



University of Miskolc
Faculty of Economics
Doctoral School of Enterprise Theory and Practice

Csaba Holyevác

*Vision for optimisation and innovative organisational
development of national natural gas companies*

PhD thesis

Name of Doctoral School:

**Doctoral School of Enterprise
Theory and Practice**

Head of Doctoral School:

Prof. Dr. Balaton Károly
university professor

Academic supervisor:

Veresné Prof. dr. Somosi Mariann
dean, university professor

2015, Miskolc

Contents

| | | |
|---|--|----|
| 1 | Rationale of the research topic | 3 |
| 2 | Research methodology | 6 |
| 3 | Research novelty and major contributions –organisational vision of the future – macro-synergies in the customer service of natural gas companies | 8 |
| 4 | Summary of research results, their applicability and further research directions | 19 |
| | List of references (selection) | 20 |
| | Lectures and publications | 21 |

1 Rationale of the research topic

The natural gas industry has undergone massive changes and significant transformation because of gas market liberalisation, major changes in national and international regulations as well as changes in market prices for the last fifteen years since I work in this field. The changes that I have experienced and initiated and their management as a top manager for eight years have provided grounds for investigating the background of these changes and for offering a theoretical explanation to them. Also, the aim of this thesis is to identify and explore the hidden opportunities for further development of the potential of gas industry and to set out a viable vision for ambitious push forward and progress, which would give a guideline to organisations and companies operating in the natural gas industry since this industry plays a determining role in the national economy. My professional expertise and the research findings could contribute to achieving this aim.

First, a brief overview of the current international gas market with a special emphasis on the European gas market characteristics and peculiarities is presented in this thesis. Also, major differences between regional markets and their impact on the national regulatory policy and market operation are analysed. In addition, the European nation-states' efforts and ambitions, their impact on the European and, within this, on the national regulatory policy are investigated. Natural gas significantly affects economies and their market competitiveness, which is strongly correlated with political ambitions of some states. There is a continuous relationship between natural gas industry and politics. Sometimes this relationship enjoys stronger, sometimes weaker ties but it always remains since the economic impact of natural gas as heating fuel is huge. This thesis also discusses possible sources of supply, problems caused by transmission lines and their impact on the free market.

The thesis analyses the regulatory environment that significantly affects the situation of the gas industry. A special emphasis is laid on customer relationship regulatory issues that public service providers have to comply with. This thesis also deals with energy strategies of companies, which set guidelines, determine objectives and goals of economic policies and acts as a driver for the whole energy industry.

This thesis attempts to provide a detailed analysis of the largest natural gas provider in Hungary, which could serve as a corporate and organisational example. The operation of this gas provider is an excellent example of significant organisational changes, which have occurred in natural gas industry from 1990 to present times. The timeline of historical development clearly illustrates causes, explanations, objectives, outcomes and impacts of the occurred changes. This history timeline is an appropriate method of presenting what advantages companies can take of any changes in order to be able to properly comply with legislation or to operate more effectively and efficiently. The neo-historical development of over 20 years encompasses organisational developments, outsourcing, process configurations, process improvements, projects, spin-offs, privatisation, and regulated and competitive markets.

The findings of the research series presented in this thesis allow creating a vision for a national centralised public-service organisation model, which currently does not exist. However, the recent demand for such a model is justified, since significant advantages in terms of efficiency can be attained. The new organisational model offers a scenario how Hungarian energy sectors can be transformed into an independent organisation, whose primary objective is to operate as cost-effectively as possible and to provide services of the

highest standard to their customers, which is in line with the national energy strategy. The model developed and described in this thesis provides a conclusion and an answer to the energy sector. The new centralised public service model can serve as an example for activities which attempt to find a right organisation solution for current trends in economic governance.

This thesis suggests an organisational model in details, its processes, dimensions of its organisation, duties and powers referring to natural gas universal service providers with the aim to confirm that the findings and the conclusions of the conducted research clearly show that the elaborated novel organisational model can be implemented and the established new organisation is operational and ensures sustainable and efficient public services.

With the establishment of a new organisation, the end-use price of the natural gas can be reduced since the operational and organisational efficiency has been increased and as a result, customer satisfaction with the services provided can also be increased. (This research does not deal with purchasing prices). The thesis describes the ways how the current companies owned by foreigners can be transformed into a single Company and lists the areas where the aggregation is possible and calculates the amount of costs that can be saved. The thesis presents the principles along which an independent national-level organisation can be established. Currently among areas of natural gas supply to residential customers, four service areas operate in four different places and companies. These areas are as follows: the area dealing with coordination of printing and enveloping invoices and other documents, the area of reading and invoicing, the area of handling and collecting the outstanding dues on the accounts as well as the area of customer service channels (FO, BO, CC) and the Office of Complaints. Also, this thesis presents the amount of time and the resources required to establish a new organisation compared to the current situation and the amount of saved costs this could result at national level. In addition, the thesis shows how the current infrastructure of other large state-owned companies could be utilised, which would also contribute to an efficient and effective operation of the newly established company and to a better utilisation of the existing infrastructure and resources.

As far as I know, this move contravenes EU's endeavours. However, it clearly defines the specific way an independent national state intends to follow in terms of natural gas policy. The new organisational model is also a historical return. With the establishment of a new organisation, we practically return to the period of the 90s, to the model of the National Oil and Gas Trust (OKGT in Hungarian). However, the new natural gas market model integrates Central European and within this national specificities, which is suitable for a more efficient utilization of the current synergies. Since the new organisational model operates at a higher efficiency level, applies advanced organisational principles and takes advantage of an example of a similar organisational form in the industrial sector's history in terms of ownership and macro-ecological background, its viability can be proven because it offers higher level solutions to public services in terms of efficiency and effectiveness.

This thesis raises a very important issue, which is currently in the focus of both national and international economy's attention, namely, the vision of energy organisations and within this, of natural gas organisations. First, since the energy policy of countries undergoes constant

changes and this sector of industry plays a determining role both at international and national level, it is forced to renew. Also, both the national regulatory purposes and political objectives focus on analysing and evaluating the means of efficient maintenance and improvement of one of the most important economic drivers and of putting this driver at the service of politicians.

