

Consolidation of Semmelweis University using innovative management tools 2003-2009

Doctoral thesis

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Introduction

In the course of my doctoral thesis I introduced the main events of Semmelweis University in the period between 2003 and 2009 and reviewed the main indicators of the external environment. In the course of my analyses I fundamentally relied on my own experiences, on my research results conducted as a medical practitioner, and on my work conducted as an active participant of the university processes and management means. By revealing the correlations, I aimed to provide assistance – with thorough analysis extending to all areas of the healthcare and higher educational environment – to present and future decision-makers. Through the generalization of the analysis of processes of change implemented at the university with my personal involvement, I drafted a summary that allows this management practice to be transferred to other environments. I endeavored to prove that appropriately adapted management tools applied in a market environment can also be utilized in the university environment. I demonstrated that strategy and consolidation, as well as strategy and operational development are mutually supportive processes, on the basis of which consolidation does not have to equate to cutbacks at institutions. I provided in my thesis an answer to the above questions using internationally accepted analytical methods for the transformation projects that I also directed.

However, the history of Semmelweis University between 2003 and 2009 cannot be comprehended without a grounded understanding and deeper analysis of earlier times, with special regard to events at the university following the change of political system. Accordingly, in the thesis I examined the history of Semmelweis University in the first decade of the 21st century with the intention to analyze the methodology of the management of higher education institutions of medicine.

Brief history of Semmelweis University

The University of Nagyszombat was founded by Péter Pázmány, Archbishop of Esztergom, in 1635. The university was expanded to include a faculty of medicine as part of a wide-ranging healthcare reform implemented by Empress Maria Theresa. The

formation of the faculty was initiated by a decree issued by Maria Theresa on 7 November 1769. (The foundation of the university is dated from this time.)

On 25 March 1780, Maria Theresa issued the Diploma Inaugurale (also known as the 'Magna Charta' of the university) setting down the general provisions of the university as well as specifying its legal status and material conditions for operation. The medical faculty first opened in Buda and shortly thereafter it moved to the rapidly developing Pest.

A clinical approach focused on practical training was introduced in the university from the 1820s. Since the reign of Joseph II medical diplomas have been recognized abroad, although initially only between the universities in Vienna, Prague, Krakow and Pest. The vitality of university life at the end of the century was replaced by the spirit of the age of Francis I, the centralization and elimination of academic freedom of thought hallmarked by the second Ratio Educationis of 1806. Standardized medical training was introduced in 1872, thus a single medical diploma - the 'Doctor of Universal Medical Sciences' — was awarded from 1878 on.

Building work launched in the 1870s resulted in the rapid formation of well-equipped clinics and departments meeting the standards of the age, mainly along Üllői Road. The speedy development of the clinics allowed the university to make up for significant deficiencies. The number of students also increased dramatically. Whereas in the 1860s they numbered around 400–500, by the 1880s the university roll exceeded 1000 students.

During the First World War the switch to a wartime economy and the economic depletion of the Monarchy itself drastically cut back on educational funding, and thus the university's material resources, too. The university was placed under strong central management and a significant amount of restructuring occurred. The situation was just beginning to improve when the Great Depression of 1929 resulted in a reduction in funds for education and healthcare once again. Even doctors experienced unemployment, the university laid off more than 10% of its staff, investments stalled and for financial reasons a quarter of beds were left empty. There was a parallel drop in the number of students (1729 students in 1925/26, and 1234 in 1930/31), contrary to international trends.

The siege of Budapest during the Second World War hit not only the city but the faculty, too. Many buildings were severely damaged and a significant proportion of the instruments were destroyed. During this period several hospitals joined the university, and departments were created out of them. As a result the number of beds increased from 1178 in 1946 to 3167 by 1955.

On 17 September 1950, the university was renamed the Eötvös Loránd University, and one year later the council of ministers turned the medical faculties of the university into an independent university. Thus the independent Medical University of Budapest was established on 1 February 1951. By 1955 three faculties (medicine, dentistry and pharmaceutical studies) had been set up within the university. On 7 November 1969, on the 200th anniversary of the establishment of the medical faculty, the university took on the name of Ignác Semmelweis.

