REVISTA DE TECNOLOGIA APLICADA (RTA)
v.12, n.1, Jan-Abr 2023, p. 36-53.
ISSN: 2237-3713

http://dx.doi.org/10.48005/2237-3713rta2023v12n1p3653

Adoção de drones no varejo farmacêutico: barreiras e facilitadores de acordo com a percepção de farmacêuticos*

Adoption of drones in pharmaceutical retail: barriers and facilitators according to the perception of pharmacists

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RESUMO
Dado o cenário pandêmico, identificou-se a necessidade de alternativas de entrega de produtos ao consumidor final com o menor contato possível. O uso de drones seria uma opção. O estudo de fatores influenciadores na adoção de drones no varejo farmacêutico foi o foco principal desse trabalho. Foi realizada uma pesquisa com um grupo de farmacêuticos para identificar a percepção de barreiras e facilitadores que influenciam a adoção da inovação. Nesse estudo, a amostra universal consistiu em farmacêuticos trabalhando em qualquer região do Brasil, uma vez que o uso de drones ainda esteve em processo de adoção e regulação. A metodologia adotada é a exploratória quantitativa. A partir da análise, é possível concluir que os principais facilitadores são do tipo endógeno, isto é, dependem da empresa. As principais barreiras são do tipo exógeno.
Palavras-chave: adoção de inovação; drone; barreiras; facilitadores; varejo; farmácias; pandemia;

ABSTRACT
Given the pandemic scenario, the need for alternatives for delivering products to the end customer with as little contact as possible was identified. The use of drones would be an option. The study of influencing factors in the adoption of drones in pharmaceutical retail was the main focus of this work. A survey was carried out with a group of pharmacists to identify the perception of barriers and facilitators that influence the adoption of innovation. In this study, the sample universe consisted of pharmacists working in any region of Brazil since the use of drones is still in the process of being adopted and regulated. The adopted methodology was of the quantitative exploratory type. Considering the analysis, it was possible to conclude

* Received 20 April 2023; accepted in 28 Juny 2023; published online 28 July 2023.

that the main facilitators are of the endogenous type. That is, they depend on the company. The main barriers are of the exogenous type.
Keywords: adoption of innovation; drone; barriers; facilitators; retail; pharmacies; pandemic.

1. Introduction

The year 2020 was marked by the pandemic of the new coronavirus, also called Coronavirus disease 2019 (COVID-19), which led many countries to promote mandatory quarantines that, according to Hiscott et al. (2020), together with extensive testing to identify infected people, closing shops and expanding the number of beds in Intensive Care Units (ICU) of hospitals saved many lives and prevented many from being infected. However, these measures had severe impacts on the economy.

According to Barro et al. (2020), the pandemic was responsible for worldwide declines in stock markets, increased product price volatility, decreased nominal interest rates, and will likely affect the Gross Domestic Product (GDP) of many countries. In Brazil, specifically, there is much to be observed about the impacts on companies.

According to the Brazilian Institute of Geography and Statistics (IBGE) (2020), the services sector, mainly small companies, accumulated a loss of 19.8% between February and May 2020 and started to recover with favorable rates only in June and July due to reopening. However, the expectation is to end the year with a negative balance.

The affected companies are mainly micro and small companies that generally do not have emergency reserves and depend on monthly billing for survival. According to a survey by the Brazilian Micro and Small Business Support Service (SEBRAE) (2018), 98.5% of companies in Brazil are micro or small businesses and represent 27% of the GDP, so we can see that the impacts that affect this sector will affect the Brazilian economy as a whole.

Specifically in the pharmaceutical segment, according to the Brazilian Federation of Associativity and Independent Pharmacy Networks (FEBRAFAR), 2018 there were approximately 89,071 pharmacies in Brazil. Many of them have a physical point and obtain revenue generated by street retail. Therefore, fall into the group of micro and small companies suffering severe losses with the lower flow of people. In the current scenario, adopting product delivery services is a great strategy to bring products to people who are staying isolated.

It is then observed that to survive in this scenario, adapting is necessary. Since isolation is necessary, adopting innovation in the delivery system can bring a tremendous competitive advantage. Among the measures adopted to keep it running are e-commerce, a delivery system, and partnerships with delivery apps.

