CORPORATE SOCIAL RESPONSIBILITY: MANAGEMENT OF RELIABLE WATER CONSUMPTION

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Abstract

Corporate social responsibility is a modern approach to company management, which takes into account such important aspects as environment and society. The concept of social responsibility goes beyond the regulatory act requirements, putting more emphasis on human resources, the surrounding environments and relationships with the stakeholders. To ensure the availability of water resources at present as well as for future generations, water supply and consumption recording management process should be organized in a responsible manner. At the same time it must be economical, environmentally-friendly and oriented towards the public interest. This process is adversely affected by water pollution, process management shortcomings, irresponsible use of water and problems with water consumption recording. The article aims to explain how to ensure quality, responsible and reliable water consumption recording management process in a multi-family residential house, involving all stakeholders in the process. During the study, qualitative research methods have been used, assessment of water meter installation and performance has been done, principles of responsibility have been analysed. The authors have elaborated proposals that can help in improving the existing water consumption recording management processes in multi-family residential houses and develop public awareness of responsible water consumption recording.

Keywords: Corporate social responsibility, process management, water consumption, water meter.
JEL Classification: D23, M21, M53.

Introduction

The society has long understood the significance of water resources and access to drinking water which is vital to human existence. With the development of humanity and technologies, solutions for improved water supply system and maintenance have been found; specific requirements for drinking water quality and accessibility have been developed. Water quality is influenced by water pollution and efficiency of consumption recording. Drinking water is necessary and it will be necessary for future generations, so water resources and water consumption should be treated responsibly.

The value of water resources is constantly increasing. It is related to various aspects that affect water resource pricing, such as: availability, pollution, technologies applied, water treatment, supply, water pipes of a particular region or building, etc. The most significant of these aspects is water pollution. If water is polluted, it is necessary to carry out the treatment, if it is possible. If this is not possible, then water of appropriate quality and quantity has to be supplied from a different region. Consequently, the environmental aspect of water pollution has a direct influence on water pricing.

Nowadays, internal water mains in multi-family residential houses are centralized and automated in most cases. The existing water supply system differs significantly from a few hundred or even a few decades' old systems. Although there are commonalities within the system, overall water supply and consumption recording management process in various Latvian regions differs. To calculate the payment for the water consumed, initially the amount of water consumed was divided in proportion to the number of a multi-family residential house's apartments. Recording system was gradually improved; the amount of water consumed was divided in proportion among the population residing in the house. These calculation methods contain some inaccuracies, which led to disagreements among the tenants. To ensure accurate accounting of water consumed, tenants began to use water meters. The main objective was to pay only for the actual amount of the water consumed.

This methodology is still being used for calculating water consumption in multi-family residential houses. At the same time charge for water losses in the house is calculated. The amount of water losses in every house is individual and can vary, so the calculation methodologies differ.

Corporate Social Responsibility (CSR) is a modern approach to company management, which takes into account such important aspects as environment and society. The concept of social responsibility goes beyond the regulatory act requirements, putting more emphasis on human resources, the surrounding

environments and relationships with the stakeholders. To ensure the availability of water resources at present as well as for future generations, water supply and consumption recording management process should be organized in a responsible manner. At the same time it must be economical, environmentally-friendly and oriented towards the public interest. This process is adversely affected by water pollution, process management shortcomings, irresponsible use of water and problems with water consumption recording.

The article aims to explain how to ensure quality, responsible and reliable water consumption recording management process in multi-family residential houses, involving all stakeholders in the process.

During the study, qualitative research methods have been used, assessment of water meter installation and performance has been done, principles of responsibility have been analysed.

The authors have elaborated proposals that can help in improving the existing water consumption recording management processes in multi-family residential houses and develop public awareness of responsible water consumption recording.

The nature of corporate social responsibility and its development trends

In recent decades governments have paid increasing attention to issues of environmental protection and global warming. These issues are related to the future of humanity's evolution. The main condition to be observed is that our actions do not harm the environment or the impact is minimal, because environmental pollution creates favourable conditions for global warming, which may have irreversible consequences in the future (Tol, 2010). It is therefore important to preserve and economically use the existing resources such as water, flora, fauna, etc.

