However online, goal-oriented behavior comes down to a search for information about a product or its location. The information available is richer than that of the physical environment (Degeratu et al, 2000). Thuen, collecting information on such a product has become easier and faster than in a store: with a single click you can visit several online sites, unlike moving from one point of sale to another sometimes several kilometers away (Phau and Poon, 2000). Helme-Guizon (2001) synthesized the body of research that focused on consumer behavior in stores and on a commercial site, shown in Table 1 below.

Table 1: Main research on consumer behavior in stores and on a merchant website

	physical environment	*Commercial site environment*
	point of sale attendance mode	
Behavior directed towards a goal	• systematic or heuristic information search and processing (Babin et a, 1994; Craik and Lockhart, 1972).	• Information serach (Hoffman et Novak, 1996). • easier and less expensive information search provided you master the help tools (Ariely, 2000; Haübs and Trifts, 2000).
Experiential behavior	• search for hedonic rewards (Holbrook and Hirschman, 1982) • browsing (Babin et al, 1996; Bloch and Richins, 1983)	• immersion in a virtual world (Hoffman et Novak, 1996). • telepresence and time distortion (Hoffman and Novak, 1996; Steuer, 1992)
MODERATORY VARIABLES OF POINTS OF SALE ATTENDANCE MODES		
Atmosphere variables	• external variables, general internal, design and layout of the point of sale (Turley and Milliman, 2000)	• ergonomics: readability, page and site structure (Ladwein, 2001) • design (Steuer, 1992)
Situational variables	• time pressure (Belk, 1975) • destination of the purchase, impression of a crowd, (Turley and Milliman, 2000)	• physical site access conditions (IT equipment, transfer rate, throughput, etc.) (Hoffman and Novak, 1996; Shih, 1998)
Individual variables	• social dimension of consumption (Griffith and Krampf, 1999; Tauber, 1972) • cognitive / affective motivation (Holbrook and Hirschman, 1982; MacInnis and Jaworski, 1989)	• exchange with other consumers (Gattiker et al, 2000) • familiarity with distance shopping (Donthu and Garcia, 1999) • attitude towards innovation (Agarwal and Karahanna,

		2000; Donthu and Garcia, 1999; Gattiker et al, 2000; Nyeck et al, 2000)
EVALUATION OF THE COMMERCIAL OFFER		
	• comparison on a limited number of criteria (Burke et al, 1992)	• comparison between different sites facilitated (Degeratu et al, 2000)

Source **:** Helme-Guizon, (2001)

Consumer attitude towards online shopping

Shim et al. (2001) reported that consumers’ attitude towards social media shopping was important in predicting Internet purchasing intentions. Then, attitude of Internet users can be promoted through exchanging information on social media platforms (Soderlund and Rosengren, 2007). Internet users' experiences and learning with reality are factors from which attitude could be developed. Wu, (2003) distinguished four factors that influence attitude, namely demographic profit, purchasing preference, perception of profits and lifestyle. However, according to Hague et al. (2006), these factors are used to examine Internet shopping behavior. Ajzen and Fishbein (1980), and Davis (1989) proposed a definition of attitude as the positive or negative estimate of producing a behavior. It generates the feeling of pleasure, joy, disgust, discontent or hatred that the individual feels at a given moment (Triandis, 1979). To this end, several behavioral theories were developed, namely: the theory of reasoned action (1975); that of planned behavior (Ajzen, 1985) or the model of Triandis (1979); the TAM and the extended TAM (TAM2) by Venkatesh and Davis in 2000; and the Unified Theory of Acceptance Use of Technology (UTAUT) by Venkatesh, Morris and Davis in 2003. The latter all agree that attitude determines behavioral intentions. In addition, the model of Fishbein and Ajzen (1975) is based on the assumption that beliefs influence behavior through attitude. However, Triandis (1978) considers attitude and beliefs to be the most important characteristics of intentions. Several studies have shown that the intention to apply an information system is influenced by the user's attitude towards user behavior (Davis 1989, Venkatesh and Davis 1996, 2000). Karahanna et al. (1999) state that attitudes dominate in determining the intention to use information and technology. Likewise, a positive intention to use the Internet in order to make a purchase is developing among consumers with a favorable attitude towards surfing the net.

The research methodology

The field of study: Shopping on Instagram

Instagram shopping was used as the ground for this study. Indeed, the aim is to explore the factors that influence the attitude of consumers towards shopping on Instagram on the different accounts that use this feature.

Slide 1: Shopping on Instagram

Today, consumer buying behavior has changed as a result of the invasion of mobile phones and internet usage. Indeed, Instagram has turned into a source of inspiration and fashion discovery. As a result, this social network has become a new electronic commercial platform giving the Internet user the possibility of making their purchases online. Besides, Instagram is not just about posting photos and videos. Since 2016, a new feature has emerged: the opportunity to sell / buy products directly from the application. The consumer can place an order by clicking on the "Buy" button located on the photo of the product, then they will be redirected to the brand's website and will be able to place the order directly there.

Instagram has tested this new feature on major brands in the United States, namely Levi's, the Macy's department store and even Abercrombie & Fitch.

This feature helped retain the 500 million users of the application who were forced to leave it in favor of other platforms, having not found certain information they need available to them.

Additionally, shopping on Instagram allows businesses and brands to label their products in published posts and photos.

Exploratory qualitative study

Qualitative research is generally a study that examines a set of elements including written or spoken discourse, behaviors and attitudes of the interviewees (Taylor and Bogdan, 1984). It "brings together a set of tools and methods which allow one to understand attitudes and behaviors" (Mariampolski, 2001). In this study, the use of an exploratory qualitative method is justified by the novelty of the examined subject, which consists in studying the factors that influence consumers' attitude towards shopping

on Instagram. It is therefore necessary to exploit it in depth in order to enrich knowledge on this subject. In addition, this approach gives rise to new variables and new concepts that could be the subject of a future quantitative study. As a result, and in order to study the factors that influence consumers' attitude to shopping on Instagram, individual interviews with 22 people were conducted (the topics covered by the interview are shown in the table below). To be on target, interviewees must have completed at least one shopping experience on Instagram. Second, the projective techniques method, namely psychological facilitation techniques and specifically thematic apperception tests (TAT) were used in this study (Pellemans, 1999).

Table 2: The themes of the interview

Theme 1	Usefulness of the site
Theme 2	Perception of ease of use
Theme 3	Usefulness of shopping on Instagram
Theme 4	Factors related to the importance of shopping functionality

The Method of Analysis and Summary of Results

A content analysis by topic was carried out in order to analyze the individual interviews collected and to meet the objectives of this study. The aim is to determine the main themes emerging from the discourse of the interviewed people. Indeed, this method is based on themes, with the addition of excerpts from the speeches (called "Verbatim") as supporting discourse evidence.

The results show that the factors that motivate internet users to shop on instagram relate to perceived usefulness, perceived ease of use, positive WoM, perceived online shopping experience, novelty of technology and attitude towards instagramers. However, the obstacles to shopping on Instagram that emerged from this study cover perceived risk and negative W-O-M.

Table 3: Summary of motivations and obstacles to shopping

Motivations	Obstacles
Perceived utility	Perceived risk
Perceived ease of use	Negative W-O-M
Positive word of mouth	
Perception of the online shopping experience via Instagram	
New technology	
User attitude towards instagramers	

Discussion and conclusion

This study aimed to explore the factors that influence consumers to shop online through Instagram. Thanks to the methodology implemented, we were able to achieve the objectives of this study which were to identify the motivations and barriers of users towards/against online shopping via Instagram, then to explore the intention of users towards its functionality, i.e. online shopping through this social network. In addition, we were able to identify the factors that motivate and deter users to shop through this app. Thus, we were also able to conclude that users are divided into two categories: the first includes those who prefer to make their purchases online via Instagram through its shopping functionality (by clicking on the "Buy" button located on the product photo), the second includes those who prefer to make their purchases through a simple message or by phone.

The results also revealed that Instagram's perceived usefulness is a factor that motivates users to shop. This was judged by respondents on three factors, namely originality, diversity of accounts and availability of products on Instagram. Then, simplicity of the application and its ease of use were mentioned by all respondents as being essential factors in the decision to buy online via Instagram. However, those respondents who preferred to shop through the shopping functionality stated that they chose this mode for its ease of use. Another motivating factor that was mentioned in the results by respondents is word of mouth. These are recommendations and influences from friends and family who have had at least one shopping experience through Instagram. This factor was identified both to encourage users to shop via Instagram and to deter them from doing so. Accordingly, word of mouth is seen more as a motivation than a barrier. We were also able to identify that the feeling of satisfaction

with the shopping experience is detected as a factor prompting respondents to redo online shopping via Instagram. This is considered to be another motivator for shopping through this app. Like any digital feature, shopping through Instagram does not just have benefits. Its drawbacks are seen as obstacles to making the purchase by respondents. Indeed, they stated that the main factor that deters them from buying on Instagram is the risk of being scammed. However, respondents who preferred the traditional mode of purchase (by message or by phone) justified their choices by the absence of human contact and by the fear of being disappointed if the product displayed in the photo is not the same at delivery. Therefore, perceived risk is considered to be a barrier to making an online purchase through Instagram.

Theoretically, this study has enriched the literature on shopping via Instagram. Indeed, this subject has, to our knowledge, rarely been studied in previous research. This study explained the factors that motivate consumers to shop online through Instagram. This subject was rarely studied despite its importance, since Instagram is considered to be the most popular social network compared to other social networks.

From a managerial standpoint, this study suggests that professionals adopt the functionality of shopping via Instagram to sell their products while taking into account the obstacles and motivations identified by this study. Based on the results of this study, respondents preferred the functionality of shopping via Instagram because it is very easy to use and because the Instagram platform is perceived to be useful for shopping. However, other respondents do not prefer this feature because they are afraid of being scammed. The originality of this study lies in the integration of the projective technique within the semi-structured interview protocol. Indeed, this technique allowed us to determine users' intention towards the functionality of shopping via Instagram. The combination of these two data collection methods boosted the interviews, which enriched our results.

However, some methodological limitations should be signaled. Indeed, our sample focused on young Instagram users ranging in age from 18 to 34 (Generation Y). The individuals who belong to this Generation Y are usually either students or newbies in the hiring market.

It would be interesting to confirm these results through a quantitative study carried out on a larger and diversified sample.

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SOCIAL MEDIA: A COMMUNICATION VECTOR FOR POLITICAL CANDIDATES? IMPORTANCE OF THE PERCEIVED VALUE BY VOTERS

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Abstract: Based on the consumption value theory and the social influence theory, this research investigates the impact of the value derived from Facebook on political voting. Data from Facebook users were collected after the Tunisian presidential elections in 2019. Findings show that values derived from Facebook (functional, social, and hedonic) impact positively the relationship quality of voters with the candidate and the voting intents. The study also considers the moderating roles of involvement in politics and social influence outside Facebook. Only the effect of the latter was significant. This result reflects the specific context of new democratic countries. In fact, citizens do not vote for the programs but vote for the candidate without paying attention to the political programs. In addition, results show that the vote is influenced by the choice of others, which shows a political immaturity and a lack of personal conviction about the programs. This research will help political candidates to better develop their electoral communication, particularly on social media.

Keywords: Vote, Politics, Social media, Social influence theory, Consumption value theory Relationship quality.

Introduction

The influence of social media on consumer behavior has been widely demonstrated in several areas and contexts including responsible consumption (Salazar et al., 2012) and brand image and attachment (Barreda et al.,

2020; Baum et al., 2018). The political context is no exception. Indeed, social networks have become a powerful channel for communicating with voters, engaging citizens in politics, and influencing their participation and preferences (Zhang et al., 2009). In this context, Yanoshevsky (2010) and Bode (2012) presented Facebook as an indispensable tool used by politicians to communicate with voters. Similarly, Patel (2019) and Dewenter et al. (2018) have shown that social media, including Facebook and Twitter, have a significant impact on voting intentions and political preferences in countries such as the United States, Taiwan, and India. Raynes-Goldie and Walker (2008) noted that Facebook allows fans to communicate with each other and build a friendship with the candidate. Harris and Harrigan (2015) investigated the role played by social media during the UK election campaign of May 2010. The paper has noticed that more research is needed to focus on the role of social technologies and to bring theory up to speed with practice and recommended the development of relationship marketing strategies in politics. Indeed, according to the authors, social media communications can add significant value when implemented as part of a systematic and long-term online and offline relationship-building strategy.

Despite this enthusiasm for social media, previous works on this topic have focused on communication from politicians without highlighting voters' interactions (Bode, 2015; 2012). In addition, they have considered countries where democracy has long been established. However, in such contexts, the influence of social networks can be limited since the preferences of voters are already mature and stable and consequently not sensitive enough to online interactions. In this sense, Terri and Dulio (2011) studied the effects of exposure to various web 2.0 sources during the 2008 US presidential elections. They found that people exposed to the candidates' Facebook pages have a heightened sense that they influence the political system. However, the authors did not investigate the process of how Facebook does influence voters. Mochla and Tsourvakas (2020) investigated the impact of the quality of the political website on voters' intentions. They found that the useful content and esthetic design were the most significant dimensions of the voters' perception about the political websites' quality. Nevertheless, no attention was given to social networks or to the relationship of voters with the candidate. In the same line, Ryoo and Bendle (2017) examined the themes covered within the social media strategies of candidates. They noted that Clinton's focus on Trump increases toward the end of the primary campaign. However, the research did not consider the relationship of candidates with voters. Yet, social networks are a honeycomb where peer influence plays an essential role in shaping consumers' preferences and behaviors. Furthermore, research on

countries that are still learning democracy, where political preferences are still fragile under the influence of others, would be an asset to highlight the importance of social networks. Tunisia in North Africa has attracted worldwide attention since the 2011 revolution through its hitherto successful democratic path. Tunisia has a population of around 12 million people, and 67% of them are on social media with an increase of 6.9% between 2019 and 2020 (Digital-discovery, 2020). The social network Facebook played an important role in Tunisia's transformation and even more in the 2019 presidential elections where many candidates applied (Kais Said; Nabil Karoui; Abdelfattah Mourou and Nejib Chebbi). In this context, Facebook has witnessed a strong presence of voters as well as the emergence of several political pages and hyper-active sponsorship links.

Consequently, this article aims at exploring the influence of Facebook interactions on Tunisian votes. It mobilizes in this sense the social influence theory and the theory of consumption value, which are recommended by the existing literature, to understand networks and members' engagements. The research question is as follows: *To what extent did values derived Facebook (functional, social, and hedonic) influence voting intentions during the 2019 presidential elections in Tunisia?*

On a managerial level, this research will help political candidates to better develop their electoral communication strategies, particularly on digital platforms. On a theoretical level, it will shed new light on political marketing as well as on the behavior of online consumers, in particular through the influence of peers.

To answer our research question, this paper first sheds light on voting behavior in order to identify its antecedents. Second, it will mobilize the theory of social influence and the theory of consumption value. The conceptual model will then be developed before approaching our research methodology. The paper continues with the discussion of the results and concludes with contributions, limitations, and future research avenues.

Voting behavior

Voting behavior has long been studied (Lewis-Beck, 1988). In social psychology, it has been considered from two perspectives. The first corresponds to rational school because the voter makes a logical assessment of the candidate on the basis of a rational calculation. The second perspective mobilizes the sociological school where the social environment influences the political orientations. Moreover, Mendelberg

(2018) evokes certain classic theories to explain voter behavior, such as heuristics, which are cognitive shortcuts used by voters when assessing a candidate in order to reach "rational" decisions, and this by referring to cues from their parties or interest groups.

To better understand voting decisions, Table 1 presents some explaining factors according to previous research. Furthermore, Bias et al. (1995) cited socio-demographic variables, explaining that people with different socio-demographic characteristics often vote for different candidates. Thus, it is more likely that an 18-year-old and a 60-year-old will vote for different candidates. In addition, the authors cited emotional factors such as feelings of attachment to the country, to values, and to ideology. Swyngedouw et al. (1995) considered the influence of peers that operates through socialization and identification.

Recent studies have also introduced social media into policy research. Huckfeldt et al. (2013) focused on daily discussions between individuals and their influence on political behavior. Ikeda et Richey (2005) studied the influence of social networks on political participation. They found that social networking fosters political participation. The analysis of Spierings and Jacobs (2013) also showed that Twitter has a significant influence on voting preferences. More recently, Chang et al. (2018) cited several studies that were carried out during the US elections in 2018 and showed that Facebook users tended to influence others' preferences toward a specific candidate or party.

In the continuity of these reflections and in order to understand the social influence on Facebook, in the following paragraphs, we mobilize the theory of social influence and the theory of consumption value.

Table 1: Factors explaining voting behavior

Antecedents	Authors	Nature of the study	Study context
Sociodemographic variables	André Blais et al (1995)	quantitative	Quebec
Attachment to the country	André Blais et al. (1995) Mendelberg (2018) Edelman (1964)	quantitative	Quebec
Influence of the economy	André Blais et al. (1995)	quantitative	Quebec

Candidate	André Blais et al. (1995) Stewart and Clarke (1992) (Campbell et al., 1960 Bean & Mughan, 1989; Stewart & Clarke, 1992; Goren, 1997; Garzia, 2012; Campbell et al., 1964).	quantitative	Quebec United Kingdom
Ideology and values	Marc Swyngedouw et al. (1995) Mendelberg (2018) Sears (1993)	theoretical	Flanders
Programs and political positions	Marc Swyngedouw et al. (1995) Clarke et al. (1982) (canada 1979)	quantitative	Flanders
Peers Social communication	Marc Swyngedouw et al. (1995) Mendelberg, T. (2018) Huckfeldt, R. et al (2013) Lazarsfeld et al. (1948) Ikeda K et al (2005)	quantitative	Flanders United States
Social media Twitter Facebook	Spierings andJacobs (2013) Chang, J et al. (2018)	quantitative	United States Taiwan
Content generated on Facebook	Julia Woolley et al. (2010)	quantitative	United states

Social influence theory

In social psychology, this theory was defined by Latané (1981) as any influence exerted by others on feelings, thoughts, or behaviors. It provides a clear framework for understanding the influence of individuals in their social environment (Chang et al., 2018). According to Deutsch and Gerard (1955), two types of social influence may occur. First, informational influence refers to the influence exerted on others in order to accept the information given as a real fact. Second, normative influence drives individuals to conform to the expectations of an individual or a group. This conformity, according to De Montmollin (1958), can be explained by two hypotheses. The first states that individuals have a need to belong to a group, whereas the second refers to a need for certainty and to be convinced of the opinion that seems most credible. In marketing, the social influence theory has been widely used to explain consumer influences (Wood and Hayes, 2012). For example, social networks cause changes in

decision-making (Hennig–Thurau et *al.* 2013) and in the behavior of others (Okazaki, 2009).

Online communication via social media certainly has profound implications on consumers' decision-making, including their voting behavior. However, the strength and sign of such influence may depend on the individual assessment of one's interactions. Pennington et al. (2015) showed that simply following the candidate's page is unlikely to increase engagement or effectiveness in an election. The voter still needs to benefit from this monitoring. The theory of consumption value may offer some insights in this perspective. Originally, this theory has drawn attention to the benefits that individuals derive (Woodruff, 1997). When it comes to social media, they offer many benefits to members such as information, fun, escape, and social connection (Ben Yahia, 2009).

Theory of consumption value

The notion of customer values represents a core concept in the marketing literature. While value first emerged as a concept focusing on the costs and functional aspects associated with an offering, its conceptualization has evolved to include other dimensions that determine the consumer choices (Chaouali et al., 2019). The theory of consumption value, developed by Sheth et al. (1991), assumes indeed that consumer choice is a function of multiple consumption values, which are functional, social, and hedonic, among others. This theory has been acknowledged as the dominant theoretical lens in the value literature (Sweeney and Soutar, 2001). It has proved its effectiveness in many contexts such as online and offline retailing (Carlson et al., 2015), mobile social media (Carlson et al., 2019), and mobile banking (Chaouali et al., 2019). Functional value refers to whether the brand is able to perform its functional, utilitarian, or physical purposes (Sánchez–Fernández and Iniesta–Bonillo, 2007). In addition, hedonic value refers to "the fun, enjoyable, positive feeling and emotional responses aroused" (Sánchez-Fernández and Iniesta-Bonillo, 2007, p. 438). Social value is defined as "perceived utility acquired from an alternative's association with one or more specific social groups. An alternative acquires social value through association with positively or negatively stereotyped demographic, socioeconomic, and cultural-ethnic groups. Social value is measured on a profile of choice imagery" (Sweeny and Soutar, 2001).

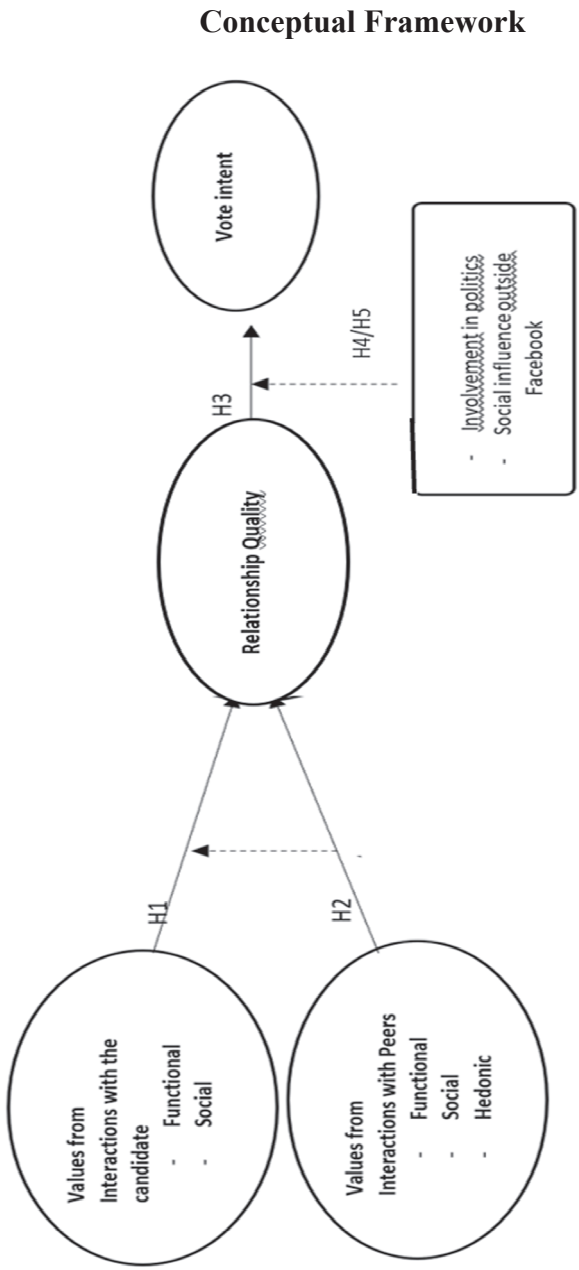

Fig.1. Impact of values derived from interactions on Facebook on vote intent

The proposed conceptual model relies upon previous research on voting behavior, particularly on the theory of social influence and the theory of consumption value (Fig. 1). It stipulates that values on Facebook (functional, social, and hedonic derived from interactions with peers and with the candidate's official page) influence the voters' relationship with the candidate and consequently their voting behavior. The model also considers the moderating effects of involvement in politics and social influence outside Facebook.

