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## **DEVELOPMENT OF A NEW SERVICE FOR THE ENTERPRISES OF RAILWAY TRANSPORT**

### **Abstract**

*The development of railway infrastructure in the direction of customer-oriented modern requirements and European standards reform the industry. In this way, management is implementing a new system of communication with passengers in the form of a hotline, which improves the efficiency of the railway companies, reducing corruption and inefficient management.*

*The priority competitiveness, attractiveness, management effectiveness is to improve existing services additional railway undertakings and the introduction of new, as dictated by the development of society and the requirements of passengers to the service and quality of service.*

*Previous studies had evaluated the composition of existing services additional railway undertakings type passenger station Ukraine, which revealed major problems for their effective functioning. Conducted market research revealed the potential demand for the new service, such as "Meeting guest (meeting foreign guests)."*

*The article deals with the formation of the cost of new services. For the new service has been developed technology, timing and calculation by the example of passenger stations Kharkiv and Lviv. The evaluation of the effectiveness of implementation of the new service and calculated the additional revenue that the company can get from the introduction of new services.*

### **Keywords**

*Additional service, timing, calculation, technology, efficiency, passenger.*

### **Formulation of the problem.**

Modern development of rail transport due corporatization sector to increase investment attractiveness and efficiency of its competitiveness. All railway undertakings trying to work on the principles of self-sufficiency, but passenger traffic is not always possible, that is the main problem.

The main factor in the success of any enterprise passenger railway transport is its client-orientation. It passenger (customer) stimulates the company to raise service standards and conduct regular monitoring of needs and shortcomings in additional services. Operation of additional services railway undertakings determines the level of client-level enterprise development and degree of integration.

Results of the V International Conference "Marketing and logistics management system in railway transport" held from September 29 to October 2, 2015 in the city. Kamenetz-Podolsk [1], confirming the importance of additional services railway undertakings with a focus on passenger and the fact that managers are aware of the need for change and the introduction of new technologies.

The need of additional services railway undertakings according to the priorities corporatization of the railway industry and led to the choice of the direction of this study.

### **Analysis of recent researches and publications**

Problems efficiency of additional services railway companies dedicated to scientific papers O.V. Bakalins'kogo, V.V. Vertel', V.I. Pasichnyka [2-4] and others. The development of theoretical and methodological foundations introduction of new services to railway undertakings engaged G.S. P'jatygorec', A.O. Dergousova, O.G. Shalja [5-7] and others. However, the issue

of formation of new additional services of structural divisions of railway undertakings (such as railway stations) paid insufficient attention that led to the choice of the direction of this study.

### **Setting objectives.**

The study is the development of new additional services for rail companies to improve their efficiency and competitiveness.

### **The main material research.**

The development of railway infrastructure in the direction of customer-oriented modern requirements and European standards reform the industry. In this way, management is implementing a new system of communication with passengers in the form of a hotline, which improves the efficiency of the railway companies, reducing corruption and inefficient management [8].

The priority competitiveness, attractiveness, management effectiveness is the improvement of existing services and introduction of additional new ones that dictate the development of society and the requirements of passengers to the service and quality of service. Improvement additional services railway undertakings is urgent, pressing need, because for many years, their significance was underestimated. Previous studies were conducted market research revealed the potential demand for the new service, such as "Meeting guest (meeting foreign guests)."

But first it is necessary to pay attention to features of formation of value added services railway undertakings, such as the passenger station.

Time spent on the provision of services under existing standards accepted or time and motion observations [9].

Timing - is a type of research in which study duration of elements that are repeated in cycles, as well as some elements of preparatory and final work and maintenance of the workplace.

The main objectives of timing are:

- manufacturing operation study and determination of the actual length— of hand, machine and manual and mechanized elements of work;

- identify and study best practices and methods of work in order to— design rational content and sequence of individual elements of these methods and training of all workers employed in the execution of the work;

- obtain baseline data to develop standards of operational time,— certain elements of preparatory and final work and maintenance of the workplace;

- definition of time spent on individual work to check current— regulations, failure to identify the causes of specific working rules and clarify the standards;

- obtain baseline data to identify possible connections and override— individual cost elements of time, development schedules bahatostanochnoho service under cyclic nature of the processes and determine the optimal brigade and rational distribution of work between working at the brigade form of labor organization;

- obtain raw materials for the proper operation of current lines and— conveyors in order to achieve full load of work and individual units.

