

Innovation Marketing in Electronic Ticketing System and Strategic Relationship in Public Transport

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Abstract: *Interest in the services sector has grown and has assumed an important role in emerging economies. This article presents a study of multiple cases that pursued to analyze the marketing of innovation in services, on the perspective of the implementation of electronic ticketing among the associated companies of public transport. It was observed that the technology used in the electronic ticketing system is considered the greatest technological innovation for the associated companies in recent years and that it opens possibilities of revolutionizing the control and marketing models of public transportation. Finally, with regard to innovation in services, it should be noted that improvements related to companies and their methods in the integration of activities seem to be a promising way to meet the demands of an increasingly demanding and selective consumer market; as well as to obtain relevant gains in a sector in full decline.*

Key words : *focus group, innovation marketing, strategic relationship, services, public transport.*

1. INTRODUCTION:

The continuous increase in business opportunities and the growth of global competition are giving rise to demands for new administrative knowledge tools and new capabilities [1]. Within this context, companies' strategies need to be more flexible and innovative [2].

The changes and growth in the integration of the world economy that occurred in the 1990s strongly affected Uzbekistan and competitiveness became an imperative of the contemporary Uzbek model. This became particularly important as it occurred in the midst of a process of rapid technological change and financial globalization.

Recently, interest in the service sector has grown exponentially based on the findings of its strength in development and economic integration in advanced economies, not only for its function of generating employment and income, but also for its growing importance in its interface with industry for the promotion of technical progress and the creation of social wealth. At this point, one of the most remarkable phenomena in recent decades has been the growth of the service sector in the world economy, often called the Third Industrial Revolution. This Third Industrial Revolution is characterized by an increase in service activities at the expense of the industrial sector. These activities include public services such as transportation, telephony, health, among others.

The issue of innovation in services is often assimilated to the adoption of technical systems (particularly computerized systems) arising from the inventiveness of industrial sectors, to the detriment of other less tangible or less specular forms of innovation.

Within this context the development of creativity, knowledge and new ideas have become essential in an era where innovative business models allow organizations to gain competitive advantage [12].

The question of how companies organize their ability to change in relation to changes in the environment is a fundamental question to be researched, especially with regard to the resizing of their structures [14]. The vision of companies that invest in innovation and the creation of values for the market is changing, influenced by efficiency and control, which are important variables, along with flexibility, creativity and agility.

Adapting goals and demands to new innovative models has been a challenge for organizations throughout history, but in recent decades it has become more crucial. In the past, management experiences were often employed in traditional organizations in the form of formal strategic planning. However, this traditional managerial "philosophy" can no longer produce effective strategies and strategic processes in this new competitive landscape, especially in the area of services.

The keyword of the new landscape is flexibility in strategy and organization; and to achieve this, public service providers are increasingly joining forces to reach the end consumer.

The association that brings together the inter municipal carriers of the capital passenger region of Tashkent represents this type of effort to increase the flexibility of companies and make them more

competitive. The association organization was founded in 1992 with the purpose of bringing together the companies that carry out the collective transport of passengers between the municipalities of the State Association of Passenger Transport Enterprises of Tashkent city "Tashgorpasstrans". The Association of Carriers brings together companies from the same sector that are partners in public transport, representing an excellent object of study for innovations in the area of services.

Thus, this article presents a study of multiple cases that sought to analyze the management of innovation in services, from the perspective of the implementation of electronic ticketing among the associated companies.

2. DEVELOPMENT:

This research has a qualitative character, being classified as exploratory. During the definition of the research model, the qualitative approach was selected because it is able to contemplate the complexity of the aspects that compose the organizational scenario, which is the stage of the human interactions studied, which extrapolate the boundaries rigidly delineated by the quantitative instruments of data collection [15]. The descriptions of the phenomena are impregnated with the meanings that the environment gives them, and since they are the products of a subjective view, they reject every quantitative numerical expression, every measure. In this way, the interpretation of the results appears as a totality of a speculation that is based on the perception of a phenomenon in a context. In a generic way, the expression "research method" means the choice of systematic procedures for the description and explanation of phenomena [13]. Within the scope of qualitative methods, the research strategy selected here was that of studying multiple cases. The multiple cases analyzed in this article address the relationships between municipal transport companies in Tashkent that are related through the association of intercity passenger carriers.