In the case of the use of uncrewed aerial vehicles (UAV), more specifically drones, in the logistics chain, it can be inferred that this is an innovation in the supply chain in the technological field since the product delivery process that is today done by people in crewed vehicles, such as couriers and moto boys, would be done by drones.

Given the above, the present study sought to answer the following research question:

RQ: What are the main barriers and facilitators present in adopting drones according to the perception of a group of pharmacists?

It should be noted that this study is exploratory to identify their perception of the technology that was already available for commercial use. The analysis of the influencing factors in the decision to adopt the use of drones in the transport of pharmaceutical products is

essential as it provides a better understanding of the use of this new technology in the pharmaceutical retail sector.

Given the proposed general objective, it was necessary to break down the following specific objectives: to identify the barriers that influence the adoption of innovations and to identify which are the facilitators that influence the adoption of innovations according to the perception of a group of pharmacists.

The article brings a group of pharmacists' perceptions regarding the new drone use trends that can be used for delivery in the logistics business process.

2. Theoretical foundation

Next, the themes of innovation, barriers and facilitators, and drones that supported this study will be presented.

2.1 Innovation

According to Rogers (1995), innovation is an idea, practice, or object perceived as new by an individual or group, which may be a new application of something that already exists or genuinely new technology. How users see innovation as such is crucial for it to be considered, in fact, an innovation.

Innovation may also not be about a product. However, the discovery of a new way to use it, as is the case with the commercial use of drones have already been used for decades in the military field, has only recently been adopted for commercial or entertainment use.

According to Moreira and Queiroz (2007), innovation is necessary for organizations to mobilize so that innovation can happen. As well as according to the authors, it is not just about creating an environment favorable to innovation but having an organization that can support and incorporate innovations with clear strategic objectives so that innovation focuses on solving the right problem.

The adoption of drones in pharmaceutical retail is a new application of existing technology in the logistics process of a specific sector of the economy. Therefore, it can be considered a process innovation.

2.1.1 Barriers and facilitators

Adopting the innovation can be positively or negatively influenced depending on the barriers and facilitators in its implementation. The barrier to innovation can be considered, according to Hadjimanolis (2003), as any factor that negatively influences the innovation process. Otherwise, facilitators are any factors that positively influence the innovation process.

The types of barriers and facilitators, according to Souza & Bruno-Faria (2013), can be endogenous or exogenous. Endogenous barriers and facilitators originate internally in the business. Exogenous barriers and facilitators are external to the business, and cannot be changed, such as market characteristics, government, laws, etc.

According to D'Este et al. (2012), barriers can be divided into revealed and dissuasive barriers. Revealed barriers are those discovered by companies that undergo innovation processes and end up being limited or suffering difficulties due to such barriers. The dissuasive barriers prevent the attempt to innovate, dissuading the company from adopting innovation.

A barrier may become a facilitator in the future and vice versa. Even many barriers are, in fact, lack of facilitators, which means that the study of facilitators and barriers must be carried out together within an organization.

In Tables 1 and 2, respectively, some of the main barriers and facilitators present in adopting innovation addressed in the literature and systematized by the authors in factors and items that served as guides in elaborating the research questionnaire will be presented. It is also important to reiterate that, according to Hadjimanolis (2003), not having a facilitator can also be a barrier and vice versa, so it is pertinent to analyze them together.

Table 1 – Main barriers to innovation and adoption of innovation

Factor	Item	Definition	Authors
Organizacional Culture	Internal political games	Political intrigue can undermine efficiency and impede the adoption of innovation.	Amabile (1996); Hargrave and Van de Ven (2006); Carayannis and Gonzalez (2003).
	Individual beliefs versus Organizational Values	Beliefs that differ from the organization's values can limit the search for innovation.	
Education	Lack of trained professionals	Qualified professionals at all levels help in the adoption of innovation and the search for new ideas.	Baer (1998); Ericsson and Charness (1994); Hadjimanolis (2003); Mumford (2000); Laforet and Tann (2006).
	Lack of specialists	Specialists may have different views from others because they have a deeper understanding of the research object.	
	Lack of administrators	Administrators know to manage the innovation adoption process with greater efficiency and agility.	
Leadership	No fault tolerance	For fear of making mistakes during the innovation adoption process, it is decided to refrain from innovating.	Hadjimanolis (2003); Mumford (2000); García-Granero et al. (2015); Ashford (2000); Van de Ven and Engleman (2004).
	Short term mindset	Focus only on day-to-day operational work.	
	Status quo quest	A leader intends to avoid moving up the career ladder and seeks only to maintain the position, doing the minimum acceptable to remain in the position.	
Risk Aversion	Risk aversion in decision making	Members may feel no room for risk, so they do not pursue innovation.	Garcia-Granero et al. (2015); Hargrave andVan de Ven (2006).
	There is no incentive to innovate	Exclusive focus on operational work, without incentives from managers to seek innovation.	