The objectives of this thesis can be summarised as follows:

- to compare and analyse the key characteristic features of American and European natural gas markets, with special attention to weaknesses and strengths of particular markets as well as to the implementation of specific regulations in economies and continents taking into account their cultural diversities,
- to identify the most important features and weaknesses of the national gas market and to investigate their impact on the emergence of a genuine free market as well as to analyse the regulatory aspects and the market impacts on the organisational development of natural gas suppliers with special attention to the largest suppliers operating in Hungary,
- to identify the triggers and the drivers of the most important and the largest scale organisational development in the largest natural gas suppliers in Hungary, to analyse their efficiency increase closely and to present them,
- to elaborate a potential universal organisation supplying gas and to present the efficiency potential increase and value creation achieved by this organisation from an economic aspect,
- to set the time, terms and conditions of establishing an independent national gas supplier serving residential customers,
- to analyse the expected savings resulting from the introduction of a single organisation,
- to analyse the macro synergy potential lying in the national gas supply to residential customers in the light of residential customer services and objectives.

2 Research methodology

According to Barbie, observations and attempts to interpret the observed phenomena are natural human efforts. This is the very core of our survival as a human race. There are numerous ways how to conduct research activities in social sciences. This thesis focuses on the research objectives, takes into consideration the professional conclusions drawn from the findings and exhaustively tests them from a scientific prospective. The empirical and expert testing of the external environment and the statements made about the potential corporate structure based on tendencies and characteristics observed in corporate-organisation evolution provides grounds for evaluating the conclusions.

During the research work, the conclusions drawn were analysed and tested from several aspects and by two methods. The processes related to establishing the organisation and the factors affecting them were compared at a global and international level and were also analysed from a historical aspect. This part of the research is of an explanatory character. By using a comparative analysis, an individual's place in the society, different lifestyles and other phenomena can be identified and explored. The explanatory character of this research allows a causation examination and drawing general conclusions. Also, the conducted primary research is a single cross-sectional and descriptive study since the population was sampled only once and the sample serves a basis for the analyses. This research is a descriptive study since it describes a behaviour of specific company groups and its primary aim is to identify the cause and effect relationship. The aims of the primary research are as follows:

- to assess the relevance of the presented and evaluated processes, conditions and environment of the investigated sector of industry on the basis of the opinions formulated in the in-depth interviews with senior managers,
- to test the conclusions drawn from the position of and vision for the national natural gas market by the managers who have relevant experience and are active in the energy sector,
- to test the economic rationality, feasibility, objectives and organizational model of the visioned corporate format presented and created on the basis of the research findings,
- to assess the organizational importance of customer care service-related activities from out and in-sourcing aspects,
- to evaluate the synergy recovered from transforming customer care services into an illustrated visioned model by experts

After reviewing the available literature, I have come to the conclusion that there is a need to compile a questionnaire and conduct expert in-depth interviews in order to achieve the formulated research objectives and to receive answers to extremely complex questions, which require very special professional knowledge and could served a basis for performing evaluations and drawing conclusions. The greatest challenge to ranking was to identify the quantifying tools that helped evaluate the responses of special experts and to organize the responses in the way so that conclusions could be drawn from them. It seemed appropriate and adequate to use a pre-compiled questionnaire, which could served

as a guideline to interviews with professionals and experts. The aim of choosing this interview method was to provide an opportunity for respondents to deliver their opinions on specific issues informally and to make it possible to apply specialist quantifying methods in the evaluation process. Primarily measurement scales and quantifying methods of ranking and classification were applied.

The sampled population was made up of a Hungarian natural gas trader holding a valid trade licence and operating customer services channels. A very limited sampled population could meet this requirement since highly specialised activities had to be targeted in order to make it possible to present profession-specific responses and testing. The data were collected by conducting interviews with professional and senior managers and experts of natural gas companies. The advantage of this method was that the respondents could provide relevant answers to specific professional questions in the questionnaire and were available for an interview. Thus, the created model and the drawn conclusions were tested by all sector experts and professionals. The disadvantage of this method arises from its character, namely the sampled population is very limited. The delivered opinions are usually subjective; however, they also contain profession-specific elements. When the sample was compiled, the systematic sample selection method was applied. In order to obtain the most comprehensive and detailed picture, the only possible approach was used, namely, the face-to-face interview. All experts in this field who were employed by companies meeting the set requirements were personally interviewed and their opinions and evaluations were considered.

3 Research novelty and major contributions –organisational vision of the future – macro-synergies in the customer service of natural gas companies

The fundamental thesis of the contingency theory is that formal organisational structures and the environment around them are in closely related. In order to have high organisational performance, organisations have to adapt their structures to their current environmental conditions. Large organisations can efficiently operate with structures that considerably differ from those of small organisations. The organisational environment significantly determines the structure format within which an organisation operates. The characteristic feature of the empirical analysis providing the basis for the contingency theory is that it focuses only on one specific factor that determines the organisational structure. The theories dealing with structural effects of organisation sizes found that large organisations are more bureaucratic than small ones. Also, mechanistic organisations operate more efficiently in dynamic, organic and static environmental conditions. This means that if in the external environment – let it be legislative, regulatory or other changes - there are no significant changes, mechanistic organisations perform better. However, if in the external environment there are considerable and frequent external legislative or other market changes, organic organisations perform better.

In the mid and late 1990s, before the privatisation processes started in Hungary and the National Oil and Gas Trust (OKGT in Hungarian) broke up, a stable legislative, market and other environmental conditions prevailed. None of the segments of gas industry sector experienced any environmental changes. This condition allowed building large-scale and mechanistic organisational structures in the whole industrial sector until late 1990s. Even the privatisation processes undergoing in natural gas companies in 1995-1996 failed to exert their effects on the existing large mechanistic organisations. The operation of service providers followed a decentralised model with a large number of hierarchical managerial levels and managers. The information technology available at that time did not contribute to the transformation processes either. Also, the external environmental conditions did not indicate any need for transformation processes. In addition, both the industry and the consumers had access to ‘abundant’ and relatively cheap gas resources imported from Russia. What is more, the situation was marked by a relatively stable and balanced political context and a steady economic growth.