The use of multiple case studies is justified because this type of case study examines the phenomenon in its natural environment, using multiple methods of data collection to gather information on one or more variables (people, groups or organizations), and where the limits of the phenomenon are not clearly defined at the beginning of the research. Verifying this sense, it is argued that the case study is a research strategy that focuses on the understanding of a dynamic present, which has a set of singularities.

The study of multiple cases makes it possible to confront and compare the cases, besides producing more reliable and generalizable results[6]. In a way, the evidence resulting from multiple case studies is considered more convincing, and the overall study is more robust.

The logic behind the use of multiple case studies is the same as for a single case. Each case(**Figure 1**) must be carefully selected in order to: (a) predict similar results (a literal replication); or (b) produce contracting results only for predictable reasons (a theoretical replication). Multiple case projects have distinct advantages and disadvantages compared to single cases. The conclusive evidence of multiple cases is considered to be more convincing, and the overall study is therefore seen to be more robust.

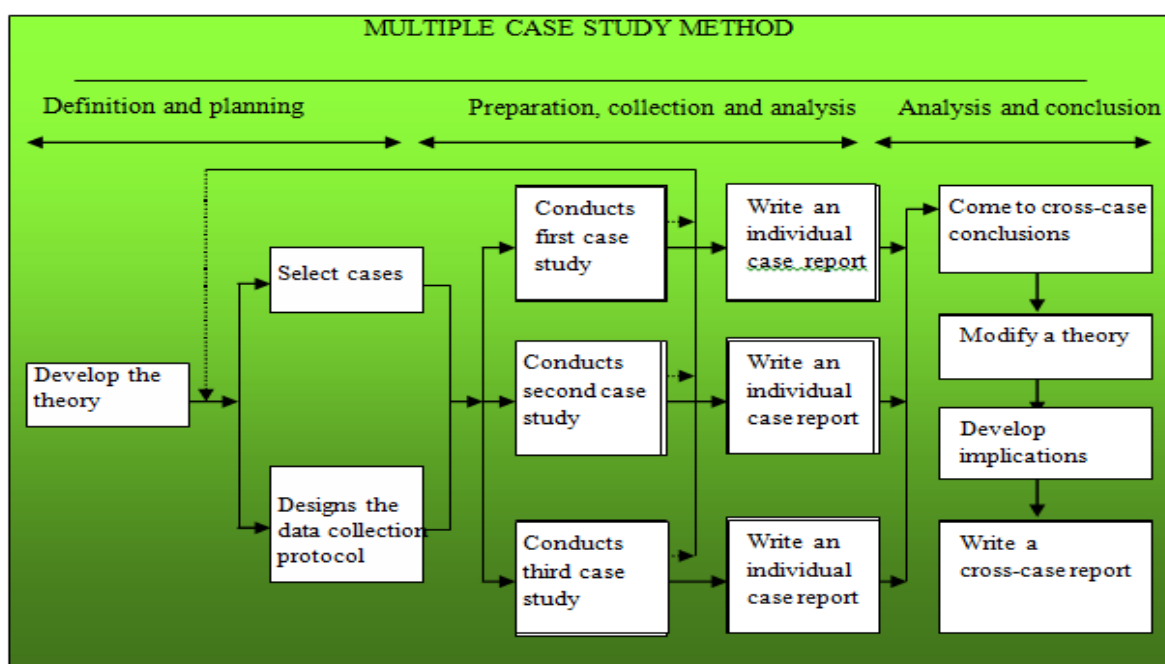


Figure.1 Multiple case study method

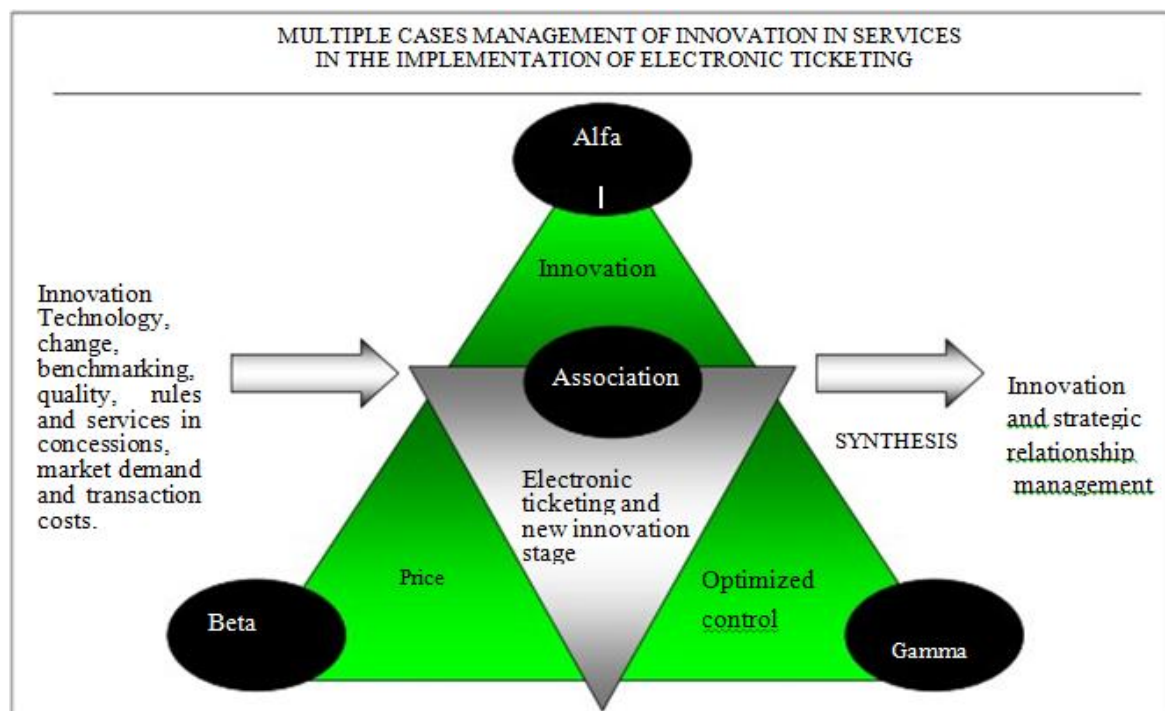
The association is a civil, non-profit entity whose main objectives are: to bring together the concessionary and per missionary companies of inter-municipal passenger transport in Tashkent, to distribute transport vouchers and to promote activities aimed at providing logistical and operational support to the members. The entity was founded in 2013 and has 23 member companies.

