



DEVELOPMENT OF INNOVATION ACTIVITY RESEARCH MODEL AND ITS IMPLEMENTATION

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ABSTRACT

The issue of innovation activity in business has been relevant for quite a while now, oftentimes, it is a survival factor for an enterprise. However, it is not only the innovation activity of enterprises that is relevant, but also the research models of such activity. This article deals with innovation activity model and its implementation in practice. We can consider a research model as a program or plan of research. It can be represented both in a diagram based and a descriptive form. It offers the possibility to link theory and empirical data obtained in the course of scientific research, and also enables their subsequent interpretation.

In order to develop a model for innovation activity research in small and medium sized enterprises, analysis of theoretical and empirical methods of scientific research in tourism was carried out. A number of theoretical methods, such as formulation of a hypothesis, assimilation, analysis and others were used as the basis for the model. However, the model is basically built on the empirical method, namely, the method of sociological survey. The model under discussion was tested in 2019 and later applied again in 2020. The number of respondents taking part in the survey were 69 tourism companies (56.9%) in 2019, and 71 (58.5%) in 2020. The geography of the use of the research model can also be expanded. In particular, the authors plan to test it in Kazakhstan, which does not fully use the existing high tourist potential.

Keywords: research model, innovation activity, small and medium sized enterprises, innovation, tourism.

JEL classification: A14; O30; Z30

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INTRODUCTION

Innovation activity in business is an important factor of effectiveness and competitiveness. Oftentimes, it is a survival factor for an enterprise. Innovation activity is an issue relevant for enterprises having any scale of

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production and operating in all kinds of fields. A lot of businesses are looking for innovative ways to improve efficiency and maintain competitive advantage in order to survive (Arsawan et al, 2021; Bogoyavlenska et al, 2020; Jurgelevičius & Kučaidze, 2020; Lukjanova, Sushchenko, Zima, 2019; Lukjanova, 2019; Petrova & Akhmedyarov, 2019; Petrova et al, 2018; Sushchenko, 2016).

However, the official Latvian statistics does not keep record of innovation activity in different industries and only lays emphasis on the major sectors of economy, such as production sector, agriculture and services. This approach creates a number of problems. Researchers involved in evaluating innovation activity of enterprises in a certain sector face a lack of specific information. Incidentally, the authors of this article was faced with the necessity to develop a research model while she was involved in analyzing innovation activity of small and medium sized enterprises in Latvian tourism industry.

METHODOLOGY

A model can be defined as a commonness of interrelated concepts which underlie the research, as well as a systematic description of the area under study. In order to develop a model for innovation activity research in small and medium sized enterprises, analysis of theoretical and empirical methods of scientific research in tourism was carried out. The reason why new and small businesses have become key players in the innovation process has been their ability to identify and exploit business opportunities which emerge as a result of technological, competitive and market developments (Labunska et al, 2017). A number of theoretical methods, such as formulation of a hypothesis, assimilation, analysis and others were used as the basis for the model. However, the model is basically built on the empirical method, namely, the method of sociological survey. The works of V.A.Yadov (2007), N.A.Balyuk (2012), A.V.Borisova (2013), M.J.Baker (2020) and others, were used in the course of method development.

The main reason why this particular research method was chosen was the lack of statistical data concerning innovation activity in small and medium sized enterprises (SMEs) in tourism.

Besides that, this method offers an opportunity:

- for enterprises to carry out self-evaluation;
- to identify the main kinds of innovation in Latvian tourism;
- to define the factors which encourage or discourage innovation activity in SMEs.

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STAGES OF DEVELOPMENT OF INNOVATION ACTIVITY RESEARCH MODEL

The first step in the process of model development is to correlate the object and the subject of research and the context. Considering the area of this research, the factors that encourage innovation activity are the

context in question. Latvian small and medium sized tourism enterprises are the object, while the subject of this research is innovation activity of small and medium sized enterprises in tourism.



Figure 1. Logical structure of innovation activity model in SMEs in tourism

Source: Authors illustration

In accordance with the method suggested by N.A.Balyuk (2012), this research has been divided into the following stages: preliminary stage, field research, data preparation and processing, conclusive stage.

Stage one being preliminary, involves a number of steps. This is actually the development of the research program, i.e. formulation of a hypothesis.

