TOPICAL TRENDS WITHIN THE DEVELOPMENT OF FINANCIAL PLANNING IN AN ENTERPRISE

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Abstract
Financial planning is the process of creation of financial plans and other consequent activities, such as the determination of means for their achievement, including the identification of organizational relationships and employees. To create a financial plan, various methods and approaches can be applied. Some of them are only little elaborated at the theoretical level. The content of this paper is focused on the summarization of theoretical and methodological bases of individual financial planning methods. The aim is to present positive and negative aspects of the regression method of financial planning. The research conducted indicates its low rate of practical usage at present within the conditions of enterprises. The regression method in the financial planning is based on the prediction of the course of items in the financial plan depending on the dynamics of the growth of revenue or other indicator (time, subject matter). It takes into account the statistically corroborated fact of the changing ratio of the financial plan items, which represents its advantage.

Keywords
financial planning, methods, regression,

JEL Classification
G31, M2

Introduction

Planning is an initial and one of the most important managerial functions as the changes in the economy, new technology, innovation as well as other factors such as globalization and sustainability influence also enterprises at the whole society to. (Lorincová at al, 2016, Hitka,et al, 2015). In spite of varied economic situations all managers enforce to gain economic profit and therefore as Hajdúchova mentions "enterprises have to meet economic goals and also other objectives, that affect the processes and economic results of the businesses" (Hajdúchová et al. 2017). Planning represents a starting point of all managerial functions that include organizing, staffing, leading and checking. It encompasses the determination of goals which an enterprise wants to achieve till a certain point in time and the determination of means and ways applied to achieve the goals set. Planning enables the enterprise to be managed effectively in each aspect.

"Financial planning captures the course and changes of enterprise's money and capital that are caused by the activities of the enterprise's transformation process. Within the financial planning, the financial goals are defined and the financial plans are created." (Ďurišová at el., 2015, p. 146) The topic of financial planning is wide, representing a process which is not one-time but continuous. The financial plan is continuously being adjusted as a reaction to the change of conditions in the enterprise or outside. The outcome of the financial planning is the financial plan. It is created for a longer or shorter period of time, depending on the financial manager and the whole enterprise's management, pertaining to what goals and in what time span the enterprise wants to achieve, or what it must sacrifice to achieve them. During the planning, the knowledge from the enterprise's past is used, and the predictions are made about the course of financial parameters in the future. An ideal way for effective processing of all enterprise's financial indicators, and for the creation of a financial plan with its future checking and adjusting, is the application of information technology. This can very efficiently work with a large amount of data from different sources, and it can easily present the results of the financial plan, which is very important for the checking of its successfulness. Several authors point out that the system for planning outlines the scope of the particular solutions which are then arranged in a logical sequence (Medvecka, Binasova, Kubinec, 2018; Potkany at al 2017. ; Malichová et al, 2016). Therefore many enterprises use an economic software solution for their accounting, financial budgets and the overall economic agenda. A software solution for the financial planning must collect the data from previous years, process it and apply it together with the inputs of the financial planner to create a financial plan. This plan can then be easily adjusted and the impacts of these changes on the plan or the enterprise itself and its financial results can be tracked. "A financial plan in general confronts the present and future need of financial resources on one side with the current and expected future capital resources on the other side" (Sedlák M., at el., 2010, p. 340). Planning particularly also play an important role for future success and competitiveness of enterprises in effective managers´s decision-making process (Malichová, Mičiak, 2018).

2. The methods of financial planning, current state of their application within enterprise conditions

Various methods and approaches can be applied to create a financial plan. An enterprise can choose the one which fits it the most and for the application of which it has the best preconditions, or the results of which will help it progress the most. The methods of financial planning include the following ones:

- **The global method** is one of the basic methods of financial planning. "It is based on the elaborated subject matter parts of the plan, such as the plan of sale, production, investment, human resources, and so on. It takes from them the need for funds and the amount of the financial resources being generated." (Kráľovič, 2006, p. 110) However, its shortcoming lies in its passive function.
- **The method of gradual creation of budgets** is applied mainly in the short-term financial plan (annual, quarterly and monthly plan). "The financial plan follows the so-called functional budgets (of sale, production, purchasing) representing individual functions of an enterprise. The budgets are being compared with the original draft of the financial plan and they are being mutually harmonized, which creates a realistic variant of the financial plan." (Ďurišová, 2015, p. 153, Ďurišová, et al., 2015)
- **The method of ratio financial indicators** uses the selected ratio financial indicators and the estimated revenues while planning the structure of assets, financial structure, and capital structure. The ratio indicators represent the exemplary values that the enterprise wants to achieve in the future.