However, the early 2000s brought about accelerated legislative changes, primarily initiated by the European Union and the need for conformity with its principles. At the same time, the market experienced a significant increase in the natural gas price. The legislative changes also correlated with the EU efforts to open markets. EU developed and adopted directives, which enhanced European gas market liberalisation similar to the one in the USA: The legislation strengthened the market supervisory authorities and forced market players to introduce significant changes. Starting from 2000s, the gas market liberalisation came in several stages and in a very limited extent, though. Competition developed among large industrial customers and later, for a short period, in the residential market. Also, the market price of hydrocarbons was on the growth, which resulted in a considerable increase of the gas purchase price. This situation indicated the end of the era of ‘abundant’ and relatively cheap gas resources imported from Russia. In 2000s the governments in power made every effort to ‘protect’ the residential consumers from experiencing gas price increases by means of developing national legislation. The burden of the price difference between the purchase price and the residential end-user’s price was initially borne by the MOL-owned natural gas wholesaler. In the mid-2000s the wholesaler was also privatised. The new owner E.ON had to bear and handle the

resulting situation. The state continued to exit from the gas sector to create market competition.

The legislation being made, the strengthened supervisory authorities, the liberalised market, the created competition and the increasing acquisition costs of the natural gas forced the privatised natural gas suppliers to undergo significant organisational changes. In accordance with EU legislation, the companies unbundled their licensed activities in terms of accounting and later legally. This result of this move was that the pipe owner became 'independent' from the trader (the molecule owner of pipe assets). Furthermore, a number of other significant organisational changes went on in the companies with the aim of ensuring a more efficient operation, since this was one of the options to achieve competitive advantage over each other. Moreover, foreign parent companies expected considerable efficiency improvements. These significant external changes put an end to 'good old days' and the mechanistic organisations transformed into organic organisations. Organic organisations are able to respond and adapt to external changes in environments much quicker and more efficiently. Their decision-making process and the reaction time is shorter.

The changes going on in the past few years have accelerated and not slowed down. The increasing state activity leads to legislative and market changes. The state has decided to increase its ownership interest in the energy sector and wishes to practice its influence in market trends. The state primarily intended to influence the end-user price of the natural gas sold to residential customers. These state efforts and the several residential fee cuts placed the sector players in a very difficult and disadvantage situation. The introduced measures cannot be balanced by simple organisational changes, efficiency increase and cost cuts. They require more drastic changes and even a paradigm shift so that this sector of industry will be able to 'survive' this period.

Thesis 1. The service providers of the sector have gone down the path of modernisation from the organisation aspect. The privatisation and the experienced changes in regulatory and economic conditions resulted in significant organisational changes. These changes were induced either by legislation or by additional costs for companies. However, some organisational development brought about beneficial cost reductions. Companies started outsourcing some of their activities. The reactions of natural gas licensees were similar to the particular regulatory and economic inductions. Some divergences in structural development of organisational networks and cost-efficient requirements were experienced due to differences in pressure the companies were exposed to.

The legislative changes and the competition and price regulations regarding particular consumer segments experienced in the past few years have posed significant challenges to companies operating in this sector of industry in terms of sustainability and profitability. The external environmental challenges like the development and strengthening of market competition or impulsive regulations forced companies to allocate more financial resources to be able to comply with service requirements. Since the regulatory authorities established the turnover of the companies and the recognised level of costs belonging to this revenue part, the only way to development was to further increase operational effectiveness. The corporate sustainability was ensured by organisational restructuring with the aim to improve cost effectiveness and further enhance the competitive advantage in terms of obtaining new customers. These developments have contributed and still contribute to maintaining corporate profitability despite the regulatory changes.

This research study investigated the induced organisational transformation processes and their consequences triggered by the changes in the regulatory, economic and legislative environment in the past few years. Alongside the TIGAZ historical development, the steps primarily made towards the organisational restructure since market liberalisation were investigated at two levels. Also, special attention was paid to its reasons, methodology and organisational as well as management impacts. In addition, managers of national universal service providers and other sector players were sampled in a primary research, which provided an overall comprehensive picture about the processes going on in this sector. It can be concluded that service providers operating in this sector underwent modernisation in terms of organisational structure and the changes in the regulatory and economic conditions had significantly contributed to organisational reforms. It has become obvious that there were changes that were generated by legislation, which failed to produce palatable cost savings and even, in some respects, resulted in additional costs. However, in a number of cases organisational development resulted in cost reductions and outsourcing particular activities. It can be stated that the reactions of natural gas licensees to restructuring the organisational were similar to the ones of regulation and economic-induced reactions. However, there were divergences in the structural development of organisational networks and in the pressure on cost-efficient requirements.

Thesis 2. The key outcome of this thesis is the creation of a national centralised public-service organisation model. This model can be implemented in terms of universal provision of natural gas with the aim to ensure continuity of operation and competitive advantage arising from the implementation of measures which targeted organisation efficiency. It can really be proved that the current political will and the market situation requires the establishment of a single national universal service providing company. This move will not ease the extremely difficult situation of this industrial sector, though. This national organisation must not be established as a mechanistic organisation, because the constantly changing environment requires a flexible policy and reaction. Thus, this organisation has to be organic so that it can flexibly react to external regulatory rapid changes.

The current economic environment fails to provide the companies, which provided public services and privatised in the mid-1990s, the conditions expected by the investors' capital under market economy conditions. The investors expect a fair return on the capital invested. However, both the regulatory authorities and the government have clearly expressed that they do not intend to ensure this sector a profitable operation. As for the organisational level, they wish to subject this corporate activity to a direct supervision. However, maintaining the economic efficiency and operational performance is of macroeconomic interest.

One of the key outcomes of this thesis is the creation of a national centralised public-service organisation model. The analyses of the available theoretical literature and of the national trends and organisations clearly raise the issue of sustainability of the current organisational structure. The answer to this question may be the establishment of a centralised service-provision organisation. The analyses of the centralised service-provision model, its impacts and macroeconomic relationships justify the need for this model. The organisational model described in this study can be implemented. The findings of both the practical and primary research studies have confirmed this. They revealed the reasons why the above described organisation is to be established and the existence of synergies and efficiency potential in the organisational restructuring process, which can significantly contribute to macroeconomic advantages in terms of provision of utility services.