Quality management is increasingly being included in a company's strategies as management, not monitoring method (Volkova et al., 2001). Within the framework of economic globalization, understanding of quality and its implementation has become an integral part of business success and competitive advantage (Evans, 2007).

The concept of CSR became known to general public in the middle of the 20th century, along with topical issues such as environmental protection and global warming. One of the pioneers in CSR research was Preston (Secchi, 2007). Friedman and Wood are considered to be the main researchers of the concept (Freeman, 1984; Wood, 1994). In literature different definitions of CSR are given (Dahlsrud, 2008). CSR is about the impact of firm performance on people and the environment while taking care that profits are such that the corporation remains viable (Blowfield et al, 2008). Other authors believe that CSR is a value-increasing strategy (Lo et al, 2007). Many other researchers have investigated how people and the environment connect with profits at the level of the firm (Margolis et al, 2007). CSR is also defined as a voluntary commitment to include social and environmental considerations into entrepreneurship, to act ethically and contribute to economic development while improving the quality of life for the employees and their families, as well as for the local community and society as a whole (Dārziņa, 2010). In literature and various regulatory documents the definitions of CSR differ. Within this research, the authors offer the following definition "CSR is an organization's voluntary will and action to create and implement a responsible organizational culture, value system and operational strategy which takes into account economic, environmental and societal aspects as well as stakeholders' interests."

Over time, three main aspects of CSR theory have been created to facilitate effective development of business activities. First, from the neoclassical point of view the company's profits and competitiveness are important – this is the economic aspect (Branco et al., 2006). Second, human desires, expectations and satisfaction are significant – this is the social aspect (Heikkurinen, 2010). Third, attitude towards ecological conservation and restriction of environmental pollution are of major importance – this is the environmental aspect (Ketola, 2011).

Initially, the basic principles of CSR ideas were tried to include of policy planning documents, quality management methods and standards (eg ISO 14001 Environmental management systems – Requirements with guidance for use) (Dobers, 2009). Later they were included into various strategic business theories, as a result of that CSR theory was developed and became topical and modern approach to corporate governance. CSR is a growing trend that reflects changing social attitudes about the obligations that firms hold with respect to the societies in which they operate (Cramer, 2003). The authors believe that CSR is not just a theory; it is the ideology of improvement, continuous development, globalization, social importance, environmental protection and added value for a particular product or service.

CSR development in the global market is affected by two main factors:

1) demand for companies, where 'transparency' is observed, whose activities are consistent and orderly, which operate in accordance with certain principles, values and development strategy, take over and share good practices with other organizations, since it is much simpler and easier to cooperate with such companies (De Schutter, 2008);
2) ability to be a competitive company, providing reliable and quality products and services (Jamali, 2008).

CSR is a kind of driving force for entrepreneurs willing to operate in the long-term. The authors believe that it is also the 'reflection' of the company's development, revealing the company's management and its employees' attitude towards the community, environment and their ability to add value to their product or service.

Within the European Union and on global scale, discussions are continued on CSR realization in business – whether these are voluntary initiatives or control-and-command regulations (Tashman, et al, 2010). CSR has impact on the environment and ecological sustainability, on the national economy and business profits, public satisfaction and safety. The authors believe that the state sector, entrepreneurs and society have to take into account the impact of CSR and to follow its principles in action, as well as perceive it as an added value for a particular product or service.

In Latvia, CSR theory has been used since the end of the 1990s. Its application is considered to be good practice. Companies who use this theory in their work have comparatively better reputation, productivity and competitiveness among similar companies. CSR is gradually becoming a part of business strategy. A large part of companies use the principles of CSR theory, but not all of them do it deliberately. In Latvia, very few businesses, government institutions and society representatives understand the nature of CSR theory and support its manifestations. The authors believe that CSR has to be popularized and its use in different types of entities has to be promoted. Thus not only businesses, but also society, state and other institutions, as well as citizens of the world as a whole would benefit.

