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## Diversification in health care – yes or no?

### Abstract

The authors of the present article will attempt to assess the possibilities of diversification in the hospital and to outline the possible benefits of this strategic decision. Also, they will try to think about what kinds of diversification are more suitable for the providing health care in the hospital, so that there is no change or even loss of the original focus of the health care facility.

**Keywords:** health care performance, related diversification, unrelated diversification, sources of funding in health care, hospital.

**JEL Classification:** H51, H75, I11, P36.

### Introduction

Diversification may seem like a risky strategy, as the organization enters relatively unknown markets, and offers a product or service that is different from their current products or services. Appropriate setting of diversification may spread business risk. It offers the use of excess human or technological capacity, which ultimately can have a positive effect on business performance through the increase of market power or improved brand perception. The following factors bring improvement in the perceived quality of services provided and competitive advantage last but not least.

### 1. Definitions

For proper definitions we borrowed them. We based especially on the general formulation, which is available on the internet, and in case of the definition of healthcare we rely on its precise terms in accordance with the legislation of the Slovak Republic.

During searching the databases available to us we did not find Slovak or Czech author, who would devote to the topic of diversification in health care.

### 2. Health care

“Health care is a set of work activities performed by medical personnel, including the provision of drugs, medical aids and dietetic foodstuffs to prolong the life of an individual, enhancing the quality of life and healthy development of the future generations; health care includes prevention, dispensation, diagnostics, treatment, biomedical research, nursing care and midwifery” (Act no. 576/2004 Coll. on health care).

### 3. Funding in health care

The current system of health care financing in the Slovak Republic has several levels. The most important one is the financing of public health insurance through health insurance companies, what is nearly 75% of the total financial resources in health care. Minor but not insignificant level is represented by public funds from the budgets of some units, towns and municipalities, the Ministry of Health (excluding payments to the state for its insured) and other chapters of the state budget (i.e. The ministries). An important component is the category of direct payments by households (people), called private sources. Another component of the income of medical facilities resulting from the provision of services related to preventive medical examinations in relation to work. These are paid by the employer. Whenever an investor invests, he should count and usually counts on a degree of risk, since the future cash flows of individual assets may be uncertain.

Risk incurred by an investor can be generally divided into systematic risk, or unsystematic, and systemic risk is somewhere influenced directly by the investor. It is clear from the overall development of the economy and different macroeconomic variables, but on the other hand unsystematic risk is already on the level of business risk, that stems directly from the management and is also associated with the method of financing business activities using borrowed funds. One of the ways to reduce that risk is to diversify.

### 4. Diversification

Diversification is a standard method of management and limiting investment risk. Dividing the total investment among a larger number of smaller investments will reduce exposures and risk arising from one particular investment. Investments that will be combined in various assets which, moreover, correlate together lead to returns with a significantly lower volatility and lower overall risk.

Following the available literature where the authors investigated the effect of a diversification on the

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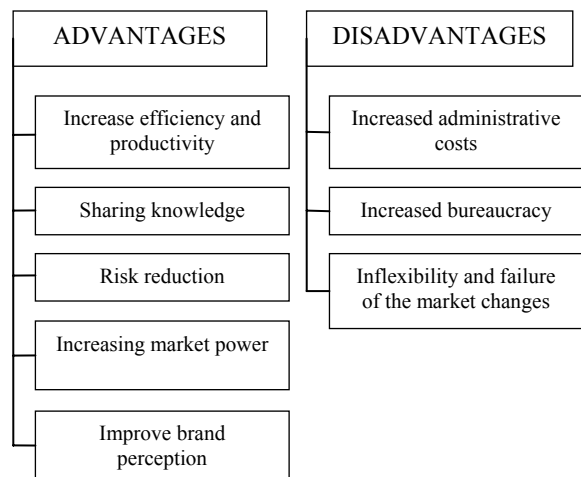
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economic result, we can find different results of individual studies. There is also no consensus about the authors or the diversification of appropriate methods and strategies for improvement of economic parameters of companies operating in the health care sector. There predominates the view, however, that a moderate level of diversification has implications for better corporate performance, as opposed to any or, on the contrary, broad diversification. This was confirmed by Palich et al. in 2000 on the basis of the conclusions of meta-analyses of research work for 30 years, dealing with the relationship of diversification and performance. The authors Lamont and Polk in 2002 state that unrelated diversification is less profitable.