In total there were five interviewees. The interviewee of the association is an executive manager and has worked for more than 25 years in the sector of collective transport acting in the managing body of collective transport in the seventies. At Alfa, the financial director who works in the sector for over ten years was interviewed. The company Alfa is a small, based in the city of Jizzakh and operating in the sector for over 25 years. The shareholding control is familiar and is currently in the third generation of the founding family.

The Beta company had two interviewees. The first is responsible for the technology area, working for more than ten years in the company, and the second works in the administrative and operational area for more than five years performing this activity. The Beta company is controlled by two families. Operating in the segment since the nineties and based in the city of Samarkand.

Gamma is based in the city of Tashkent and has been operating in the passenger transport sector since the forties, serving the inter regions of Tashkent. The interviewee has been working in the transportation sector since the seventies. He began his career in the transportation sector in the areas of planning and research. He works in the company as planning director having control over the operations of the firm.

The structure of the multiple cases (Figure 2) of this work is summarized below with a direct focus on the variables of innovation analysis and the synthesis of the work.



In the analysis of multiple cases, the variables used to understand the management of innovation in services, from the perspective of the implementation of electronic ticketing, were: technology, change, benchmarking, quality, rules and services in concessions, market demand and transaction costs.

The development of new technologies, such as electronic ticketing, causes companies to move to a different stage of the use of technology with greater transparency of information. This new stage is a completely new challenge in the modernization of companies. At this point, it is observed that the use of a new technology reflects an innovation.