- **The break-even analysis** studies the change of amount of profit and the selling price of products based on the calculation of the fixed costs for various amounts of sales or activity.
- **The method of percentage share in revenues** is based on the presumption of the fixed ratio between individual items of the profit and loss statement and the balance sheet. The enterprise determines what assets and in what structure it should have during the planning period to secure the estimated revenue growth, how much capital it needs for the investment and in what structure, and how much profit it will generate.
- **The regression method**, contrary to the method of percentage share in revenues, takes into account the statistically corroborated fact of their changeable ratio.

3. Results and discussion

Within the questionnaire survey focused on the monitoring of the financial situation of medium-sized enterprises in the Slovak Republic, one of its parts was particularly focused on financial planning. In the question "Do you use the methods of financial planning?", the individual methods of financial planning were listed.

Table no. 1 The results of the survey focused on the usage of financial planning methods

Financial planning methods	Percentage of usage of individual methods
The global method	82
The method of gradual creation of budgets	85
The method of ratio financial indicators	57
The break-even analysis	62
The method of percentage share in revenues	48
The regression method	7

Source: own survey

The respondents then expressed the degree to which they use the methods listed, using a scale from 1 (we do not use) to 5 (we always use). Based on the responses, the percentage of usage of the methods in enterprises was determined (tab.no 1 and fig. no 1)

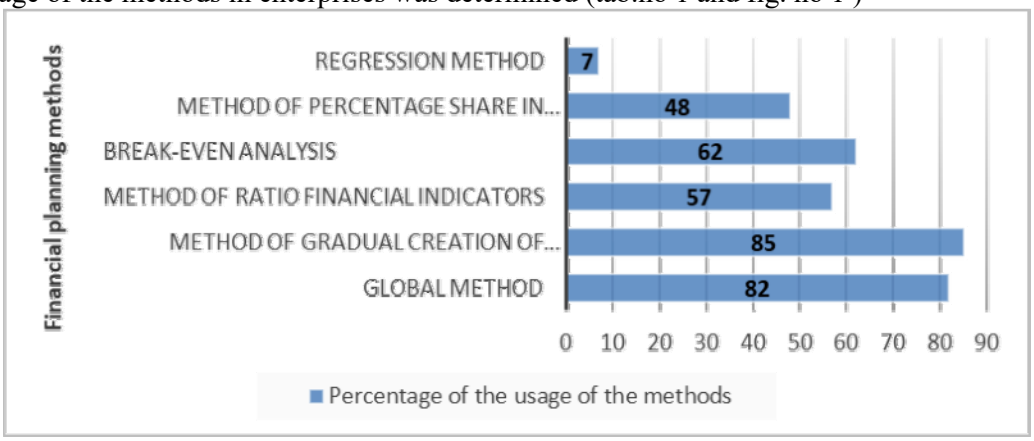

Fig. no. 1 The chart showing the results of the survey focused on the usage of financial planning methods

Source: own research

A partial conclusion from the conducted research is the identification of the low usage of the regression method in business practice.

3. 1 Drawing of the conclusions and the application of the regression method of financial planning

The regression method of financial planning of enterprises is based on the regression analysis. It can be applied here since the financial plan contains dependent data categories. These categories depend on time or they are dependent with regard to their subject matter on other variables and data categories. The amount of historical data influences the accuracy of the method's application. For the set of points created by the interconnection of data entries from 2 sets, the trend connecting line is determined. This represents the data set. The trend connecting line is usually linear, exponential, polynomial, logarithmic or of a power type. Other types can be used as well, but for the financial plan the listed types of connecting lines are preferred. Each of these trend connecting lines has its polynomial equation from which the future values can be derived. The more the data entries, the more accurate the equation becomes, making the estimated value being more accurate too.