International relations that began to thrive from the 1960s onwards enable the university to keep pace with international scientific developments and it established successful bilateral relations with numerous institutions of higher education abroad.

Beginning in the 1970s, a large influx of foreign students took place, with the introduction of courses in German (beginning in 1983) and English (in 1989). By the end of the 1990s, one third of the 4,000 students were foreigners. Courses in English and/or German are conducted in every faculty of the university. Students from all over the world received training here. Their numbers have risen considerably over the past few years. According to the latest data, in the first half of the 2008/2009 academic year 10,430 students began studies at the faculties of Semmelweis University, and 20% of these students (approximately 2103) were foreigners. **(Table 1)**

Table 1: Students attending the faculties of Semmelweis University in the 2008/2009 academic year. (Figures for the Faculty of Physical Education and Sport Science, the Faculty of Health Sciences and the School of Ph.D. Studies include students on part-time evening and corresponding programs.)

Faculty	No. of students	No. of foreigners	Proportion of foreigners in faculty (rounded up)
Faculty of Medicine	3357	1497	44%
Faculty of Dentistry	730	268	37%
Faculty of Pharmacy	672	122	18%
Faculty of Health Sciences	2919	154	5%
Faculty of Physical Education and Sport Science	2044	26	1%
School of Ph.D. Studies	330	23	7%
Other (Health Services Management Training Centre, Institute of Mental Health)	378	13	3%
Total:	10,430	2103	20%

Overall, young people from 2 countries on five continents study here, 1355 on courses in English, 562 in German and 186 in Hungarian. Approximately 150 of the foreign students studying in Hungarian are ethnic Hungarians living outside the border (in Romania, Serbia, Slovakia and Ukraine). Compared to the 2007/2008 academic year, the proportion of foreign students rose from 18% to 20%. Students from Germany, Israel, Norway, Iran and Sweden are in the greatest proportions (**Table 2**).

Table 2: Number of foreign students studying at the university (by country)

Greatest number of foreign students	Citizenship	Number
1.	German	526
2.	Israeli	294
3.	Norwegian	192
4.	Iranian	188
5.	Swedish	140
6.	Greek	93
7.	Cypriot	80
8.	Austrian	56
9.	American	55
10.	Slovak	50

The return of doctoral (Ph.D.) training to the universities in 1992 was a significant change. Today, in keeping with its importance, doctoral training functions in effect with faculty attributes.

The opening of the academic year in Hamburg on 5 September 2008 opened a new perspective on international cooperation, which date marked the start of joint medical training involving Semmelweis University and the Asklepios Clinic, one of the largest clinical groups in Germany. As part of the new joint course 42 students can start training at Semmelweis University in Budapest annually. Following the successful conclusion of the first two years, students carry out the second half of their medical course (clinical training) in the internationally-respected Hamburg institutions of the Asklepios Clinic, on the basis of a Semmelweis University EU-conform curriculum.

On 1 January 2000, the Semmelweis Medical University was integrated – in compliance with National Assembly Act LII of 1999 – with the Haynal Imre University of Health Science Faculty of Post-graduate Studies for Doctors (later Faculty of Health Science) and Health College Faculty, furthermore with the Hungarian University of Physical Education, as a result of which Semmelweis University was established. One of the most important changes of the recent past affecting the faculties was the

formation of the sixth faculty of the university, the Faculty of Public Health, the activities of which span education, research and public services (professional work, organizational and systems development). The new faculty operates as the legal successor of the Institute of Mental Health, Health Services Management Training Centre and the Department of Health IT Development and Training and as their spiritual “heir”.

The former Faculty of Health Sciences continued its work as an independent institution, the National Medical Centre. Since under prevailing legal regulations in Hungary new institutions may not be founded with debts, the earlier debt of the faculty remained with the university. This was one of the contributing factors to the university’s near HUF 2 billion debt in 2003.