Technological limitation	Difficulty getting technology.	There is a desire and possibility to innovate, but the necessary technology needs to be present.	Souza and Bruno-Faria (2013); Armbruster (2008).
	Cost of new technology makes it unfeasible.	The technology is there, but the costs make its adoption unfeasible.	
Market	Imperfect competition	Even with an innovative proposal, its application could be more feasible due to companies dominating the market.	Ashford (2000); Kahilana (2017); Carayannis and Gonzalez (2003); Tidd and Bessant (2013).
	Lack of vision	Not looking at the market can lead to adopting innovations that will not benefit the company.	
	Resistence to market changes	Even knowing the changes that are taking place in the market, the company chooses to stay the same.	
Public policy	Rigid public policies	The country's laws make it challenging to adopt innovation because they are rigid or highly regulated.	Ashford (2000); Kahilana (2017); Tidd and Bessant (2013).
	Excessive bureaucracy	Too much bureaucracy required for innovation can discourage companies and delay innovation adoption.	
	Highly regulated industry	Highly regulated industries make innovation difficult due to the need to follow strict regulations.	
Organizational practices	Lack of resources dedicated to innovation	Lack of investment when there is the possibility of innovating discourages participants and delays processes.	Amabile (1996); Hadjimanolis (2003); Carayannis and Gonzalez (2003).
	Departments isolated	Lack of communication prevents members from seeing the big picture and finding innovative solutions to problems.	

Source: Prepared by the authors.

Table 2 – Main facilitators to innovation and adoption of innovation

Factor	Item	Definition	Authors
Organizational culture	Social relationships	Friendly relations in the work environment favor communication and exchanging ideas that can generate innovations.	Amabile (1996); Souza and Bruno-Faria (2013); Carayannis and Gonzalez (2003).
	Incentive to creativity	A culture focused on the search for innovation and creativity generates more innovation and facilitates its adoption.	
	Search for improvements	Employees actively seeking improvements in the work environment are likelier to find innovations.	
Education	Formal education	More knowledge of administrative practices helps manage innovation and solve problems that may arise.	Baer (1998); Ericsson and Charness (1994); Hadjimanolis (2003); Mumford (2000); Laforet and Tann (2006).
	Specialization/Experience	People working longer in a given field tend to have a more in-depth view and can find specific points to innovate because they have a holistic understanding of the process.	
	Training	Training applied regularly in the organization keeps employees willing to innovate and seek improvement.	
Leadership	Mindset towards innovation	Good leaders encourage critical thinking and the proposition of new ideas from members.	Damanpour and Schneider (2008); Mumford (2000); García-Granero et al. (2015); Ashford (2000); Van de Ven and Engleman (2004).
	Fault tolerance	Leaders who allow their subordinates to take risks and try to innovate, even with chances of failure.	
Risk propensity	Risk-taking managers	Managers who motivate the search for innovation can achieve more disruptive innovations even when there are risks.	Garcia-Granero et al. (2015); Souza and Bruno-Faria (2013); Marinova and Phillimore (2003); Matthews (2002).
	The risk-prone climate in the work environment	It is easier for companies with a propensity to take risks to pursue disruptive innovations, as these can generate significant improvement but can also generate losses.	
Technological advantage	Adaptation of technology already used	People familiar with technology can learn to use adaptations and improvements more efficiently.	Souza and Bruno-Faria (2013); Armbruster (2008); Matthews (2002).