Values derived from Facebook interactions

During political campaigns, Facebook users can participate in a number of political activities, including becoming a "fan" of a candidate, following his/her page, and receiving his/her publications. Facebook users can also join political Facebook groups, allowing them to engage with members in conversations related to the election (Pykett et al., 2011). The literature review highlights a similarity between political candidates and brands. Guzman et al. (2009) provided a conceptual framework for perceiving political candidates as brands. Lubrano (2012) highlights the tendency of the voter–leader relationship to identify with the voter–brand relationship. Bou Nafel (2000) found that it is legitimate to equate the relationship between the political leader and the voter with the relationship between the consumer and the brand. Based on this context, we study the relationship between the voter and the candidate in the same way as the relationship between the consumer and the brand or the company (Fournier, 1998). The concept of the relationship quality is important because of its effects on the acquisition and retention of customers (Dowling, 2002). It is based on the concept of interpersonal relationships (Smit et al., 2007) and has several dimensions. The first dimension is the quality of the partner, which is defined as an assessment of the candidate's rational qualities in terms of credibility and authenticity. The second dimension is empathy, which is rather an emotional assessment of the candidate and his/her ability to put himself/herself in the place of voters and understand their needs and problems. Third, intimacy is defined as the psychological link between the partner concerned and the brand. Fourth, auto-connection consists in the common points shared between the consumers and their brands and reveals that the brand is part of the self or part of the self-image.

Several studies have shown the importance of consumer–brand interactions in social networks (Ben Yahia et al., 2014; Wolf and Sowon, 2012). In fact, consumers draw conclusions about the characteristics of the brand and therefore build a relationship with it (Hudson et *al*, 2015). In

line with this work, we assume that interactions with the official page enhance the quality of the relationship with the candidate. Furthermore, previous research has shown that Facebook users interact with others, which influences their attitudes toward products and services (Dolan et al., 2019; Jones et al., 2019; Hudson et al., 2016; De Gregorio and Sung, 2010; Mukhopadhyay and Yeung, 2010). Consequently, we suppose that online interactions with others orient voting behavior through compliance and information channels as proposed by Moschis and Churchill (1978). In other words, Facebook users will be influenced by their interactions with others (Kuo and Feng, 2013; Jahn and Kunz, 2012) about the candidate, which will affect the quality of their relationship with the candidate. Therefore, the following hypotheses are formulated:

H1: *Value derived from the interactions with the candidate impacts positively the relationship quality with the candidate.*

H2: *Value derived from the interactions with peers impacts positively the relationship quality with the candidate.*

Impact of the relationship quality on the vote intent

In the political context, although researchers agree that there is a personal assessment of the candidate, his/her character, his/her attitude, and his/her behavior (Tazdaït and Nessah, 2013), the impact of the quality of the relationship with the candidate was not considered. However, the impact of the brand relationship on consumer behavior and behavioral intentions has been extensively studied and validated by previous research in the relationship marketing field (Ekinci et al., 2005).

Smit et al. (2007) have found that the brand relationship quality positively influences future intentions to use a brand. In addition, Bowden (2009) also studied the service context and presented a conceptual model of the process by which new customers and repeat customers engage with a restaurant. Social networks are a new opportunity for political candidates to build a relationship with voters. Similarly, we assume that the relationship with the candidate fosters the voting intentions as described by the following hypothesis:

H3: *Quality of the relationship with the candidate impacts positively the voting intent.*

Moderating effect of involvement in politics

Involvement has often been considered one of the most important moderators that determine consumer purchasing behavior (Celsi & Olson, 1988). Indeed, the concept of involvement has been the subject of marketing research, owing to its importance. Krugman (1965, p. 584) defines involvement as "the number of conscious or unconscious connections, of associative ideas, of personal reference that an individual makes between his own life and a persuasive stimulus." Thus, a growing body of research has emerged in the literature regarding the consequences of involvement. Knox and Walker (2003) have shown that involvement with a product (or, in our case, with politics) influences the nature of the decision-making process relating to purchasing behavior (or voting behavior). Researchers say there is a greater chance that customers with a high level of commitment to the product will show absolute brand loyalty (Knox & Walker, 2003). This leads us to consider involvement in political life as a moderator that intensifies the impact of the relationship quality on the vote intent. Therefore, we present the following hypothesis:

H4: *Involvement in politics enhances the impact of relationship quality on voting intent.*

Social influence outside Facebook

Previous research has shown the influence of face-to-face interactions with others on consumers' decisions through the processes of identification and compliance listed by the social influence theory. Similarly, we assume that besides the influence of online peers in the social network Facebook, another pressure, which we cannot ignore, is exerted by influential people in the offline entourage. Consequently, based on this theory, the following hypothesis is formulated:

H5: *The impact of relationship quality on voting intent is stronger when social influence outside Facebook is weaker.*

Methodology

An online questionnaire was developed and published on various virtual communities on Facebook. These groupings around political candidates or politics in general were active during the election period like "The way of the Tunisian people," "Kais Saied Toward Carthage," or "Popular campaign to support Abdelfattah Mourou." The data collection lasted 3

months. There were 208 responses that were deemed valid. Of the respondents, 28.6% were males and 71.4% were females; 60.4% were aged between 18 and 25 years, 24.6% were aged between 26 and 35 years, 10.9% were aged between 46 and 55 years, and 2.5% were 56 years and older.

All measurement scales were extracted from the literature and adapted to the needs of this study. In order to study interactions with the candidate and with others, we used measurement scales adapted by Jahn and Kunz (2012) and Kuo and Feng (2013) in their research. These scales have been selected not only because of their good psychometric quality but also because they include items that are appropriate to our study such as the following: "Following the activities of this candidate on Facebook was useful to me," "The content shared/liked by my friends on Facebook about this candidate was helpful to me," and "I was entertained when interacting with my friends on Facebook about this candidate" (see Table 2). The quality of the relationship scale was inspired from the work of Fournier (1998) and Kim et al. (2014). This scale consists of four dimensions: intimacy, partner quality, self-connection, and empathy. Each dimension has a good psychometric quality. We also believe that the items used in previous research for the evaluation of brands can be adapted in our case, that is, the political candidate. In addition, voting intention was measured by two items: "I intended to vote for this candidate" and "I was going to vote for this candidate." All items were measured on a 5-point Likert scale (1 = "strongly disagree," 5 = "strongly agree"). The involvement in political life was adapted from the scale of Strazzieri (1994) used by Chouk and Perrien (2005).

Assessment of the measurement model

The collected data were verified in terms of outliers. Also, it should be noted that all of the survey responses were mandatory in order to avoid missing values. The exploratory analysis was conducted using SPSS 22. First of all, the normality of the variables was checked. During this analysis, we used principal component analysis to determine the quality of representation of the measurement indicators through the use of Kaiser–Meyer–Olkin indicator, as well as the Bartlett sphericity test. After the purification of items, the explained variances of all variables were superior to 70%, and the reliability of the measurement scales has been verified by the Cronbach alpha indicator (Cronbach alpha ≥ 0.7) (Carricano et al., 2010).

A second step was to assess the validity and reliability of our measurement model. As shown in Table 2, composite reliabilities of all the variables were higher than 0.70 (Naylor et al, 2012).

Also, all the values of the Average Variance Extracted (AVE) were superior to 0.50, which indicates that the convergent validity of our model is verified. Furthermore, our model presents a satisfactory discriminant validity (Table 3). Indeed, the value of the convergent validity is higher than the square of the correlations between the latent variables and the other variables (Chin, 1998).

Table 2: Reliability of the conceptual model variables

Variables and dimensions	Item	Loadings	CR	AVE
Relationship quality	RQ1: This candidate pays attention to each customer individually	0.765	0.890	0.730
	RQ 2 : This candidate provides individual attention to its customers	0.914		
	RQ 3: This candidate has customers' best interests at heart	0.876		
	RQ 4 : This candidate is trustworthy	0.912	0.959	0.855
	RQ 5 : This candidate is credible	0.937		
	RQ 6 : This candidate is reliable	0.932		
	RQ 7 : This candidate is truthful	0.916		
	RQ: 8 know things about this candidate that many people just don't know.	0.741	0.870	0.691
	RQ9: I know a lot about the company that makes	0.880		
	RQ 10: I feel as if I really understand this brand	0.864		
Functional value from the candidate	ICF 1 : Following the activities of this candidate on Facebook was helpful to me	0.884	0.924	0.751
	ICF 2 : Following the activities of this candidate on Facebook was functional to me	0.917		
	ICF 3 : Following the activities of this candidate on Facebook was practical to me	0.913		
Functional value from peers	IPF 1 : The content shared/liked by my friends on Facebook about this candidate was convincing to me	0.850	0.940	0.796

	IPF 2 : The content shared/liked by my friends on Facebook about this candidate was helpful to me	0.884		
	IPF 3 : The content shared/liked by my friends on Facebook about this candidate was functional to me	0.917		
	IPF 4 : The content shared/liked by my friends on Facebook about this candidate was practical to me	0.913		
Hedonic value from peers	IPH 1 : I enjoyed interacting with my friends on Facebook about this candidate	0.861	0.920	0.793
	IPH 2 : I was pleased to share content on Facebook with my friends about this candidate	0.903		
	IPH 3 : I was entertained when interacting with my friends on Facebook about this candidate	0.905		
Hedonic value from candidate	ICH 1 : I felt pleased when following the activities of this candidate on Facebook	0.938	0.955	0.876
	ICH 2 : I felt inspired when following the activities of this candidate on Facebook	0.953		
	ICH 3 : felt enthousiastic when following the activities of this candidate on Facebook	0.918		
Social value from candidate	ICS 1 : Made me feel connected when following the activities of this candidate on Facebook	0.808	0.906	0.708
	ICS 2 : Made me build personal connection	0.906		
	ICS 3 : Make me feel important	0.895		
	ICS 4: Made me feel appreciated.	0.742		
Social value from peers	IPS 1 : I expanded my social network on Facebook thanks to my interest to this candidate	0.817	0.877	0.705

	IPS 2 : I shared with some of my friends on Facebook my interest to this candidate	0.818		
	IPS 3 : My interest to this candidate strenghned my connections with some of my friends on Facebook	0.885		
Political involvement	PI1: I am interested in political or civic issues.	0.892	0.951	0.830
	PI2: I am interested in public affairs.	0.906		
	PI3: I pay attention to political or civic information.	0.934		
	PI4: I like to stay informed about political or civic issues.	0.906		
Social influence	SI 1: People who are important to me think that I should vote this candidate	0.893	0.921	0.795
	SI 2: People who influence my behavior think that I should vote this candidate.	0.914		
	SI 3: People whose opinions that I value prefer that I vote this candidate.	0.866		
Vote intents	VI 1 : I was willing to vote for this candidate	0.923	0.937	0.788
	VI 2 : I voted for this candidate	0.916		
	VI 3 : I wanted to contribute to this candidate	0.829		
	VI 4 : I am willing to recommend this candidate to others.	0.878		

Table 3: AVE and square of correlations between the model variables

	Auto connec	Brand relatic	Empathy_	Interactions	Interactions	Interactions	Interactions	Interactions	Interactions w	Intimacy	Partner qualit	Political invol	Sckepticism ir	Social influen	Interactions w	Interactions w	Voting intenti
Auto connection	0.871																
Candidate relationship quality	0.841	0.742															
Empathy	0.503	0.723	0.854														
Interactions with the candidate (Fu	0.357	0.422	0.356	0.867													
Interactions with peers (Functional	0.328	0.407	0.258	0.387	0.892												
Interactions with the candidate (He	0.445	0.474	0.354	0.725	0.430	0.890											
Interactions with peers (Hedonic va	0.313	0.378	0.311	0.339	0.629	0.444	0.936										
Interactions with peers	0.381	0.451	0.323	0.419	0.877	0.507	0.878	0.756									
Interactions with the candidate	0.430	0.471	0.399	0.875	0.437	0.922	0.452	0.522	0.767								
Intimacy	0.594	0.711	0.709	0.306	0.292	0.303	0.303	0.377	0.326	0.832							
Partner quality_	0.626	0.900	0.454	0.350	0.396	0.391	0.323	0.406	0.370	0.533	0.925						
Political involvement	0.267	0.247	0.163	0.216	0.154	0.067	0.172	0.199	0.107	0.309	0.193	0.911					
Sckepticism in facebook content	0.047	0.128	0.073	0.065	-0.031	0.030	0.031	0.002	0.020	0.084	0.165	0.189	0.818				
Social influence	0.302	0.338	0.144	0.169	0.338	0.217	0.311	0.373	0.206	0.242	0.348	0.131	0.083	0.892			
Interactions with the candidate (So	0.352	0.364	0.353	0.588	0.351	0.754	0.430	0.471	0.874	0.261	0.248	-0.006	-0.043	0.167	0.841		
Interactions with peers (Social valu	0.333	0.352	0.253	0.331	0.497	0.417	0.589	0.770	0.443	0.389	0.294	0.189	0.016	0.290	0.440	0.840	
Voting intentions	0.577	0.754	0.397	0.354	0.400	0.371	0.362	0.426	0.367	0.461	0.795	0.205	0.127	0.411	0.254	0.302	0.888

Structural model

In order to test the relationships between the variables of our model, we selected the structural equation modeling procedure using SMART PLS 3.0 (Hair et al., 2009) (Fig. 2). As shown in Figure 2, R2 values are higher than 0 and satisfactory. The model explains 60% of the voting intentions, 30% of relationship quality, 70% of auto-connection, 50% of intimacy, and 80% of partner quality. Findings presented in Table 4 show that both values derived from the candidate and from peers impact positively the relationship quality (0.28, $p = 0.00$, and 0.318, $p = 0.00$ respectively). H1 and H2 are therefore accepted. In addition, the impact of the relationship quality on vote intent is positive (0.664, $p = 0.000$). Then, H3 is accepted.

Furthermore, the moderating variables were tested using Smart PLS software. The results show that involvement in politics has no significant moderating impact ($p = 0.428$). Hence, H4 is rejected. However, the moderating effect of social influence outside Facebook has a significant and negative effect on the impact of the relationship quality on vote intent (-0.058, $p = 0.040$). H5 is then accepted.

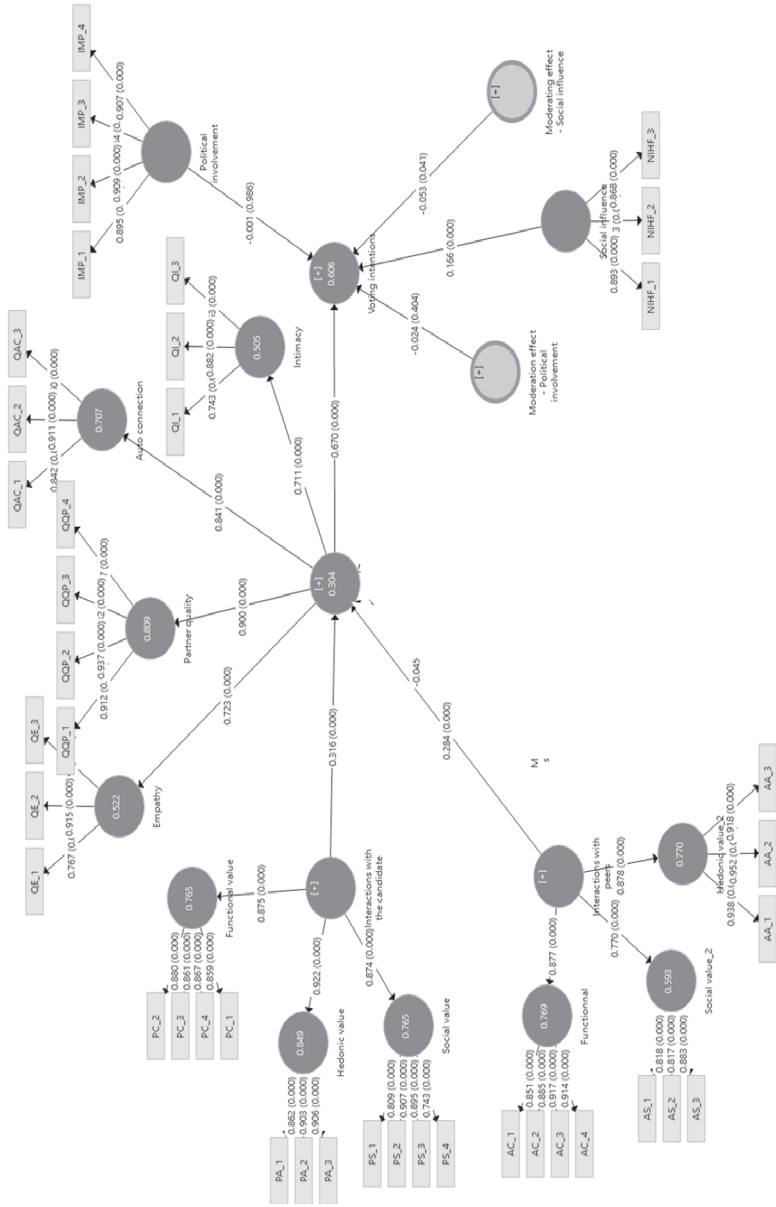

Fig2. Output of the conceptual model tests

Discussion

Findings show that social media users evaluate their interactions on Facebook about a candidate. The value derived from these interactions affects the quality of their relationship with the candidate. This finding is consistent with those of previous studies that have shown that social influence on Facebook affects voting intentions (Chang, 2018). Similarly, Cameron et al. (2016) found that online social networks affect election and voting. This result also confirms previous research in the field of relational marketing, which argues in favor of interactions between the brand and the consumer. Indeed, when the brand invests in the relationship with the consumer, the latter develops a sense of recognition and feels obliged to act as good as the brand (De Wulf et al., 2001). This confirms the results of Ben Yahia (2014) as well. The author showed that interactions with the company in the context of virtual communities have a positive impact on the relationship with the brand and on the purchasing intentions.

According to these findings, political candidates should stimulate peer-to-peer discussions and encourage peers to share, comment, and like the content about them. The results also prove that the quality of the relationship with the candidates affects their election voting intent. This result complies with the relational marketing field and, once again, confirms the importance of the consumer's perception of a relationship. The quality of the partner appears to be the most influential dimension of the relationship's quality. Therefore, candidates should pay attention to their images in terms of credibility and competence. They also need to show more empathy toward voters in order to get closer to them.

On the contrary, unlike previous research, we found that involvement in political life has no significant moderating effect. The literature shows that rational voting focuses on the evaluation of the program and the political positions, which requires voter involvement in political life (Swyngedouw et al., 1995). This unexpected result reflects the specific context of Tunisia as a newly democratic country. In fact, the common thought leads us to believe that citizens who vote are involved and participate in political life. However, in this case, our results show that citizens did not vote for programs but voted for people. In other words, citizens assessed candidates in terms of credibility, authenticity, and empathy without paying attention to their political programs. This finding is consistent with numerous studies that indicate that voting is the result of assessing the candidate as a person (Blais et al., 1995; Stewart and Clarke, 1992; Goren, 1997; Garzia, 2012).

Furthermore, the results reveal a significant effect of the social influence outside of Facebook on the relationship between partner quality and voting intentions. This finding confirms earlier work that mobilizes the theory of social influence and research on reference groups, which show that a certain social pressure is exerted on the consumers when constructing their choice. Indeed, this social pressure pushes the consumers to comply with the expectations of those that are important to them. This result also confirms that the vote in this newly democratic country was influenced by the choice of others, which shows a political immaturity and a lack of personal conviction about the programs.

Conclusion

This research studied the influence of Facebook on Tunisian vote intent in the 2019 presidential elections. Findings showed that these interactions lead to a better relationship quality with the candidate and therefore to stronger election voting intent. The research also considered the effects of some moderating variables such as social influence and involvement in politics. The results revealed that only the moderating role of social influence outside Facebook is significant. Although the impact of political involvement was not significant, these results revealed interesting managerial implications. Theoretically, this research brings together two different disciplines: consumer behavior and politics. Indeed, an analogy was made by considering the political candidate as a brand and the voter as a customer. This paper also gives some insights into consumer behavior online.

At a managerial level and in order to guide candidates into developing efficient campaigns, our paper highlights some insights to be considered by political candidates. Indeed, these results emphasize the importance of paying particular attention to interactions on social media. For example, when communicating with voters on Facebook, candidates are encouraged to answer their questions and post live videos. Finally, as shown earlier, the results reveal that Tunisian voters are far from being involved in political life. Voters assess the candidate as a person and not as a program. Therefore, in a newly democratic country, a candidate's electoral campaign should focus more on the personality and the qualities of the candidate as a citizen rather than on his/her programs. It is important to communicate about the candidate's image by promoting his/her qualities and revealing details about his/her life and personality without affecting the candidate's credibility.