A national centralised public-service organisation model can be implemented in the case of universal service activity of natural gas supply if it secures a proper and continuous functioning of the internal gas market and further promotes the competitive advantage that has been achieved by introducing measures targeting organisational efficiency since the privatisation of this sector of industry. The national organisation described in this thesis should be an organic organisation at the beginning since the context and the environment of its operation undergoes continuous changes and its objectives and the scope of its responsibilities are not clearly regulated.

The organisational induction determines two aspects to be investigated. First, the customer relationship has to be in line with the national centralised organisational model and second, the synergies and the advantages presented by the model have to be identified and utilised. The current organisational structure of the national gas industry forms the basis of the organisational model and the activity net since it can serve as a starting point and the foundation of the model. The model consists of two levels: the energy holding, which can be Magyar Villamos Művek Zrt (MVM Zrt, in Hungarian: Hungarian Electricity PLC) and the universal service license holders, which can be the customer relationship organisation developed by Tigaz.

The first and the most important prerequisite for establishing a future national customer relationship organisation is that the Hungarian State should repurchase these companies in order to gain the majority share in the ownership of all Universal Service Providers. Then the four major Universal Service Providers can be integrated into the state-owned MVM Zrt, (Hungarian Electricity PLC in Hungarian). (Currently only one Universal Service Provider (Főgáz) is owned by the state and the acquisition of the other three is in process.) After the integration, the transformation of the four Universal Service Providers into one company can be started.

The major steps of the integration are illustrated below. The Universal Service Providers conduct non-direct business activities such as human resources policy, informatics, general purchasing and services, external communication, finance and controlling. These activities can be integrated in the specialist fields of state-owned MVM Zrt. . These corporate functions can be provided to all businesses in a supporting form via service contracts. This organizational model allows purchasing the services that are required and secure operation from customers' aspects. As for the other aspect, this model forms the basis of a centralized operation where the processes are centrally monitored and controlled in line with strategic objectives of the holding. The organizational functions of the core staff communicate the strategic objectives of specific divisions for and towards different divisions. After this, the professional activities of the four Universal Service Providers can be integrated in one customer relationship organisation or subsidiary within the framework of an integration project.

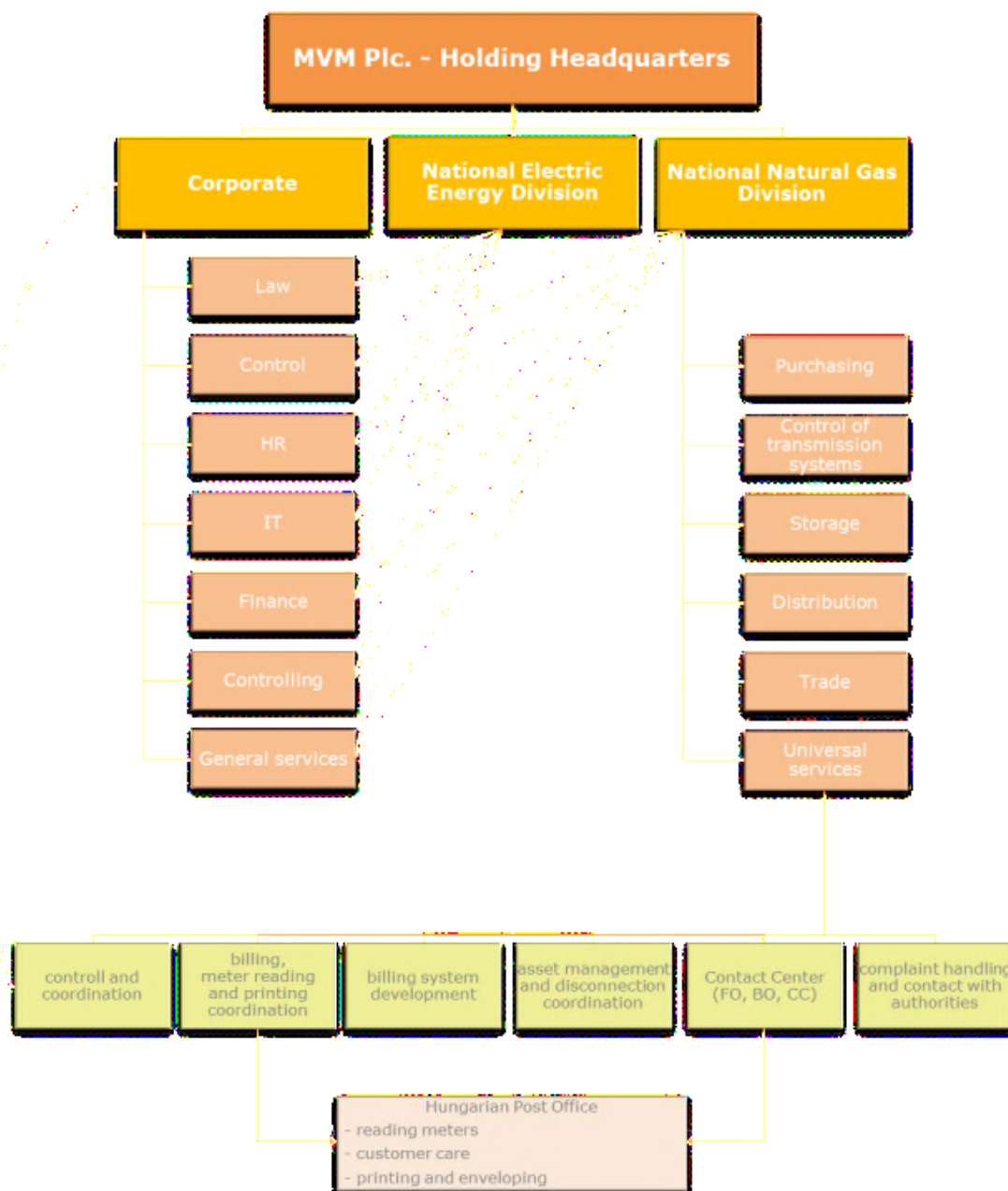


Figure 1: Organisational Network of the National Universal Service Provider
Source: author's own elaboration

The integration of special areas must be conducted in line with natural gas service processes. First, the integrated corporate systems of Universal Service Providers must be concentrated (IIR, ERP, SAP, VIR) since the current four Universal Service Providers operate four separate, in several aspects different, IT and billing systems that make up the integrated corporate management systems. The visioned organization should have a general controlling organization and system, which manages, coordinates and serves the information provision of the whole corporate governance. In addition, there is a need for setting up a core staff coordinating centre, which undertakes functions in the areas of strategic decision-making and management and is responsible for communicating the corporate strategy to functional units.