To each polynomial equation, a reliability equation R^2 is assigned, showing the probability with which the value calculated for the future is accurate. The higher the value of the R^2 equation, then is higher the probability that the estimated value is correct. The procedure of application of the regression method of financial planning is depicted in the following figure no. 2.

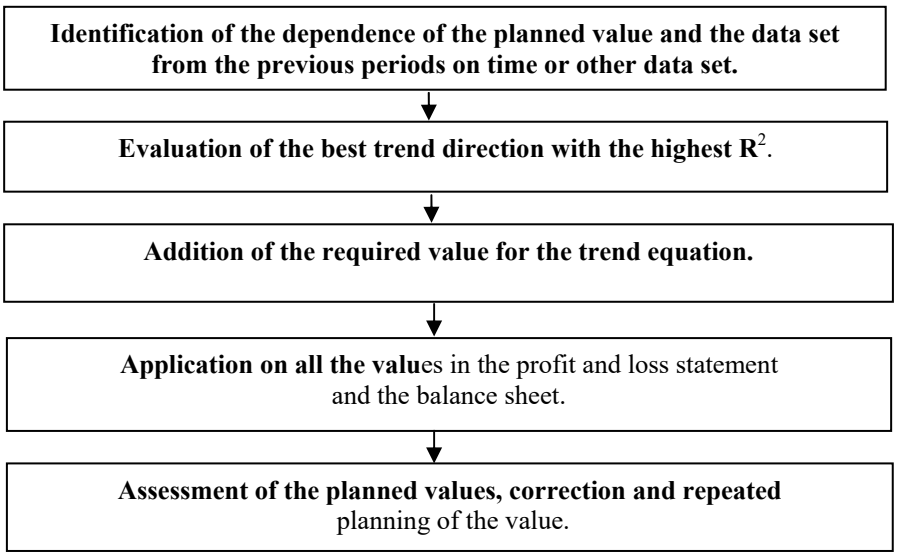

Fig. no. 2 The procedure of application of the regression method of financial planning
Source: own research

For the most values, it is possible to use the time regression, other values are being inputted directly by the planner. The planner checks all the planned data points from the regression and does the correction so that the occurrence of too great deviations is prevented. The initial data entries for the application of the regression method of financial planning were the ones from the profit and loss statements from the period of 2012 – 2018 (see Tab. no2).

Table no. 2 The selected items from the profit and loss statement in €

Period	Year	Revenue from the sale of merchandise	Cost of merchandise sold	Trade margin	Revenue from the sale of own products and services
1.	2012	914 823	804 316	110 507	100 362 670
2.	2013	4 157 767	4 069 988	87 779	115 726 188
3.	2014	4 515 364	4 513 738	1 626	133 609 603
4.	2015	3 603 618	3 598 003	5 615	148 261 041
5.	2016	3 639 793	3 633 636	6 157	160 250 969
6.	2017	2 969 667	2 964 030	5 637	175 791 890
7.	2018	2 645 860	2 640 995	4 865	176 242 073

Source: own research

To make the estimation of the future value the most accurate possible, the data from the highest number of points in time possible are needed. The result values will be the items planned for the year 2019. It needs to be gradually identified which items in the profit and loss statement are time-dependent. The application of the method presented in the paper works with the following items: revenue from the sale of merchandise, cost of merchandise sold, trade margin, revenue from the sale of own products and services.