Market	Understand the customer's need	Tracking market trends from the customer's point of view provides a complete picture of what is needed for successful innovation.	Carayannis and Gonzalez (2003); Kahilana (2017); Tidd and Bessant (2013).
	Benchmarking	Monitor how other players deal with innovation and competitors' trends.	
	Ability to respond to change	Ability to change and innovate quickly through innovations when external changes occur.	
Public policy	Public policies motivate innovation	Creating public policies that help adopt innovation benefits companies and facilitates the process.	Ashford (2000); Kahilana (2017); Tidd and Bessant (2013).
	Business-friendly environment	Public policies can create regions with lower taxes or beneficial infrastructure for companies to pursue innovation.	
Organizational practices	Departmental integration	By working together, different departments can better view the organization, finding new ways to innovate and facilitate adoption.	Amabile (1996); Mumford (2000); Carayannis and Gonzalez (2003).
	Hierarchical structure	A well-defined hierarchical structure makes operations more transparent for those involved, facilitating innovation adoption.	
	Communication flow	Information received quickly and effectively by everyone involved in the innovation adoption process generates efficiency.	

Source: Prepared by the authors.

2.2 Drones

According to Sebbane (2018), UAVs are aircraft in which there is no presence of a pilot or a team on board, but there is still a pilot who may be remotely controlling the aircraft, or it may be an autonomous aircraft. In this case, the pilot is the one who performs the autopilot process.

In turn, ANAC (2007), the body responsible for legislation on UAVs in Brazil, considers drones to be Remotely piloted aircraft (RPA) or remotely piloted aircraft and categorizes their types according to their maximum takeoff weight.

According to Rao et al. (2016), the FAA, the body responsible for legislation and enforcement in the USA, does not have enough specific guidelines when it comes to the definition of drones, which can currently, due to the high range of standards and applications, be divided into quadcopters, propelled aircraft by four engines, connected to four propellers, model airplanes, which are reduced scale aircraft and light aircraft, which are UAVs that fit into the group of aircraft with up to 5,670 kg of maximum takeoff weight.

It is observed, therefore, that there is still no consensus on what drones are and how they should be categorized.

According to Van de Wouwer (2016), even influential first-world countries still need clarification about adopting drones. It suggests that many countries still do not have any legislation regarding the use of drones and end up opting for more extreme measures, such as altogether banning the use of drones.

Although their use for commercial application is a recent topic in Brazil, there is promising news during the pandemic. In August 2020, ANAC (2020) issued to the company Speedbird the Certificate of Authorization for Experimental Flight (CAVE) for deliveries using drones, valid for one year.

This authorization allows using “Beyond visual line of sight” (BVLOS) drones - the operator does not need to observe the drone directly. ANAC’s superintendent of airworthiness, Roberto Honorato, sees this authorization as a significant advance for commercial sectors, mainly in the use of drones for delivery (ANAC, 2020).

After presenting drone definitions, in this study, specifically, the application of interest is for logistic services.

Innovations in delivery systems are the most promising for the coming years that will contribute to labor savings, reduced impact on the environment by consuming fossil fuels from other more polluting means of transport, and faster and more efficient deliveries. In addition to increasing the efficiency of deliveries, in a pandemic scenario, drone delivery has the great advantage of transporting goods utterly free of contact between individuals. It can become an effective way to avoid contagion and dissemination during a pandemic.

3. Methodology

In order to understand the influencing factors in the adoption of drones in pharmaceutical retail, the research demands an exploratory approach of a quantitative nature that will seek to understand, based on the literature, what the main barriers and facilitators a group of pharmacists considers.

According to Gil (2019), the exploratory approach is developed to provide an overview of the approximate type of a given fact. This type of research is used mainly to seek information when the chosen theme needs to be explored, and, therefore, it is challenging to formulate more complex and operational hypotheses.

According to Ventura (2007), when carrying out exploratory research, one should seek to specify the critical points, establish ways of contacting those surveyed and locate the source of the data needed for the research in the best way possible.

Quantitative research, in turn, according to Zanella (2009), allows objective measurement and quantification of results, allowing data to be obtained from contact with a specific portion of the population. Quantitative research is used when seeking to measure opinions, attitudes, or preferences. The quantitative exploratory study was carried out through a web survey.

With the global pandemic scenario, the possibility of carrying out the research without direct contact between people is even more necessary since it protects the researcher and the interviewees from contact, which avoids the possibility of spreading the virus, benefiting the entire group involved in the search.