The changes to the transformations caused by the use of the new technologies will not be immediate as far as the users of public transport are concerned. The interviewee states that it will be necessary to win a prepaid card clientele. According to the interviewee, the demands of the granting power have led to an improvement in the quality of service and the rules are established according to each region. Regarding

benchmarking, the directors of the companies exchange information about the processes of excellence of each one and, eventually, promote visits of technicians to learn the best practices.

The rules for operating the public passenger transport service are dictated by the granting authority and the firms only follow the rules dictated by the managing body. The granting authority establishes the quality standards, routes, schedules, punctuality, frequency, comfort, safety, technical characteristics and age of the fleet. The companies are obliged by the public power to qualify their services and practice a more modern management.

With regard to market demand, the firms have pursued in the last fifteen years to maintain their size and protect their position in the market. The alternatives for growth are perceived as very complicated due to the nature of the activity. Firms do not receive any kind of government subsidy and have to keep up with the revenues from the exploitation of the business itself.

The companies aim to save transaction costs to avoid passing on the increase in costs to users by further aggravating the drop in the number of passengers transported.

Alfa Company: electronic ticketing innovation as value addition

Change as a process is little perceived by the Alpha company. The interviewee states that the company chose not to diversify its activities some years ago because it is traditional, familiar and more resistant than other firms to change. In order to maintain its competitiveness, the technology was cited as a tool to add value to the services provided by offering additional services to users by increasing gross revenue, as did lottery agencies that previously only made games.

The quality is perceived in the better use of buses with the use of more adequate routes and schedules, in addition to smaller vehicles, were cited as alternatives to increase the quality of services provided and enable operational efficiency of the firm.

The rules of the granting power do not allow the growth of the market share due to the limitations of the company that cannot implement new services. The interviewee states that the company has no way to expand and needs to add value to gain competitiveness. The reduction in the number of passengers transported has been constant and the interviewee aims to unite the company with others in order to recover competitiveness. Changes in the way of life of the population such as new job opportunities outside the center of Porto Alegre, the use of the Internet, the high cost of traveling, the acquisition of cars and motorcycles have contributed decisively to the reduction of passengers transported.

The increase in the cost of inputs, which raises operating costs, is pointed out as a factor that financially unbalances the company and the delay in readjusting the tariff causes problems such as the reduction of working capital.

Beta Company: electronic ticketing an expensive solution

The electronic ticketing is pointed out as an expensive solution in the implementation that due to the characteristic of operating with multi-section tariff. This forces the company to install equipment with GPS at certain points in order to allow charging for the stretch to be traveled. The interviewees affirm that information technology is a new fact in the collective transport of passengers. According to those interviewed only five years ago, information began to be seen as a way to improve the profitability of companies. The change in vision, according to the respondents, the reduction in profitability was accelerated by the multiplication of competitors creating a need for operational efficiency. Ticketing will enable the integration of the entire metropolitan system similar to what occurs in Samarkand.

The adoption of quality programs has caused the need to bring firms closer together and develop new practices. Firms had tried to create the quality programs on their own and in isolation. According to the interviewees, this attempt was unsuccessful and was successful in working together with other companies and with the help of a specialized entity.

The company has implemented additional door-to-door transportation-like services in order to meet a demand for transportation from college students. The processes of change, inherent to innovation, are considered by the respondents as inherent to the business and the company adapts reasonably well to the implementation of new practices and has sought to improve processes.

Respondents report that the company provides information about its best practices to other firms in the same industry that seek it for process expertise. They report on a company's visit to understand its transportation voucher systems that allowed for traceability and better control of emission and distribution. As well as representatives of the company know the best practices of other companies in the sector whether they are connected to the Association or not.

Regarding transaction costs and rules on concessions, the average age of the fleet varies from city to city from six to ten years according to specific legislation, which affects the price of the ticket, because it changes operating costs. The companies have determined areas to carry out the transport of passengers

ruled by the granting power. The companies that have concessions have to provide services not always profitable obeying the determinations of the granting power. The fares determined by the granting authority vary according to the cost calculation criteria of the body that manages the region.