Step one at this stage is to define the problematic situation and the issue itself. The problematic situation amounted to the lack of innovation activity in Latvian SMEs in general, and in the service sector in particular. Based on this problematic situation, we stated the issue of the sociological survey, namely, low innovation activity in Latvian small and medium sized tourism enterprises. The object of this research are small and medium sized tourism enterprises.

The consideration that determined the choice of the object is as follows: Latvian economy is based on SMEs. Moreover, all the tourism enterprises (travel agencies) fall under the category of SMEs. This object was chosen because it was impossible to provide a reliable assessment of the level of innovation activity in MSEs in tourism, and this despite the fact that these enterprises contribute substantially to the national economy.

Step two was to define the aims and objectives of the research with respect to the selected object and subject. The aim of any sociological research is to obtain the expected end result, which will help solve the identified problem. Hence, the aim of this research is the assessment of innovation activity in Latvian SMEs in tourism.

The objectives of a sociological research involve specific requirements to the analysis of and the solution to the issue that has been formulated. That said, the main objectives were stated as follows:

- to define the level of innovation activity in Latvian small and medium sized enterprises in tourism;
- to identify the main causes of insufficient innovation activity;
- to define the main factors which encourage or discourage innovation activity in tourism SMEs;
- to find out main kinds of innovation in small and medium sized tourism enterprises.



Step three involved clarification and interpretation of the concepts, innovations in tourism and small and medium sized enterprises. In Latvia, this group of enterprises comprises businesses with 10 to 250 employees. The main kinds of innovation in tourism are technological, managerial, marketing and institutional ones.

Step four is formulation of a hypothesis. We studied two main hypotheses, namely:

- low innovation activity in Latvian small and medium sized tourism enterprises.
- insufficient government support of innovation activity in Latvian small and medium sized tourism enterprises.

The first hypothesis has to do with low figures of innovation activity in Latvian SMEs in general and in the service industry in particular. Experts consider innovations as Latvia's Achilles heel. According to the data published by European innovation scoreboard (EIS), Latvia is a Moderate Innovator. Latvia's lowest indicator scores are on R&D expenditures in the business sector, new doctorate graduates, Public-private co-publications, and SMEs innovating in-house. Low investment in R&D, low overall innovation performance and an average educational performance are negatively affecting Latvia's efforts to achieve higher productivity. Latvia is lagging behind the EU's innovative economies in the following fields: capacity of research institutions, spending on R&D, international inventions, patent applications and the like. On the European Innovation Scoreboard 2020, the 2020 edition of a publication published by the European Commission each year, Latvia came 23rd out of 27 EU countries. (European Innovation Scoreboard, 2020) These data reflect the situation in the previous years. Based on this information, we made an assumption that SMEs in tourism also show low innovation activity.

The ground for the second hypothesis is the fact that most of the countries where SME innovation activity index is high, the governments use all kinds of incentives to support innovation.

Both hypotheses are explanatory, because they suggest a cause-effect relationship in the object under study.

Stage two is field research. At this stage we developed the methods for data collection and analysis. We also developed the tools which involved the following steps:

- determining the plan and type of sociological research;
- determining the method of data collection and preparation of the tools;
- determining the system of survey unit selection (of the aggregate under study);
- determining the main procedures of data analysis.

The issue of low innovation activity in Latvian small and medium sized enterprises has not been studied yet, which determined the type of research, namely, reconnaissance research. All the studies have been aimed at a general assessment of innovation activity in Latvian SMEs without respect to specific industries.

The authors deemed it necessary to apply one method of data collection, namely, survey (questioning and interviewing). For the purposes of this investigation, a questionnaire has been worked out. It consisted of three parts – introduction, the body and personal details.



The respondents of the survey were entrepreneurs looking to increase their revenue and profits by applying innovations. The address to respondents also identified the aim of the survey, namely, to develop suggestions for promoting innovation activity in Latvian small and medium sized enterprises. The guidelines on how to fill in the questionnaire were written next to the questions of the body.

RESULTS and DISCUSSION

The model under discussion was tested in 2019 and later applied again in 2020. The number of respondents taking part in the survey were 69 tourism companies (56.9%) in 2019, and 71 (58.5%) in 2020.