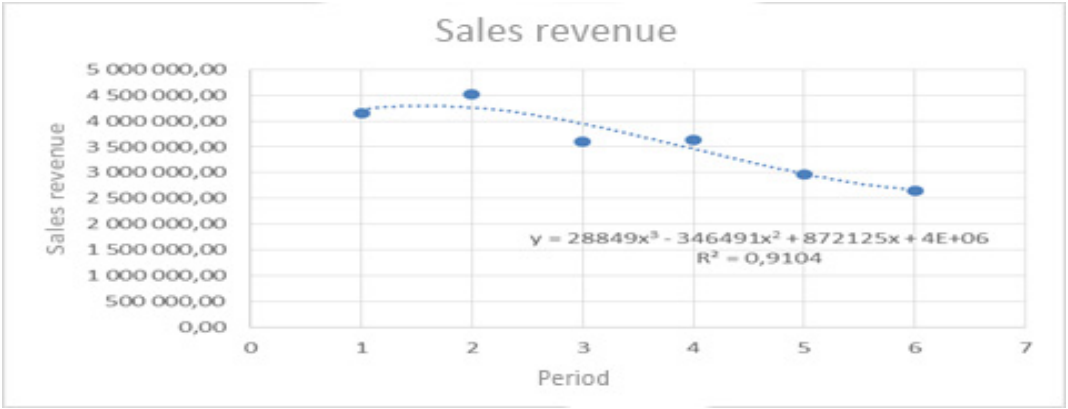

Fig. no. 3 The chart depicting the planned value of revenue from the sale of merchandise

Source: own research

The value of the revenue from the sale of merchandise was significantly different in the first year when compared with the others, therefore it was not used in the calculation. The following periods had the time dependence expressed by ***the trend equation*** $y = 28{,}849x^3 - 346{,}491x^2 + 872{,}125x + 3{,}671{,}000$. For the year 2019, the planned value was € 2,693,107.

Fig. no.4 The chart depicting the dependence of the revenue from the sale of merchandise on the cost of merchandise sold

Source: own research

The chart shows the linear dependence between the cost of merchandise sold and the revenue from the sale of merchandise. When adding the x = 2,693,107; the planned cost of merchandise sold was rounded to €2,651,305.

Trade margin

The trade margin is calculated as the difference between the revenue from the sale of merchandise and the cost of merchandise sold. For the year 2019, the trade margin calculated was €41,802. For the trade margin, it applies that the time dependence is quadratic (polynomial).

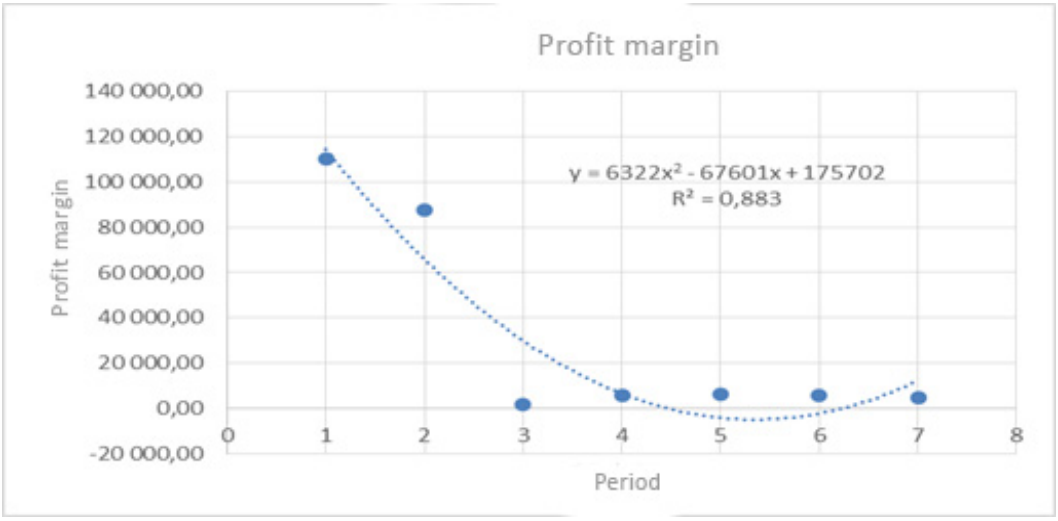

Fig. no. 5 The chart showing the planned values of the trade margin

Source: own research

The value of the trade margin for 2019 was planned as €39,502 using the regression method, which is only around €2,000 less than the value calculated as the difference between the revenue from the sale of merchandise and the cost of merchandise sold. However, the value will have to be corrected since this value was considerably lower (10 times lower) during five previous periods.