Finally, our study has some limitations. First, the moderating effect of involvement was not significant. Other moderators such as gender and level of education can be taken into account to better clarify this effect. Additionally, it would be interesting to conduct a qualitative study in order to understand the "paradoxical" behavior of Tunisians who vote despite their lack of involvement in political life. Finally, the research was conducted just after the 2019 presidential elections and investigated only the intent. Other research may explore the election voting effective behavior and compare it with intents.

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How to get the best from your social media users through empowerment

Lilia el Ferci, Imene Ben Yahia

Abstract: This chapter offers the opportunity to think about the outcomes of empowering social media users. It reviews the actions that businesses may take to empower their customers and increase efficacy and sheds light on three empowering practices in social media: creating, voting and liking/sharing by testing their impacts on users' behavioural intents. This chapter may help companies to get the best from empowering e-consumers rather than ignoring them or considering them as a threat.

Keywords: Consumer empowerment, empowering practices, social media, experiment

Introduction

Social media has gained growing attention around the world, with an estimated increase of 7.18% year on year. The proliferation of social media has significantly changed marketing practices and defined new ways to reach, interact and engage with customers. Social media is also used to monitor and facilitate customers' interactions with the company and with other customers. As a result, e-consumers have become more active and more powerful, able to effect change in a range of aspects at any time (De Valck et al., 2009). In contrast to their offline counterparts, the power of e-consumers has become stronger than that of producers (Denegri et al., 2006).

In this context, previous research has called for collaboration between companies and consumers and has even recommended empowering consumers (Fuchs and Schreier, 2011; Ogawa and Piller, 2006; Lilien et al., 2002;). Some studies in the field have detailed the outcomes of such collaboration, including word of mouth, co-creation, buying behaviour, reduction of costs and consumer participation (Fuchs et al., 2010). This last refers to the shift from 'What can we do for you' to 'What can you do

with us' (Ngo and O'Cass, 2013; Wind and Ranaswamy, 2000). In practice, companies call on consumers to create ideas or vote for specific ideas to contribute to new product development (Bachouch and Sabri, 2017; Fuchs and Schreier, 2011).

Although studies on consumer empowerment and the empowering strategies used by companies are numerous in the offline context, particularly in the field of new product development, they remain relatively unexplored in the online context and especially in social media. Yet, concrete examples of empowering actions can be seen on Facebook, launched by companies in order to mobilise social media users. For instance, companies including Frito Lay Doritos and Nabisco Cookies call on social media users to create content and to vote on content on their page. However, the outcomes of such practices are not yet proven. In the field of marketing, a substantial body of research has drawn attention to the emergence and development of social media users' empowerment (Hennig-Thurau et al., 2004; Hoyer et al., 2010). However, whereas some consider consumer empowerment to be a threat, others are attempting to empower the consumer still further as a strategy to harvest sustainable outcomes.

In fact, empowering practices were widely used by managers decades ago to motivate their employees (Blanchard, Carlos and Randolph, 1995; Block, 1987; Bennis and Nanus, 1985). They are defined by Randolph and Kemery (2011) as 'actions that managers can use to create a context in which employees can feel empowered and to promote a feeling of empowerment of their employees' (p.103). In line with these studies, this current research explores the empowering strategies used by companies in the context of social media marketing and focuses on relationships between companies and their online consumers. Accordingly, the research question is as follows: *To what extent do companies' empowering practices in social media impact customers' behavioural intentions?*

In order to find elements of the answers to this research question, this chapter first reviews social media and consumer empowerment in social media. A description of the empirical study is then followed by a presentation and discussion of the results. Finally, the implications and limitations of the research are discussed and ideas for future research are presented.

Social media and social media users

Blackshaw (2004, p.1414) defined social media as a 'variety of new sources of online information that are created, initiated, circulated and used by consumers intent on educating each other about products, brands, services, personalities and issues'. The term 'web 2.0' refers to the phase in which users not only create, consume and participate on the web but also become curious surfers who search and compare in order to obtain more information (Fayon, 2010). In other words, as claimed by Ahlqvist et al. (2008), social media is built on the three key elements of content, communities and Web 2.0 (Figure 1).

Social media is defined as 'a group of Internet-based applications that help consumers share opinions, insights, experiences, and perspectives' and includes a range of applications, such as 'collaborative projects (Wikipedia), blogs, content communities (YouTube), social networking sites (Facebook, Twitter and LinkedIn), virtual social worlds (Second Life) and virtual game worlds (World of Warcraft)' (Kaplan and Haenlein, 2010, p. 62). According to Abed et al., (2015a, b) and Dwivedi et al. (2015), these applications 'create many interactive opportunities to businesses in various ways. For example, these are used in communicating with their customers and altering customers' expectation of their relationship with businesses' (Rathore, et al., 2016, p 10). Rodriguez et al. (2012) see social media as a network tool to generate content, online review and discussion, real-time feedback, relationship and community building while, for Scott (2009, p. 38) social media 'provides a way for people to share ideas, content, thoughts, and relationships online'.

Studies by Lenhart and Madden (2007) and Chiu, Ip and Silverman (2012) focus on consumers' content creation on social media. Indeed, these online platforms enable people 'to transform themselves from online information consumers to active content creators' (Lu et al., 2012, p.56). The Organization for Economic Co-operation and Development (OECD) (2007) defines user-generated content as having three principal characteristics: 'content that is made publicly available over the internet, content that reflects a certain amount of creative effort and content created by professional routines and practices' (Christodoulides et al., 2012, p.2). Thus, drawing on the academic research on social media, social media is a source of user-generated content. In explaining the concept of 'user-generated content', Ashley and Tuten (2015) cite the example of Procter and Gamble's 'Thank you Mom' campaign in which 'consumers were

asked to contribute with stories (i.e. user generated content reflecting the role of mothers in nurturing child athletes)' (Berkowitz, 2012, p.15).

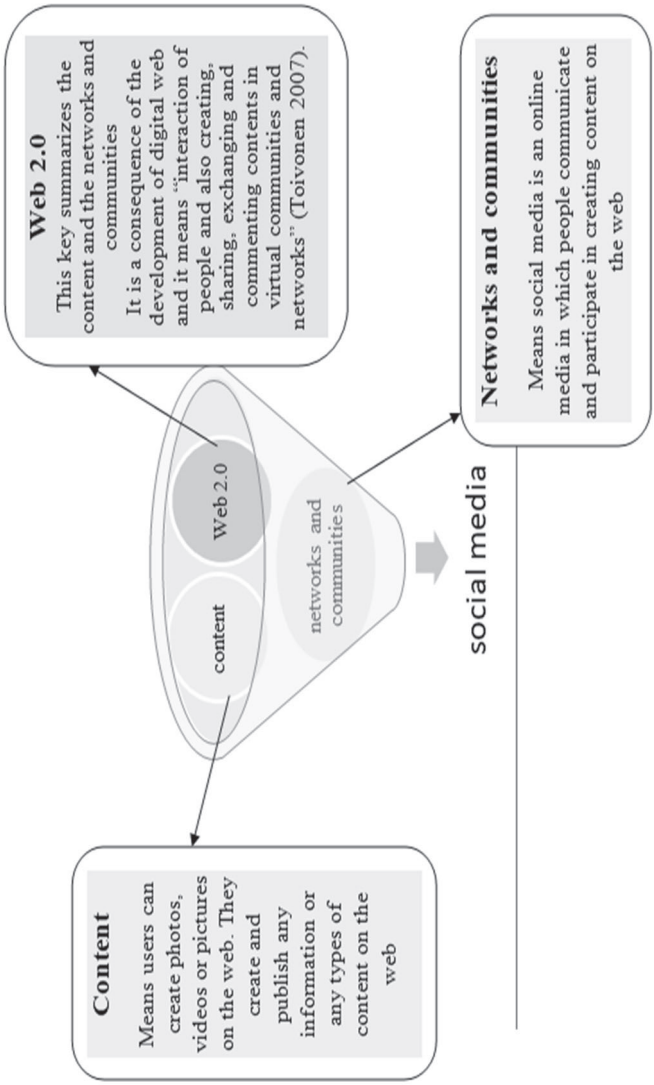

Figure 1: Descriptive scheme of social media (Ahlqvist, Bäck, Halonen and Heinonen, 2008*)*

Consumer empowerment

Empowerment has attracted the attention of many researchers and practitioners (Khong et al., 2013; Fuchs et al., 2010; Ninacs, 2002; Deci, 1976; Sadan, 1997). It is a difficult concept to define and is more easily understood by its absence than its presence (Wallerstein and Bernstein, 1988; Rappaport, 1984). However, three main conceptualisations can be distinguished in the literature review: empowerment as a psychological state (Menon; 2001; Bowen and Lawler, 1992; Conger and Kanungo, 1988), as a result of social media power (Khong et al., 2013; Labreque et al., 2013) and as a result of managerial empowering practices (Pranic and Roehl, 2012; Fuchs et al., 2010).

1. *Empowerment as a psychological state*

Various scholars, including Silverang (2015), Wright et al. (2006), Menon (2001) and Bowen and Lawler (1992) treat the concept of empowerment in the fields of management and marketing as a psychological state. These definitions are summarised in Table 1.

2. *Empowerment as a result of social media power*

According to Karjaluoto et al (2015, p.761), different types of social media –such as Facebook, Twitter, Slideshare and blogs – have been the subject of increasing interest in B2B marketing because they provide faster and more personalised interactions between customers and suppliers and, thus, deepen relationships. Wathieu et al. (2002) claim that social media fosters various actions within participative marketing and empowerment. According to Wu and Fang (2010), consumers become a powerful source of innovation in new products and services. Fournier and Avery (2011) show that power is shifting from marketers to consumers.

Table 1: Empowerment as a psychological state

Authors	Definition	Field
Conger and Kanungo (1988)	Empowerment is defined 'as a motivational construct and is viewed as an enabling process which highlights (among other aspects) two crucial aspects of information as enabler of empowerment: source credibility and information framing (referring to the positive or negative context of the message to consumers)'.	Management

Bowen and Lawler (1992)	Employee empowerment is a relational construct describing how those with power in organizations share power and authority with those lacking it.	Management
Spreitzer (1995)	Employee empowerment is a motivational construct manifested in four cognitions: meaning, competence, self-determination and impact.	Management
Potterfield (1999)	Employee empowerment is the ability of employees to use more judgment and discretion in their work and to participate more fully in decisions affecting their working lives.	Management
Menon (2001)	Employee empowerment is a moving decision making authority down the (traditional) organizational hierarchy, also empowerment is a cognitive state of perceived control, perceived competence and goal internalization.	Management
Silverang (2015)	The extent to which a firm provides its customers avenues to connect with the firm and actively shape the nature of transactions and connect and collaborate with each other by sharing information; praise; criticism; suggestions; and ideas about its products, services, and policies.	Management
Ben Ayed and El Aoud (2016)	Empowerment is a state that can be characterized by several components: 1) competence, choice, self-determination, influence; 2) the meaning (objective), information, competence and control-influence; 3) self-awareness, self-determination, self-efficacy.	Management
Wathieu et al. (2002)	Consumer empowerment is described as Helping consumers choose what they want, when they want it, and on their own terms.	Marketing
Kozinets et al. (2004)	Consumer empowerment resides not in the simple capability to stand firm against thismaneuvering, but it implies a strategic behavior, tactics to react to buyers' actions and motivations and processes whereby communities of various form resist and attempt to distinguish them from markets.	Marketing

Pires and Stanton (2005)	Consumer Empowerment as both a structural condition (reflected in the technologies and access to that technology) and a psychological condition in which consumers perceive receding constraints in their search for value.	Marketing
Denegri et al. (2006)	A consumer is empowered when he or she is free to act as rational and self-interested agent. [...] consumers combine resources and skills to make producers do what they would not do otherwise …	Marketing
Wright, Len Tiu (2006)	Consumer empowerment is a mental state usually accompanied by a physical act which enables a consumer or a group of consumers to put into effect their own choices through demonstrating their needs, wants and demands in their decision-making with other individuals or organizational bodies in the marketplace.	Marketing
Midha (2012)	Consumer empowerment is a psychological construct related to the individual's perception of the extent to which he/she can control the distribution and use of his/her personally identifying information. (Midha, 2012)	Marketing
Papaoikonomou and Alarcón (2015)	The first stage (of the empowerment process) is the creation of an alternative offer to traditional consumption. The second corresponds to the assertion of a counter-power through civic mobilizations and collective actions. The third is a civic commitment in favour of more social sustainable and democratic macrostructures.	Marketing
Prentice, Han and Li (2016)	Empowerment is a process by which the client takes the control of the progress of the service and the influence. It is he who determines the meaning he gives to his consumption, who brings their skills, makes decisions and appreciates the result.	Marketing

In this context, consumers are described as having 'more information, choices, and purchase points and thus a greater impact' as a result of social media (Savitz, 2012, p. 26). In this respect, Reniou (2009) notes the need to distinguish participative actions from other expanding concepts, such as the co-creation of products (Fuller, 2006), mass personalisation (Merle et

al., 2008) and crowdsourcing (Howe, 2011). Bachouche and Sabri (2019, p.10) summarise various forms of co-creation based on the different views of authors and define co-innovation as an action 'initiated by the company that involves consumers in the new product design development' and open source as 'sharing skills and knowledge between expert consumers in an online community to develop software for which the owner grants users the right to copy, distribute and modify'. Finally, turning to the research of Von Hippel (1998), they explain that user innovation refers to any action 'initiated by the expert consumer who proposes new product and service development without the assistance or involvement of producers'. According to Merle et al. (2008), mass-customisation means giving customers the opportunity to personally modify certain elements within the product. They cite the example of confectionary (the My M&Ms launch in France in January 2007) or shoes (Puma in 2006). For Kaplan and Haenlein (2006), mass-personalisation refers to product offers and is based on information about past purchases and consumer preferences. Estellés-Arolas and De-Guevara (2012) treat the concept of crowdsourcing as an example of an empowerment initiative; they collected 36 definitions of this concept from 28 articles published between 2006 and 2011.

Humburger et al. (2008) view social media as fostering the empowerment of individuals through two processes: firstly through 'their framing of one's identity (e.g., by interacting with others, role-playing, learning, and testing of one's own social skills)' and, secondly, through 'increasing self-efficacy and skills'. They add that 'research in computer sciences has shown that the Internet allows people to engage in activities that allow them to learn and perform skills in a non-threatening environment'.

3. Empowerment as a result of empowering practices

The majority of researchers consider empowerment 'as a psychological state' and 'as a result of social media', as detailed in previous paragraphs. Few authors in the management and marketing fields treat empowerment 'as a result of empowering practices' (Pranic and Roehl, 2012; Fuchs et al., 2010). However, according to Fuchs et al. (2010, p.65), consumer empowerment is defined as 'a strategy used by firms to give customers a sense of control over a company's product selection process, allowing them to collectively select the final products the company will later sell to the broader market'. Pranic and Roehl (2012) define the concept as "a strategy used by firms to give complainants sufficient information and a sense of control and competence over a company's service recovery process, allowing them to self-select remedies the company will then use

to correct a wrong (p.243). In the management field, several studies have focused on companies' strategies to empower employees in order to enhance their efficacy. Seibert et al. (2004) also noted that empowering practices are related to empowered employees, while Fuchs and Schreier (2011) observed that empowered employees are interested in designing the product when they participate in its selection. Years before, Arnold et al. (2000) had revealed that empowering practices lead employees to see more value in their personal contributions, to develop self-efficacy to perform and extend their work roles, to make choices regarding different aspects of their job and to feel that they genuinely make a difference in their work environment. Boudrias et al. (2009) showed that empowering practices influence not only the motivation of employees' but also their behaviours. They recommended that supervisors promote empowered behaviours by developing a positive mindset within the organisation and opting for delegation and consultation (Menon, 2001). In the context of new product development, Fuchs and Schreier (2011) identified two means to achieve customer empowerment: the empowerment 'to create' by submitting ideas for new product designs, and the empowerment 'to vote' to select the product designs.

Authors including Bennis and Nanus (1985); Blanchard, Carlos and Randolph (1999) and Kanter (1989) mention a high degree of agreement about the practices associated with empowerment. These practices constitute the dimensions of the empowerment construct used by Randolph and Kamery (2011). In addition, Bachouche and Sabri (2017), inspired by Fuchs, Prandelli and Schreier, (2010) define empowering practices in the context of new product development as 'a strategy used by firms to give customers a sense of control over a company's product selection process, allowing them to collectively select the final products the company will later sell to the broader market' (Fuchs, Prandelli and Schreier, 2010, p. 65).

In summary, this literature review highlights a significant similarity between the definitions of the two concepts 'consumer empowerment' and 'empowering practices' to the extent of causing confusion. As reminder, Pranic and Roehl (2012) and Fuchs et al. (2010) define consumer empowerment as a strategy used by firms which is very similar to the definition of empowering practices. Given that the focus of this research is on the practices that companies use on social media to generate consumer empowerment, it considers consumer empowerment in relation to a company, rather than as a general concept. Consumer empowerment in relation to a company is defined here as 'the feeling of having the control

over this company's decisions and processes (production, promotion...) and the ability to help and to make a difference for it'. Furthermore, to remove any confusion with consumer empowerment, this research defines firms' empowering practices as collaborative practices (actions or strategies) adopted by companies to give customers a sense of control over the company's decisions and processes (regarding, for example, production or promotion).

Types of empowering practices

Various authors demonstrate how firms enhance consumer empowerment in the context of new product development (Fuchs and Schreier, 2011) through the three practices of empowerment to create, empowerment to vote and full empowerment, as detailed in the following paragraphs.

Empowerment to create: Some authors have highlighted that customers may determine the specific design of a product or offer (Cova and Cova, 2009). For example, Fuchs and Schreier (2011) observe that some firms allow customers to create ideas for new product designs or to decide which products should be produced. These companies may gain a competitive advantage over more traditional firms that do not empower their customers. Bachouche and Sabri (2017) focus on recent studies of Fuchs and Shreier (2011) in the new product development context and show how collaborative practices can be used in different elements of the marketing mix. They focused on 'empowerment to create' through promotion and product (see Table 2), a reference to the integration of customers' innovative new product ideas in NPD processes (Fuchs and Schreier, 2011).

Table 2: Examples of empowerment to create

Authors	Elements of Marketing Mix	Examples of brands that use this practice
Fuchs and Schreier, (2011)	*Promotion*: Consumer-generated advertising – the advertising content is created by consumers.	*Promotion*: Amazon: 30-second creation video for the Kindle e-book
	Product: The consumer delivers ideas and produces product designs.	*Product*: BMW; Adidas; Procter & Gamble

Empowerment to vote (to select): According to Fuchs and Schreier (2011) empowerment to vote means that the consumer selects the characteristics of the product that will be marketed by the company, as shown in Table 3.

Table 3: Examples of empowerment to vote

Authors	Elements of Marketing Mix	Examples brands that use this practice
Fuchs and Shreier, (2011)	*Price*: there are two perspectives: (1): *Name your own price (NYOP)* – the consumer must not offer prices below that offered by the seller. (2): *Pay what you want (PWYW)* – there is no threshold; the consumer selects the price.	*Price*: Radiohead
	Promotion: Select the cover of the next catalogue or the scenario of the next advertisement, for example.	*Promotion*: Nespresso; Linvosges
	Product: Select one or more characteristics of the product.	*Product*: Danette; Air France

Full empowerment: For Fuchs and Schreier (2011), full empowerment means including consumers in both the creation and the selection of the future product to be marketed by the company, . For promotions, the consumer proposes posters or videos for a future advertisement, to be put to the public vote (e.g. My Superbowl). For the product, the consumer creates product ideas and then votes on their creation (e.g. Threadless, Muji).

Conceptual model

Effects of empowering practices on consumer empowerment

Based on the previous studies (Randolph and Kemery, 2011; Seibert et al., 2004; Kirkman and Rosen, 1999; Liden and Tewksbury,199) show that managerial actions (to create, to vote and to like and share) enhance

feelings of psychological empowerment. Similarly, Brady and Cronin (2001) and Saxe and Weitz (1982) within the customer orientation literature, demonstrated a strong relationship between empowering practices and consumer empowerment. Indeed, Fuchs and Schreier (2011, p. 9) show that 'customers will perceive more favorably companies that foster customer empowerment in new development product because they have the customers best interest in mind'. They attempt to identify the customers' needs and the type of product that would be most helpful for them. Consequently, the following hypothesis is proposed:

H1: Empowering practices: (a) to create, (b) to vote, (c) to like and share positively impact consumer empowerment towards the company

Effects of consumer empowerment on customer behavioural intentions

Makloul, Aboudou and Hammou (2018) argue that the internet and changes in the nature of information have led to remarkable changes in consumer behaviour. Moreover, the postmodern consumer is creative, innovative and interacts, but also reshapes his purchasing experience (Wright and McCarthy, 2004; Szmigin, 2003). Purchase intention has been the subject of various research studies in recent years. Drawing on the empowerment literature, Fuchs and Schreier (2010) and Fuchs, Prandelli and Schreier (2010) considered the relationships between consumer empowerment and behavioural intention, such as purchase intention in the context of the newly developed product and found a positive and significant relationship between them. Furthermore, Bachouche and Sabri (2017), in the context of offline product development, found that empowered consumers express more positive purchase intentions towards companies than non-empowered ones. Therefore,

H2: Empowerment towards the company positively impacts (a) consumers' behavioural intent of purchase; (b) recommendation and (c) participation

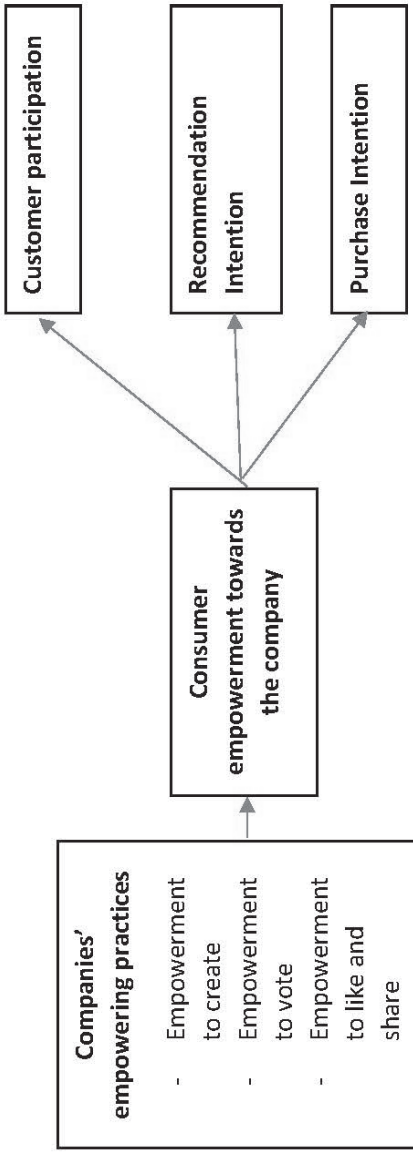

Figure 2. Impacts of empowering practices on social media users' behavioural intents

Research methodology

Given the objective of this research, an experimental method was deemed appropriate. An anonymous travel agency account page was created on Facebook and four scenarios developed, corresponding to the manipulated variables – empowerment to like and share, empowerment to vote, empowerment to create and zero empowerment for the control. These scenarios are detailed further in the following table. The sample (400 students) was divided into four groups and each group (100 students) exposed to a different scenario. The students then completed a questionnaire. All scale measures are drawn from previous studies.