The body of the questionnaire is divided into several parts. The aim of part one is to determine the overall evaluation of innovation activity in SMEs in tourism. In fact, travel agents were supposed to carry out self-evaluation. The answers were assessed on a scale from 1 to 5, with 1 being minimum activity, 5 – maximum. Research has shown a slight improvement in evaluation: the percentage of companies which gave themselves 5, 4 or 3 out of five increased. At the same time, the number of respondents that gave themselves 1 for innovation activities decreased.

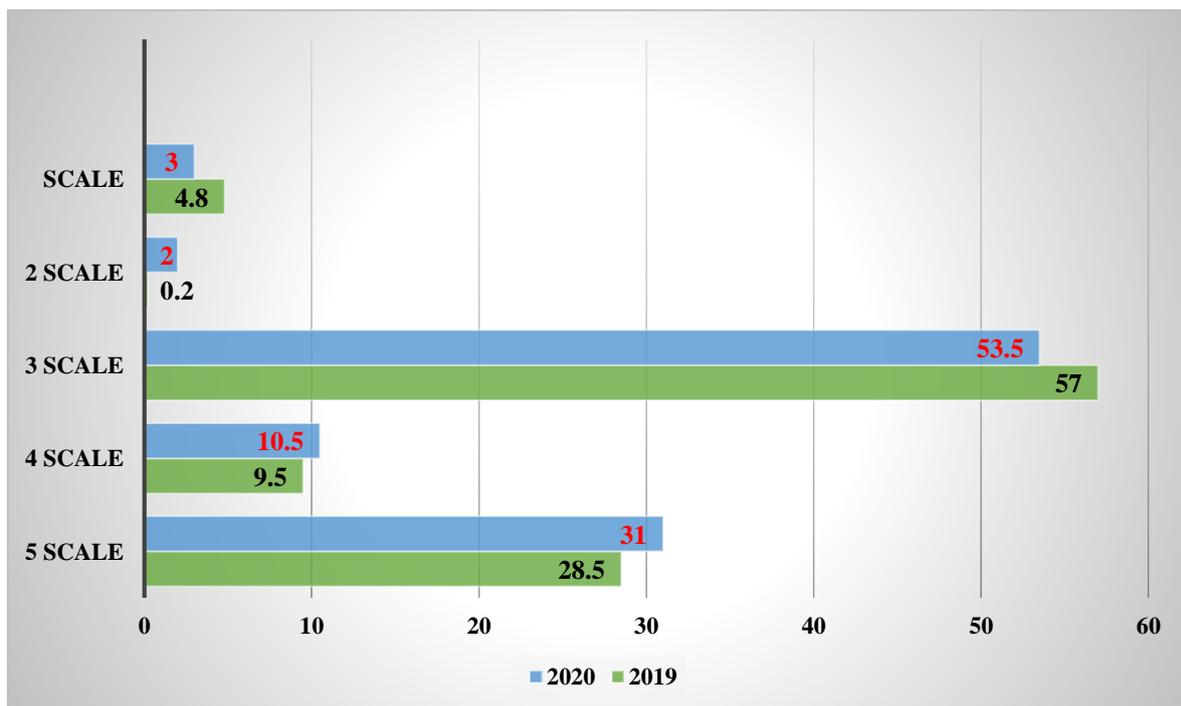


Figure 2. Evaluation of activity in creating new or enhanced products or technologies.

Source: Authors illustration

Besides that, respondents were asked to specify the main types of innovation which had been implemented in the last 3 years. The survey has shown that all kinds of innovation are applied to a greater or lesser degree at all the enterprises under study. All the respondents have marked “Opening new tourism routes, launching a new tourism product”. 95% and 98% marked “Adding new destinations and new

markets”. 62% and 63% “Use new equipment and technologies”, “Use new tourism resources” and “Apply new methods of organizing business process management”. The findings of this investigation are represented in Fig.3 in ascending order.