**5. Advantages and disadvantages of diversification**

Sharing human, material, technical and financial resources that can be distributed between newly introduced products/services created an economy of scale which has a positive impact on increasing productivity and efficiency. Great importance is the sharing of knowledge, experience and skills. Cross-subsidization can affect risk reduction. All these positives of diversification also influence the increasing market power and improve the brand of the organization. One of the disadvantages can increase administrative costs and bureaucracy. These factors negatively affect employee motivation which is related to reduced productivity and employee performance. Advantages and disadvantages of diversification are encapsulated and shown in Figure 1.

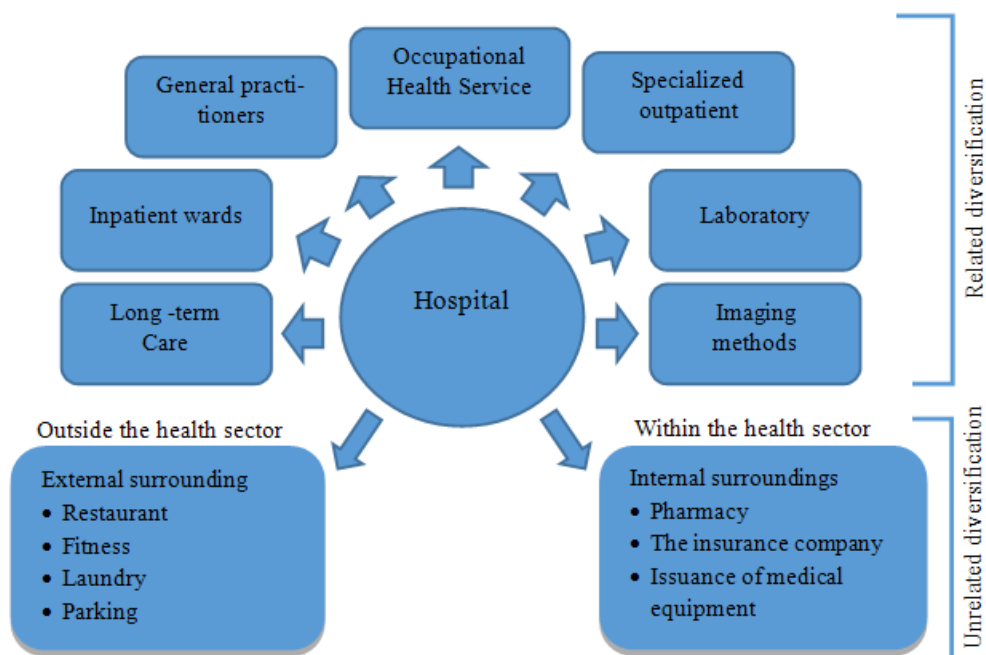


Source: own processing by Gunterman (2012).

**Fig. 1. Advantages and disadvantages of diversification in general**

**6. Related and unrelated diversification**

Related diversification is one when the organization decides to enter the market with a product/service that is directly related to its current business, or is very similar. In terms of health care provision it can be for example opening new ambulance with new medical specialties. Unrelated diversification is when the company enters the market with a product/service that is different and not directly related to the current activities of the organization. In the conditions of health care it can be e.g. parking, laundry, restaurant, and so on. Specific examples of related and unrelated diversification in health care facilities such as hospitals are shown in Figure 2.



Source: own processing by Ginter et al. (2002).