Table 4: Scripts used in the experimental method

Empowering Practices	Scripts
Scenario 1: Empowerment to like and share	New content is developed on the 'Travel Addiction' Facebook page: *'Travel Addiction' organises a free game* on its Facebook page with no obligation, entitled 'CONTEST GAME SUMMER VACATION 2019', running from 26 August 2019 to 28 August 2019. It sets the terms and conditions for participation. It *calls on participants to like and share the post* on their Facebook wall. The participant with the highest number of 'likes' on their account will win lunch for 2 adults at a restaurant in Sousse with sea view.
Scenario 2: Empowerment to vote	New content is developed on the 'Travel Addiction' Facebook page: *'Travel Addiction' organises a free game* on its Facebook account with no obligation, entitled 'CONTEST GAME SUMMER VACATION 2019', running from 26 August 2019 to 28 August 2019. It sets the terms and conditions for participation. It *posts content* in the form of two images and asks: 'Which is your favourite picture – 1 or 2?', *calling on participants to like* one of the two pictures. The participant whose chosen picture receives the highest number of 'likes' will win lunch for 2 adults at a restaurant in Sousse with sea view.

Scenario 3: Empowerment to create	New content is developed on the 'Travel Addiction' Facebook page: *'Travel Addiction' organises a free game* on its Facebook account with no obligation, entitled 'SELFIE CONTEST GAME SUMMER VACATION 2019', running from 26 August 2019 to 28 August 2019. It sets the terms and conditions for participation. *It calls on participants to post* their best 'selfie' picture of themselves and their family or friends on any beach in any Tunisian town. 'Travel Addiction' will select one Selfie picture and the winner will receive free lunch for 2 adults at a restaurant in Sousse with sea view.
Scenario 4: Zero Empowerment	'Travel Addiction' creates visual content on its Facebook page. Consumers are free to like and share this content.

Results

As mentioned, a total of 400 responses were collected from the students. SPSS 26 and AMOS were used as statistical tools to test the proposed hypotheses (Hair et al., 2009). Following the accepted procedure for Confirmatory Factor Analysis (CFA) and SEM, (Bagozzi and Yi, 2012), a Principal Component Analysis (PCA) and CFA were first conducted on all variables (consumer empowerment towards the company and behavioural intents). Cronbach's alpha and Composite Reliability (CR) scores were used to assess the reliability and internal validity of all scales. All Cronbach's alpha values were higher than 0.70 (Naylor et al., 2012). The convergent validity was assessed through three steps: first, all item loadings were higher than 0.5; second, composite reliabilities were higher than 0.70 (Naylor et al., 2012); third, all AVE values exceeded 0.50. Furthermore, the squares of the correlations among the constructs were lower than the corresponding AVEs, which indicates satisfactory discriminant validity (Chin, 1998).

In order to test the model, an ANOVA test was conducted, showing that consumer empowerment differs across the three scenarios. The results demonstrate a significant relationship between empowering practices and consumer empowerment.

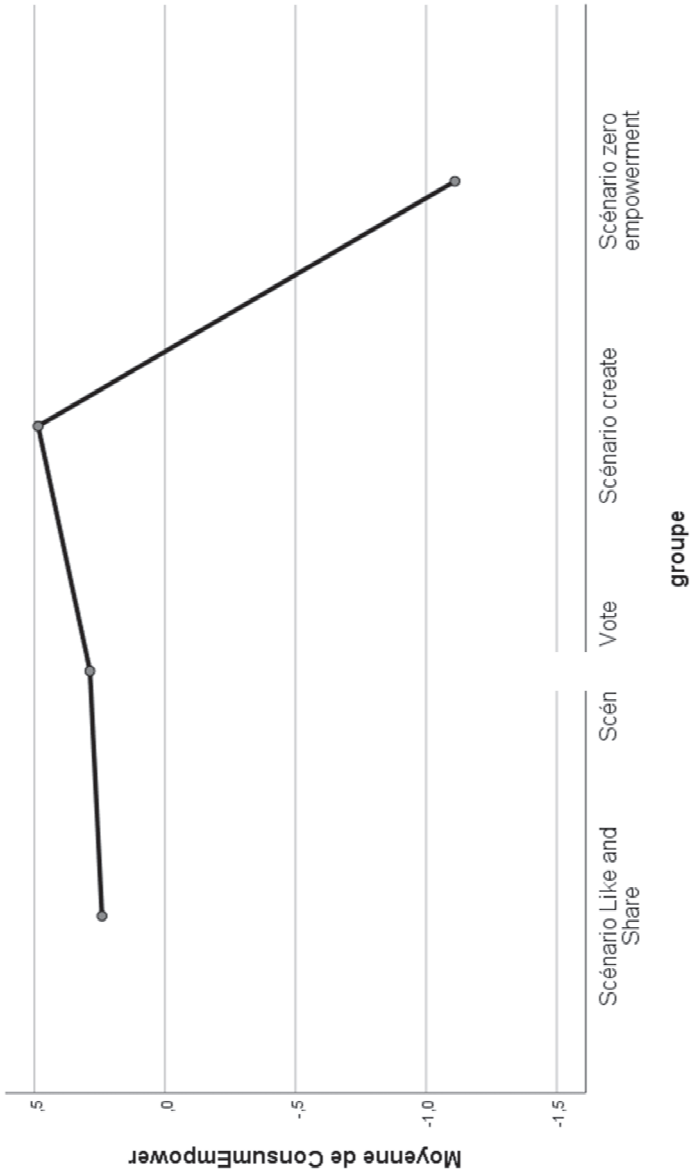

Figure 3: Variation in consumer empowerment across the three scenarios of empowering practices

Next, the Dunnett test was performed to compare the different pre-experimental scenarios (empowerment to like and share, empowerment to vote and empowerment to create) with the non-equivalent control group (zero empowerment) (Table 6). Structural equation modelling was also applied on AMOS. All relationships of the model are significant; in other words, the impact of consumer empowerment on behavioural intentions such as customer participation, recommendation intention and purchase intention is significant.

Table 6: Comparison of scenarios

	(J) group	Mean difference (I-J)	Error std	**Sig.**
Scenario Like and Share	Scenario zero empowerment	1.351*	.114	**.000**
Scenario Vote	Scenario zero empowerment	1.397*	.113	**.000**
Scenario Create	Scenario zero empowerment	1.596*	.113	**.000**

Table 7: Direct relations between variables

			Estimate	S.E.	C.R.	P	Label
CustomerParticipation	<---	ConsumerEmpowerment	1,037	0,043	23,915	***	par_19
RecommendationIntention	<---	ConsumerEmpowerment	1,068	0,042	25,571	***	par_20
PurchaseIntention	<---	ConsumerEmpowerment	1,012	0,047	21,575	***	par_21

Consequently, we can accept the hypotheses H2a, H2b and H2c. In addition, the model's adjustment indices are satisfactory and reflect a good fit of the model, for example.

Discussion and conclusion

The results confirm that there are at least three outcomes of empowering practices: customer participation, recommendation intention and purchase intention. Authors including Fuchs and Schreier (2010) and Fuchs, Prandelli and Schreier (2010) show that empowering practices affect consumer empowerment, which positively affects the behavioural intentions of consumers offline and in new product development. This work

demonstrates the impact of empowering practices on behavioural intentions in the context of social media.

At managerial level, companies are encouraged to use these empowering practices and to involve social media users in creating and promoting content. The outcomes of such actions may be of interest to companies and may help them gain a competitive advantage. They may constitute a guide for companies that want to maximise the benefits to be gained from empowered e-consumers rather than considering them as a threat or ignoring them. At a theoretical level, a considerable number of studies have focused on consumer empowerment in social media but the majority have considered it as a state or feeling. Its treatment from a business perspective, as in this research, is still a new trend requiring further exploration. The findings of this research may help both academics and businesses understand social media users.

As in all studies, this study has some limitations. First, the convenience sample used to identify potential participants may cause some bias, although it has frequently been applied in previous research. Second, the use of a virtual, anonymous agency in the online experiment may lead to some bias. Future research may consider real-life cases to gain a greater understanding of consumer empowerment.

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THE STUDY OF THE EFFECT OF AN AUGMENTED REALITY EXPERIENCE ON ONLINE SHOPPING: THE CASE OF COSMETICS AND LUXURY PRODUCTS

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Abstract: Augmented reality is a new technology that enables real-time 3D virtual elements to be integrated into a physical environment. Our paper aims to study augmented reality effects on consumers' shopping experience. To this end, we review the literature on digital transformation in marketing and highlight how internet users use augmented reality in their online shopping experiences. Empirically, a questionnaire-based quantitative study was conducted on a convenience sample of 370 individuals. The results are twofold. First, they indicate that the use of augmented reality promotes affective reactions. Second, they show that consumers' trust to try the product is promoted. Moreover, the results imply that affective reactions and trust tend to affect satisfaction with this online experience. Satisfaction also has a positive and a significant impact on purchase intent and proselytism. In addition, the study gathers evidence on the moderating role of product category (L'Oréal and Histoire d´or) and individual variables (gender, age, CSP) in the relationship between augmented reality and affective responses.

Keywords: Augmented reality, affective responses (pleasure, emotional involvement, flow), trust, satisfaction, purchase intention, proselytizm**.**

Introduction

Today, information and communication technologies facilitate any exchange to a point that distance can be eliminated. Such an ease of exchange is a result of the transmission speed provided by Internet applications and Web 2.0 technologies. The emergence of the Internet has attracted marketing researchers' interest in studying its effects on consumer society, while

practitioners showed an increased interested in e-commerce (Galan and Sabadie, 2001). Ryan and Jones (2009) put such an interest in the following terms:

> "Welcome to the new digital world, a hyper-connected, high-octane world of instant access and gratification with digital technology. For today's youth, these are not just digital tools; they are essential, seamlessly integrated elements of their daily lives. They are digital consumers. They are carefree, impatient, demanding, multi-tasking, and information-hungry. They are the mass market of tomorrow. Today it is commanding that we, as marketers, learn to speak their language".

Moreover, this perspective led to the emergence of a new form of a hybrid experience, named a digital or phygital experience, that highlights the combination of the digital and physical universe (Battat, 2018). Indeed, this experience uses applications and connected objects to ensure adaptation to and optimization of consumer needs. Augmented reality is a fundamental outcome of phygital experiences that are functionally and emotionally memorable and satisfying while value creating. Its ability to overlay the physical environment with virtual elements, such as information or images that allow consumers to interact with the physical world in real time, offers new possibilities for content delivery to consumers. Therefore, augmented reality holds the potential of changing a large number of consumer activities. Its study is increasingly important to better understand consumer behavior during the experience (Javornik, 2016). This digital transformation needs adaptation to the new demands of consumers who have become increasingly connected and attached to new technologies. The integration of technology is even more important as companies are able to provide their customers with value-added schemes to generate optimal customer experiences that combine virtual-physical contact points (Breidbach, Brodie, & Hollebeek, 2014; Kumar, Dixit, Javalgi, & Dass, 2016; Patrício, Fisk, & Falcão and Cunha, 2008).

Accordingly, the shopping process has been transformed and the retail sector is now experiencing the use of innovative methods to extend consumer experience and satisfaction by integrating new technologies into the retail process (Pantano et al., 2017). The use of augmented reality offered solutions in a variety of fields like medicine, tourism, education, and architecture (Datcu et al., 2015). However, very little research has focused on the application of AR in mobile commerce (Desti and Shanti, 2015; Ross and Harisson, 2016). Many recent studies have applied AR technology to online apparel retail sites (Merle et al, 2012; Shin and Baytar, 2013). As a result, several major cosmetic brands started to offer

new mobile shopping experiences. With an augmented reality app, they can preview the results of their future makeup in real time (Bastide, 2017). For example, the most popular apps are: L'Oreal (Makeup Genius); Rimmel (see); Sephora (Sephora toGo) and YouCam makeup. On the other hand, in e-commerce sites, it is still difficult for shoppers to choose products that need a lot of involvement (e.g., clothing, shoes, jewelry) (Blazquèz, 2014). Nevertheless, AR is not yet adopted in the luxury domain.

Many studies have focused on visualization effectiveness tools in online apparel sites (Kim and Forsythe, 2007; Merle et al., 2012; Shin and Baytar, 2013). Moreover, Bahti et al. (2010) studied consumers' satisfaction with cosmetic purchase experiences. Shin (2013) pointed out that product trust will have a positive effect on online purchase intentions. For Rosa et al, (2006), perceived trust depends on the gap between reality and the image seen. In other words, the more realistic the image on the screen, the better impression consumers will have about the product, and ultimately the better their trust (Shin, 2013). Then, studying the concept of product trust in a mobile shopping environment using AR presents itself an important research opportunity. Against the above, this study aims to examine consumer reactions towards the use of augmented reality. Therefore, our study tries to answer the following question: To what extent do affective responses and trust in trying a product as a result of an augmented reality experience affect satisfaction and conative responses?

Research Hypothesis and Conceptual Model

The effect of augmented reality on affective responses

Providing multisensory experiences in digital environments is one of the future priorities of technology developers (Gartner, 2019; GuinalíuBlasco, Hernandez-Ortega,' & Franco, 2019; Spence, 2019). According to Csikszentmihalyi (1997), attributes of augmented reality can affect consumer immersion in an experience and their subsequent responses. Flow is a particularly established concept in psychology that defines immersion in an activity. For Mclean and Wilson (2019), variety of media tools allows consumers to interact through augmented reality which is likely to enrich the imagination process during the experience. Such enrichment is possible through the combination of their real environment with the virtual environment resulting in a pleasant experience. Accordingly, these authors indicate that the interactivity promoted by augmented reality helps to trigger pleasure and emotional involvement in

cyber-consumers. For Huang (2012), interactivity can be considered as an attribute of augmented reality which develops affective responses. Gao et al (2009) showed that interactivity can create a strong impact on consumer responses through the mediation of experience-related concepts namely: immersion, pleasure and trust. Sundar et al (2015) found that media attributes, such as interactivity, help to elicit consumers' psychological responses that result in an immersive experience and finally an affective, cognitive and behavioral response. Indeed, in this study, we propose that an augmented reality experience may promote affective responses. Then, we formulate our first hypothesis as follows:

H 1: Interactivity of augmented reality has a positive effect on affective responses

The effect of augmented reality on trust in trying the product

Merle el al, (2012) claim that the customization of online visualization tools leads to a positive impact on cyber consumers' trust in trying the product. Similarly, according to Bastide (2017), AR-enabled visualization tools are customizable with the aim of improving consumers' trust in trying the product. Rizzo (2018) claims that the utility of augmented reality is to increase consumer trust. For this author, the use of AR technologies has the potential of facilitating the research process, and provide customers with a deeper and a more meaningful knowledge about the product. This will help them reduce perceived purchase-related risks and allow for increased consumer trust in trying the product. Indeed, Rizzo (2018) found a positive and a significant relationship between augmented reality and user trust. Accordingly, we formulate our second hypothesis:

H 2: Interactive augmented reality has a positive effect on trust in trying the product.

The effect of affective responses on satisfaction with experience

Consumer behavior-wise, research conducted over the past two decades has shown that consumers' affective responses have important implications for consumers' information processing, their choice processes, and their attitudes towards advertising messages (Batra and Ray, 1986; Holbrook and Batra, 1987). Westbrook (1987) is the first author to put forward and empirically confirm the hypothesis that integrating emotional states improves the explanatory power of satisfaction. For Westbrook (1987), researchers have progressively integrated emotional responses into

satisfaction development models. According to Oliver (1993), affective responses promote consumer satisfaction. Moreover, Wirtz and Bateson (1999) showed that affective responses can be considered as factors explaining satisfaction and confirmed that pleasure can positively affect consumer satisfaction. Moreover, satisfaction is an important lever for the company's sales. Therfore, a satisfied consumer is more likely to make another online purchase from a company that has already met his or her expectations (Shankar et al, 2003). This allows us to propose our third hypothesis:

H 3: Affective responses positively affect satisfaction with experience.

The effect of trust on satisfaction with experience

Many researchers have indicated that satisfaction is an exploratory variable of trust. In fact, Sirieix and Dubois (1999) indicate that trust is an intermediate variable between quality and satisfaction. In other words, when consumers trust the brand, they obtain greater satisfaction. Therefore, trust allows us to better understand the relationship between quality and consumer satisfaction. In this line of thought, Allagui and Temessek (2005) suggested that trust can determine how consumers evaluate experiences. These authors followed Ajzen and Fishbein's (1980) theory of reasoned action to justify the effect of trust on satisfaction. This theory assumes that consumer reactions follow the sequence of belief - attitude - intention - behavior. Since trust represents a belief and satisfaction reflects an attitudinal variable (Allagui & Temessek, 2005), the authors asserted that trust is a determinant of consumer satisfaction with e-service. Pi (2013), cited in Bastide (2017), indicates that lack of realism is the drawback of online visualization tools. In addition, Fewerda (2003) found that loyalty to reproduce the real environment or object is an important criterion for the evaluation of images displayed on a computer. Indeed, the notion of realism combines with the concept of perceived trust in the product. According to Rosa et al, (2006), lack of information about the product can have a negative effect on the online shopping experience. Therefore, for Bastide (2017), trust in the product promotes the level of satisfaction with the experience. According to the same author, trust can be considered as a factor explaining consumer satisfaction with an online shopping experience. Then, we formulate our fourth hypothesis:

H 4: Trust in trying the product positively affects satisfaction with experience.

The effect of satisfaction with experience on purchase intention

Generally speaking, the concept of purchase intent refers to "what we think we will buy" (Blackwell et al., 2001 cited in Bastide, 2017; p 54). For some researchers (Poddar et al., 2009; Hausman and Siekpe, 2009), online purchase intent is the result of several evaluation criteria perceived by the consumer, namely: site quality, information search and product evaluation. Shankar et al., (2003) found that satisfied consumers are more likely to purchase from the company that meets their expectations. Similarly, Safa and Von Solms (2016) indicate that consumers will intend to purchase if they can do their shopping in an easy and profitable way. The literature on satisfaction (Rust and Zahorik, 1993) and Internet (Shankar et al., 2000; Hong and Kim, 2004; Balabanis et al, 2006) pointed to a positive relationship between overall satisfaction with a service provider and behavioral loyalty to the same provider. Similarly, Lynch et al (2001) argue that site quality or design and offering appropriate services have important outcomes, likely to retain consumers and generate purchase intentions. For Bressoud (2001), consumer evaluations and judgments can develop behavioral intentions. Then, Bastide (2017) claims that satisfaction can determine purchase intent. Hence, the fifth hypothesis is formulated as follows:

H 5: Satisfaction with experience has a positive effect on purchase intention.

The effect of satisfaction with experience on proselytism

Proselytism represents a free communication medium for the company (Silverman, 1997). Customers who have more than one positive experience with the brand will be satisfied (Silverman, 1997). Word-of-mouth should be a reaction to these positive experiences (Mittal et al., 1998). Several researchers point out that satisfaction with the experience necessarily generates recommendation/proselytism behavior (Anderson et al, 1994). Host and Knie-Andersen (2004) found a positive relationship between satisfaction and intent to recommend a service provider. Similarly, Kraft and Martin (2001) indicate that positive word-of-mouth is the result of pleasure (surprise associated with very high satisfaction), expected benefits, involvement with the product (or service), social norms, and personal and situational factors. Payne et al., (2001) claim that positive word-of-mouth is more plausible if the consumer expects a favorable response from the seller; when satisfaction is very high the consumer finds pleasure in complimenting and flattering others. In this study, we suggest that satisfaction with an augmented reality experience

can be considered a determinant of the intent to recommend the experience or proselytize. Then, the following hypothesis is formulated:

H 6: Satisfaction with experience has a positive effect on proselytism.