Corporate social responsibility in water consumption recording management process

Water is an integral part of everyday life. It is used for food and hygiene as well as other needs. A number of organizations are involved in the process of supplying water, providing and recording water consumption for the final consumers – tenants of a multi-family residential house. Each of these organizations wants to successfully perform their functions, while generating a profit. All the products and services are designed to meet customer expectations. Well-balanced social, economic and environmental aspect development is also significant. Not always companies take into account all these aspects and their mutual relationships. Therefore, organizations need to apply CSR in order to take into account the public interest and ensure respect for the environment while performing their functions and moving towards the goal set for the company.

Several parties – state institutions, regional water suppliers, multi-family residential house managers, conformity assessment bodies, tenants – are involved in water supply and consumption recording and each of the above mentioned parties has its own interests. It should also be noticed that some of the parties involved are state institutions or public capital companies whose main task is to ensure water resource availability and consumption recording, rather than making a profit.

Nationwide institutions determine the general requirements for drinking water quality, construction standards for internal water mains in multi-family residential houses, requirements for measuring instruments – water meters, requirements for calculation of water consumption. Within the local governments, the main task of state institutions is to create a water supply system for the particular region so that this system could function in accordance with the set criteria. Regional water suppliers are public capital companies, engaged in a water supply and treatment functions in a particular region. All the above mentioned organizations can be considered monopolists; therefore they are not subject to competition, which is often a key driver of entrepreneurship. Their main task is to perform the entrusted functions and to ensure that the associated costs are covered. The rest of the parties involved in water supply – multi-family residential house managers and conformity assessment bodies – are affected by general principles of marketing and management, including the competition. They not only have to perform their functions but must be able to successfully do their business and make profit. All of the above mentioned parties are involved in ensuring water supply and / or performing water consumption recordings. The authors believe that at present the parties involved in water supply and consumption recording are each focused on their own tasks and needs, not seeing the whole process, consequently not seeing the gaps and the need for improvements. They take into account

environmental conservation requirements arising from different types of regulations. At the same time, the public interest is not taken into account; economic factor is not addressed comprehensively and is not made more efficient. Application of CSR principles in this sphere would motivate companies to focus on public opinion and economic aspect in this sphere in general. The authors believe that the issues not regulated uniformly at present (such as water meter installation requirements, meter selection factors, organization of water consumption recording, methodology for calculating losses, paying for losses) are very important. To ensure water supply and consumption recording, these issues should be dealt with on national level and encompass economic, environmental and societal aspects.

It is particularly important to take into account the public interest in the sphere of water consumption recording. It is the society – the tenants of a multi-family residential house who pay for the water consumed and services received. Frustration that often prevails among the tenants, and also disputes and uncertainties point to the fact that they are not sufficiently involved and their interests are not taken into account. All the parties involved in water supply and recording process have to ensure public awareness about the processes and decisions taken, thereby providing 'transparency' of water supply and water consumption recording process in particular.

Water consumption recording management process consists of several stages that can be divided in accordance with the parties involved and the tasks they are entrusted. The duties of state and local government institutions as well as regional water suppliers to be performed within the water consumption recording management process are comprehensive and applicable to the system as a whole. Within the framework of the study, the authors have examined the stages in water consumption recording management process that directly relate to multi-family residential house managers and tenants, focusing on that part of water consumption recording management process where up to now most problems, disputes and public frustration were observed.

At the beginning of the 1990s, there was a change in management of multi-family residential houses, tenants actively privatized their apartments. Changes were made to water consumption recordings and calculating water consumption charges. Most tenants began to use water meters for water consumption recording in their households. Their main goal was to accurately record the amount of the water consumed in a particular apartment and pay only for it. Without meters, the process would be more unstable, estimates of water consumption charge even more approximate. At the same time people have started to follow a variety of water saving measures. It also shows tenants' responsible attitude towards water consumption recordings and economic use of water resources. The authors believe that one of the key prerequisites for water consumption recording is installation of cold and hot water meters in each apartment. This is necessary to accurately record the amount of the water consumed, to ensure reliability of water consumption recording management process and to apply a uniform, systematic approach to water recording. To ensure smooth operation of the system, all the involved parties are obliged to carry out their duties with responsibility and integrity.