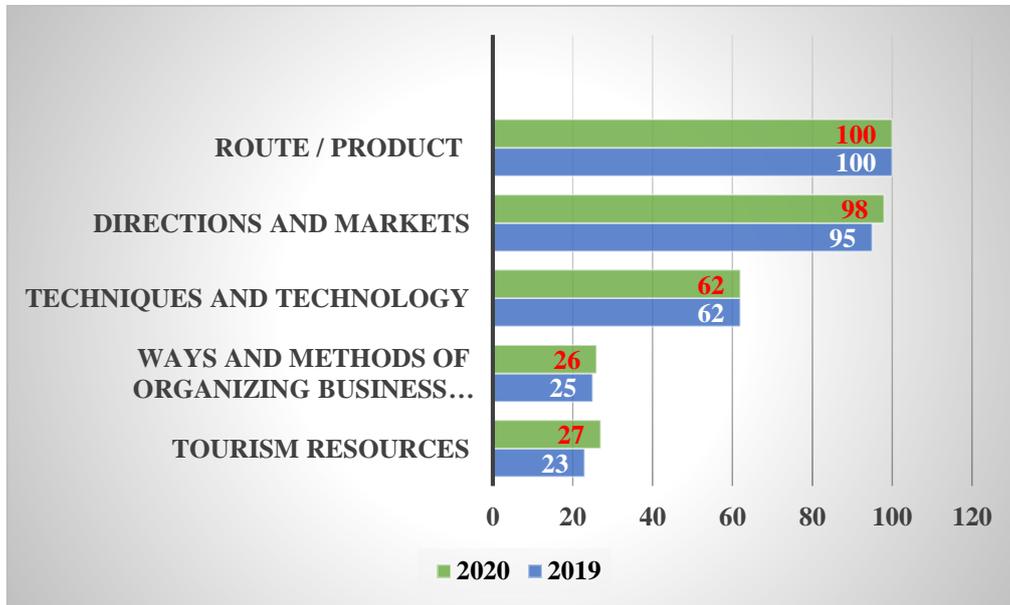


Fig. 3 Main types of innovations in tourism enterprises in the last 3 years.

Source: Authors illustration

In the second part, the respondents were asked to evaluate the significance of the factors that influence their innovation activity in a positive or negative way. “Government policy”, “Lack of qualified personnel” and “Lack of investment” were among the causes of insufficient innovation activity. It is to be noted that respondents’ opinion has remained practically the same over the past period (Table 1).

Table 1. Main reasons for insufficient innovation activity

Main reasons for insufficient innovation activity	2019 (%)	2020 (%)
Government policy	61,9	63
Lack of qualified personnel	52,4	51,3
Problems related to attracting investments	42,8	44,2
Lack of complete, reliable and timely information about the state of the market	23,8	25,5
Lack of necessary tourism infrastructure	23,8	22

Source: Own calculations

These figures reveal certain shortcomings in the work of Latvian government structures that are responsible for the state policy in promoting innovation. At present, not even data on the level of innovation



activity in different industries, and tourism in particular, are available. Assumptions can only be made on the basis of general statistical data. The lack of qualified personnel is another issue to be considered. There are a number of universities and colleges offering a course in tourism, which are involved in a competition to attract and retain students. This aspect needs a separate investigation in order to find out the reasons for low qualification of Latvian graduates in tourism industry.

As many as nearly half of the respondents marked “Problems with attracting investment”. However, such reasons as “Weak management/leadership” or “Organizational culture of enterprise” were marked by very few respondents (about 5%).

Furthermore, the respondents were asked to answer the question: “What is necessary for an active use of innovations in your company?” The majority of the respondents (80.9%) chose “qualified personnel”; the second most significant reason was “Tax exemptions for tourism companies” and “Use of up-to-date information and communication technologies” (76%). “Effective Management” ranked third, which takes us back once again to the issue of personnel qualifications and managerial personnel in particular.

The respondents consider that “Cooperation with clients” and “Cooperation with suppliers” are the most important factors that affect an active use of innovation. Key factors are shown in Table 1.

Table 2. What is necessary for an active use of innovation in your enterprise?

What is needed for an active use of innovations	2019 (%)	2020 (%)
Qualified personnel	80,9	80
Use of up to date technologies, such as social networks	76	79
Fiscal incentives	76	77
Effective management	71,4	73
Cooperation with suppliers	61,9	61,9
Cooperation with clients	61,9	71,5
Financial support from the government	57	59,2
Creative environment	57	57

Source: Own calculations

When asked about their plans in so far as the development of innovation activity is concerned, over 90% of the respondents are planning “To develop along the same lines”.