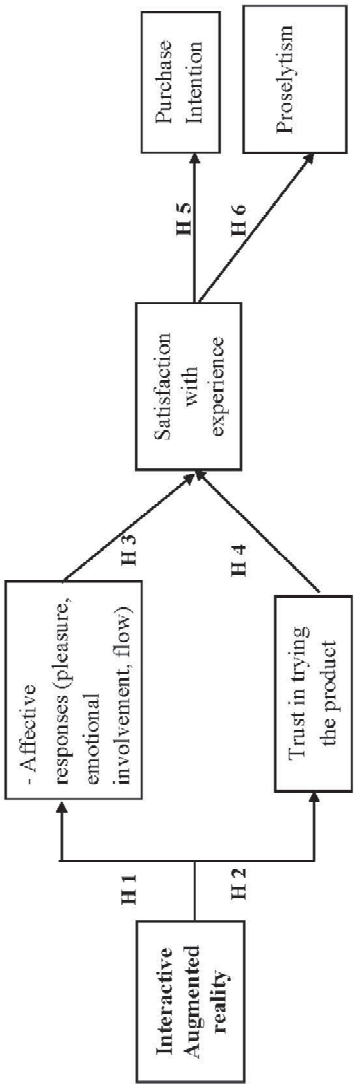

Figure 1: The research model

Methodology

Research context and sample

In this study, we chose two product categories. The first is a "Rouge Signature Liquid Lip Matte Color" from the cosmetics world leader 'L'Oreal'. The world leader launched an augmented reality application designed by ModiFace, a company specialized in augmented reality and artificial intelligence applied to beauty, and acquired by L'Oreal in March 2018. It is through the mobile image recognition application Google Lens, that users activate the "virtual trial" experience. The second product chosen is a Lacoste watch of the "Histoire d'Or" brand, which has more than 350 jewelry stores, harmoniously distributed throughout France and even outside France. It offers the largest range of luxury jewelry and it offers on its site the possibility to try products virtually by taking a photo of the customer's wrist virtually wearing the watch. The choice of the data collection method depended on the type of this study. Indeed, the present study, being descriptive, needs a sampling-based survey. Data is collected by means of an online-administered questionnaire. After our survey is designed and posted online, only those who are approached through their email addresses and social networks (Facebook, Twitter...) can respond. Sample size is determined as 5 times or 10 times the number of items, i.e. 28 items * 5 or 28 items * 10, between 140 and 280 respondents. However, in this study, we collected 370 valid questionnaires. The final sample consists of 57.6% females and 42.4% males. Our sample is mostly made up of young people (75.4%) whose age range varies between 20 and 30 years old. Moreover, it mainly consists of employees (54.1%) and students (41.6%).

The choice of measurement scales

In this study, we selected measurement scales from the literature and adapted them to our context. Moreover, all measurement instruments are in English and therefore they needed to be translated into French. We chose the "double blind" translation method, which consisted in translating the scales from English to French by an expert and second, from French to English by another expert. If the results are similar then the translation is reliable. The variable augmented reality interactivity was operationalized and measured by Yim et al.'s four-item scale (2017). Affective responses (pleasure, emotional involvement, flow) were measured by the 11-item scale developed by Huang et al., (2013) and adapted by Kim et al., (2018).

Trust in trying the product is a one-dimensional construct developed by Rosa et al., (2006) following Bastide (2017) as a 4-item scale. Satisfaction with experience was measured by McLean and Oseifrimpong's (2017) 3-item scale. Purchase intent was measured by the 3-item scale of Merle et al., (2012), while proselytism was measured using Cristau's (2003) 3-item scale. All scales were measured with a five-point Likert scale ranging from [1] = Strongly disagree to [5] = Strongly agree.

Analysis method

Our analysis procedure uses, on the one hand, principal component analyses in order to purify the scales and to check for their dimensionality and, on the other hand, confirmatory factor analyses to estimate the measurement models and to test the required validities using structural equation methods. Moreover, the multi-group analysis is a method that allows for assessing and comparing the same model for each group. Specifically, this method allows to process the entire data without dividing it into sub-samples and processes each one separately. However, the database needs to be segmented into groups as it depends on the values of the moderator variable. The results show a single pattern, but with different means for each group (Hair et al., 2017).

Results

Reliability and principal component analyses were conducted to purify our scales and test their dimensionality. Reliability analysis of the measurement scales shows a good internal consistency across the items, with Cronbach's Alpha coefficients higher than 0.6 (augmented reality interactivity =0.895/ Affective responses=0.822/ Trust in trying the product=0.908/ Satisfaction =0.850/ purchase Intent =0.929/ Proselytism=0.926). Furthermore, the results of the exploratory factor analysis show a KMO index greater than 0.5 or even close to 1 (augmented reality interactivity =0.790 / Affective responses=0.865/ Trust in trying the product=0.825/ Satisfaction=0.774/ Purchase Intent =0.759/ Proselytism=0.698) and a significant Bartlett's sphericity test at the 5% level or even zero, which leads us to conclude to a good factor solution.

The confirmatory factor analysis allows for checking reliability of the measurement scales through Joreskog's Rho, their convergent validity and their discriminant validity. Indeed, Jöreskog's Rho has satisfactory coefficients as they exceed the minimal threshold of 0.7 and convergent

validity coefficients are acceptable as they are higher than 0.5 (augmented reality interactivity: P of Joreskog= 0.871; Pvc=0.761/ Pleasure: P of Joreskog=0.936; Pvc=0. 852/ Emotional involvement: P of Joreskog=0.848; Pvc=0.824/ Flow: P of Joreskog=0.794; Pvc=0.715/ Trust in trying the product: P of Joreskog=0.742; Pvc=0. 703/ Satisfaction with experience: P of Joreskog=0.771; Pvc=0.612/ Purchase Intent: P of Joreskog=0.883; Pvc=0.736/ Proselytism: P of Joreskog=0.885; Pvc=0.722).

Discriminant validity

Determining discriminant validity requires that the measurement items of one construct poorly correlate with the measurement items of the other constructs. To test for discriminant validity, we followed Fornell and Larcker (1981), and compared the square root of convergent validity coefficients with the correlation coefficients of the latent variables. In the light of these results, the square root coefficients are well above correlation coefficients of the variables. Then, discriminant validity is checked. The confirmatory factor analysis ends with model fit indices, which were found within standards and satisfactory. Indeed, the parsimony index, the standardized chi-square, is considered acceptable since its value of 4.085 is lower than 5. As for the absolute indices GFI= 0.957, AGFI= 0.967, they are greater than 0.9. Moreover, RMSEA= 0.044, it is less than 0.10 and RMR is close to 0, at 0.043. In addition, NFI= 0.947 and CFI= 0.959 are greater than 0.9. Then, our overall model fit is within standards.

Test of the research hypotheses

As with the structural equation methods, the research hypotheses will be tested by the "Student's t test" coefficient which should be greater than 1.96 with a p-value less than 0.05 to show significance.

Table 2: Research hypotheses Testing

Hypotheses	student t (CR)	P *value*	Test
Interactive AR -----→Pleasure	11.649	0.000	Supported
Interactive AR -----→Emotional Involvment	11.491	0.000	Supported
Interactive AR -----→Flow	8.366	0.000	Supported
Interactive AR -----→Trust	10.556	0.000	Supported
Pleasure----→Satisfaction	2.796	0.005	Supported
Emotional Involvment ------ →Satisfaction	1.748	0.080	Not Supported
Flow----→Satisfaction	6.036	0.000	Supported
Trust---→Satisfaction	11.061	0.000	Supported
Satisfaction---→Purchase intention	17.240	0.000	Supported
Satisfaction---→Proselytism	15.987	0.000	Supported

Discussion, conclusion and implications

The purpose of this study was to examine the impact of augmented reality on affective responses and trust, on the one hand, and their effects on experience satisfaction, purchase intent, and proselytism. Furthermore, our study tested the moderating role of socio-demographic variables (gender, age, CSP) and product category (L'Oréal and Histoire d'or) in the relationship between augmented reality and affective responses. The first hypothesis testing the positive effect of augmented reality on affective responses was confirmed. This finding is consistent with those of previous studies in the context of mobile AR gaming applications (Gao et al, 2009; Hoffman and Novak, 2009). For example, Yim et al, (2017) found that interactivity of technologies bears on the positive emotional responses towards an augmented reality experience. Mclean and Wilson (2019) also show that an augmented reality experience helps to elicit consumers' emotional involvement.

The second hypothesis confirms the relationship between augmented reality and trust in trying the product. This finding is consistent with Bastide's (2017), according to which AR-enabled visualization tools help to foster consumer trust in trying the product. Additionally, Rizzo (2018) suggested that an augmented reality experience motivates consumers to virtually try a product, thus increasing consumer trust. Affective responses

have a positive and a significant impact on consumer satisfaction with the experience, i.e. affective responses are considered to be factors promoting satisfaction. This result essentially reproduces that of Westbrook (1987) who showed that positive emotional states help trigger consumer satisfaction. Similarly, Wirtz and Bateson (1999) showed that affective responses can be considered as determinants of satisfaction. However, this study could not validate the effect of emotional involvement on satisfaction; i.e. consumers are not emotionally engaged in the augmented reality experience since the two product categories do not allow consumers to put emotion in real time. This led to negative assessments, hence dissatisfaction. This can be explained by the fact that only affective responses (pleasure and flow) promote positive assessments, hence satisfaction with the augmented reality experience. Therefore, we can conclude that this hypothesis is partially validated.

This study confirmed the link between trust and satisfaction with experience. This finding replicates those of Sirieix and Dubois (1999) who found that trust is a mediating variable between quality and satisfaction. In other words, the more the consumer trusts the brand, the more satisfied he/she is. Examining augmented reality technologies, Bastide (2017) points out that trust in trying the product helps to promote the degree of consumer satisfaction with the experience. Indeed, trust can be considered as an explanatory factor of satisfaction. Our results highlighted the dyadic relationship between satisfaction and purchase intent. Indeed, the more the consumer is satisfied with the experience, the more the purchase intent is positive. This finding is similar to that of Shankar et al. (2003) who found that satisfied consumers are more likely to make purchases from the company that meets their expectations. Furthermore, according to Bressoud (2001), consumer judgments tend to develop behavioral intentions.

This study went further and tested the effect of experience satisfaction on proselytism. This hypothetical relationship is confirmed and justified by Anderson et al., (1994) who suggested that level of satisfaction relates, of course, to proselytism. Similarly, Kraft and Martin (2001) indicate that positive word-of-mouth is a result of pleasure; i.e., surprise associated with a higher level of satisfaction. Furthermore, Bahri-Ammari et al., (2016) pointed out that satisfaction has a positive and a significant impact on proselytism or positive word-of- mouth (WoM). Then, satisfaction is an important formative variable of proselytism. When consumers are satisfied with the experience, they are likely to recommend the experience to others. Satisfaction can then be considered as a source of positive marketing buzz.

Study Contributions

At the theoretical level, the contribution of this study consists in studying the concept of augmented reality as an original and current theme in marketing research. Another contribution is the estimation of an integrative and ambitious model testing the effect of augmented reality experience on affective responses, trust, satisfaction with experience and behavioral responses in the context of online shopping in two different sectors: the cosmetics sector (L'Oréal) and the luxury sector (Histoire d'or). Several studies have looked at these relationships in the context of shopping in general and ready-to-wear products in particular, but very few have managed to combine experiential value, trust in trying the product, affective responses and proselytism in the same model.

At the managerial level, the results reveal the importance of the use of augmented reality in the field of consumer behavior in two different sectors: the cosmetics sector and the luxury sector. They also reveal the way in which this artificial intelligence allows to trigger consumer pleasure and immersion in the shopping experience and promotes consumer trust towards trying the product. Similarly, consumer trust aims to improve satisfaction which in turn contributes in the formation of conative responses, such as purchase intent and positive word-of-mouth, as the consumer has become loyal to the brand. In addition, augmented reality seems to be effective as a marketing strategy to achieve consumer interaction with the brand and optimize customer experience. The integration of augmented reality should be considered by companies to remain more attractive and competitive. This modern technology is a source of competitive advantage.

However, our study has some limitations that could pave the way for future research venues. The first limitation is our limited research model, which can be enriched by other variables, like attachment, perceived value, loyalty, and commitment. The second limitation relates to the generalizability of our results to other sectors as we focused mainly on two sectors (cosmetics and luxury sectors). Then, it would be relevant to reproduce this study in other sectors, for example tourism, leisure, home equipment. The third limitation is that our study focused only on the interactivity dimension of augmented reality; it would therefore be interesting to include other components, like liveliness and novelty.

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THE RE-HUMANIZATION OF SERVICES IN THE DIGITAL AGE: THE CASE OF ROBOTIC TOURISM SERVICES

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Abstract: The objective of this study is to explore how service robots are perceived by consumers, and how this technological innovation is accepted. A qualitative study was conducted using the scenario method, combined with individual semi-directive interviews. Two scenarios are tested, the first scenario features exclusively robotized services and the second scenario features robotized services with a human presence.

Keywords: Robotization, human presence, projective methods, tourism.

1. Introduction

After the emergence of self-service technologies, the service sector seems to be experiencing a real revolution with the genesis of service robots (Ivanov et al., 2017; Ivanov et al., 2020). These, also known as social robotics (Nakanishi et al., 2020), are one of the most interesting manifestations of artificial intelligence (Schwab, 2016). The adoption of service robotics is beneficial for a variety sectors including hospitality organizations (Nakanishi et al., 2020; Ivanov et al., 2017). It represents a source of competitiveness and could help improve the image and reputation of hotel establishments, attracting new customers who are curious and passionate about technology and innovation (Stock and Merkle, 2018) and making services more fun and entertaining (Lee et al., 2018, Ivanov and Webster, 2017). In addition, service automation could improve business processes and optimize costs (Wirtz et al., 2018). These technologies allow, also, employees to free themselves from routine and tedious tasks and focus on more creative and revenue-generating activities. Thanks to their multiple qualities and the benefits they can offer to users,

robots are, now, a product that attracts professionals, economists and theorists (Stock and Merkle, 2018; Ivanov et al., 2017). In marketing, consumer perception of robots and their acceptability has emerged as a critical issue that influences their development. As a result, a line of research has focused on the factors behind the adoption of service robots (Ivanov et al., 2020; Shore et al., 2018; Murphy et al., 2018; Lee et al., 2018; Willemse et al., 2018; Stock and Merkle, 2017; Conti et al., 2017; De Graff et al, 2014; Park and Del Pobil, 2012). However, in a field that is strongly rooted in the "low-tech, high-touch" paradigm, (Meuter et al., 2000), would consumers be enthusiastic about a standard service, outside of human interaction or would they prefer a customized experience based on interpersonal interaction? The answer to this question remains poorly developed in the marketing literature. Therefore, the ambition of this study is to explore how service robots are perceived by consumers, and how this technological innovation would be accepted. To answer this research question, a qualitative study was conducted using the scenario method, combined with individual semi-directive interviews. Two scenarios are tested, the first scenario tests exclusively robotic services and the second scenario features robotic services with human presence (Iwasaki et al., 2020).

In the following sections, we will, first, present a review of the literature on the acceptance of technological innovations. We will, then, detail our research methodology and, finally, we will develop and discuss the obtained results.

2. Review of the literature

The literature on technology acceptance provides insights into the conceptualization of robot acceptance. In general, acceptance has been described as a combination of attitudinal, intentional, and behavioral acceptance (Davis, 1989). A number of models have proposed to explain acceptance of social service robots based on theories developed on consumer adoption of technological innovations and their intention to use them. Among these theories, the technology acceptance model TAM (Davis, 1989) and its extensions as well as the theory of resistance to innovations occupy a prominent place.

The TAM (Davis, 1989) and its extensions

TAM (Davis, 1989) is designed to understand and predict the acceptance of information technology in an organizational setting. This model is

based on the theory of reasoned action (Fishbein and Ajzen, 1975) according to which people take into account the consequences or implications of decisions made before adopting a behavior. This behavior is, generally, guided by the individual's intention to engage in such behavior, motivated by the individual's attitude, which depends on beliefs about the consequences. In TAM terms (Davis, 1989), intention is a factor explaining behavior, and is a function of attitude, which depends on beliefs specific to the IT context. These beliefs are perceived usefulness and perceived ease of use of the technology (Ivanov et al., 2020). In order to increase the contextual orientation of the TAM and increase its predictive power, Davis, (1989) suggests incorporating appropriate external variables into the TAM that may influence perceived usefulness and perceived ease of use and indirectly impact users' attitudes and behaviors. The TAM (Davis, 1989) has been applied in a number of different contexts of information technology use and for different types of technologies, including self-service technologies (Purkayastha 2009; Celik, 2008) and service robots (Ezer et al., 2009, Heerink et al, 2008). In addition, TAM (Davis, 1989) has attracted the interest of many researchers who have proposed extensions of TAM such as TAM2 (Davis and Venkatesh, 2000) which incorporates the impact of social influence (Nakanishi et al., 2020) (subjective norm, image) and cognitive instruments (job relevance, output quality, validity of results) on perceived utility. TAM3 (Venkatesh and Bala, 2008) adds new determinants of perceived usability (e.g., perceived external control, perceived cheerfulness, anxiety). TAM3 has been successfully used by some researchers to explain the adoption of service robots (Bröhl et al., 2016). Venkatesh, et al, (2003) propose a "Unified Theory of Technology Acceptance and Use" UTAUT by synthesizing several behavioral models to explain the intention to use a technology. This model is essentially based on four dimensions: performance expectancy, effort expectancy, social influence and enabling conditions. The model investigates the impact of these dimensions on new technology use behavior. Venkatesh, et al, (2012) propose UTAUT2 which is an extension of UTAUT and more tailored to the consumer context incorporating other variables such as hedonic motivation and price. UTAUT has been used to study service robots and the results are conclusive (Conti et al., 2017; Fridin, 2014).

The theory of resistance to innovation

According to the Oxford English dictionary, resistance is the act of resisting an action while trying to avoid it by action or argument. Some

researchers consider resistance to be an attitude (Ellen et al, 1991), others have defined it as a behavior (Szmigin et al, 1998) and others conceptualize it as both an attitude and a behavior (Bagozzi et al, 1999). On the other hand, Markus et al, (1983) state that "Resistance is a person's intention to maintain status and successfully resist expectations to use a technology". Similarly, Bhattacherjee et al, (2007) add that "Resistance is a generalized opposition to change generated by the expected negative consequences of change". Resistance is therefore not so much focused on a specific computer, but on the change in the status quo caused by computer use. Indeed, resistance is an active behavior that can eventually lead to adoption where the user postpones the adoption decision and leaves it to the future. Moreover, it can lead to a rejection which is a passive behavior where the user decides not to adopt and ignore a new technology. In this case, the user is in a state of opposition and protest (Szmigin et al, 1998). Therefore, if the technology represents a source of disruption to the consumer, the consumer resists instead of going through a process of readjustment (Talke et al., 2014). According to Sheth, (1981), resistance to technology can result from barriers to adoption. These barriers can be functional barriers (related to the use of the technology, the price to be paid, and the perceived risks inherent to using the technology, among others) or psychological barriers (the fact that the consumer is attached to traditions and routines and sees innovation as a source of disruption). Walker et al, (2002) argue that a consumer who is accustomed to human interaction and who finds pleasure in interacting with front-desk staff when providing a service will have difficulty adopting a technology-based service. This reasoning is quite valid for robotic services that involve a radical reshaping of service delivery traditionally dominated by interpersonal interactions (Dos Reis et al., 2020; Iwasaki et al., 2020; Alves et al., 2014; Wunderlich et al., 2013; Keeling et al., 2013). These barriers have been defined as the disagreement between customers' prior values and beliefs and the actual use of the technology (Ram et al., 1989). Moreover, innovations that require changes in lifestyle and traditions are very difficult to adopt (Dunphy et al., 1995).

3. Qualitative research methodology

To answer the research question, a qualitative study was conducted using the scenario method, combined with individual semi-structured interviews. Two scenarios were tested, the first scenario uses an exclusively robotic service and the second scenario uses a robotic service with a human presence. Participants were asked to experience a robotic valet service

called Ray. Ray is a robotic forklift that parks the vehicles of passengers in a hurry and then picks up the cars to park them again at the airport entrance when the return plane lands. Each participant plays the role of a customer who will order this service. During this experiment, participants are guided through a series of interactive images that are displayed on a tablet. After experiencing the 2nd scenario, the participant is invited to answer the related interview questions. The duration of all the interviews with the two scenarios was between 40 minutes and one hour. 20 interviews were developed, thus respecting the criterion of semantic saturation (Miles and Huberman, 2003). The final sample cosisted of 45% males and 55% females, young people and adults, aged between 25 and 55 years. A corpus of 61 pages of raw data was obtained and analyzed through a thematic content analysis (Fallery and Rodhain, 2007).

4. Interpretation and discussion of the results

4.1. Consumers' perception of service delivery

In order to understand tourists' perception of a tourist service, we started with a general theme that describes the consumer's expectations of a tourist service. In answering the questions, two sub-themes were revealed: First, all respondents mentioned that they expected a good quality of service. In this regard, they emphasized the behavior of the service provider, as well as speed, convenience and reliability. Second, 19 out of 20 respondents mentioned the good price/quality ratio.

-*The good quality of the service*: All the respondents insisted on the quality of the service offered: "I would especially like the tourist service to be of very good quality, and to respect the rules of hygiene" (Khadija). Among the dimensions mentioned are: speed, reliability, service practicality and staff behavior.

-*Speed*: According to the interviewees, speed is a very important criterion for evaluating a tourist service. For example, Khadija said: "I had a very bad experience during my stay at a hotel in Djerba, we waited for the check out staff for 40 minutes and we missed our plane back home because of that". As for Skander, he mentioned: "In Tunisia, unfortunately, we have a real problem with the speed of services.

-*Reliability*: Several interviewees also insisted on service reliability. They want the service to be accurate and without any problems, as in the case of Selim: "During our stays, we tend to become very demanding and it's

normal, we want to have a pleasant stay without any problems". Ahmed also shared the same idea saying: "First of all, I am looking for a good quality service. I want everything to be organized, clean and tidy. This allows the service to be done properly even if there is a crowd and a long queue. For example, assigning numbers to customers without the intervention of employees who sometimes try to serve such a customer before others because they know him. This is disrespectful to other customers who have been waiting in line for hours sometimes ... So this will help to avoid the rush and the mess".

-*Practicality*: Practicality was also mentioned by several respondents, such as Chems: "When I stay in a hotel, I would like to have all the necessary information to find my way in the hotel (finding the room or other facilities). I would like everything to be simple and efficient". As for Selim, he said "...In a restaurant for example, I would like the menu to be clear and to have all the necessary information, it would be more practical, I would not need to wait for the staff to ask them questions". As for Asma, she talked about the practicality of a robotic service: "If there is a technological tool, I would like it to be practical and easy to use".