Water meter use is closely related to such concepts as reliability and accurate recordings, as essential requirements for their use are regulated by laws and regulations. To ensure successful functioning of the process, the first prerequisite is choosing adequate water meter; at present this task is delegated to tenants. This question so far has not been centrally regulated. In terms of class and sensitivity, the water meter must be chosen to suit the internal water mains dimensions and also ensure that readings are reliable. It is permissible to use both new and re-verified (subsequently verified) meters. The authors believe that one of the possible solutions could be to put the regional water supplier, house manager or local government in charge of all water meters installed in a multi-family residential house. The situation could possibly be improved if the regional water supplier and house manager provided the tenants with an explanation on the specific issues, such as installation of appropriate water meters.

Installation of meters is an important aspect within the water consumption reading management process, as installation of meters without following the manufacturer's instructions may affect the readings. No uniform requirements have been set for regulating this sphere at national or local level. Each manufacturer of the product – water meter – has developed its own instruction. During installation of a new meter, these instructions can be followed precisely as the instruction is available. With meter replacement, quite often where this requirement cannot be ensured, if manufacturer's instruction is not available any more and it is impossible to find installation requirements for a particular meter. Thus, the authors have come to the conclusion that it is necessary to adopt uniform requirements for meter installation and entrust the responsibility of installation to persons competent in this sphere. After evaluating various instructions for

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water meters installed in multi-family residential houses, the authors consider it possible to define general uniform requirements for installation of water meters.

Currently, in Latvia water meters that correspond to the requirements of the Old approach and meters that correspond to the requirements of the New approach are in use. In future it is planned to use only meters that correspond to the requirements of the New approach. Water flow characteristics of water meters compliant to the New approach are shown in Figure 1.

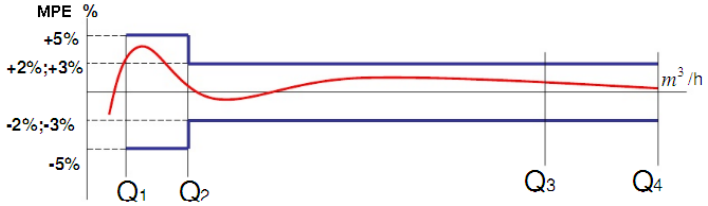

Figure 1. The characteristics of water flow for water meters, which comply with the requirements of the New approach

Figure 1 shows: minimum flowrate (Q1) – minimum flow of water, transitional flowrate (Q2) – flowrate in the range between permanent and minimum flow, permanent flowrate (Q3) – flowrate when the meter is operating satisfactorily, and overload flowrate (Q4) – flowrate at which the meter can satisfactory operate only temporarily. The figure also shows the maximum permissible error (MPE) of the water flow in the range Q1 - Q2 ± 5% and in the range Q2 - Q4 ± 2% (for cold water) and ± 3% (for hot water).

Regulation of metrological characteristics is only one of the water losses prevention factors. Proper procedure of water consumption recording management process is associated with other significant factors as well. The authors consider the accuracy of meter readings to be the main problem, unless this problem is solved, it is difficult to assess the impact of other factors and further improvements may be ineffective.

After assessment of water supply and consumption recording management processes, the authors identified water losses (Δo) in the stage from the water supply point to the tenants (see Figure 2), which can differ in various countries, various regions, even various multi-family residential houses. These losses are composed of water losses from the regional water supplier to the house water meter (Δ1) and water losses from the house input meter to water meters located in apartments (Δ2). The authors believe that in companies operating in accordance with the requirements of CRS, this aspect should be taken into account, including costs for possible water losses consumption in water pricing.