Question 6 asked the respondents to choose which of the four statements best describes their commitment to embrace innovation.

Most of the respondents (38% each) have chosen “Innovation is among our priorities. We are able to generate new ideas and approaches” and “We value innovation. We are able to recognize new ideas and approaches and to implement them quickly”. 19% answered that “Innovation is our primary objective. We are creative and implement new ideas and approaches regularly”. Only 4.8% answered that “Innovation is



not a priority in the markets where we are working”. The responses that we have analyzed have shown that the majority of the respondents are willing to use innovation and consider it as a priority.

Part three of the research contained a number of questions related to the number of employees, types of tourism as well as the location of the enterprise. The answer to the question “Number of employees” helped to eliminate bigger enterprises which employed over 250 people, while processing data. The respondents’ answers to this question have shown that over the past period, there has not been any significant change, and micro enterprises still account for over 60%.

When asked about “Area of travel agent’s operation” the majority of the respondents (50.0%) are only involved in incoming tourism, and nearly 5% in only outgoing tourism. However, about 43% operate in both areas.

Another aspect investigated in this research was to determine the types of tourism offered by Latvian travel agents. The results are shown in Table 3. We can see that cultural tourism ranks first (95.2%), event tourism being second (57.1%). The fewest number of the respondents operate in the area of religious and pilgrimage tourism (28.6%), and in agricultural tourism (23.8%). Despite the viability of business tourism, only 42.9% of the respondents operate in this area.

Answers about the location of tourism enterprises have shown that over 90% of the companies involved in the survey are situated in Riga or Riga district, and the rest are located in Liepaja, Daugavpils and Ventspils.

The next step at stage two of model development was to define the types of questions. For the purposes of this survey, closed or semi-closed questions have been used. Closed questions are meant to contain several options for the answers which are to be worked out before the survey begins.

Table 3. Types of tourism offered by your enterprise

Kinds of tourism	2019 (%)	2020 (%)
Cultural	95,2	94,6
Health and wellness	47,6	49,0
Business	42,9	43,2
Rural	23,8	25,2
Event based	57,2	54,3
Gastronomic	52,4	52,4
Sports	38	36
Religious and pilgrimage	28,6	29,6
Educational	33,3	34,5
Other	4,8	

Source: Own calculations



For example, “Name the main types of innovation in your enterprise over the last 3 years”, “Which sector of tourism does your enterprise operate in?” Closed questions have a number of advantages, because they are easy to process and are not time consuming for the respondent when they are completing a questionnaire. Our survey has proved this point, since all our respondents took a short time answering this particular group of questions.

However, where it was not possible to exhaust all conceivable answers, semi-closed questions were used. With this type of question, the respondent could use one of the answers suggested in the questionnaire or come up with their own answer. The last item on the list of semi-open questions was “Other”, e.g. “other factors of insufficient innovation activity in your enterprise”. Semi-closed questions offer the respondent an opportunity to express their opinion about certain questions. It should be noted however, that quite a few respondents marked these options but were reluctant to elaborate. It is highly likely that most respondents were reluctant to spend their time thinking over and writing their answer.

It is to be noted that the questionnaire also contained a number of answer options with peculiar design specifics, namely, scale questions and multivariate ones. When answering a scale question, a respondent is supposed to specify the intensity of the matter in question. As an example, they may be asked to evaluate innovation activity in their enterprise. With multivariate questions, however, respondents are asked to choose one of the answers on the list.

Since the respondents were supposed to give their personal opinion about innovation activity, which basically meant that they had to make self-evaluation, direct questions were used in the questionnaire. On the other hand, when the questions were connected with the factors that encourage or discourage innovation activity, it was the opinion of the executives of Latvian tourism SMEs that was relevant. The use of indirect questions meant consent or lack of consent with other’s opinion.

The use of procedural (functional) questions helped to enhance the course of sociological survey. Procedural questions concerned:

- location of the enterprise;
- number of employees;
- types of tourism.

Filter questions helped to single out a group of respondents according to a definite characteristic, such as the level of competence, for example. A filter question was used when the respondents were asked to mark the main types of innovation in a tourism enterprise.