The survey research method can be defined, according to Ponto (2015), as the collection of information from a sample of individuals based on their responses to a questionnaire, which can be done in several ways. The form adopted in this study was through measurable statements based on a 5-point Likert scale, with 1 to 5 indicating whether they agree or not and to what degree; the closer to 1, the more minor the disagreement, and the closer to 5, the greater the agreement.

The questionnaire was structured based on 16 items and 39 sub-items based on the literature. Each of the sub-items makes up a question in the questionnaire. Among the questions, 7 identify the demographic profile, and 36 refer to barriers and facilitators in adopting innovation.

During the pre-test phase of the questionnaire, 31 professionals from the field were invited, but only 5 respondents agreed to participate. Then, the necessary adjustments were made according to the participants' suggestions.

In this study, the sample universe consisted of pharmacists working in any region of Brazil since the use of drones is still in the process of being adopted and regulated. Access to the respondents was through the use of a social network. The invitation to participate in the survey was sent to 90 professionals chosen at random only through a keyword search (pharmacist). From this universe, 50 responses were validated. The analysis of the results was performed using the SPSS software version 20.

It should be noted that biases may be committed when it comes to social networks, as there is a great tendency to collect samples from specific niches. It is reiterated, therefore, that this is a survey study, that is, a survey where several biases occur that are difficult to control, even in the face of statistical guidelines.

4. Results

When publishing the survey digitally, some respondents often need a profile of interest. Therefore, it is necessary to discard to obtain the number of respondents according to a pre-defined profile. As previously mentioned, the number of validated respondents was equal to 50. The calculated sample error is 9%, with a confidence level equal to 95%. The estimated Cronbach's alpha coefficient was 0.916, which suggests the reliability of the questionnaire. Of those respondents, 68% identified themselves as female and 32% as male. It was observed that the average age of respondents was 34 years. The question about acting as a pharmacist in Brazil and currently working was 100%, as it is an essential question to participate in the research.

The working time of pharmacists in the current location is concentrated between less than 1 year (20%), 1 to 2 years (28%), and 3 to 5 years (30%).

About the position held, 4% acted as an attendant, 2% as a director, 8% as an assistant pharmacist, 68% as a responsible pharmacist, 4% as a substitute pharmacist, 6% as a manager, 2% as a pharmaceutical manager, 2 % as a manipulative pharmacist and 4% as an assistant manager.

As previously mentioned, the sample selected was for convenience. Thus, respondents could be from any state in Brazil. The results were 4% from Bahia, 2% from Ceará, 6% from Minas Gerais, 10% from Paraná, 12% from Rio de Janeiro, 8% from Rio Grande do Sul, 6% from Santa Catarina and 52% from São Paulo. Regarding education, only 6% have a postgraduate degree, such as an MBA or a master's degree. However, no respondent reported having a doctoral education degree. The result on the salary range of the respondents is concentrated in R$3000.00 – R$4999.00 (77.08%) and R$5000.000 – R$7000.00 (12.5%).

4.1. Barriers

The answers are pretty distributed and suggest that it depends on the organizational culture of each company. According to the data obtained, 28% (14) neither agree nor disagree that political intrigue is a barrier to adopting innovation. In turn, 18% (9) agree, and 28% (14) completely disagree.

Concerning the organization's cultural values, 28% (14) responded that they totally agree that they are limiting the search for innovation, 24% (12) totally disagree, and 24% (12) neither agree nor disagree. Similar to political intrigues, the answers are balanced and can be explained by the influence of the individual values of each professional.

The question on personnel training showed that this is not a barrier to innovation, as 42% (21) responded that they completely agree, and 14% (7) agree that professionals are trained to manage innovation.

However, specifically, the lack of personnel to operate the drone is a barrier since 46% (23) responded that they strongly disagree and 24% (12) that there is trained personnel.

About the existence of qualified managers to manage the innovation process, the accumulated percentage of answers agree and totally agree was equal to 40% (20). In turn, 28% (14) answered that they do not agree or disagree. These results show that this factor would not hinder innovation management.

As for fault tolerance on the part of managers in favor of the search for innovation, the answers showed that it is not a barrier since 42% (21) answered that they do not agree or disagree, 18% (9) agree, and 14% (7) strongly agree that management is fault tolerant.

Regarding the encouragement by managers of the long-term mindset within the company, the responses were balanced as 10% (5) responded that they strongly disagree, 20% (10) responded that they disagree, 22% (11) responded that they do not agree and do not disagree, as well as 20% (10) answered that agree and 28% (14) answered that they totally agree but suggest that there is an incentive. Thus, it can be understood that this is not a barrier to adopting innovation.