This coordinating organisation is in charge of measuring, supervising and coordinating the corporate activities and also cooperates with the central controlling organisation in order to ensure efficient planning and management.

The elements of the gas supply process must be followed in the organisational structure of the natural gas sector. They are governed by the requirements of the relevant legislation – rules of unbundling- and professional necessity. Obtaining the supply, transmission, storage, distribution and trading with natural gas is already performed in a developed organisational structure. This process is supplemented by a customer relationship area of the universal service area, which manages and is responsible for all forms of communication addressing consumers as well as receives, acquires and forwards the obtained information to gas trading companies.

The offered structure of customer relations is based on my own professional experience. The customer relations requires an integrated unit which develops corporate billing subsystems (SAP,ISU) of the corporate management in order to ensure that they comply with legislative requirements and increase customer satisfaction. There is a need for an organisational unit which coordinates meter readings, billing, printing and enveloping activities and ensures customers' meter readings, billing and invoice printing. The next step of the process is to establish another organisational unit which collects and manages the outstanding dues on the account, manages current accounts and coordinates the termination of services. This organisational unit collects the invoiced natural gas prices from household consumers and small businesses. A uniform contact centre receives and answers customers' calls either in an oral or in a written form, personally or electronically and complies with determined qualitative standard indicators. Also, there is need for establishing an independent organisation to manage complaints and to keep contact with authorities in order to improve processes and to directly manage authority and customer complaints.

These organisational units, namely customer contact centres or corporate organisations provide feedback to the corporate organisation through control and coordination units by using and applying their interactive management system. Thus, one of the most important requirements in effective corporate management, namely, circular communication in corporate processes can be achieved through this organisational unit.

The thesis has justified that the current political will and the market situation necessitates the establishment of a single national universal service provider. However, this move will not solve the problems and the gas industry will further remain in an extremely difficult situation. This national organisation must not be a mechanistic organisation when it is established because it will be unable to react flexibly enough to constantly changing environmental conditions. It must have an organic structure to be capable to rapidly and flexibly react to external environmental and legislative changes. The phases how to establish this organisation are elaborated in details both at the level of the holding organisation engaged in gas distribution and at the level of a customer contact organisation. After determining the functional units of the suggested customer contact organisation, the scope of the groups' tasks, responsibilities, the division of work between the groups, the processes and the position of the customer contact organisation as well as its communication and feedback to corporate organisation were defined. In this way, the feasibility of the proposed organisation, that is, the real possibility of its establishment is demonstrated.

Thesis 3. During the research activity, I modelled and simulated by a Roadmap the processes required and the steps to be made while establishing a universal natural gas supplier, elaborated its work organisation processes and designed a work organisation model of functional groups. The time required to ensure a high standard and reliable operation of this area supersedes the time period determined in this hypothesis. A considerable amount of time is required to spend on utilising the higher-form synergies of centralised public utility-service models, namely, outsourcing the customer relations areas of public utility services to the Hungarian Post Office Ltd. The experts polled in the primary research confirmed this statement and claimed that it would take more than two years to implement the operation of a centralised utility service provider

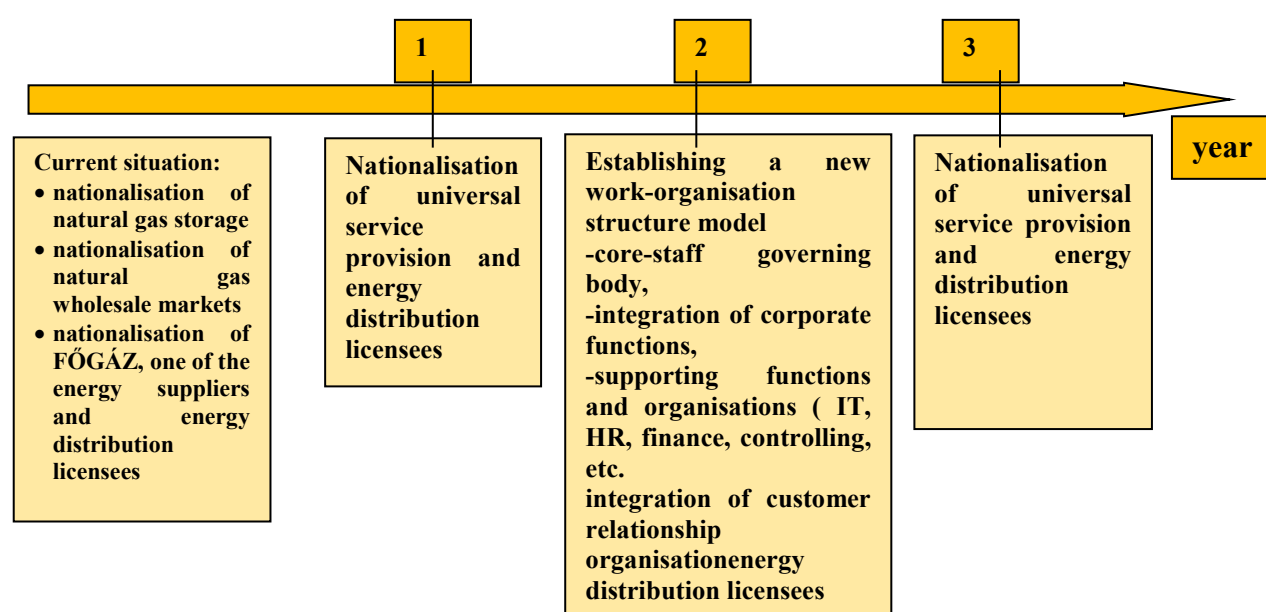
The conducted research studies provided a detailed description of the required change of ownership. This first step is also an extremely time consuming process. After this, the process of establishing a new centralised corporate model can start. This is followed by channelling the supporting and corporate functions (law, finance, human resources, informatics and general services) and forming a functional matrix organizational model. At the same time, a centralised customer contact organisation can be established, whose organisational restructuring can be achieved in four steps as described above. The time required to ensure a high standard and reliable operation of this area supersedes the time period determined in the hypothesis. A considerable amount of time is required to spend on utilising the higher-form synergies of centralised public utility-service models. The experts polled in the primary research confirmed this statement and claimed that it would take more than two years to implement the operation of a centralised utility service provider.