The number of passengers carried has fallen by around five percent per year and the downward trend continues. The figures are not accurate due to the lack of a reliable information system to provide the necessary data for this assessment. The company has sought to offer company-specific services for the transportation of employees. The so-called chartering is an informal agreement between the company and its contractors. Respondents believe that the increase in fares further exacerbates the drop in passenger numbers. Seasonal passenger demands are also cited as factors that further aggravate the company's operational difficulties in optimizing the use of its vehicles and personnel. The average occupancy rate was estimated at fifty percent of the available seats and the break-even point of a line bus for this company is reached with about thirty passengers transported. The expansion of the metropolitan train line to the company's headquarters city is pointed out as a business opportunity for short distance transport, according to the interviewees, more profitable and in which they could offer more quality.

Operations such as executive passenger transport have high costs and low net operational return which burden the system as a whole. Low passenger volume schedules are also pointed out as responsible for the increase in operational costs. The firm pays circulation tax on goods and services and are exempt only in operations with transportation vouchers considered a social benefit. The company operates with operating costs considered high by the interviewees, reducing profitability. The cooperative purchase is cited as a tool for reducing transaction costs, but is not yet carried out. Respondents affirm that the company's great challenge is to reduce the price of the ticket so that there is a greater volume of passengers.

Company Gamma: electronic ticketing optimizing controls

The electronic ticketing system was already tested in Tashkent in the 2017s and due to dissatisfaction with the results the project was abandoned. Today, the interviewee states that the electronic ticketing system will optimize controls by minimizing fraud and reducing revenue evasion. The interviewee states that for the operation and control of routes and schedules there is no software that optimizes these operations. The development of solutions of this type is considered complicated by the amount of variables involved.

The firm seeks to improve its processes by minimizing waste in order to provide gains in quality and operational efficiency. The interviewee believes that it has a great revenue evasion and can improve the quality of the process and services increasing its effectiveness. The interviewee considers the processes of change inherent to innovations difficult to occur in the transportation sector. The main reason pointed out is the difficulty in understanding the processes, such as tariff calculation, by the political class that holds the decision-making power to implement or not implement innovations.

The interviewee reports that benchmarking processes are carried out with some companies. There are company projects such as the accident reduction program that have become a national reference and the practices are studied by other companies as reference practices for implementing process improvement. The interviewee also states that there are not many novelties in the sector and the revolutionary practices are not happening. The companies affiliated by the Association exchange information on issues such as optimization of employee working hours. When they negotiate with unions, the rules for workers have to be the same in all companies. Therefore the exchange of information has to be transparent between the companies. Other process management such as fuel consumption or exchange of experiences are shared in forums promoted by the association or other entities.

Firms must operate at predetermined times fulfilling their social function according to the rules of the granting power. The managing body demands quality, comfort, compliance with timetables and routes, preventive and corrective maintenance of firms that are not flexible. When any of the rules are not complied with, fines or penalties are applied. Any change in routes or schedules requested by the firms must be justified and, according to the interviewee, the company has used data from internal surveys following the requests for changes. The managing body is seen by the interviewee as a partner and inspection simultaneously.

The number of passengers carried has fallen systematically in recent years due to the facilities provided by technology. The use of the Internet to pay bills and to work at home, the improvement in the structure of neighborhoods, the emergence of jobs outside Tashkent, the increase in commuting, were cited as the main factors responsible for the fall in passenger demand. Despite this, the interviewee does not consider this factor to be an impediment to the growth and profitability of the firms. The hiring of technicians by the private sector is attributed as a merit, since its higher qualification has allowed the operation to adapt

to demand. Currently, the interviewee states that the company treats the passenger as the only and indispensable to adequately attend and their expectations to keep them using the service. The passenger focuses his decision on the type of transport to be used according to his perception of cost-benefit of the service offered. The interviewee states that if the user has an option in which he or she perceives the best cost-benefit ratio, he or she will no longer use the previous solution. Passenger loyalty is considered essential to avoid further aggravating the fall of passengers transported.

Gama Company optimizes processes in order to reduce waste to reduce operating costs. The cost per kilometer driven is considered high and to reach the breakeven point it is necessary to drive more than fifty percent of the maximum capacity during the whole stretch. Exemptions are regarded as invisible costs passed on to the paying user, which further burdens the rate.