In the course of a sociological research, it is not possible to investigate all the elements of the object under study. Therefore, it is necessary to create an aggregate to be investigated. It is necessary to separate the elements which are to be studied. For example, of all Latvian tourism companies, only small and medium sized enterprises were singled out. However, statistical data led us to a conclusion that all Latvian tourism operators are in fact SMEs. Therefore, selection method has been applied. This is a formalized method which is built according to pre-defined rules. Selection method helps to achieve maximum

representation. The main criterion for the choice of a tourism enterprise was its position on the Latvian tourism market. This means that this research was aimed at the leading tourism operators of Latvia.

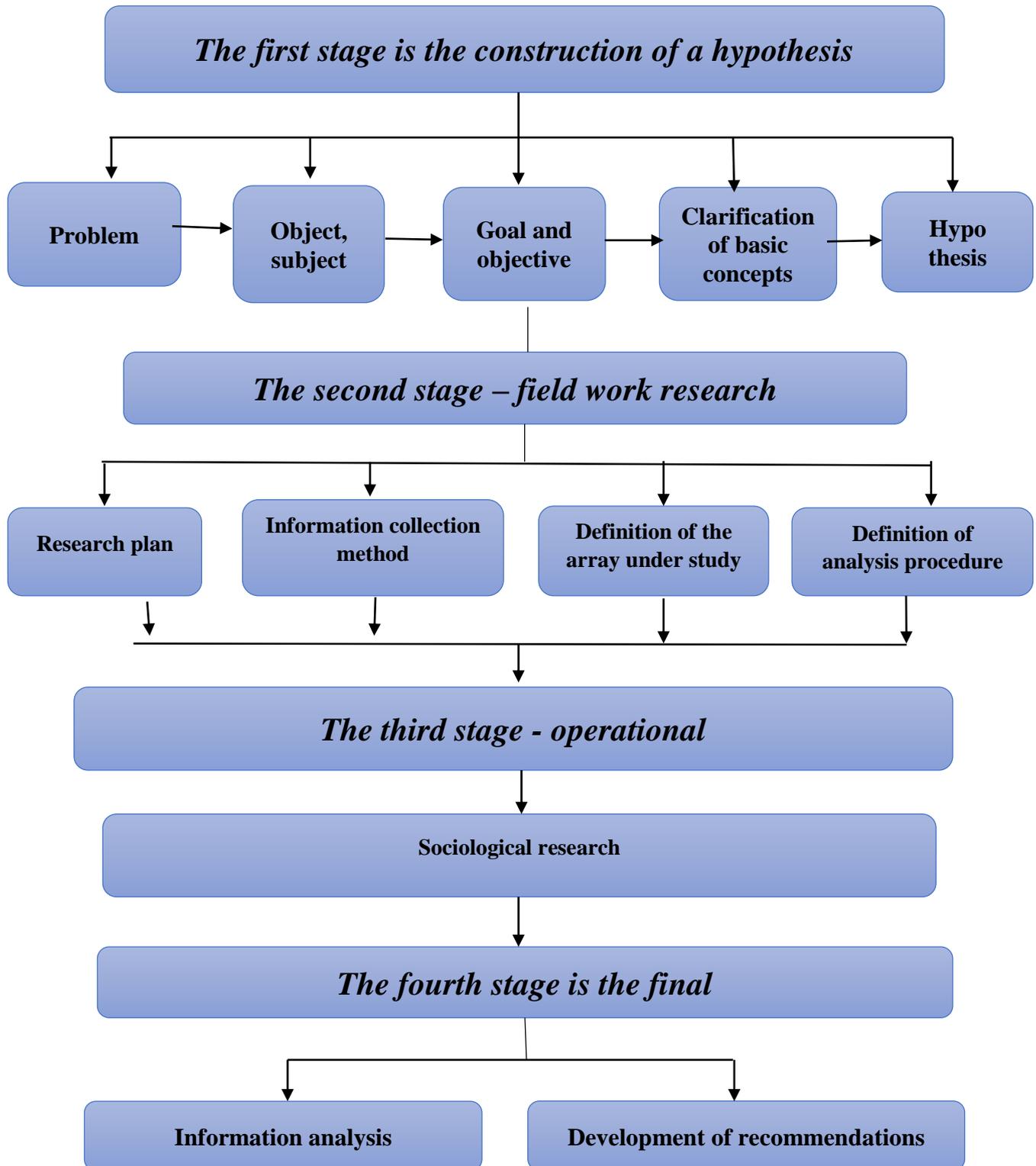


Figure 4. Research model of innovation activity in small and medium sized enterprises in tourism.