The six organisational units described in the customer relationship model completely cover the tasks related to household and small business customer services, ensure efficiency gains and generate improved customer satisfaction. However, the establishment of a centralised organisational model provides further logical possibilities arising from the analyses. I mean, there is a Post Office, an operating organisation, which possesses a national direct network of customer relationship and communication. This national network is suitable for establishing a direct physical contact with customers through its postal services and customer administration. Consequently, a further increase in efficiency can be attained by merging business and other organisations of the four Universal Service providers and by delegating the household meter reading activities across the country to the Hungarian Post Office while the newly established organisation coordinates meter reading activities. Also, delegation of meter reading activities to the Post Office allows opening new markets to the postal mailing service network, which increases work efficiency and offers new opportunities to the Hungarian Post Office. Since the electronic communication has been gaining pace, physical delivery of mail has been dramatically decreased; however, the network maintenance costs have remained. Consequently, the delivery network 'load' and other national activities generate efficiency increase at macro level, which can be defined as a synergy effect resulting from centralised organisational structures

In addition, the Hungarian Post Office has a national customer service network, which provides a basis for another macro-synergy aspect, namely, integrating customer service offices and contact points into this state organisation. (Currently the Post Office also provides such services to some service providers). This entrustment is beneficial for both service providers and service recipients. For service providers it generates cost effectiveness, process optimisation and extension of post office tasks with fix costs, without involving any additional maintenance costs. As for the service recipients, the personal administration process becomes simpler and better for the general public.

Finally, the Hungarian Post Office has a printing and enveloping division. Currently, there are gas service providers who already use the printing services of this division of the Post Office. It would be appropriate to outsource the activities related to printing and enveloping the bills and other documents to the Post Office at a national level. This part of the process can be directly linked with a more efficient distribution of public utility bills and other paper-based documents among consumers and customers. If these closely-related activities are performed within one organisation, a considerable competitive advantage can be achieved at a macro level.

It is obvious that the above mentioned activities can be outsourced to the Post Office only if the Post Office can prove that it can perform these activities more cost effectively than any other entrepreneur. The market competition and its possibility as well as the companies' interest in performing their work processes in a more efficient and optimised way are the aspects that are required for achieving expected economic efficiency.



*Figure 2. The process of establishing a new centralised natural gas service-provision model
Source: author's own elaboration*

In the course of establishing the new work-structure organisation model (See Figure 2), there is a need to develop a customer relationship organisation, which will perform customer communication activities. The development of this organisation is a long process and requires a considerable amount of time and appropriate infrastructure development, which can be made efficient only if appropriate steps and processes arise out of consequence. One of the reasons is to secure continuous operational capability of the natural gas supply. The other reason is to retain the efficiency elements and the implemented processes related to ensuring organisational efficiency, which were elaborated by this sector of industry. Also, steps made in the process of organisational restructuring are elements arising from each other. Consequently, every next step can be set in motion only when the previous process organisational step has effectively been accomplished as follows:

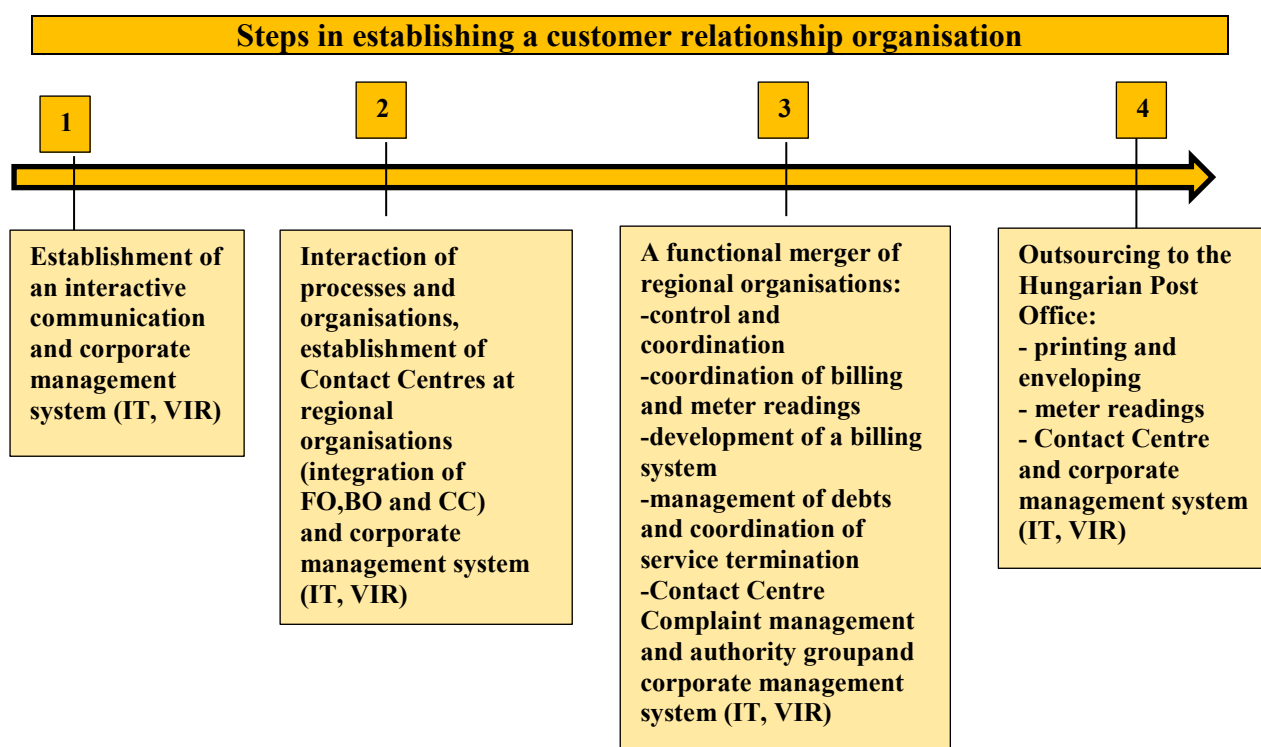


Figure 3. Steps in establishing a customer relationship organisation
Source: author's own elaboration