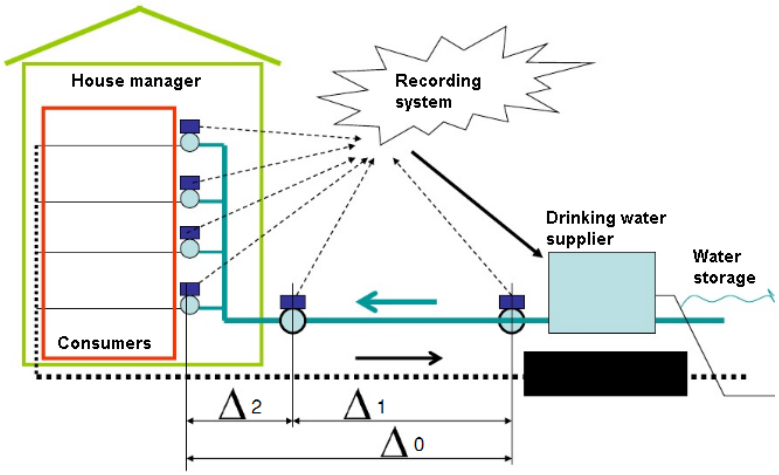

Figure 2. Water losses

Another important factor that directly affects the water consumption recording management process is the period of validity and warranty for the meter, frequency of subsequent verification. Manufacturers themselves define the period of validity and warranty for their products, these periods may vary. For water meters, just like any other goods, the warranty period is two years. Conformity assessment re-verification – subsequent verification, in accordance with the national legislation, shall be completed not less frequently

than once every four years. Here doubts arise if at present the frequency of verification of water meters is technically justified.

Within the framework of water consumption recording management process multi-family residential house managers are responsible for: monitoring the validity of the meters, checking readings and calculation of payments for the water consumed. The authors believe that the first two mentioned tasks do not significantly affect the overall process. While tenants must pay only for actual amount of the water consumed, the costs of water losses should be included in water pricing. Payment for water should be technically justified.

Conclusions

The authors believe that CSR is not just a theory; it is the ideology of development, continuous development, globalization, the importance of community, environmental protection and added value for a particular product or service. At the same time CSR is the evidence of an organization's development level, which reflects the company's management and staff attitudes to the community, the environment and the ability to add value. Within this research, the authors offer the following definition "CSR is an organization's voluntary will and action to create and implement a responsible organizational culture, value system and operational strategy which takes into account economic, environmental and societal aspects as well as stakeholders' interests."

A large part of Latvian organizations try to integrate the principles of CRS in their activities. However, the concept of CSR is often used to enhance the company's external image or to formally comply with regulatory requirements, rather than to deliberately develop a CSR policy in the company and implement its principles. The authors believe that the state institution and entrepreneurs as well as the society should be aware of the impact of CSR and follow its principles in their activities, perceiving it as an added value for a particular product or service. To foster the use of CRS strategy, it would need more active promotion.

The parties involved in water supply and consumption recording each focuses on their tasks and needs, not seeing the whole process. Application of CSR principles in this sphere would motivate companies to focus on not only environment-friendly factor, but also public opinion and economic aspect in general.

In order to create a single, reliable and consistent water consumption recording system at the national level, a key prerequisite is installation of cold and hot water meters in all apartments of multi-family residential houses.

In issues connected with water supply and consumption recording that have so far not been regulated, it is necessary to set uniform requirements at the national level, thus creating a single model and avoiding the situation that companies can use their monopoly situation; at the same time ensuring the accountability of all the involved parties.

Using water meters is a certain prerequisite for reliable and stable functioning of water consumption recording management process. To ensure this, one of the possible solutions could be to put one of the involved parties in charge of all water meters installed in a multi-family residential house. Public satisfaction could possibly be improved by creating a more active dialogue between the parties involved in water supply and recording with tenants providing explanations of confusing issues.

Adopting uniform requirements for installation of water meters would improve water consumption recording management process, while ensuring reliability and quality of a certain level.

Water losses occur due to a variety of reasons. Companies operating in accordance with the requirements of CRS should technically justify the reasons for water losses for each multi-family residential house, including costs for possible water losses consumption in water pricing.

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