In my thesis I examined, starting from this time, the decisions of the leadership of the university and their impacts with due consideration to the factors influencing Hungary’s higher education, healthcare and scientific external environment. Furthermore, I examined to what degree the innovative management tools that were applied were capable of serving the Mission Statement (see below) representing the basis for the university’s quality management system.

This brief historical summary is designed to show the path that our university has taken starting from its foundation, revealing where our internationally distinguished institution started from and where it has reached at the beginning of the 21st century. The following Mission Statement encapsulates the vision of the future the leadership of the university, in partnership with the fellowship of the university, intends to achieve.

MISSION STATEMENT

Every employee of Semmelweis University is committed to act in the interest of deserving and preserving the position of the market-leader medical and healthcare university of Central Europe in the 21st century.

Our university endeavors to maintain a leading role in Hungary and the capital in the area of healthcare provision, health development, medical, healthcare and sport science training, research and clinical innovation, and in the elaboration, trials, introduction and everyday application of the most modern medical technology.

The leadership of the university is committed to act as the knowledge hub of Central Europe in the areas of medicine, healthcare and sport science as well as the healthcare management field, through its highly qualified human resources and the application of modern technology.

Semmelweis University intends to contribute actively to a radical change in the negative direction of public health trends.

Objective

I intended to present, using Semmelweis University as an example and on the basis of my own direct clinical, professional and senior management experiences, a set of tools that can also be utilized by other institutions dealing with healthcare higher education. Using external environment analyses, I aimed to provide assistance for present and future healthcare and higher education decision-makers by revealing the relevant correlations. I intended to supply an answer to the statements detailed in the hypotheses, which can be generalized for others as well from the results of projects I directed.

My thesis was basically built on three issues, the analysis of which was relevant regarding the processes of the period under examination. Basically I endeavored to find answers to those questions through which I can convey methodologies and practical experiences that can be utilized both in general and in the management sciences.

Hypotheses:

- **Experiences of management practice** acquired through innovative management means, processed during the analysis, can be generalized and transferred for the development of management practice.
- Management tools used in the typical **market environment** can function as innovative means in universities in the 21st century operating in a **university environment** in which the role of the state is diminishing, and which function within budgetary frameworks in non-profit forms amidst the weaknesses of the economic environment.

- In a recessionary external environment, sustainable development is possible using these innovative management means. In these circumstances an organization can choose expansion instead of stagnation. **Strategy and consolidation**, as well as **strategy and operational development** are also viable together.

I emphasized and analyzed those management measures that contributed to the consolidation of Semmelweis University in the period under examination. My aim was to conduct a methodological analysis suitable – through the processing of **experiences** – for the **generalization** of certain series of actions. This provides the opportunity for the transfer of management practice that can be used by institutions in similar situations. In the case of management tools, I had an opportunity to analyze the reasons for successes and failures, and the decision processes leading to these successes or failures through my personal experiences and participation.

The cardinal point of the expansion of an economic approach in today's world is whether it is possible to equate higher educational institutions directed by modern management tools with universities operated in an entrepreneurial form, just as whether state management must be considered a synonym for inefficient management. The second subject, therefore, is an examination of how **standard management tools applied in the market environment** and techniques can be applied in higher education in Hungary, and within this in the **university environment**. In order to answer this question, numerous issues have to be clarified. For instance, whether a new type of approach and means has any justification at all in university management, and if so, how it is possible to achieve our aims using such means. No less important is to investigate whether the new management systems are compliant with the directions implied in current legislation as well as with proposals for transformation inspired, sometimes more forcefully, sometimes less emphatically, in such legislation.

On this basis I put the following question: can strategy and consolidation as well as strategy and operational development coexist? I wanted to point out, first and foremost, how Semmelweis University was able to adjust to its external environment in such a way that its leading position won over the course of its history of several centuries and its front-ranking role in higher education in Hungary have remained

unchallenged throughout. My objective was primarily to examine whether crisis-management measures taken in the given situation are able to serve development and whether there is any way forward in a restrictive environment. Can the proposition, considered dogma by many, that consolidation means cutbacks and restrictions alone, truly be sustained?