**Fig. 2. Examples of related and unrelated diversification in health care facilities such as hospitals**

Top of the image identifies a wide range of specializations and activities that we describe as related diversification within hospital care. We have processed it by Ginter et al. (2002) and adapted to Slovak conditions. At the bottom unrelated diversifications are set within and outside the health care sector. As it can be seen it is very problematic to determine such an exhaustive definition of unrelated diversification, particularly within the health sector. One good example is the pharmacy. In the conditions of the Slovak Republic hospital pharmacies and public pharmacies operate. So if we expanded services through the establishment of a hospital pharmacy, we would incline to this type to be included in the related diversification. And that's just one example, it is very difficult in this sector to accurately distinguish between related and unrelated diversification.

**6.1. The summary.** After a brief summary of the theoretical basis when considering diversification we still think about the range of activities undertaken by health care facilities such as hospitals. Their product portfolio are the primary activities, i.e. activities of providing health care and secondary (supporting) activities such as catering for patients, parking, wi-fi and so on. When we realize portfolio of hospital activities, we can focus on the specification of diversification so that we have an appropriate representation of actions that are desired by patients and at the same time can bring sufficient funds. This is important because diversification should not come at the expense of activities producing profits. Some authors in their research work devoted to the diversifying the hospital-type facilities highlight the fact that the hospital that would be involved in unrelated diversification to health care, would be counterproductive. If, in fact there prevailed "non-medical" part of the services offered, it could lead to a reduction in perceived quality of the health care provided to patients and the hospital could lose its basic focus.

In view of the foregoing, we see the scope for diversification in the provision of health care in two areas related to diversification.

The first area may form a source of finance when we can spread the risk of loss of revenue from services in the providing of health care to several sources. We described above, that in Slovakia health care is financed from public health insurance, but there are also important components of income from direct payments and payments of employer's population for preventive medical examinations

related to work. These options are considerably restricted in the current legislation.

The second area may be the promotion of synergistic effect of existing services in relation to gains by extending the portfolio of provided services.

In this article we initially decided to deal with the promotion of synergistic effect of existing services in relation to gains by extending the portfolio of provided services.

In the search for reserves, in the area of possibilities how to provide health care, the selected health care facility have made the analysis of available operating time. After this analysis, the management of health care facility found, that about half of the possible operating time is under-utilized by existing operational capacity, the medical center decided to expand the range of its services for the next operational department. In 2006 it launched a range of surgical procedures that were not available in time for other health facilities (long waiting times), and this way occupancy of operating rooms was increased and the number of operations undertaken almost doubled.

After analyzing the results management found that there was a projected increase in the number of out-performance in the new specialization and the related increase in the number of completed hospitalizations in the hospital. Interestingly however, it was found that, since the period there was also a significant increase, also almost double in performance of so-called common diagnostic and treatment units (SVALZ), which belonged to the auxiliary diagnostic methods.

We tried to verify the ex-post analysis in the horizon of available evidence base, synergistic effect of opening new surgical department to increase the number of performances in SVALZ units.

To determine whether there is and to what extent dependence of the examination of patients using SVALZ on the number of patients outpatients in the newly opened specialization. Specifically, we focused on two kinds of SVALZ performance that we have labeled A and B.

For calculating the dependencies of SVALZ on performances on the number of examinations for specialized clinic we used Pearson's product-moment correlation coefficient.

Individual calculations are shown in the attached Tables 1-4 and explanations are included in each table separately.

Table 1. The number of examinations in a new opened specialization, followed by calculating the mean and standard deviation amount

Year	Number of examinations in specialized office	$x - \bar{x}$	$(x - \bar{x})^2$
2006	5322	-4933.78	24342163.16
2007	9284	-971.78	944352.05
2008	8642	-1613.78	2604278.72
2009	7866	-2389.78	5711037.83
2010	7989	-226.78	5138281.49
2011	12098	1842.22	3393782.72
2012	12022	1766.22	3119540.94
2013	13727	3471.22	12049383.72
2014	15352	5096.22	25971480.94
$\Sigma$	92302		83274301.56
Average	10255.78		9252700.17
$S_x$		3041.83	

Source: Processed by authors.