Concerning the search for improvements in activities and processes within the company, 46% (23) responded that they completely agree, and 22% (11) agree that managers are concerned with changing the status quo. Given this, leadership action allows the adoption of innovations.

As for the possibility of taking risks in favor of innovation, 42% (21) do not agree and do not disagree. In turn, 10% (5) agree, and 20% (9) agree that they have decision-making autonomy. In this way, it is understood that this is not a barrier to innovation. These results are consistent with those previously presented for fault tolerance by managers.

Of the respondents, 34% (17) answered that they totally agree and 22% (11) answered that they agree. Regarding the administration's support for innovation, 26% (13) answered that they totally agree, and 26% (13) that they agree. It shows that managers support innovation. However, despite the interest in innovating, the technology has yet to be discovered and becomes a barrier to adopting innovation.

Among the barriers is the high cost of the technology that prevents the adoption, which matches the results found: 44% (22) responded that they completely agree, and 18% (9) responded that they agree.

With regard to competition, 36% (18) responded that they completely disagree, and 26% (13) disagreed that there are dominant companies in the market that make adoption unfeasible.

Regarding the company being aware of changes in the market and its willingness to adapt, the answers to the two questions were homogeneous. Of these, 38% (19) of the respondents answered that they totally agree with both factors, 24% (12) answered that they agree that they are aware of changes in the market, and 28% (14) answered that they agree that they adapt to changes in the market.

Regarding the existence of laws that prevent or hinder the use of drones, 44% (22) answered that they do not agree or disagree. It may be due to the lack of specific knowledge about the technology. However, 44% (22) responded that they completely agree, and 18% (9) responded that they agree that there is an excessive bureaucracy that prevents the adoption of drones. In this case, the political issue becomes a barrier to adoption.

In addition to the excess of bureaucracy, the pharmaceutical sector also has specific regulations that make it challenging to adopt drones that are consistent with respondents' perception: 40% (20) responded that they completely agree, and 20% (10) responded that they agree.

Regarding organizational practices aimed at investments in innovation, 26% (13) answered that they totally agree, and 24% (12) totally agree that the company invests properly in innovation.

Departmental communication, in turn, is neither a barrier nor a facilitator for adopting innovation, according to the research results. The accumulated percentage of individuals who answered agree and totally agree equal to 44% (22), and those who answered disagree and totally disagree was equal to 42% (21).

4.2. Facilitators

In the results related to facilitators, the social relationships between colleagues that encourage discussion about innovation showed that 24% (12) completely agree and 18% (9) agree. These percentages were balanced with 26% (13) who responded that they disagreed and 16% (8) who responded that they strongly disagreed.

About encouraging creativity, 36% (18) responded that they completely agree, and 18% (9) responded that they agree that it is a facilitator for the adoption of innovation.

For the item search for improvements in the work environment that favors finding innovations, 54% (27) answered that they totally agree, and 30% (15) answered that they agree.

Concerning knowledge regarding technology, 24% (12) responded that they completely disagreed, and 20% (10) that they disagreed. In turn, 26% (13) answered that they neither agree nor disagree that it is a facilitator to innovate.

Of specialists who understand the whole context and in-depth vision to facilitate innovation adoption, 28% (14) answered that they completely agree, and 26% (13) answered that it is a facilitator.

The results for the training item showed that 28% (14) strongly disagree and 28% (14) disagree that the company is concerned that employees participate in courses and training in general. In this case, it becomes a barrier because employees do not have access to new knowledge, improvements and, consequently innovations.

Concerning leadership focused on innovative thinking, 20% (10) agreed and 26% (13) strongly agreed that their managers encourage critical thinking and the proposition of new ideas. Despite not investing in training, they encourage employee participation.

For the tolerance factor on the part of managers regarding possible failures committed by employees in favor of innovation, 16% (8) responded that they completely disagree, and 30% (15) responded that they disagree that they receive support. In addition to this, 36% (18) answered that they neither disagree nor agree.

The results found for the issue of having managers prone to taking risks show that 36% (18) neither agree nor disagree, 20% (10) disagree, and 10% (5) completely disagree. These results are close and in agreement with the previous question.