Beyond supplying responses to the propositions I also set myself the aim of summarizing (naturally without claiming this to be a complete survey) the events impacting on healthcare in the years after the change of system i.e. between 2003 and 2009. Using Semmelweis University as an example, I aimed to prove that strategy and consolidation as well as strategy and operational development are mutually tolerant, indeed reinforcing factors when their implementation is achieved together with a clear vision and strategic concepts.

Methods

In my doctoral thesis I employed methods recognized and widely used in scientific methodology and professional literature, amongst which in these areas of social and management science the application of both quantitative and qualitative methods are accepted.

The term qualitative refers to that character of investigative method the essence of which is not the measurement of quantity, intensity or frequency of the examined processes and occurrences, but instead a process revealing and describing the formation and functioning of interpersonal social processes and interactions. Qualitative research examines the social-community functions and significance of these processes.

Accordingly, in the dissertation:

- for the history section I used as sources publications examining historical events and source research, on the basis of which I drafted a descriptive summary;
- in order to analyze the environment I examined the legal environment, I conducted analysis of legal regulations and processes, in addition to which I drafted statistical analyses required for analysis of the environment using national and university database sources;

- for the section processing the systemization and analysis of changes I drafted a literary review, in the course of which I described several methodologies, which can be called upon to assist in the analysis of the transferability of applied management tools.

I attempted – with the help of my own direct patient-care and clinical research experiences and publications – to broaden out my analyses and, through this, provide a more integrated approach. I transplanted the systemic approach applied in clinical research and the results from such research into the day-to-day problematics of organizational management.

Gaál's system oriented towards health policy helps facilitate analysis of the criteria of the success of health policy in the course of applied measures.

Scott's analytical method is suitable for assisting in the definition of the fulcrum of various measures in horizontal and vertical analytical matrices applied in large organizations, while Kotter's change management process analysis brings us closer to discovering potential errors in our series of measures.

In the section covering the application of innovative management tools I took as my starting point my own personal experiences and analysis based on gaining personal experiences. I continuously compared these in parallel with similar projects and I also prepared a SWOT analysis on certain projects.

I used *quantitative* analysis in analyzing external and internal opinions. Besides the comparative statistical methods I introduced relevant elements from the evaluation conducted on a sample of 800 volunteers using questionnaire statistical methods.

Summing up, it is possible to state that I analyzed the university processes and measures that were taken from several aspects. The personal acquisition of experiences was of vital importance; with the objectivization of these and using qualitative and quantitative methods I conducted analyses and formulated conclusions drawing from the experiences of this framework system.

Results

In my opinion, the way out of the crisis for an institution fulfilling such a defining role as Semmelweis University can, in this environment, only be found in a vision of the future manifested in progressive development in parallel with appropriate strategies as opposed to cutbacks in spheres of operation.

Using examples appropriate for the objective of the research I presented the applicability of management tools widely used in the market environment and which are considered innovative in the public sector.

I detailed my results according to the structure set out in the chapter on objectives.

1. As a result of management measures taken at Semmelweis University between 2003 and 2009, overall we carried out successful consolidation, which impacted not only on the economic operation but also the main aspects of the professional operation of the university. The thesis – examining the main processes during the period under review, highlighting a few concrete measures and analyzing their successes and failures – sets out a practical management “guide”, which is suited for application, either in part or in whole, by large institutions struggling with similar problems.

In order to understand the management measures implemented at the university, I analyzed a few outstandingly important and defining factors of the external environment. Thus I reviewed the main characteristics of the healthcare reform processes taking place in Hungary in 2006-2007, with particular regard to their impact on the university. This analysis went beyond the university environment and resulted in a health policy analysis containing an instructive approach and details for all healthcare service-providers and decision-makers. The termination of hierarchization of healthcare provision in Hungary through legal means was a particularly disadvantageous measure alongside the many other negative aspects of the reform process. However, we know that the internationally recognized hierarchization within healthcare systems cannot simply be terminated through legislation. In the second part of my analysis I provided a professional and economic assessment of the progressive provision system in Hungary. No similar integrated analysis has ever been published. This analysis is appropriate to

be taken as a starting point for healthcare decision-makers intending to carry out professional reorganization.