The objects of study in timing is a manufacturing operation, performed by one worker or group of workers in a particular workplace or individual elements work.

During the preparation for the timing researcher studying process, analyzes it separates the elements of the transaction, examines equipment and operation workstation. All the flaws that he found must be eliminated before the observation.

Before the timing necessary to set the number of observations. It depends on the length of the elements of the operation, the type of production and requirements for the accuracy of the data. Timing can be continuous, cyclical and selective.

Analysis of the results is done to check the rationality of the operation. It turns out the possibility of reducing the cost of time on individual elements of the operation, replacement of some methods more rational. The analysis determined the composition and operation duration of

the individual elements, then set operating time for an operation. The study cost of working time provides a needed data to improve work organization, identify the reserves of productivity growth and better use of equipment [10].

Marketing researches that have been conducted in previous scientific papers have identified potential demand under which to introduce new services "Meeting guest (meeting foreign guests)." This service is essential to create the image of the city, so that familiarity with any city begins with an introduction to his station. To complete the development of a new analysis carried out for passenger service stations Kharkov and Lvov. The choice of these stations due their location in the border area, and that they are a starting point, on the one hand, Russia, and on the other to Europe. Thus, we can identify the main stages of the new service:

1. Forming technology for the service. It specifies the content of services, number of persons who will perform it, the schedule of service.
2. The timing for implementation services using time and motion observations.
3. Calculate the salary (limited staffing) and determine additional payments according to schedule workers.
4. Calculate the fund of working time in 2014.
5. Calculate overhead and administrative costs.
6. Calculate the production cost.
7. Calculate the total cost.

One of the regulations governing the work station is typical workflow station, according to which each service that exists at the station consists technology. It contains information about the unit in which the station provided a service in which a floor, someone (position) and all elements of services used for timing. These elements include: taking orders, making direct payment and order fulfillment. So for the new service has been developed technology below.

#### TECHNOLOGY

the service "Meeting guest (meeting foreign guest)»

Orders for service can take cashiers service center cashiers and international banks. To simplify the calculations by taking note that salary and working hours of those same cashiers, therefore costing the service will be one.

The "Meeting guest (meeting foreign guests)" provides that anyone (passenger escort) can be by phone or in person to order. Cashier service center (or international banks) station taking orders, accepts payment for the order and at the right time welcomes guests with the previously mentioned train and accompany the nearest metro stop, tram, trolley and so on. In parallel, the clerk may provide information services: how to get, how to get there the fastest, location, storage room, information desk at the station and others. at the request of the passenger. Meeting foreign guests made using the English language experienced specialists of international banks. For savings Station introduction of additional troops is not required, the service performing existing employees with variable schedule. Thus, the service can be carried out round the clock. After assembly technology conducted time and motion observations, calculated on the operation time and calculation is made.

#### CALCULATION

cost of service "Meeting guest (meeting foreign guests)" on Kharkiv station

1. Basic salary	1,35
2. Additional salary	0,66
3. Deduction from payroll – 37,61%	0,76
4. Total expenditures – 188,78%	3,79
Cost of services	6,56
Administrative costs - 4,09%	0,08
Profit (25,45%)	1,69
Service Cost	8,33
VAT 20%	1,67
Service Cost with VAT	10,00 UAH.

### CALCULATION

the calculation service cost "Meeting guest (meeting foreign guest)» (Kharkov)

The service takes the cashier service center (international banks). Salary cashier service center (international banks) 2 247,00 UAH. Schedule service center and international offices round the clock, and cashiers - by turns. Surcharge for night - 12.7%, for the evening - 3.6% for public - 2.7% premium - 20%, seniority - 10% (according to the evidence of the enterprise). The operation is performed - 6 minutes (average term according to time and motion observations).

### TIMING

the service "Meeting guest (meeting foreign guests)" for the station Kharkov

1	2	3	4	5	Σ
7 min.	8 min.	6 min.	5 min.	4 min.	30 min.