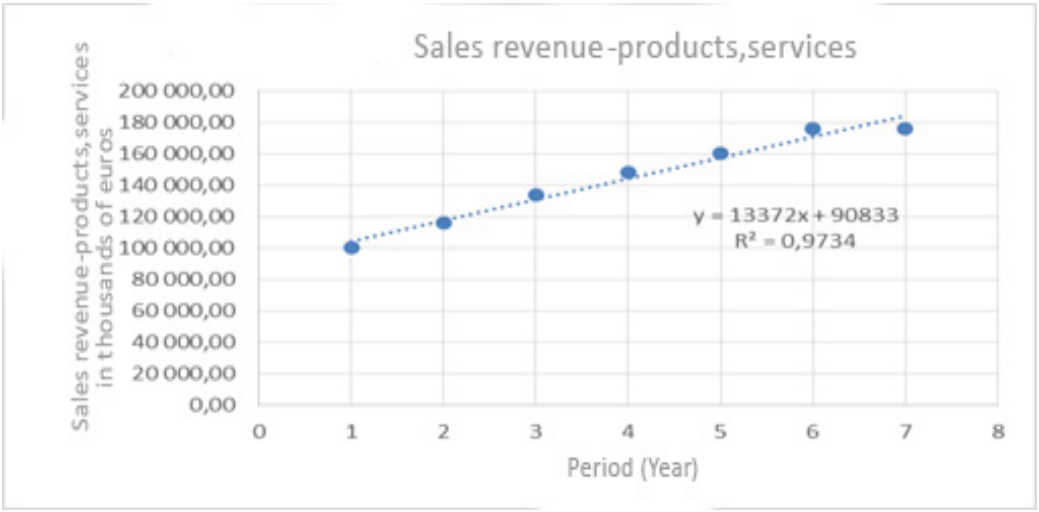

Fig. no. 6 The chart showing the planned values of the revenue from the sale of own products and services

Source: own research

The revenue from the sale of own products is linearly dependent on time. In the following period, based on the regression analysis, the value gained by the equation shall be €197,809,000.

Table no. 3 A part of the profit and loss statement created by the regression method

Name	Number of the row	2018	2019
Revenue from the sale of merchandise	1	2,645,860.00	2,693,107.00
Cost of merchandise sold	2	2,640,995.00	2,688,927.00
Trade margin [1-2]	**3**	**4,865.00**	**4,180.00**
Production [5+6]	**4**	**175,451,826.00**	**198,349,477.00**
Revenue from the sale of own products and services	5	176,242,073.00	197,809,000.00
Changes in internal inventory	6	-790,247.00	540,477.00
Production consumption [9+10]	**8**	**165,654,125.00**	**174,605,600.00**

Source: own research

The application of the regression method is difficult during the first attempt within the enterprise conditions. It is necessary to determine which items from the profit and loss statement and the balance sheet are the dependent variables on one or multiple independent variables. Subsequently, it is necessary to determine for which item the regression method will be applied, and which will be determined by the planner separately. In tab. 3, the planned items are listed, specifically:

- the revenue from the sale of merchandise planned by the regression method according to the time dependence,

- the cost of merchandise sold was planned with the value €2,654,305 by the regression method, but the planner determined the value €2,688,927, based on the estimated course of the price,
- the trade margin was determined as €39,502 by the regression method, but regarding the values from 2014 – 2018 and the information on the estimated course, the value was corrected to €4,180,
- the revenue from the sale of own products and services is planned by the regression method with the application of time dependence.

Conclusion

Financial planning determines the target values of the financial indicators when the manager must take into account the previous course of the enterprise's situation, the existing and changing conditions of its surroundings, and he/she must estimate their future development. This requires a significant degree of the planner's creativity (Kozubíková, 2016), Kucharčíková, et al.,2018). However, the methods can be applied that increase the efficiency of his/her activity. The paper presents the regression method of financial planning. The reason is the result of the survey showing its low practical usage. The regression method was applied to the selected items that are dependent in relation to time or to the subject matter. A disadvantage of this method is the fact that the creation of the system for the application of the regression method of financial planning within specific enterprise conditions is time-consuming. A benefit of the application of the regression method is the use of statistically corroborated dependence of the changeable ratio of the items in the financial plan. Using the reports from financial planning and transforming them into information and knowledge, the enterprise can swiftly react to the changing surroundings.

Acknowledgement

This paper has been written with the support of VEGA 1/0382/19 – The building of sustainable relationship with the enterprise's stakeholder groups via the creation of value with the application of information-communication technology.

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