At the moment the greatest challenge faced by the domestic healthcare system is the crisis in human resources. Our university has not managed to avoid this either. The second largest and most important sphere of employees in the healthcare system after the doctors is that of ancillary specialists. The situation of this group in Hungary, the breakdown in the training of ancillary healthcare specialists, may possibly cause a further serious crisis situation in our country. Our analyses drew attention not only to the most critical areas but they may also serve to focus attention at an international level, particularly among the Member States of the European Union. With these three environmental analyses in my thesis an authoritative source work has been established that can be used and generalized for the entire healthcare provision system in Hungary, and which can represent a reference for current and future decision-makers during the formulation of a professional healthcare framework system.

By describing management tools applied in the external environment analyzed in detail and in the limited room for maneuver of the university, practical managerial experiences have been set down, which can be applied and generalized for others.

2. I searched for an answer to the utilization of market tools in the public sector in the second part of my investigation. In the course of analysis I found absolute proof that the management tools recognized in management sciences and long applied in the market environment can also be applied in the public sector. The belief that these tools are only effective in a market environment, and they can only lead to failure in universities, is simply not true. However, here it is necessary to proceed with some caution in that whereas in the case of market organizations the use of these instruments is properly ensured from the aspects of both organizational culture and the legislative environment, so far the same tools must be applied in universities in different ways, in a different legal regulatory environment, and most importantly in a completely different organizational culture. I used three professionally recognized theoretical framework systems for the transplantation of the applied management tools. Gaál's health policy approach, problem-oriented program creation concept was of assistance in examining the university processes from the aspect of target orientation, tool selection and viability. Scott's complex analytic method offers help at the fulcrums of tools selected

for the implementation of various measures in that it structurally differentiates the organizational intervention opportunities settled on regulative, normative and cultural bases. In order to realize the projects and measures I used Kotter's 8-step change management model.

In order to present the innovative management tools I introduced change management projects of particular significance, which were able to demonstrate analytical methods compliant with the theory and the above generalizable experiences of management practice.

The experiences I acquired in clinical investigations not only provided the possibility for a systemized approach using the capabilities for a profound analytical approach but – with the application of direct parallels – helped in revealing correlations, too. On the basis of my analyses it is possible to establish that the processes of biological systems and their anomalies, as well as their answers to external interventions, can be relevant through the analysis of processes of social organizations of a similar type. Experiences gained from the research of biological systems are utilizable – similarly to other social processes – in the management of organizations.

Through a review of the consolidation of Semmelweis University the applications of organizational solutions totally innovative amidst the current legislative frameworks also helped the solution of the domestic problems facing higher education, because the drafting of numerous such models took place with my participation, which have already been applied in other institutions in generalized forms. Later, these are capable of supporting the resolution of problems arising in the course of the transformation of higher education.

Through the presentation of the integrated package of measures affecting the management of drugs we receive an entire cross-sectional view of the complex processes at work in the university as a large organization. We were able to disclose results – achieved with the application of adapted and still unconventional techniques – that are able to serve as examples in the Hungarian healthcare system.

IT issues are not exclusively the primary problem of higher educational and healthcare systems. Without implementation of appropriate adaptive management measures, the realization of project-based change management programs commonly applied in the market environment generates numerous errors in the university

environment. Using Kotter's change management algorithms I uncovered numerous potential errors, the avoidance of which can serve as considerable assistance for other organizations so that the mistakes we made are not repeated.

Through the projects presented in the thesis and using my own personal experience a summary work is established that proves that managers in higher education and healthcare have the opportunity of using, with appropriate adaptations, management tools commonly applied in the market environment.

3. It is imperative to examine whether these innovative management tools are able to provide appropriate development in a recessionary environment. Are strategy and consolidation as well as strategy and operational development reconcilable? Using my research as a base I approached the question from two directions. Given a properly formulated vision of the future enjoying the backing of the members of an organization it is possible to develop with the appropriate exploitation of internal reserves. It is my assertion that without a realistic vision of the future, economic consolidation will result in downward spiraling cutbacks at an organization. Finding a "way forward" helps maintain an organization's competitiveness both inside and outside the country's borders, as well as retain and develop its positions. Thus if the utilization of in-house reserves not only complies with the expectations of the external environment but is also directed towards developments, then it is possible to allocate resources into directions that point the way towards the future, which are also capable of serving economic stability over the medium term. In order to prove this I analyzed two examples.