-*Staff behavior*: Among the expectations of the interviewees, staff behavior was the most cited variable. Indeed, when providing any service, respondents attach great importance to the behavior and attitude of the service provider. In this regard, Mayssa revealed: "Personally, the behavior of the staff has a great impact on my perception of my tourist stay and my attitude towards the hotel or restaurant". Similarly, Aziz added: "The staff is the image of the level of professionalism of the hotel, their behavior counts a lot and it is them who push me to return or the opposite". Tarak also shared the same opinion saying: "First of all, what interests me is the first contact with the staff, they must make you feel comfortable". Then, according to all these interviewees, customer-staff interaction is a main factor that reflects the image of the store. In addition, a majority respondents mentioned that in Tunisia, most of the staff are not professional and especially not friendly. "In Tunisia, I find that the staff is the negative point. That is, they negatively influence the performance of the service". Among the interviewees, Jihen mentioned the fact that: "...if I go to a hotel, first of all, I want to find a warm welcome, an understanding, professional staff that respects the customers. Even if I find some technical problems (for example the room is not spacious or the food is not delicious), I will still come back (after making a complaint of course) thanks to the employees who were pleasant with me". Khadija insisted on the importance of human warmth and a warm welcome by mentioning that: "The staff must be respectful, that's

the most important. Smiling too, it puts you in a good mood when you see someone happy and smiling". Apart from human warmth, the interviewees emphasized the importance of professionalism. According to them, a professional employee not only ensures that the service runs smoothly, but also reflects a good image of the company in which he or she works: "If the staff is not professional and does not master what he or she is doing, it will affect the delivery of the service, he or she will take a lot of time, and he or she will make mistakes or the work will be sloppy or half-hearted and it will even affect the image of the company. On the other hand, if I find a professional staff that explains all the details, is understanding and is not bothered when I ask many questions, I feel at ease, comfortable and satisfied". In addition to the warm welcome and professionalism, other respondents emphasized the great value of the relationship when providing a service. Indeed, they admitted that the interaction between staff and client is far from being a professional relationship. It can be a personal and friendly relationship, which allows the employee to be closer to the client. The interviewees mainly expect to have a very good quality of service in return. They mainly mentioned the importance of staff behavior, which, according to them, is the main factor for the good delivery of the service.

- *Good value for money*: The second most important factor is value for money. 19 out of 20 participants mentioned that they expect rational prices that suit the quality of the offered service. Aziz, for example, said "I want to be spoiled and have a correct service worthy of the amount I paid". In the same line of thought, Hejer explained that it does not matter if the prices are affordable or expensive, the main thing is that they are appropriate to the quality of the service received: "For me, I accept to spend a large amount of money for a high-quality service but what I hate is the scam. Sometimes we are offered "mediocre" quality services or products at high prices. The quality of the service must match the price I will spend, that's it! ". Then, the interviewees attach great importance to the quality/price ratio when performing a service and they expect "correct prices" (Selim).

4.2. Consumers' perception of a robotic service

One of the objectives of this study was to study the motivations and obstacles of adopting robot-delivered tourist services in order to understand the factors that lead to resisting their use. By identifying thesefactors, the importance of human presence will be evaluated since robots are the most likely to replace service providers.

- *Motivations for a robotic service:*

The most cited motivations in this study are: speed (30 times), time saving (15 times), convenience (9 times), efficiency (8 times), and reliability (8 times).

The content analysis showed that all respondents were unanimous on the speed of robotic technologies in the first place. Second, 9 out of 20 respondents mentioned practicality and ease of performing the service with these tools. Third, 8 respondents mentioned the reliability and efficiency of this kind of services. Finally, 10 respondents emphasized the possibility that these services offer to avoid unpleasant staff behavior.

-*Speed*: Respondents stated that the strength of robotic services is speed. Compared to human beings, robots allow customers to perform their services quickly and save a lot of time. This was mentioned by all the interviewees such as Ines: "you have to admit that everything digital and technological is faster than a human being". Aziz also indicated that the speed of these technological tools is very beneficial for certain sectors such as fast food where the customer is usually in a hurry: "...Especially if I'm in a hurry and I know exactly what I want to get, it saves me time". Skander also shared the same idea saying, "These tools are better in terms of speed, it's like an assembly line work so we, as customers, will save the waiting time". Thus, Iman shared with us her experience at McDonald's insisting on the speed and time saving guaranteed by these tools: "I remember at Mc do in Paris, it's the customer's choice. There were technological tools where you could place an order and there were, also, cashiers, the classic service. At the classic service, there were many people, a long queue. On the other hand, in front of the machines, it was almost empty because it's faster. This kind of technology allows us to save a lot of time".

-*Convenience*: The convenience argument was noted by several interviewees. According to the responses, the robots make it much easier to perform the service: "It's easier... I find that it makes life easier" (Iman). Indeed, they find that the machines do not get sick or tired like human beings, hence they can operate 24 hours a day and it makes the service more convenient: "They are convenient. I like the fact that it can work at night for example, when the staff cannot work, it is convenient" (Aziz). Selim also confirmed: "They make it very easy. I would like to see it developed in Tunisia. Especially at night, for example, when the employees go home, the machines are still working and they won't be tired".

-*Reliability*: According to the interviewees, service robots are more efficient and reliable than employees. Indeed, they find that with robots, the risk of making mistakes is very low. In this regard, Iman said, "the risk of making mistakes is low, it becomes more orderly and reliable, that's it!". Other respondents talked about the performance of these machines and they mentioned that the performance of the technological tools is better than that of the employees: "It is very precise unlike a staff, there is always a risk of making a mistake with the order, it forgets a dish or it confuses between our order and another customer's order especially if there are a lot of people and it cannot manage all the customers" (Ines). As for Hejer, she pointed out that the robotic service is not only very accurate but also credible because everything is recorded: "Even if there is a problem, a mistake made by the machine for example, we have proof at least because it is recorded, we just have to make a complaint, they can check via the machine and we are refunded. On the other hand, with a staff, there is a risk of denying. It is not as credible as the machine".

-*Avoiding unpleasant contact with staff*: Some respondents reported that this kind of service allows them to avoid contact with staff, especially if they are unsociable by nature, such as Hejer, who mentioned: "I don't like contact with human beings in general. That's why I love the concept of self-service because I always try to avoid contact with the staff especially in Tunisia, their behavior is very unpleasant. Khadija also pointed out that: "contact with staff can be positive as well as negative: a cold, aggressive staff, speaking in a high tone, talking to me in an unpleasant way which can even ruin my whole day, so I very much prefer a robotic service".

➢ *Problems with a robotic service*

According to the respondents, the main difficulty with these technologies is technical problems. For them, the risk of breakdowns is frequent with technology, which leads to their rejection. In addition, 14 out of 20 interviewees said that robots do not provide them with complete and sufficient information for the smooth running of the service. They think that there are always missing details as well as unexpected questions to ask but they do not find answers about these machines. On the other hand, some respondents complained about the standardization of services. They find that the service offered by these technological tools is not adapted to the specific needs of each client. They offer the same services to all consumers without any differentiation. Moreover, among the most frequent attributes mentioned by the interviewees is the complicated use of technological devices. Indeed, the interviewees find this technology quite

difficult to interact with, especially for the elderly. The latter are used to classic services and do not manage to manipulate these tools. On the other hand, all the respondents agreed that lack of contact is very annoying. They pointed out that the robot cannot replace the service providers, especially when it comes to communication and interpersonal skills. They explained that they cannot build relationships with machines, which makes the service cold and tasteless. Nevertheless, by using this technology, everything becomes automatic, there will be no experience to live and the service process becomes boring. Finally, most interviewees stated that they do not 100% trust this kind of service. This lack of trust is due to the safety problems they may encounter.

- *Human absence:*

After their participation in the first scenario, the opinions of the interviewees on human absence during the service were different. They find that this kind of service does not require the presence of a staff and that it allows them to be more comfortable and free. This is the case of Ines: "Absence of a human being does not bother me at all. On the contrary, you feel more comfortable as if you were at home". In the same regard, Skander and Chems added: "It can spare me unpleasant contact with aggressive or disrespectful staff". On the other hand, 13 participants did not appreciate absence of staff and considered it catastrophic since it makes the service dehumanized: "It's dehumanized, human warmth is not there... Personally, I don't like it" (Selim). In addition, they believe that this human absence has a negative impact on the service process. "This human absence can negatively affect the course of the robotic service. I think that if we want to have a top service, the presence of staff is necessary" (Mayssa). Indeed, they stated that the presence of the human is indispensable and that no matter what the service is, there is always a need for human assistance. "The human is indispensable. The robot can do everything, but it remains incomplete and cold" (Aziz). "It's cold, it's awkward, even psychologically dealing with robots is different from dealing with human beings; I feel uncomfortable." Moreover, they think that human absence causes the disappearance of some gestures that strengthen the bond between the customer and the company: "This kind of caring behavior disappears. Robots don't know the difference between a loyal customer and a new one, and they can't give anything extra, they only perform the task they are programmed to do. On the other hand, an employee can put in a little more effort to solve such a problem" (Ahmed). Furthermore, they believe that robots cannot replace the role of staff. In particular, customers cannot negotiate with robots: "For example, prices: It

is true that we can find the prices but sometimes I want to understand if these prices cover such and such a service, if we can have a discount, and many other details and there I need a staff to discuss it" (Awatef). "When performing a robotic service, the staff-client interaction is mandatory and it is different from the robot-client interaction".

4.3. Perception of human presence in a robotized tourism service (Scenario 2)

After participating in the 1st scenario, the interviewees answered the questions of the 2nd theme which dealt with the importance of the presence of the robotized service provider, service quality as a result of the human-technology combination and finally the role of the staff in the tourism sector.

-*Hhuman presence*: In this section, we had two different points of view. The first one, which was shared by most of the interviewees, namely 15 participants out of 20, admits that staff presence offered another taste to the service process. Indeed, it succeeded in putting the customers in a friendly and very comfortable environment, unlike the 1st experience which was cold and dehumanized. This human presence allowed the participants to be more reassured and comfortable. Moreover, they think that as long as the presence of the employee is not annoying or provocative, it will be a plus for the smooth running of the robotic service. Nevertheless, 5 respondents felt that the presence of the service provider is unnecessary and has no added value since the machines take care of all the tasks.

- The role of the service provider in a robotized service: In the previous section, most of the interviewees emphasized the usefulness of human presence when performing a robotized tourist service. Indeed, they stated that the robot can never replace the human but it has created new jobs. According to the interviewees, the service provider can have several roles in the tourism sector. The first task is essentially to explain the functioning of the robots given the difficulty that some consumers encounter when using the service. In this regard, Aziz said: "If the consumers are elderly or simply people who do not know how to use technology or when there are technical problems, the presence of a staff in this case is essential. In any case, technology can never replace human beings". Similarly, Skander and Jihene revealed that: "I don't understand anything about technology and these new tools seem very complicated to me... I will need the agent to explain to me how the machine works, to provide me with the missing

details". Selim adds: "He can provide me with additional information that is not on the machines. I can ask a question about my personal need that someone else cannot think of". On the other hand, some interviewees stated that when performing a service, they need advice and recommendations from professional people to make the right choice. This is impossible with robotization. Another respondent insisted on the importance of communication, which allows staff to know their clients well and to recommend services adapted to their profile and needs (Ahmed). For the latter, the staff: "will play the role of a counselor so they can recommend dishes to people according to their preferences. For example, if I'm on a diet, I ask him for a 'Healthy' dish, he can suggest that I take such a dish and he will ask the cook to replace the French fries with sautéed vegetables for example. This kind of thoughtful gesture cannot be done by machines". However, in answering this question about the role of the staff during a robotic service, the interviewees unanimously answered that the essential role of the employee during this kind of service is a relational one. Indeed, they find that the added value of the staff lies in strengthening and maintaining a lasting relationship with the customer ... ". The staff plays a role in maintaining the relationship with the customer and it is he/she who allows the customer to differentiate one brand from another" (Elyes). As for Selim, he finds that the impact of the staff on the customer's decision making is more important than that of the machine: "If, for example, I go to a hotel just to get information and I find a robot, I consult the necessary information (rates, services offered ...) then I leave directly and I go home to think about it. On the other hand, if I find a staff member, he won't let me out before making the reservation. His way of talking influences a lot, he/she can encourage me with promotions for example or customized offers, he/she will do everything to win me as a customer. That's the difference". Finally, some interviewees testified that the presence of the service provider plays a very important psychological role. They felt that the presence of the service provider is a source of security for the customers, and that they are more reassured and relieved when they find employees during a tourist stay. "Even the smile or the tone of the staff when addressing me mean a lot to me" (Ines).

Conclusion

In order to study tourists' perception of a robotic tourism service, a qualitative research was more appropriate. We used two methods: the scenario method and individual semi-structured interviews. A second scenario included a service provider during the delivery of a robotized

tourism service. Finally, the results of our study show that most of the interviewed tourists appreciate the human-machine combination during the service delivery. They appreciate the robots for the reliability of the service and the guaranteed service accuracy, but they also prefer a human presence to assist them during the service to solve possible technical problems and to answer their information needs. Several tourists argue that human presence helps to overcome the standardization of robotic services and humanize the services, in line with the results of some researchers (Dos Reis et al., 2020; Ivanov et al., 2020; Iwasaki et al., 2020; Lee and Sabanović, 2014).

These results are likely to inform hotel professionals on how to implement robotic services. While they are hailed for their speed and efficiency, they cannot, under any circumstances, substitute the human warmth associated with interpersonal contacts, especially in the hotel industry where tourists seek rewarding and customized experiences. The fun aspect of robotic services cannot compensate for the richness of human relationships. However, one limitation, which future research needs to consider, is the diversification of the respondents' education level.

Appendices

-Scenario 1: Robotic service usage only:

In this scenario, we will scroll through interactive images on a tablet that show the robotic service available in the airport (images of robots...). Each respondent will select his/her robotic valet service. Then, we will scroll through the image of the service.

-Scenario 2: Tourist service with human-robot interaction:

The same process like Scenario 1 but interactive images are added throughout the experience that represent the presence of staff (a service provider) while providing the service. These images are photos of a staff in which the staff is smiling (representing the warm welcome from the

staff) and text is shown with these photos that represent the conversation between the staff and the customer: The staff will initiate the conversation (text will appear on the photo: "Did you have a good stay?", "Is this your first time here?", "Do you need any help?", "Do you have any questions?

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How to explain the intention to use Chatbots Messenger with UTAUT and ALMER theories?

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Abstract: This study focuses on the factors affecting the behavioral intention of using Messenger chatbots. Specifically, it uses the unified theory of acceptance and use of technology (UTAUT2) to which two factors of social acceptance have been added from the ALMERE model. In order to meet the research goals, the data was collected using a self-administered survey of 333 respondents and analyzed using the structural equations method on the AMOS software. The results showed that seven out of nine factors had a significant effect on the behavioral intention of using chatbots. Theory-wise, this study has enriched the literature on interactive social technology acceptance. In practical terms, the results can provide managers with a better understanding of the acceptance factors and thus help them to set up a chatbot with characteristics that promote the success of its introduction into their communication strategy.

Keywords: UTAUT2, ALMERE, chatbots, Behavioral intention of use.

Introduction

The emergence of social networks and the evolution of the internet and mobile devices have revolutionized the way consumers interact with each other and with brands. Consumers have become more and more demanding and in a hurry. This is why we are witnessing, in parallel to this technological evolution, an evolution in conversational marketing tools (Mutarelli et al., 2021), notably through electronic and instant messaging applications (Zhao and Bacao, 2020). These can engage the consumer in an interaction with a human representative, an intelligent agent, or both (Pizzi et al., 2021), hence the emergence of a new category

of conversational agents: Messenger chatbots (Mutarelli et al., 2021). Swaminathon and Magesh, (2018) define chatbots as chat bots that have the same type of user account as any other person on a messaging platform and respond to messages in the same way like a human.

Shawar and Atwell (2007) state that chatbots can play three roles, and accordingly they can be: an entertainment tool, an information retrieval tool and a support tool (Pantano and Pizzi, 2020). The need to develop a chatbot is becoming more and more important because of their speed and ease of use compared to web or mobile applications. It is important to point out that the technology itself is not new, it is the linguistic functionality, and its insertion in social network platforms that have increased its popularity. Even though these platforms are innovative and promising from a technical point of view, and profitable from a financial point of view, they are not always accepted by users (Williams, 2005). It is therefore important to understand what factors influence users and potential users in their decisions to accept a new technology, and to actually use it. Several studies have been developed showing the determinants of future intention to use technologies using different theories (Fishbein and Ajzen, 1977): (TRA, TAM, UTAUT, UTAUT2). Innovations and technological advancement have, however, prompted researchers to propose an extension of UTAUT to Venkatesh et al.'s (2012) UTAUT2 (adapted to a consumption context). It includes three additional elements compared to the original UTAUT, namely hedonic motivation, price value, and habit. The ALMERE model by Heerink et al., (2010) was also developed (extension of UTAUT) to test the acceptance of social assistance robots (Pantano and Pizzi, 2020) by the elderly. This latter model is more adapted to the virtual, intangible and social criteria of technology. Moreover, few studies have integrated the UTAUT2 model in the study of mobile applications and even more for the case of automatic messaging. Hence, the objective of this study is to identify the key determinants that influence the behavioral intention to adopt chatbots on Messenger using a model that unifies three complementary theories, UTAUT, UTAUT2 and ALMERE, by adding functional and extra-functional factors borrowed from a multidisciplinary theoretical framework.

The UTAUT, UTAUT2 and ALMERE theories

- *The UTAUT model* consists of four key concepts, namely: expected performance, expected effort, social influence and facilitating conditions

that affect the intention to use technology (Venkateshet al., 2003). Expected performance is defined as "the degree to which an individual believes that using a system will help him or her achieve job performance gains (Venkatesh et al., 2003). Expected effort is defined as "The degree of ease associated with using an IS (Venkatesh et al., 2003)". Social influence is defined as "the degree to which an individual perceives that it is important for others to believe that he or she is using the new system (Venkatesh et al., 2003)". Enabling conditions are defined as "the degree to which an individual believes that the organizational and technical infrastructure exists to support the use of IS (Venkateshet al., 2003).

- ***The UTAUT2 model*** is an extension of the UTAUT theory by adding three variables (Venkatesh et al., 2012): hedonic motivation, price value and habit. Hedonic motivation is defined as the pleasure derived from using a technology, and has been shown to play an important role in determining technology acceptance and use (Brown and Venkatesh, 2005; Bahri-Ammari et al., 2019). Price value is defined as consumers' cognitive trade-off between perceived application benefits and monetary benefits (Dodds et al., 1991). Finally, habit is defined, by Limayem et al., (2007), as the extent to which people tend to perform automatic behaviors because of learning. Others view it as a perceptual construct that reflects the results of previous experiences (Venkatesh et al., 2012).

-***The ALMERE theory*****:** According to Heerink et al, (2010), traditional models of technology acceptance do not take into account the social aspects of interaction with agents with artificial intelligence such as robots or conversational agents. The variables ‘perceived sociability’ and ‘trust’ relate to communication with the robot and its conversational capacity (Rese et al., 2020; Mutarelli et al., 2021). The latter two are better suited to chatbots Messenger technology since the interaction is text-only (Mutarelli et al., 2021; Pizzi et al., 2021).

Table 1: Variables definitions

UTAUT Variables	
Expected performance	Expected performance has been defined as the degree to which users derive benefits from using a technology when performing activities (Venkatesh et al., 2012)
Expected effort	Expected effort is "the degree of ease associated with consumer use of the technology" (Venkatesh et al.,2012)
Social influence	Social Influence is defined as the extent to which technology consumers perceive that their loved ones think they should use the technology (Venkatesh et al.,2012).

Facilitating conditions	The enabling conditions available to consumers may vary across app providers, technology generations, mobile devices, etc. (Venkatesh et al.,2012)
Variables integrated to UTAUT2	
Hedonic motivation	Hedonic motivation is defined as the pleasure derived from using a technology, and has been shown to play an important role in determining technology acceptance and use (Brown & Venkatesh, 2005).
Price value	Price value can be defined as consumers' cognitive trade-off between perceived application benefits and monetary benefits. (Dodds et al., 1991)
Habit	Habit has been defined by Limayem et al., (2007), as the extent to which people tend to perform behaviors automatically because of learning while Kim et al., (2005) equate habit with automaticity. and Venkatesh et al., (2012) consider it to be a perceptual construct that reflects the results of previous experiences. (Venkatesh et al.,2012).
Variables retained from the ALMERE model	
Perceived sociability	The perceived ability of the system to engage in sociable behavior. (Heerink et al., 2009)
Trust	The belief that the system operates with personal integrity and reliability (Heerink et al., 2009)

Conceptual model and hypotheses

-The relationship between expected performance and behavioral intention to use Messenger chatbots:

For Crutzen et al, (2011), chatbots are perceived as faster and therefore more efficient and effective than search engines, which explains their acceptance by adolescents. Thies et al., (2017) who showed and confirmed, by comparing three different chatbots (1: productivity-focused with nervousness, 2: fun and naughty, and 3: emotional), that the productivity-focused one is the one that could add value and, ultimately, has the highest performance.

Hence the first *hypothesis* 1: expected performance has a positive effect on the behavioral intention to use Messenger Chatbots.

-The relationship between expected effort and behavioral intention to use Messenger Chatbots:

According to Ben Mimoun et al., (2016), chatbots will only be accepted and adopted if the effort of understanding and using them is minimal.

Dahiya, (2017), comparing several chatbots, found that in order to be used a chatbot must be simple, user-friendly, easy to understand and needs required knowledge.

Hence, *hypothesis* 2: Expected effort has a positive effect on the behavioral intention to use Messenger chatbots.

-The relationship between social influence and behavioral intention to use Messenger Chatbots:

According to Leong et al, (2013), social influence determines the adoption intention of mobile technology. Since Messenger Chatbots are primarily a mobile technology and their use is not mandatory, in that consumers have the free choice to communicate with them or not, it is assumed that social influence affects the behavioral intention to use them.

Hence, *Hypothesis* H3: Social influence has a positive effect on the behavioral intention to use Messenger Chatbots.