Source: Author's illustration



As far as contacts with the respondents are concerned, the author used in-person interviewing. Among the advantages of this kind of questioning is low risk of getting unfilled questionnaires. Besides, the collection of information has a precise timeframe.

The survey that has been carried out can be defined as an expert survey. An expert survey is a specific type of survey. It is not a large-scale survey, but it plays an important part in sociological research. This method is essentially based on data collection from competent persons who have a deeper knowledge about the subject under study. In this case the executives and top managers of tourism enterprises were the experts to be interviewed.

Stage three is operational and procedural. It involved data collection on the object under investigation. In fact, stage three is sociological research itself.

At this stage preliminary data processing was carried out in order to study all the materials that had been collected. Furthermore, the amount of the materials (questionnaires) collected was compared with the pre-planned amount of the selected aggregate. Considering a relatively small number of Latvian tourism enterprises, data retrieval was done manually. After that data were analyzed statistically and divided into groups in order to draw up tables and diagrams to provide visual presentation of the data obtained in the course of investigation.

Stage four is the conclusive stage. It involved data analysis and preparation of the resulting documents. The analysis of the collected data helped

- 1) to assess the level of innovation activity in small and medium sized enterprises in Latvia and prove the first hypothesis;
- 2) to determine the main reasons for low innovation activity in Latvian tourism SMEs.
- 3) To provide a better visual presentation, the research model is shown in Figure 4.

In order to determine the final total, the findings of this research have been compared with the official statistical data relating to innovation activity in Latvian SMEs

According to the data published by the European innovation scoreboard (EIS) in 2019, R&D expenditure in the public sector reached 55.2%, SMEs product/process innovations – 42.7%, SMEs marketing/organizational innovations – 43.0%, and SMEs innovating in-house -33.9%. (European Innovation Scoreboard, 2020). These figures prove that tourism enterprises perform better in some aspects than Latvia's average. For example, SMEs in tourism are more active in creating new products and the use of marketing innovations.

Based on the information obtained in the course of this research, a number of methods of direct and indirect promotion of innovation activity in Latvian SMEs have been proposed.



CONCLUSION

Research model was developed to investigate innovation activity in Latvian tourism SMEs and was first tested in 2019. It was later used in 2020. The application of this model has shown that it needs enhancement and certain amendments, namely:

- Considering extensive use of information technologies and also the restrictions due to COVID19, it is necessary to stop using in-person interviewing as the only option.
- Develop a questionnaire with fewer semi-closed questions in order to reduce the time needed to fill it in.
- To think over the steps aimed at encouraging the management of tourism enterprises to take part in this kind of research.

The fact that Latvian tourism has suffered great losses as a result of COVID 19, does not mean that this industry will not be able to come alive again. As an example, Balttur – the exhibition that has been held in Riga every year, is scheduled to take place in April 2022. This is a demonstration of optimism that exists in tourism industry. It should be noted, however, that the issue of innovation activity has been downgraded on the list of priorities, because tourism enterprises are now using other forms of retaining their business in order to survive. Nevertheless, any epidemic is bound to end sooner or later. It means that Latvian enterprises should start thinking today about boosting their innovation activity.

Moreover, this model with certain modification of the questions can be applied to investigate SMEs not only in tourism but in other industries as well, since the issue of innovation activity in Latvian SMEs is still relevant. Latvia has been in the group of Moderate innovators for a long time now. The geography of the use of the research model can also be expanded. In particular, the authors plan to test it in Kazakhstan, which does not fully use the existing high tourist potential.

In order to make a breakthrough in the area of innovation, it is necessary to change the attitude to innovation activity among entrepreneurs and the public in general. Innovations are indispensable for the growth of prosperity. Therefore, they have to gain extra incentives.

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All authors have read and agreed to the published version of the manuscript.

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Conflict of interests

The authors declare no conflict of interest.

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