When asked about the climate in the workplace prone to taking risks, the results were identical for the question about managers.

Similar to the results found for barriers to innovation – technological limitation, 36% (18) strongly disagree, and 22% (11) disagree that there is trained personnel to operate the technology.

The concern about understanding customers' needs to achieve the innovation's success is predominant in the results, as 30% (15) responded that they agree, and 34% (17) responded that they completely agree.

The importance of benchmarking in the market, in turn, is highlighted in the results found since 18% (9) answered that they agree, and 44% (22) answered that they totally agree that it is a facilitating factor for the adoption of innovation.

In the part of the questionnaire that deals with the ability to respond to changes as a facilitator, 20% (10) responded that they agree, and 36% (18) responded that they strongly agree that they are prepared to change and innovate quickly.

According to respondents, 22% (11) strongly disagree, and 18% (9) disagree that there are public policies that motivate innovation explicitly aimed at the adoption of drones. In turn, 50% (25) answered that they neither disagreed nor agreed.

For the business-friendly environment factor, 18% (9) responded that they agree, and 20% (10) responded that they totally agree that the region where the company is located can benefit from lower taxes or adequate infrastructure. In addition to these, 28% (14) answered that they neither agreed nor disagreed.

Initially, departmental integration is treated as a facilitator of innovation adoption, but the results showed the opposite. Of the respondents, 18% (9) indicated that they disagreed, and 24% (12) responded that they strongly disagreed. In turn, 22% (11) answered that neither disagreed nor agreed.

Regarding the company's hierarchical structure, 44% (22) answered that they totally agree, and 18% (9) answered that when well-defined, it makes operations more straightforward for those involved.

Finally, they were asked about the flow of internal communication. When received quickly and effectively by all, it generates greater efficiency in the process. Of the participants, 16% (8) answered that they agreed, and 34% (17) answered that they totally agreed.

5. Conclusion

This article managed to identify the main factors influencing the adoption of drones to transport pharmaceutical products in retail. In addition, they were to identify the barriers that influence the adoption of innovations and the facilitators that influence the adoption of innovations according to the perception of a group of pharmacists.

According to the results presented, it is observed that among the factors considered as barriers are

- the lack of specialized personnel to operate the drone,
- lack of knowledge about the technology,
- excessive bureaucracy to the regulation of the pharmaceutical sector, and
- the high cost of technology acquisition.

It is understood that such results are consequences of the technology being new and poorly regulated. In turn, the balanced results were for political intrigue, the organization's cultural values, and the mentality of long-term managers. Thus, it is understood that they are not seen as barriers or facilitators. This fact can be explained by the particularity of the employees that make up the organization, in addition to these, attention and adaptation to the market. Given these, it is impossible to conclude that these are barriers, but they are not impeding factors for the movement to adopt innovations. Staff training, trained managers, search for improvements in activities and processes within the company, management support to innovate, imperfect competition, investments in innovation, and departmental communication were presented as barriers according to the literature. In this study, they showed how facilitators because of the actions of the companies.

Concerning the facilitating factors, similarly to the barriers, the factor's lack of knowledge about the technology was confirmed to be a barrier and a technological limitation. Encouraging creativity, seeking improvements in the work environment, specialist vision, leadership with innovative thinking, concern for understanding customer needs, market benchmarking, responsiveness to changes, hierarchical structure of the company, and internal communication were confirmed that it is about facilitators in the adoption of innovation. These can positively contribute to the adoption of drones, but they are still limited to legal issues. In turn, the item social relations, public policies that motivate innovation, and an environmental factor favorable to business were balanced according to the answers to the questionnaires. Again, the issue of social relations depends on the employees that make up the company's staff.

Regarding the results found for public policies and a favorable environment, they can be explained due to the lack of knowledge about the technology. Through this research, it was

hoped to carry out a survey/probe on the perception of pharmacists regarding the influencing factors in the adoption of drones in the delivery of products in pharmaceutical retail. In this way, it serves as a signal for the business environment and a guide for academics in the search for administrative solutions as technology-related techniques.

It should be noted that biases may be committed when it comes to social networks, as there is a great tendency to collect samples from specific niches. It is reiterated, therefore, that in the case of a survey study, that is, a survey, several biases are difficult to control, even in the face of statistical guidelines.

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