In the case of a national universal service provider and after establishing a centralised customer relationship organisation, there is a possibility to benefit from synergies arising from economic and functional efficiency advantages at macro level. For further development and utilisation of functional advantages that exist between national centralised companies, there is a need to enhance the outsourcing nature of restructuring of particular tasks and organisational groups. This can be achieved by unbundling coordinative and interactive functions (FO, BO, CC) and tasks and by merger of interactive functions. Consequently, in order to use higher-level synergies more effectively, an organisational integration has to precede the planned and possible outsourcing. The steps and the time required for this move are described and evaluated above. If the proper functioning of the integrated centralised contact centre is ensured, it is possible to initiate further organisational changes within a year with the aim to increase efficiency and outsource meter readings, bill printing, enveloping and a single contact centre to the Hungarian Post Office both organisationally and functionally.

Thesis 4. The conducted analyses proved that the establishment of a national universal service provider does not decrease the operational costs of the current four Universal Service Providers by 50%. The analyses performed in this thesis demonstrate that the current cost level can be reduced by a maximum of 19%. In the course of implementing outsourcing activities in the customer relationship, as a second step in the modelled organisational restructuring, the cost level of the outsourced activities can be further reduced by 14% on average. The polled experts also confirmed this reduction. They claimed that the maximum cost effectiveness may amount only to 10-30%.

The merger of the four service providers has to be investigated from the organisational aspect and presumably can be implemented. This merger results in a considerable reduction in operational costs in terms of fix and personnel costs. These cost savings arise from management cost savings to a greater extent and from employee cost savings to a lesser extent and from consolidated activity savings which have an efficient management structure.

The conducted analyses proved that the establishment of a national universal service provider does not decrease the operational costs of the current four Universal Service Providers by 50%. Detailed cost estimations were undertaken in order to calculate the fix costs of the current national universal services. Taking into account the Tigáz data, measures targeting organisational restructuring and their detailed cost impacts were demonstrated. Similar reorganizational processes are required to be performed in order to establish the suggested organisation in the future. Taking the above mentioned facts as a starting point, interval estimation was used to determine the cost impact on a national organisation. The calculations revealed that the current cost level can be reduced by a maximum of 19% as a first step. This cost saving ration can be maintained only if the process optimisation is as strict and efficient as in the Tigáz case presented as an example. If the organisational restructuring is of a soft nature and is not performed alongside management principles, its cost level results will not result in as efficient improvement as in the demonstrated case. This is confirmed by experts' opinions presented in the primary research. The polled experts claimed that the centralised operation itself fail to generate significant cost efficiency impacts. A strict maintenance of optimisation objectives is also required. A further increase can be achieved by outsourcing some organisations, activities and processes to another stately-owned company, which possesses the required technological and resource background.

If organisational changes resulting in further efficiency increase can be achieved within a year by outsourcing meter readings, bill printing and enveloping activities as well as the contact centre to the Hungarian Post Office both functionally and organisationally, a further increase of 14% in cost reduction can be attained. According to the majority experts, although the findings of the primary research confirmed the need for stately-owned companies, and within this, the outsourcing activity performed by the Hungarian Post Office, the cost savings may amount only to 10-30%.

Thesis 5. In the thesis it is stated that controlling, training and invoice correction activities of a national-level contact centre should not be outsourced. A detailed review of the theoretical doctrines and schools dealing with outsourcing confirms the research findings, namely, since coordination and controlling functions of organisations have a high value content in terms of internal assessment of companies and customers, it is impractical to implement them in an outsourcing form. The experts participating in the conducted primary research formulated even stronger opinions. They considered that not only coordination and controlling functions of customer relationship have core and higher contact values, but also front office, back office and call centre functions that belong to contact centres. Thus, they did not believe that outsourcing of the latter functions would generate efficiency.

Delegating the operation of customer relationship channels to a third party involves a lot of risks. Before making any decision, business risks involved with outsourcing these activities are to be taken into account since companies use customer relationship channels for establishing direct communication with their customers. They are fundamental tools in attaining customer satisfaction and retaining customers. It is of primary importance to keep the controlling function with the customer (in this case the natural gas universal service licensee) since these channels ensure communication of information on service results

between companies and its customers (meter readings, issuing invoices, CC, FO and BO), which is as important for customer satisfaction as for corporate management. Also, we are speaking about the supervision of one of the key communication channels of residential natural gas supply, which involves further communication possibilities. It is crucial that companies can retain and supervise these channels even if they are outsourced. Outsourcing is performed in the form of a written contract. The framework of the contract allows performing only the activities covered by the contract. Extension of activities due to legislative or regulatory changes or extension or amendments of activities due to market changes can be performed only after the amendment of the contract (new activity, new activity price, amendment of contract-cost framework). In the case of tasks that should be performed in a short period of time or require immediate reaction, the contractual work enjoys a more flexibility than the current practices. The experts polled in the primary research have a very strong opinion about this issue. They claim that activities related to coordination and controlling functions as well as the functions related to integrated processes of contact centres (CC, FO and BO) should be retained within the organisation.

The research study provided a detailed analysis of particular tasks performed by customer relationship organisation and of steps related to organisational restructuring with the aim to achieve organisational development and optimisation. Relying on my professional experience gained in this line of business in the past few years and on the knowledge obtained while conducting outsourcing activities I found that controlling, training and invoice correction activities of a national-level contact centre should not be outsourced. A detailed review of the theoretical doctrines and schools dealing with outsourcing confirms the research findings namely, since coordination and controlling functions of organisations have a high value content in terms of internal assessment of companies and customers, it is impractical to implement them in an outsourcing form.

4 Summary of research results, their applicability and further research directions

It can be concluded that the formulated research objectives are analysed in this thesis. The situation of public services and within this, the processes having a significant impact on the natural gas industry and the country management, as well as all aspects of the industry were investigated from international, historical and horizontal points of view. This was supplemented by my own professional experience gained from working in this sector for a long period of time. The conclusions drawn from the analyses were tested by experts and professional who have deep sector-specific and managerial knowledge not only of the universal service provision areas, but also of all branches of this special field of industry. As a result, an organisational model related to customer relationship area was created, which comply with the requirements set up by the current energy policy, regulatory environment and economic competition. Following the professional principles, providing a detailed design and offering exact process organisation calculations a customer relationship organisation of a universal natural gas service provider was elaborated, which could serve as a long-term organisational strategy for the fields of industry.