T service = 30 min. : 5 = 6 min.

Fund of working time = 166.83 \* 60 = 10 009.80 min. per year (166.83 hours - the average time rate for 2014).

Individual cashier:

1. Basic salary = 2247.0 \* 6 min. 10 009.8 min. = 1.35 UAH.

2. Additional salaries:

Premium 20.0% + seniority 10% + Night 12.7% + Evening 3.6% + Festive 2.7% = 49.0%

Payroll add. = 1.35 UAH. \* 0.49 = 0.66 UAH.

Payroll = 1.35 + 0.66 = 2.01 UAH.

Deductions from FOP = 2.01 \* 0.3761 = 0.76 UAH.

Total expenditures = 2.01 \* 1.8878 = 3.79 UAH.

Administrative costs = 2.01 \* 0.0409 = 0.08 UAH.

Similarly calculate calculation for the city Lviv.

### CALCULATION

cost of service "Meeting guest (meeting foreign guests)" (Lviv)

1. Basic salary	1,22
2. Additional salary	0,60
3. Deduction from payroll – 37,61%	0,68
4. Total expenditures – 177,69%	3,23
Cost of services	5,73
Administrative costs - 34,56%	0,63
Profit (30,97%)	1,97
Service Cost	8,33
VAT 20%	1,67
Service Cost with VAT	10,00 UAH.

### CALCULATION

the calculation service cost "Meeting guest (meeting foreign guest)» (Lviv)

The service takes the cashier service center (international banks). Salary cashier service center (international banks) 2 434,00 UAH. Schedule service center and international offices round the clock, and cashiers - by turns. Surcharge for night - 12.7%, for the evening - 3.6% for public - 2.7% premium - 20%, seniority - 10% (according to the evidence of the enterprise). The operation is performed - 5 minutes (average term according to time and motion observations).

**TIMING**

the service "Meeting guest (meeting foreign guests)" for the station Lviv

1	2	3	4	5	Σ
6 min.	4 min.	5 min.	7 min.	3 min.	25 min.

T service = 25 min. : 5 = 5 min.

According to the State Statistics Service of Ukraine [11] for 2014 inflation for transport services was 124.5%, thus expected revenue should take into account inflation.

Conducting pre-marketing studies have shown that the potential demand is 1% of outgoing passengers.

Thus, the potential revenue for the station Kharkov calculated as follows:

14 964 800 people. \* 1%: 100% = 149 648 people.

149 648 people. \* 10 UAH. = 1 496 480,00 UAH. - Potential income for the year.

Given the inflation potential revenue is:

1 496 480,00 / 124,5 \* 100 = 1 201 991,97 UAH.

Accordingly, the potential income for the city station is Lviv:

11 314 911 people \* 1%: 100% = 113 149 people.

113 149 people \* 10 UAH. = 1 131 490,00 UAH. - Potential income for the year.

Given the inflation potential revenue is:

1 131 490,00 / 124,5 \* 100 = 908 827,31 UAH.

The results are summarized in Table 1.

Table 1. Comparison table of the results

Indicators	Kharkov	Lviv
1. The cost of service, UAH	10	10
2. Time of Service, min.	6	5
3. Profitability,%	30,97	25,45
4. The potential revenue for the first year of implementation, UAH	1 496 480,00	1 131 490,00
5. Potential income considering the inflation rate, UAH	1 201 991,97	908 827,31

The "welcome guests" is necessary, for example, in the following cases:

1. The trip has inclined person - or if there is a transplant or coming night will be handy if the customer meet railway company employee, will take flight, find lockers, a platform, a recreation room, another train, public transport.

2. Man rides in an unfamiliar city (travel or otherwise) - convenient service is the service "welcome guests".

**Conclusions.**

Thus, the introduction of the new service will increase the efficiency of the additional services of railway companies increase their competitiveness and profitability. Studies have shown the need to develop additional services targeting the needs and wishes of passengers (customers) to form a new image, a positive attitude customer care to every feeling and desire to help. Formation of a new approach to the provision of additional services will help to ensure that the client will wish to vote again in future rail travel.

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