3. SUMMARY AND RESULTS

The interests of the firms are considered by all interviewees to be divergent due to operational differences. The interviewee of the association proves this statement by defining one of the association's roles as mediator of conflicts of interest.

Alfa, Beta and the Association claim to have a high level of interaction with other firms in the exchange of indicators and experiences. The interviewee from Alfa states that this exchange is considered infrequent or non-existent. The company's participation in other companies in the sector makes the exchange of indicators and experiences easier due to its geographical proximity.

All respondents have the view that their main competitors are substitute products for collective transport such as individual transport or even the option to walk. Competition among member companies is seen as low intensity due to restrictions imposed by the granting power.

The cooperative purchase, which is not yet carried out, is cited by three of the four interviewees as an important factor in reducing transaction costs. The representation of companies before the managing body and trade unions and the development of technologies is cited as the main factor of inter-firm cooperation. Two of the respondents cited benchmarking as an activity of strategic importance in inter-firm relations. The trust between the firms is considered high, since the agreements signed are fulfilled and in the face of disagreements the Association and the managing body acts as mediators in the conciliation of interests. According to the interviewees, these disputes rarely occur and do not undermine trust between the companies. The interviewees affirm that the autonomy of the firms is maintained and that there is no interference by the Association or by other companies in the independence of administrative and operational policies. The joint representation of interests and the development of technologies are the main factors highlighted for the development of a relationship of dependency between the firms and the Association. The formation of this network has become a way of gaining scale in problem solving, but has also established a dependency on this structure.

4. CONCLUSION:

The technology used in the electronic ticketing system is considered the greatest technological innovation for firms in recent years and opens up possibilities for revolutionizing the control and management systems of public transport. The processes of change are considered slow and difficult to implement in the firms. Due to factors such as organizational culture, considered traditional and the small incidence of revolutionary practices in the sector, only information technologies are cited as innovation for effectiveness.

The benchmarking process is cited by three of the four interviewees as important factors for organizational learning. Only one of the interviewee's states that this exchange between companies linked to the Association does not occur.

The rules imposed by the granting authority establish standards for the average age of the fleet, routes, schedules, fare to be charged to the user, the comfort that the vehicles have to offer, the maintenance and the areas of operation of each company. The delimitations of areas of operation prevent competition by market among companies.

In the mass transit sector of the metropolitan region of Tashkent, passenger demand has been falling year by year. The factors pointed out for this fall is: the ease of acquisition of individual means of transport, the high price of tickets and changes in the destinations of users of public transport. The technicians of the firms constantly seek to adapt the operation to the demand, promoting adjustments in search of operational effectiveness to offset the drop in demand. The constant increase in transaction costs leads the

firms to seek solutions and alternatives to preserve their profitability and competitiveness. This is the main factor for the performance of firms in networks or the search for strategic alliances aimed at saving transaction costs and gains of scale and scope. Within this context, it is observed that innovation in services has to be seen as an interactive and incremental process, dependent on the relationship of companies with other agents, such as clients and professional services companies [10].

The research conducted was not intended to bring the reality of the entire sector, but rather a vision of the reality of a set of companies operating under similar conditions in a nearby geographical area. The results of the primary data collection reflect respondents' perceptions of innovation management issues and strategic relationships addressed, and there may be disagreements between professionals in the same firm or sector.

The limitations of the research leave gaps for future research in the sector's companies, such as the expansion of the analysis of strategic relationship factors, since there are at least three more associations with similar characteristics in the state of Samarkand. The mechanisms of governance and coordination of inter-firm networks were not explored in the study and may be an important aspect to be verified in the future in collective transport companies. In addition, a detailed analysis of perceptions about the strategic relationship within a few years may establish the evolution of inter-firm cooperation competition relations and allow a follow-up of the evolution of these practices.

Finally, with regard to innovation in services, it should be noted that improvements related to companies and their methods in the integration of activities seem to be a promising way to meet the demands of an increasingly demanding and selective consumer market; as well as to obtain relevant gains in a sector in full decline.

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