The investigation of the product, the price of the natural gas and factors influencing it and other activity processes of the sector does not belong to the objectives of this research. The importance of analysing these issues has already been referred to in my studies and constitutes the direction of my further research studies. This research also raises several, extremely complex and motivating issues. I would like to highlight the importance of elaboration of a centralised operation of particular natural gas service provision processes. For example, establishing a national network of the natural gas distribution activity, which currently is based on regional principles, is owned by large investors and targets restructuring of corporate activities. The elaboration of guidance, monitoring and control systems would be of crucial importance for national centralised companies since these systems make up the basis of all organisations. Apart from this, national reactions, impacts and consequences must also be stressed. Hungary is not 'isolated' and cannot be isolated in political, economic or even in infrastructure sense. The country does have to take into account the international impacts and reactions, in terms of effects coming from east and determining the country's gas resources and in terms of EU effects significantly influencing the country's economic development. My further objective is to conduct analyses of global aspects and this thesis provides an excellent opportunity for this.

This thesis is an important summary of my research work and aims to demonstrate the conclusions drawn from my professional experience and theoretical research studies. It also provides the main direction for further research activities, which opened as opportunities in the course of my work.

List of references (selection)

- E. Babbie (2008): A társadalomtudományi kutatás gyakorlata
- Bakacsi, Gy. (1988): A vezetés fogalmi körébe tartozó kifejezések egy rendszerezési kísérlete. Vezetéstudomány,
- Bencsik Andrea (2000): Változások menedzselése, szervezetfejlesztés Veszprémi Egyetemi kiadó
- Borbély Szilvia (2006): EU: gázpiaci liberalizáció és szétválasztás, MARMOL
- Browne, C. G., Cohn, T. S. (1963): Chefs et meneur. Paris, P.U.F.
- Dobossy I., Murányi M., Susánszky J. (1971): A korszerű vezetés. B.m. Tanulmányi és Kiképzési Csoport főnöksége, Budapest.
- Fama, Eugene F. (1980): Agency problems and the theory of the firm. Journal of Political Economy, vol. 88, issue 2
- Iacocca, L. (1988): Iacocca, egy menedzser élete. Gondolat, Budapest.
- Lawrence, P.R. – Lorsch, J. W (1969): Organisation and Environment
- Dr. B. Nagy Sándor (2014): Szervezetfejlesztés változásmanagement Zsigmond Király Főiskola
- dr. Drótos György (2000): Outsourcing: elméleti alapok, nemzetközi és hazai tapasztalatok, és egy lehetséges döntési modell
- Petit, F. (1979): Introduction a la psychosociologie des organisations. Privat, Toulouse.
- Pfeffer, J (1981): Power in organisations. Pitman Publishing, Marshfield, Massachusetts
- Porter, Michael E. (1985): Competitive Advantage
- Prahalad C. K. – Hamel, G. (1990): The Core Competencies of the Corporation. Harvard Business Review, May-Jun
- Reboul, O. (1992): La philosophie de l'Education. P.U.F., Paris.
- Szabó, L. (1967): A vezetés szervezéseméleti értelmezése. Vezetési ismeretek I. kötet (Szerkesztő: dr. Susánszky J.). Közgazdasági és Jogi Könyvkiadó.
- Szentpéteri I. (1966): Általános vezetéseméleti koncepciók. Acta Universitatis Szegediensis de Attila József nominatae. Szeged.
- Sziebig Péter (2006): Kiszervezve elmélet és gyakorlat az IT - outsourcingban
- Dr. Szintay István (2011): Az outsourcing, mint az innovatív szervezetek karcsúsításának egyik meghatározó irányzata
- Vince Péter (2009): Modellváltás a földgázellátásban

Lectures and publications

[2015] „Vevőelégedettségi kutatási gyakorlat és eredményei, mint a vevőorientált marketing stratégia és annak kontrollja a gázszolgáltatónál” - Marketing + Management (Pécsi Egyetem) (under presence)

„Vision for optimisation and innovative organisational development of national natural gas companies” Lambert Academic Publishing (Saarbrücken, Germany) (under presence)

[2014] „Current challenges in organisations of natural gas industry and the results of primary research into the vision for this industry with a special emphasis on expert analyses of customer relations organisations” International Journal of Research In Social Sciences (IJRSS) in Volume 4: Issue 2 June, 2014.

Holyevác, Cs.: (2014) A magyar földgázipari vállalatok jelene és jövője szakértői szemmel Gazdasági Hírtükör, XVI. évfolyam, 2014. 9. szám

[2013] „Outsourcing and organisational innovation: the example of a service provider” - Theory, Methodology, Practice Miskolci Egyetem VOL 9 nr. 2.

„The role of marketing in increasing customer satisfaction: cases study of a Hungarian natural gas service provider” - website of Hungarian Chamber of Commerce and Industry)

[2012] „A szervezeti innovációban rejlő értékteremtés egy hazai gázipari vállalat példáján” Gazdasági Hírtükör XVIII. évfolyam 33. szám

„A szervezeti innovációban rejlő értékteremtés egy hazai gázipari vállalat példáján” Új eredmények a közgazdasági és üzleti tudományokban tudományos konferencia a Debreceni Egyetem Közgazdaság – és Gazdaságtudományi Kara rendezésében az egyetem centenáriumának alkalmából (ISBN 978-963-473-600-4)

[2010] Szakmai előadás és kerekasztal beszélgetés a II. Energy Summit Hungary, Lábra áll a gazdaság, nő a gázfogyasztás, nő az import ár, úton a gáztőzsde felé, Magyarország tranzit ország és tároló ország, szabályozott árak, szabad árak konferencián, 2010. november 25. Budapest

[2009] Kutatási program az Ügyfélkiszolgálás jelentősége a liberalizált kiskereskedelmi piacon címmel. A kutatás eredményének publikációja a 41. Nemzetközi Gázkonferencián tartott szakmai előadásban, 2009. október 28-29. Siófok