-The relationship between facilitating conditions and behavioral intention to use Messenger chatbots:

In the case of Messenger chatbots, the facilitating conditions, which vary from user to user, relate to the level of internet access: some have Wi-Fi at home, others pay for 3G packages through their mobile operators; the type of mobile devices, the different updates of the Messenger application etc. According to Venkatesh et al., (2012), a consumer with more facilitating conditions will have more intention to use a technology.

Hence the *hypothesis*: H4: Facilitating conditions have a positive effect on the behavioral intention to use Messenger chatbots.

-The relationship between hedonic motivation and behavioral intention to use Messenger chatbots:

The likeability and fun of the Messenger chatbot provides entertainment to users and thus may influence the behavioral intention to use it (Brown and Venkatesh, 2005). Cassel et al, (2000) show that users consider interfaces to be more engaging, but more importantly more fun and attractive when they are equipped with an embodied virtual agent.

Hence *Hypothesis* H5: Hedonic motivation has a positive effect on the behavioral intention to use Chatbots.

-The relationship between price value and behavioral intent to use Messenger chatbots:

Weisberg et al, (2011) state that the costs involved in m-commerce can be a barrier to adoption and include the cost of the device, the internet and some applications (Zhao and Bacao, 2020). It is important to point out that the Messenger application can be downloaded for free, and chatbots can also be added to the friend list for free.

Hence *Hypothesis* H6: Price value has a positive effect on the behavioral intention to use Messenger chatbots.

-The relationship between habit and behavioral intention to use Messenger Chatbots:

Kim and Malhotra's (2005) and Hew et al.'s, (2015) studies of mobile applications have shown that habit is the most impactful factor on the intention to use mobile applications. According to these authors, when the use of m-shopping fashion apps becomes frequent, a habit emerges and becomes a force that increases the behavioral intention to continue using mobile apps (Zhao and Bacao, 2020).

Hence *Hypothesis* H7: Habit has a positive effect on the behavioral intention to use Messenger chatbots.

-The relationship between perceived sociability and behavioral intention to use Messenger Chatbots:

Thies et al., (2017) showed that users are on the lookout for humor as witty interlocutors. They prefer more online shopping dynamics and more human commercial sites (Charfi and Volle, 2011; Weisberg et al., 2011). Users preferred a chatbot that could add value to their lives while playing a social role and making helpful recommendations.

Hence *Hypothesis* H8: Perceived sociability has a positive effect on the intention to use Messenger chatbots.

-The relationship between trust and behavioral intention to use Messenger Chatbots:

Gaudiello et al, (2016), studying the functional and social acceptance of a humanoid robot, found that trust is an indicator of acceptance in decision tasks characterized by perceptual uncertainty (e.g. evaluating the weight of two objects) and by socio-cognitive uncertainty (e.g. evaluating the most

appropriate item). These findings affirm the critical role of trust in the acceptance of conversational robots and agents (Mutarelli et al., 2021; Roy and Naidoo, 2021; Sowa et al., 2021).

Hence *Hypothesis* H9: Trust in the Messenger chatbot has a positive effect on the behavioral intention to use it.

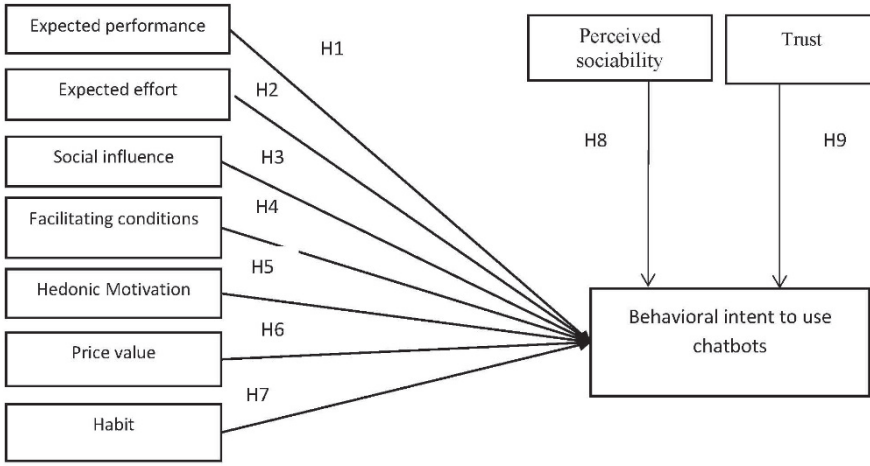

Figure 1. Conceptual model

Methodology

The study data was collected via a face-to-face administered questionnaire. The selected population includes Tunisian consumers with a Facebook account, who are current and potential users of chatbots. These people use Facebook messaging on their computers and/or the Messenger application on their smartphones and tablets which are the platforms for chatbots. We chose to administer the questionnaire via Google Forms and distribute it to respondents via the Facebook social network since Google Forms are convenient and easy for respondents to fill out and allow us to easily collect and analyze responses. Initially, we collected 350 questionnaires. However, 333 questionnaires were complete. 17 questionnaires were eliminated due to their inefficiency because they had missing answers. We assume that the sample size is acceptable, as Akrout (2010) suggests a minimum of 150 observations, while Loehlin (1992) suggests 200 observations for the best results. In addition, factor analysis can only be

done with a large sample. The population is 49.8% females and 50.2% males. Respondents under the age of 35 represent 87%. Finally, almost all of the respondents (94.3%) have a university degree. The data were analyzed using the structural equation method on AMOS.

Interpretation, discussion and conclusion

The results of the different applied tests showed a sufficient level of acceptance (Table 2). The Cronbach's alpha coefficients of the constructs are satisfactory (>0.7) (Nunnally and Bernstein, 1994); Joreskog's Rhô reliability takes values between 0.825 and 0.930 (>0.7) (Lacroux, 2011).

Table 2: Reliability and PCA of measurement scales

Variable	Total variance explained	KMO	Bartlett's sphericity test			Cronbach's Alpha
			X2	df	P	
EP	79,142%	0,847	906.067	6	0,000	0,910
EE	65,597%	0,804	463,407	6	0,000	0,823
IS	85,677%	0,755	712,338	3	0,000	0,915
CS	74,903%	0,711	389,154	3	0,000	0,832
MH	82,749%	0,749	596,218	3	0,000	0,895
VP	83,698%	0,750	632,989	3	0,000	0,903
HT	81,090%	0,728	558,159	3	0,000	0,883
SP	82,505%	0,848	1074,754	6	0,000	0,929
T	86,765%	0,500	257,122	1	0,000	0,847
IC	79,591%	0,739	496,579	3	0,000	0,871

Internal consistency and reliability of all the variables are thus checked. Convergent validity was validated for this study showing that all the values are between 0.722 and 0.887 (> 0.5), thus respecting the standards required by Fornell and Larcker, (1981). Discriminant validity was also checked and showed that the observable variables all correlate with their corresponding constructs (Fornell and Larcker, 1981). The fit of the structural model is satisfactory (X2/ddl= 1.772; GFI= 0.976; AGFI=0.944; RMSEA=0.045; NFI=0.950; CFI=0.935).

The statistical analysis showed that seven variables had a significant effect on the behavioral intention to use chatbots while two were rejected (See Table 3). Among the seven factors affecting behavioral intention, the results indicate that habit (0.278; 6.186) is the most influential factor on behavioral intention and, therefore, the strongest predictor of behavioral intention (Hew et al., 2015). Trust in the chatbot is the second most important factor in predicting behavioral intention (0.241; 4.596) to use it. The more users are confident that the chatbot operates with integrity and reliability, the more likely they will intend to use it (Heerink et al., 2010; Gaudiello et al., 2016). Facilitating conditions have a significant and positive effect (0.216; 2.878) on behavioral intention to use Messenger chatbots (Chong, 2013). This implies that consumers find it important to receive help when using chatbots. Expected effort has a significant and positive effect (0.209; 3.551) on behavioral intention to use chatbots. The easier users find chatbots to use and understand, the higher their intention to use them (Venkatesh et al., 2012). Hedonic motivation significantly and positively affects (0.182; 3.607) the behavioral intention to use chatbots. According to Bahri-Ammari et al., (2019), the more pleasure the consumer finds in using the technology, the more positive their intention is. Expected performance has a significant and positive effect on the behavioral intention to use chatbots (0.169; 3.551). The more users find chatbots useful for information retrieval, the more likely they intend to use them (Venkatesh et al., 2012). Perceived sociability significantly and positively affects the behavioral intention to use chatbots (0.156; 3.40). The more sociable a chatbot is perceived to be, the higher the intention to use it will be (Heerink et al., 2010). The factor Price Value does not influence the behavioral intention to use Messenger chatbots (0.17; 1.538). However, these results are inconsistent with those of Venkatesh el al. (2012). This can be explained by the fact that Messenger chatbots exist automatically and naturally in the application, and thus their use does not imply any additional cost to the usual ones. Finally the results indicate that social influence does not affect the behavioral intention to use chatbots (0.161; 1.559). This finding disagrees with previous studies (Leong et al., 2013) and could be explained by the fact that opinions about apps and technologies in general are present online in chat rooms nowadays (Zhao and Bacao, 2020).

Table 3: Hypotheses Summary

Hypotheses	Estimate	P *value*	Test
H1: Expected performance has a positive effect on behavioral intention.	0,170	***	Confirmed
H2: Expected effort has a positive effect on behavioral intention.	0,210	0.007	Confirmed
H3: Social influence has a positive effect on behavioral intention.	0,060	0.119	Rejected
H4: Facilitating conditions have a positive effect on behavioral intention.	0,220	0.004	Confirmed
H5: Hedonic motivation has a positive effect on behavioral intention.	0,180	***	Confirmed
H6: Price value has a positive effect on behavioral intention.	0,070	0.124	Rejected
H7: Habit has a positive effect on behavioral intention.	0,290	***	Confirmed
H8: Perceived sociability has a positive effect on behavioral intention.	0,160	***	Confirmed
H9: Trust has a positive effect on behavioral intention.	0,240	***	Confirmed

On the *theoretical* level, this study has allowed the development of a model that integrates several variables, functional and social acceptance variables, which are used to predict and explain the acceptance of Messenger chatbots in different industries.

On the *managerial* level, our study has identified seven key factors for the acceptance of Messenger chatbots among young Tunisian consumers. Thus, managers who want to promote the acceptance of such systems have to show and prove their usefulness by focusing on these seven factors. Several characteristics are therefore to be taken into consideration by the company that wants to develop its chatbot. The chatbot should be available, but above all, it must be efficient. It should offer a real added value in the purchasing and information search process. In addition, although young users find chatbots easy to use, developers should still focus on providing technical support to less technologically advanced users. The chatbot should communicate quick responses that are clear and easily understood. The results also show that half of the respondents say they have used chatbots in three main business sectors. These sectors are

online commerce, followed by tourism and catering and lastly the mobile services sector. Bearing on the above, companies belonging to one of these three areas need to integrate this technology in their communication strategy in order to get closer to their customers and better satisfy them.

Stores, outlets, cosmetics stores, and online sales site could make a chatbot that presents the different products on display with their price, their availability in size, color, etc.. They should also include an advice functionality regarding the assembly of the outfits (e.g. as the international brands Tommy Hilfiger or H&M do). Hotels and restaurants can also use chatbots to provide recommendations, advice, itineraries, daily menus, event reminders, promotions, reservations, etc., in order to keep the consumer informed of all the latest news. Companies should target young consumers as they are the most likely to accept and adopt this technology and integrate it into their daily lives. They must therefore integrate graphic and linguistic features adapted to the trends and preferences of this generation.

It would be interesting for other studies to use the proposed conceptual model in a different cultural and technological context, with a more heterogeneous population. It would also be wise to incorporate moderating variables such as age, gender, or experience to complement the developed view on social robot acceptance. Future research should optimize the UTAUT2 model by adding other variables that directly or indirectly influence the behavioral intention to use a technology. It would be useful for future studies to begin with a qualitative study through group or individual interviews to identify other factors that affect acceptance, as there is a gap in the literature about chatbot acceptance. Longitudinal studies involving a longer period of use may provide a more accurate picture of the actual use of this technology and its evolution over time.

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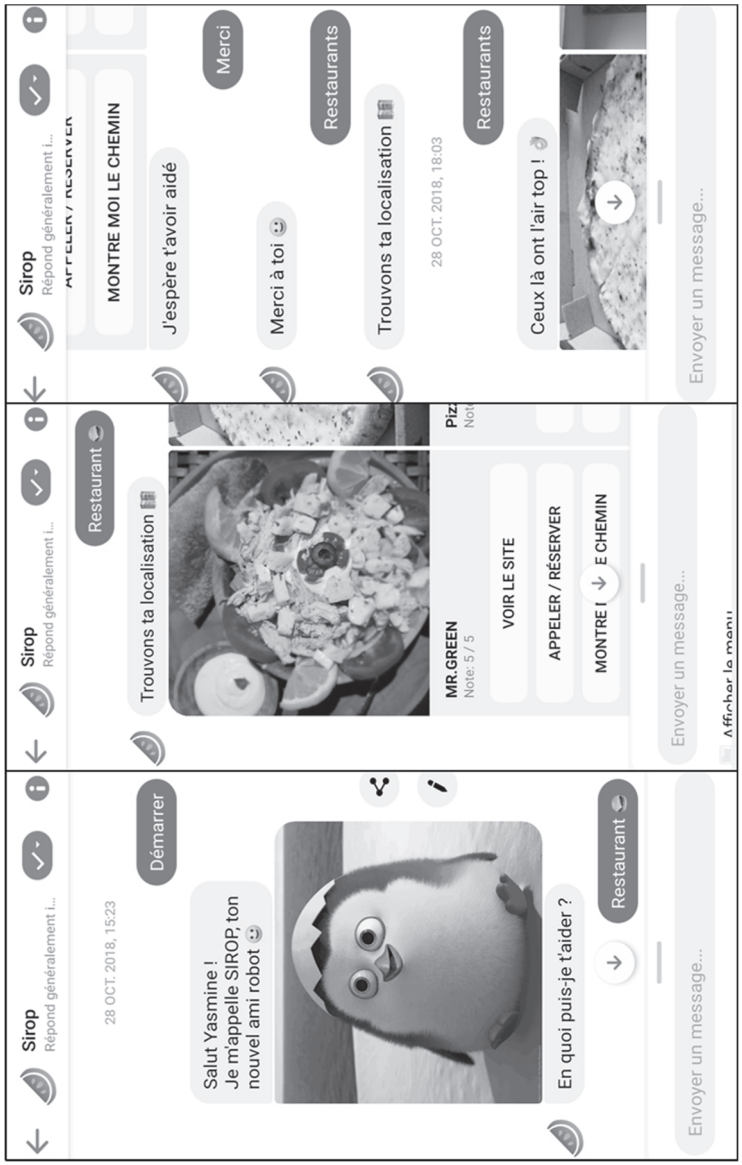
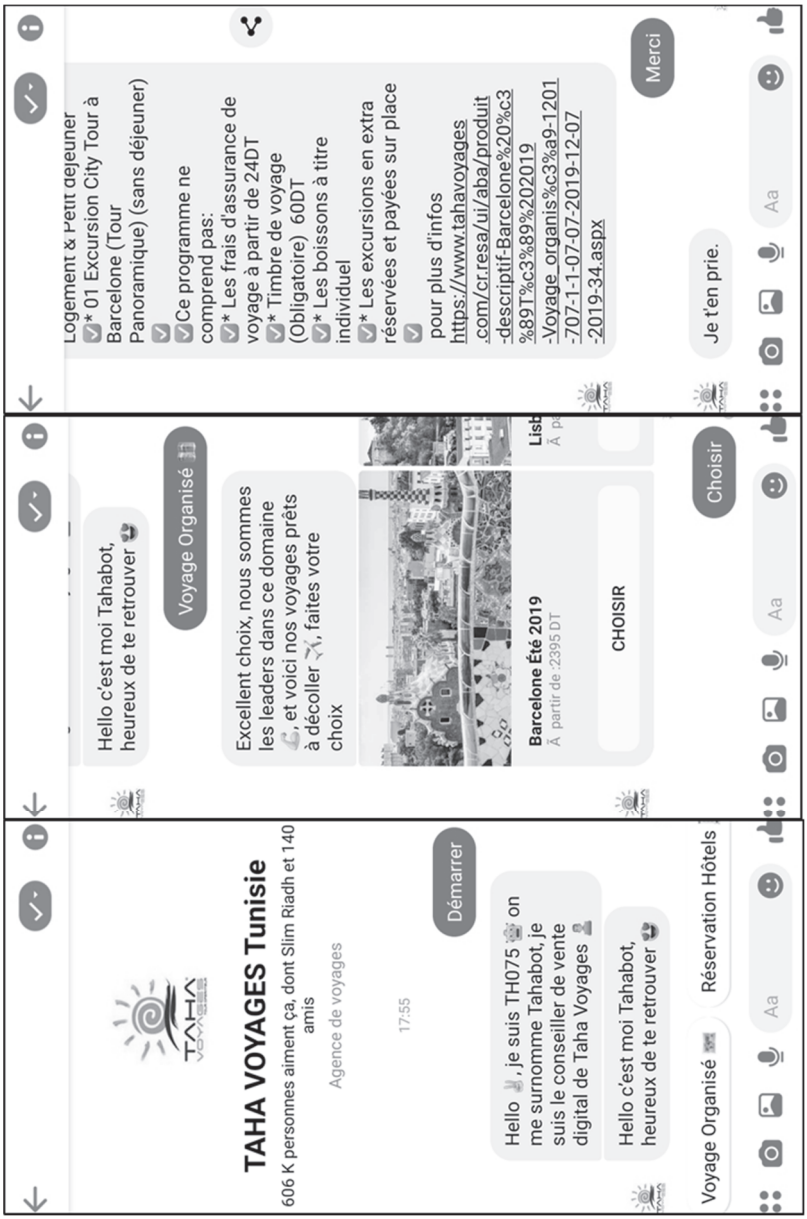
Appendices



Example of a conversation with the chatbot « Sirop »



Example of a conversation with « Tahabot » chatbot of "Taha voyage"

ENHANCING COCREATION: LESSONS FROM INFLUENCERS ON SOCIAL MEDIA AND THEIR FOLLOWERS?

KHOULOUD OUESLATI, LINA BARBOUCHI, LINA SMAII, IMENE BEN YAHIA

Abstract: This Chapter focuses on how companies can develop effective social media strategies. It considers influencers on Instagram and dig in depth to analyze how they do acquire and retain followers by engaging them in a cocreation process. The chapter proposes seven forms of co-creation and identifies five types of motivations by followers (utilitarian, social, and experiential, intrinsic and extrinsic). The context of influencers can be inspiring for companies to encourage their consumers to adopt different forms of co-creation in other contexts.

Keywords: Co-creation, influencers, social-media, followers, Instagram.

Introduction

The recent growth of the Internet, the World Wide Web, and associated technologies, greatly enhanced the role of opinion leaders (Turcotte et al., 2015). Recent digital transformation has further strengthened the role of these opinion leaders, commonly called "influencers" in several sectors, e.g., fashion, beauty, technology, and sport (Klassen et al., 2018; Raggatt et al., 2018), through several platforms, including Instagram whose number of users continues to increase (Yesmail, 2015). In June 2018, Instagram reached 1 billion monthly users (Statista 2018) and a higher engagement rate than other social networks (Locowise, 2017). Instagram users are commonly proactive; they share their opinions, ideas, and criticisms (Chau and Xu, 2012; Hsu et al., 2013), and at the same time, they follow influencers to learn about brands, follow news, and also have fun. Admittedly, an influencer cannot survive without followers. To engage

them, an ongoing need to create rich, useful, and entertaining content is required (Al-Emadi and Ben Yahia, 2020).

Creating engaging content is poles apart from being an easy task. Thus, making use of internet users themselves to overcome this challenge appears to be a solution adopted by several influencers. For example, on Instagram, the Tunisian influencer Raya Bouallègue often invites her 500K followers to recommend the product to be discussed or the theme to be addressed. This type of co-creation is part of the field of collaborative marketing, which calls for the involvement of the consumer in all of the company's activities. In view of this, the majority of research on co-creation has focused on the design of new products (Bachouche, 2018). More recent research has extended co-creation to other business activities where the consumer can be involved, such as after-sales services and advertising. Based on this, several studies have considered the call to select the price of products (Dekhili and Ghesquière, 2013) or to choose one or more product characteristics (Lawrence et al., 2013). While research has shown a craze for co-creation in several of the company's activities, it remains incomplete when it comes to co-creation in its digital communication activity on social media. Furthermore, the subject of influencer marketing is certainly in vogue in recent years, thanks to the growing interest of users and academicians in social networks. However, previous research has focused primarily on influencers exploring and highlighting their personal traits (Gentina et al., 2014), aspects related to trust (Kim and Tran, 2013), influence on decision making (Belch et al., 2005), and nature of the published content (Highfield, 2015), muffling the two-way communication between the two parties that involves both, influencers and followers, for content co-creation.

Considering these observations, exploring the consumer–influencer co-creation can inspire companies to collaborate richly with consumers. Hence, the objective of this chapter is to provide insights to co-creation on Instagram by exploring its forms and motivations. Therefore, this chapter attempts to answer the following research questions: *How does co-creation manifest between influencers and followers on Instagram and what are the motivations of followers to co-create?* To address these questions, the literature review first stresses on influencer marketing to highlight the importance of content on social media. Then, the authors address previous studies on co-creation to identify its types, antecedents, and motivations. A qualitative study is then performed: triangulation between observation, semi-structured interviews with projective techniques, and sentences to be completed. The latter will be detailed and

followed by results and discussion. The chapter concludes with the contributions, limitations, and future avenues of research.