Semmelweis University established a form of training in Hamburg that is unique in the European Union. Semmelweis is the only university in Hungary to issue diplomas in Germany. With regard to the closure of National Institute of Psychiatry and Neurology (OPNI), even when the university was struggling with similar difficulties in numerous areas itself, it still proved capable of integrating new fields, and even though these brought with them new problems in the short term, the university gained a competitive advantage in the areas of healthcare and research in the medium term. Using two examples I showed that an institution must never give up on its long-term vision of the future even in times of recession.

Aside from this a major question for organizations is whether, during program formulation, the strategy is viable together and in parallel with consolidation and

operational development. Inasmuch as the content of operational development is not focused solely on development but genuinely extends to the transformation of operations as well, then it is possible to state with confidence that consolidation cannot exist without operational development, because the situation arising precisely as a result of a bad structure requires consolidation itself at a later date. In other words, until the causes (operational development) have not been changed there is no guarantee that a new situation requiring further consolidation will not arise. If, however, we speak of development alone, then on the basis of the foregoing its omission will, in the case of consolidation, result in lost opportunities for the organization over the medium and long term.

Conclusions

I established as an objective in my doctoral thesis the analysis of the changes carried out, with my personal involvement, at Semmelweis University in the period between 2003 and 2009, and the measures applied. I responded to the hypotheses and aspects set down in the objectives – in the order used there – and drew the relevant conclusions.

1. On the basis of my examinations and experience I established that the innovative management tools applied in Semmelweis University between 2003 and 2009, and the associated consolidation, together with all their respective successes and failures, bear within them numerous characteristics that make them appropriate – through generalization – for providing responses to similar problems faced by other institutions. The change processes and their specific measures and programs presented in the thesis are – even when lifted out of the internal environment of Semmelweis University – capable of clearly determining the directions of consolidation. It is possible to state that with the systemization of the analyzed consolidation measures a “guide” has been established that is able to transfer management practice, the further intensification and expansion of which represents a task for the future.
2. The assertion that market management tools can be applied within university frameworks has, as shown in my thesis, been proven beyond doubt.

If, however, we were to frame the question so as to ask whether they are applicable without adaptation, so to speak “as they are”, the answer is an unambiguous no. On the basis of my investigations conducted on projects of particular significance I came to the absolutely unequivocal conclusion that management tools accepted in the market environment can, when shaped to the organizational culture, and taking into account the legal environment and after appropriate modifications, be applied in universities. Does it necessarily follow from this that simultaneously we should place the universities in a market environment? My answer is no, considering that the modified versions of management tools applied in a market environment make it possible for universities – while maintaining the current budget system guaranteed by legal regulation, and adjusted to the university organizational culture – to acquire a realistic competitive position in the given specialist fields with other market players. A comparison of my clinical investigations allowed me to establish that the processes of biological systems and their anomalies, as well as their answers to external interventions, can be relevant through the analysis of processes of social organizations of a similar type.

3. My investigations also proved that we cannot place an “equals” symbol between the process of consolidation and cutbacks at organizations. Furthermore, I demonstrated that with a clear vision of the future, the rational exploitation and utilization of internal resources, and with appropriate foresight it is possible to ensure sustainable development even in a recessionary environment without upsetting the day-to-day balance. In addition, I succeeded in proving my assertion that with the support of the members of the given organization, a clear vision, analysis and a thorough understanding of the processes of the external environment, **strategy and consolidation**, as well as **strategy and operational development** are not merely mutually tolerant concepts but rather indispensable, complementary factors influencing the organizational operation in the medium and in the long term. The continued consideration of and further research into the above process consolidation as well as the planning of incidental adaptation options may provide further

assistance in the transformation processes that Hungary's healthcare and higher education systems face.

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