Table 2. The number of new surgical procedures, average quantity and standard deviation and coefficient of correlation with performance in a new specialized outpatients department

Year	The number of surgical procedures	$x.y$	$y - \bar{y}$	$(y - \bar{y})^2$
2006	5	26610	-329.11	108314.12
2007	89	826276	-245.11	60079.46
2008	265	2290130	-69.11	4776.35
2009	251	1974366	-83.11	6907.46
2010	218	1741602	-116.11	13481.79
2011	373	4512554	32.89	1512.35
2012	505	6071110	170.89	29203.01
2013	635	8716645	300.89	90534.12
2014	666	10224432	331.89	110150.23
$\Sigma$	3007	36383725		424958.89
Average	334.11	4042636.11		47217.65
$S_y$			217.2962363	
Correlation coefficient				0.93

Source: Processed by authors.

Table 3. Selected SVALZ examination “A” and calculation of the average, standard deviation and coefficient of correlation with performance in a new specialized outpatients department

Year	Number of examinations A	$x.y$	$y - \bar{y}$	$(y - \bar{y})^2$
2006	984	5236848	-1308.44	1712026.86
2007	1530	14204520	-762.44	581321.53
2008	1451	12539542	-841.44	708028.75
2009	1448	11389968	-844.44	713086.42
2010	1701	13589289	-591.44	349806.42
2011	5221	30861998	258.56	66850.98
2012	3354	40321788	1061.56	1126900.2
2013	3637	49925099	1344.56	1807829.64
2014	3976	61039522	1683.56	2834359.31
$\Sigma$	20632	239108604		9900210.22
Average	2292.44	26576622.67		1100023.36
$S_y$			1048.82	
Correlation coefficient				0.96

Source: Processed by authors.

Table 4. Selected SVALZ examination “B” and calculation of the average, standard deviation and coefficient of correlation with performance in a new specialized outpatients department

Year	Number of examinations B	$x.y$	$y - \bar{y}$	$(y - \bar{y})^2$
2006	16	85152	-137.22	18829.94
2007	65	603460	-88.22	7783.16
2008	95	820990	-58.22	3389.83
2009	63	495558	-90.22	8140.05
2010	106	846834	-47.22	2229.94
2011	106	1282388	-47.22	2229.94
2012	215	2584730	61.78	3816.49
2013	322	4420094	168.78	28485.94
2014	391	6002632	237.78	56538.27
$\Sigma$	1379	17141838		131443.56
Average	153.22	1904648.67		14604.84
$S_y$			120.85	
Correlation coefficient				0.91

Source: Processed by authors.

## 7. Discussion

In detection to verify the correlation between the number of examinations in chosen health care facilities and the existence of parking area nearby, would be suitable to realize further examination concerning this topic. Diversifying out of health sector is the problem connected with unrelated diversification.

An interesting question would be the relation between the number of examinations within occupational health service, paid by the employers, and the number of subsequent examinations in the hospital financed from public funds. In this case there would not be only the distribution of funds to several sources, but also the synergies of new and existing departments again.

## Conclusion

Thus, we can conclude that the introduction of a new surgical department led not only to the use of

free operating time and thus to increasing the number of completed hospitalizations and increasing in operational performance, but also led to an increasing in examinations in selected SVALZ examinations.

After evaluating the above findings, we think that there is a correlation between the number of performances at the newly opened specialized outpatients department with a new specialization and number of examinations in selected SVALZ examinations and this dependence can be evaluated as almost perfect.

## Explanatory notes

SVALZ – joint investigation and treatment components – in the Slovak Republic common name for departments that are primarily engaged in auxiliary examination and treatment, such as: Department of Radiology, Rehabilitation Department, Department of Clinical Biochemistry etc.

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