Literature Review

I. Social media influencers and the importance of content

The concept of *influence marketing* has its origins in the work of Lazarsfeld et al. (1948), who concluded that the influence of mass communication on consumer behavior is no longer as direct as it used to be, rather it is mediated by opinion leaders: celebrities, experts, etc. Formerly, companies used traditional celebrities to improve the perceived image of their brands and to increase buying intention (Katz and Lazarsfeld, 2006). With the advent of Web 2.0, influence marketing emphasizes a kind of impact that operates through regular influencers, as they are anonymous people in the offline world but have just become stars on social networks, thanks to the number of consumers following them (Al-Emadi and Ben Yahia, 2020). These influencers have the ability to create and modify the attitudes and behaviors of their followers (Zhao et al., 2018; Casaló et al., 2009) in textual platforms, such as virtual communities, blogs, and social networks (Li and Du, 2011). The visual content on Instagram generally takes the form of an image or video enriched with a text description. Research further highlighted that user-generated content is more popular and effective than professional advertising (Welbourne and Grant, 2016; Aral et al., 2013). Indeed, this shared content is considered as a source of advice (Casaló et al., 2009).

II. Co-creation: definitions, mechanisms, and motivations

1) Definitions

In recent years, co-creation has become a flagship concept. Several researchers have audited this idea to highlight the mechanisms and effects for both businesses and consumers. This concept has been mobilized in several contexts, particularly in the design of new products, communication and advertising, and after-sales services. Indeed, as Roser et al. (2013) and Prahalad and Ramaswamy (2004) have pointed out, companies can no longer design products, craft marketing messages, or control sales channels with little or no interference from consumers. From browsing the literature, different definitions of co-creation were noted (Table 1).

Author(s)	Definitions	Context
Prahalad and Ramaswamy (2004)	A means of developing products/services for companies in collaboration with their customers.	A consideration of personalized customer experiences in a competitive environment.
Ramaswamy (2009)	A process by which products, services, and experiences are jointly developed by companies and their stakeholders, opening up a whole new world of values.	Widespread adoption of new technologies that allow value creation.
Gustafsson et al. (2012)	A frequent, two-way, face-to-face communication process that facilitates creative problem-solving.	Co-creation of products during the development of incremental innovations.
Roser et al. (2013)	An interactive, innovative, and collective process involving stakeholders initiated by the organization at different stages of the value creation process.	Conceptual article.
Voorberg et al. (2015)	Establishment of dialog and continuous interaction between the consumer and the supplier during product design, production, launch, and marketing.	Consumers as co-directors, co-designers, and initiators.

Table. 1. Co-creation definitions

The different definitions proposed by the authors show a consensus on the definition of co-creation as a collaborative process initiated by organizations. According to the table presented on the different aspects of co-creation, certain criteria appear crucial for this collaboration: (1) the creation of value, (2) the involvement of different parties, and (3) interactivity. However, some authors are silent when it comes to the origin of the initiative, whereas others stress that it derives mainly from the company. Nevertheless, it turns out that the concept of co-creation has long been discussed as a product/service development tool between companies and

customers but not as a means of creating content within the framework of social networks.

1) Types

As mentioned by Prahalad and Ramaswamy (2004), co-creation is not simply customer orientation or the mass personalization of offers. Rather, it manifests itself in the joint creation of value for both, the company and the customer. In marketing, the co-creation of value has been studied mainly in the design of new products (Bachouche, 2017; Fuchs and Schreir, 2011). It manifests itself mainly through two corporate strategies, according to Fuchs and Schereir (2011), for collective and collaborative creativity (Rill and Hamalainen, 2018): the call to create and the call to select. The former is the involvement of the consumer in the generation of ideas and the definition of new products based on their creativity. The latter involves the consumer choosing between two offers to eventually market the final product. Thus, three co-creation actions are distinguished. First, the proposal of an idea or a design where the user creates and the company chooses the best creation (Bachouche and Zaraoui, 2018). Second, the selection where the company creates and offers several products or services and the user votes for the best creation, and at last, complete co-creation where the user decides everything with respect to creation and selection of proposals.

2) Motivations

Previous research has identified several motivations for consumers to co-create with businesses. Etgar (2008), as cited by Bachouche (2017), proposed three motivational factors that determine engagement in a co-creation process: economic (financial rewards), social (expected statutory gains and social esteem), and psychological, inclusive of extrinsic (expression of self, personal abilities) and intrinsic values (fun, excitement and the search for variety, breaking away from routine). For Roberts et al. (2014), the participants are driven by the desire to lead toward a better product, by the desire for social exchange resulting from the relationships established and by the expectations with respect to the gains to be obtained. Nambisan and Baron (2009) highlight the valued status of the participant and greater esteem on the part of the company. Additionally, other consumers act for free with altruistic motives. For Bachouche (2017), the participants are led by two main groups of motivation: utilitarian motivations linked to the greed, and experiential or social

motivations that refer to the pursuit of social benefits or the sharing of experiences.

The development of social media has enabled a set of new value co-creation practices between influencers and consumers through online platforms (Abedin and Bidar, 2019). It is interesting to explore the manifestation, as well as the motivations, of this in the visual platform of Instagram. In this context, the following paragraphs present the research methodology.

Methodology

The objective of the present study is twofold: to explore the notion of co-creation with influencers on Instagram, on the one hand and to identify the motivations of followers for this collaboration, on the other. As a result, a qualitative study is conducted. Its objective is not to arrive at statistically valid results, but rather to obtain rich information to better understand the process of co-creation (Bryman, 2015). To achieve this, the qualitative study triangulates observational and semi-structured interviews. The latter are assisted by projective techniques and sentences to be completed to better understand this complex concept of co-creation. In fact, projective techniques are recommended when the objective of the research is to identify factors, such as beliefs, attitudes, and motivations that consumers have difficulty expressing (Webb, 1992: 125–126). Collier (1967) explained in this context that the use of interview photos offers several advantages over a process based solely on interviews. It ensures a clearer structure around the themes. Given its ability to orient the interview toward elements that could have been neglected (Ravalet et al., 2015), it makes it possible to solicit the latent memory of the respondents and to stimulate deeper statements. Always recalling that the phenomenon of co-creation is fairly new, talking to interviewees about co-creation without assistance would have been very problematic as they would be unable to spontaneously understand the concept on their own. Utilizing the photos identified during the first phase provides a practical scenario for the interviewees; therefore, it considerably facilitates the understanding of the themes addressed. Moreover, beyond its methodological utility, the use of photos limits the directivity of the relationship between the researcher and the participant and establishes a framework of trust and empathy necessary for communication (Magnini, 2006). In the same sense, the use of sentences to be completed facilitates the expression of the interviewees, overcomes

their psychological brakes, and their fear of being judged by their answers. This is a less stressful way to talk about them (Eckhardt, 2004).

As a first step, Instagram accounts of Tunisian influencers were first selected. The choice was made according to the number of followers (between 198K and 1.9M) and their notoriety based on our discussions with those around us, word of mouth, and our own knowledge. Eight influencers were chosen. The observation lasted 2 months and consisted of collecting comments and publications in all their forms (photos, videos enriched by texts, stories) from followers and influencers and which can be integrated into the framework of co-creation.

As a second step, 11 semi-structured remote interviews were conducted with followers. The choice of this type of interview is justified by its ability to guide the participant in approaching the themes related to our research and at the same time ensure a certain freedom for the participant (Giordano, 2003). The interview guide has been developed around three themes (Annex 1). First, participants were asked about their use of the Instagram platform in general. Then, to describe their experiences with their favorite influencers and to detail the level of their participation and interactions on their Instagram accounts. Finally, the theme of motivations was discussed. In this theme, the projective technique is first used by showing co-creation posters captured during the first phase of observation. Then, respondents are asked to complete the following sentences: *I propose a subject or an idea to this influencer because…*, *I am ready to give my opinion following the publication of this influencer because…*, *I share my experience and my knowledge with this influencer because…*, *I feel… when I collaborate with the influencer*, *I feel… when I see content tailored to my needs*, and *Others do not fail to vote and answer the influencer call for…*

Taking into account that Instagram users are predominantly women between the ages of 18 and 30 (Duggan, 2015; Statista, 2016), the sample consists of 11 female students and young professionals between the ages of 23 and 28. Interviews were recorded directly on WhatsApp to save enormous transcription efforts (Ben Yahia, 2014) and lasted between 30 min and 2 h. Thus, the data collected were first explored and synthesized by lexical analysis on the Sphinx software, and later, a content analysis was done by establishing an analysis grid (Appendix 2). As recommended by Thietart (2014), we ensured the validity and reliability of the qualitative study. Indeed, the techniques used with respect to observation and interviews with projective techniques and sentences to be completed are

recommended by the literature to explore in depth the motivations of individuals. In addition, we accurately described the implementation of the study and paid special attention to understanding the questions put forth by respondents.

Results and Discussion

Figure 1, obtained from the Sphinx software outputs, gives an overview of the lexicon most used by respondents. We notice that the most recurring words are “influencer, content, interesting, followers, tutorials, etc.” If we try to group these different words into categories, we can see that these words reflect both the follower's experience with the influencer with respect to co-creation and certain motivations to take part in it. To go into more detail, a point cloud is presented for the two themes of the experience with the influencer (1) and the motivations (2).

Figure 1. Total point cloud

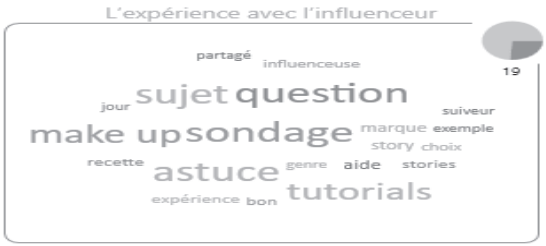


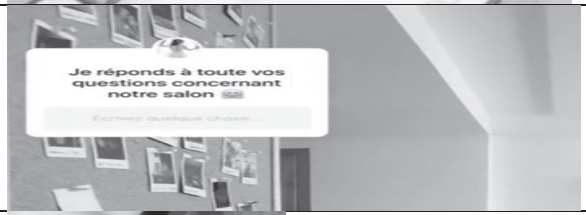
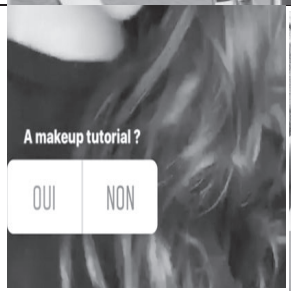
Figure 2. Point cloud for the co-creation experiment

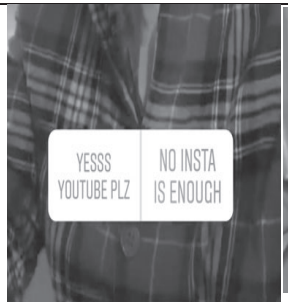
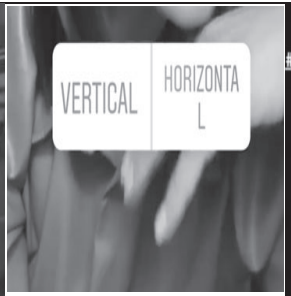
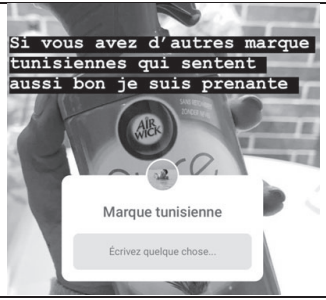
Figure 3. Point cloud for motivations

Furthermore, following the content analysis, the results obtained firstly describe the manifestation of co-creation between influencers and followers to identify seven types. Secondly, they identify the motivations of followers regarding co-creation with influencers. These different results are described and discussed in the following paragraphs.

I. Forms of co-creation on Instagram

The results of the observation distinguish between seven types of co-creation on Instagram among influencers and followers. As shown in Table 2, these forms relate to the proposal of subjects to be discussed (1), proposing questions for a specific topic (2), selecting the content (3), selecting the form of the content (4), sharing tips and personal experiences with the products (5), the control of some aspects of the personal life of the influencer (6), and the call for co-creation launched by the follower toward the influencer (7). These different types will be detailed in the following paragraphs.

Form of co-creation	Shape illustration
Proposal of a topic	
Suggested questions for a specific subject:	
Selection of content background in terms of theme / product or brand.	 

Selection of the form of the content in terms of medium, design and timing	  
Sharing tips and personal experiences with the products	

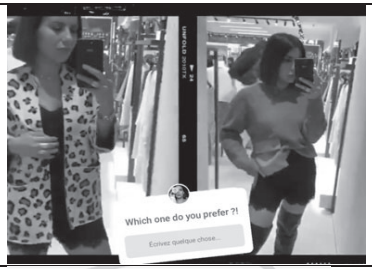
Control of some aspects of the influencer personal life	 **thew_lifestyle** La tenue que la plupart de vous ont choisi vendredi ❤ #preppystyle Et à partir de cette semaine, chaque vendredi, vous allez m'aider à choisir ma tenue du jour ! Vous êtes partants ? Je vous aime les amis 😘
Call for co-creation launched by the follower	**wafabenmakhlouf** Svp madame a3mlelna tuto bel nouveau highlighter 😍 kif makeup aujourd'hui 9 sem. 1 J'aime Répondre **niels_aouay_mansouri** @wafabenmakhlouf promis sem. 1 J'aime Répondre **souad.ounissi** Nihel brabi quand vous faites une démonstration donnez nous les numéros de vos produits rouges à lèvres lipstik fards inti tu les dits vites toute quand vous faites les applications irhamina je veux en acheter mais j'oublie les numéros Merci d'avance ❤ 8 sem. Répondre

Table 2. Illustrations of co-creation forms on Instagram

1) ***Proposal of topics to be discussed:*** The results show that influencers give followers the opportunity to decide on the subject of the next post through the "*ask me a question*" section available in the stories. The followers will thus suggest the topics that interest them and that will be received by the influencer. The latter will itself select the subject to be discussed in its next publication.

2) ***Suggested questions for a specific subject:*** Influencers come up with a specific topic and ask followers to ask them questions about it to discuss the topic in more detail. The questions thus asked are selected and then published in the form of stories, along with the answers.

3) ***Selection of content background in terms:***

a. *Subject (a): The influencer offers two or more contents and asks followers to choose the theme or products to discuss through a vote "a make-up tutorial: Yes/No,"* and *"an IGTV video 'get ready with me' for this look? Yes/No?";*

b. *Brand (b): The influencer chooses the product and asks the opinion of followers on the choice of the brand, always through a vote.*

These choices can be taken into account in the form of stories, videos, or images published generally accompanied by a textual description: "*collective response, for the tan I always alternate between….*," "*… so, these are the people who asked me what I bought…," and "New post specially to answer your questions….*"

4) ***Selection of the form of the content with respect to*:**

a. *Choice of medium:* Not only the freedom of choice of followers is linked to the topic of discussion, given their importance, but also the details of the form are taken into consideration. In fact, influencers ask their followers for the opinion of the most suitable medium to share a post: "*yes YouTube please"... "Instagram is enough*."

b. *Choice of design:* Before sharing a post, the influencer can ask her followers to decide the position of the post (vertical/horizontal), the colors to use, etc.

c. *Choice of timing:* The timing of content sharing can also be chosen by followers. As such, an influencer asks*:* "*I filmed a video…. I post it today or on Sunday*?"

5) Sharing tips and personal experiences with the products: The results show that the co-creation between Instagrammers and Instagram followers went beyond a simple collaboration to co-generate content. It is also manifested by the predisposition of influencers to learn from the lived experiences of their followers and adopt the products offered by them. Several Instagrammers then publish stories to ask for advice, proposals, etc. "*If you have other Tunisian brands that smell just as good, I'm interested." "… moms, I need your recipes and ideas…."*

6) *Control of some aspects of the influencer personal life:* In the same sense as the previous category, consumers can help influencers on a personal level by deciding some aspects of their private lives (look, clothes, etc.). For instance, an influencer asks her followers not only to decide on her clothes "*which one do you prefer*", but she shows them that their preferences are taken into account. Thus, she wears every Friday the clothes chosen by her followers: "*The outfit that most of you have chosen…. every Friday you will help me choose my outfit of the day…."*

7) *Call for co-creation launched by the follower*: Unlike the literature, the qualitative results show that followers do not wait for the influencer to call for co-creation, but can make the call themselves. By way of illustration, consumers are posting: "*Please give us a make-up tutorial with this new highlighter…*," "*Please can you share with us the list of points of sale once and for all for everyone?…," "next time write us on the video the name of the product and its reference because this is not readable,"* and *"Please when you do a demonstration give us the numbers of your products… you name them quickly….*"

To recap, these qualitative results reproduce the forms of co-creation cited by the literature with respect to creation and selection of activities. They also point out that co-creation on social media goes beyond the forms identified in the literature to encompass new forms that are more engaging with the consumer. The latter is involved in the smallest details of the form and substance of the offer giving their more control over the privacy of the influencer. In addition, special attention is noted to show them that their choices are taken into account. The idea is to show followers that they are so important, and that their opinions and suggestions impact the influencer in her daily life.

In addition, according to the last result, it turns out that co-creation is not only initiated by the company but can also be initiated by the consumer themselves, which is not taken into account by previous research.

However, the nature of the co-creation and the degree of consumer involvement may be affected by the origin of the initiative. This prompts us to complete the literature by proposing a definition of co-creation that tries to take into account these different forms and that puts the consumer first as the initiator. In fact, the contemporary consumer is particularly active in the market and in society (Gabriel and Lang, 2006): he has become an initiator of change and explicitly expresses his desire to conceive the value of products and services (Ramaswamy and Ozcan, 2014). In view of these results, and taking inspiration from the definition of Prahalad and Ramaswamy (2004), we call co-creation between influencers and followers "an active and social process, of joint creation of value based on collaboration between influencers and their followers and which can be initiated either by the influencer or by the followers." As underlined and to complete the literature, this definition emphasizes (1) the creation of value, (2) the effective collaboration, and (3) the origin of the initiative (3).

II. Motivations of followers for co-creation

The content analysis on Sphinx highlighted different motivations that can be grouped into utilitarian motivations related to content and rewards, intrinsic and extrinsic experiential related to the experience with the influencer and to the platform, and finally social ones related to the content development and group norms. These are described and illustrated in the following paragraphs.

1) ***Utilitarian motivations: Improvement of the content*****: (1)** many respondents emphasized the importance of social media content and their willingness to help and take action to ensure its sustainability and interest. In this sense, two motivations linked to the content are mentioned. Richer content: "*to enrich the content…," "… in order to always find a richer answer.," "so that the content brings me the most,"* and more relevant content. In this sense, the respondents explain "*having personalized content*." "*It's like choosing what to watch next. It reminds me of Netflix and how it became possible to intervene by creating such personalized scenarios*." Second, financial gains (2) motivate participants: "*I think there is usually a gift or compensation for participating*."

2) Experiential motivations: With respect to intrinsic experiential motivations: Self-satisfaction and self-worth (1): some respondents rather noted motivations linked to oneself with respect to feelings of accomplishment and satisfaction: "*I feel satisfied when…..," "I feel active*

and connected…," "I feel proud…," and "*participate to assert yourself, say that I am present and distinguish myself from others*." (2) Curiosity: reflected by the desire for knowledge and exploration: "*we want to be surprised by the content*." (3) Pleasure: by way of illustration: "*I feel happy*," "*I have the pleasure to share my opinion*…," "*I like to share my ideas my advice," "I feel, happy*," and "*It's cool! She thinks it's super awesome*!"

- Extrinsic experiential motivations: Attention (1): participating to gain the attention of the influencer also appears as a motivation. Respondents stress: "*I'm afraid the influencer will not pay attention to my suggestion… I want to gain visibility and have support*" and "*Be recognized by the influencer*." **Self-expression (2)**: for example: "*because I want to express myself, give my opinion*." **Altruism (3)**: as underlined in the literature, altruistic motivations emerge from speeches. For example: "… *In order to help him/her improve the content.," "… my ideas can help…*," and "*to encourage him/her in his/her work*." **Intimacy with the influencer (4)**: the relationship with the influencer also emerges as a motivation for co-creation. Indeed, respondents draw attention to the relational and emotional aspect that binds the influencer to his/her followers. "… *I consider him/her a friend," "I prefer there to be an interaction with the influencer…," "to approach for direct communication," and "because I love him/her*." **Empowerment (5)**: some interviewees believe that their contributions (opinions, proposals, etc.) have value, and that they will influence the choice of content published by the influencer. Thus, they feel valued: "*I feel important and interesting," "He/she will take into account my proposals*" and "*he/she needs us to ensure*."

3) Social motivations: Confirmation of the expectations of a group (1): interviewees noted "*to align with others*" and "*to comply with the rules of the group*." **Shared culture (2)**: respondents noted that it is important to "*share their opinions*" to feel that they belong to a category or a group of people. Indeed, according to them, "*by sharing our experiences, we become richer*." **Development of social links (3)**: forging relationships with others is put forward in speeches: "in order to forge close ties with them." **Sense of obligation following recognition (4)**: another motivation emerges that refers to a feeling of obligation. By way of illustration: "*I feel that our counterpart is to help him with our information*." and "*I am a loyal follower our counterpart is to help him with our information when he asks for it*."

Conclusion

To better understand the phenomenon of co-creation, this research explored co-creation on Instagram between influencers and consumers. To this end, the authors mobilized the fields of influence marketing and that of co-creation between businesses and consumers before conducting an exploratory qualitative study that included observation and semi-structured interviews. The results highlight seven forms of co-creation, as well as the utilitarian and intrinsic and extrinsic experiential and social motivations of consumers to engage in it.

Over the theoretical aspect, this research adopts a new angle to explore co-creation, through the collaboration between influencers and followers. Therefore, it offers them a definition that completes the literature by clarifying that followers can also be at the origin of this collaboration and identifies several forms. In addition, it identifies the motivations of co-creation for users of social media.

On a managerial level, the study helps managers understand co-creation in social media and the motivations of consumers to take part in it. The context of influencers can indeed be inspiring for companies to encourage their consumers to adopt different forms of co-creation. The research also draws the company's attention to the origin of co-creation to listen to its consumers when they initiate this action. Finally, the company can act on the different motivations identified to encourage the co-creation process.

Like all research, this one also contains limits that are all avenues for future research. First, of course, the use of projective techniques certainly helps to overcome the brakes of understanding or resistance to the subject treated. Nevertheless, it remains declarative. Further research may conduct netnography and longitudinal studies to better understand the process of co-creation. This research has focused on motivations. Future research may look for the consequences of co-creation with respect to trust and behavior.

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