Evaluating Sustainability on the Basis of Financial Reports in the Case of Estonian Ministries

Lea Roostalu, Ragne Post, Maret Branten

Abstract — The aim of the present article is to evaluate the sustainable management of five Estonian ministries after their moving to a joint building in the period of 2018–2019. It was expected that moving together would reduce maintenance and transportation costs and improve communication between the ministries. The authors interpreted several cost accounts in the financial reports of these ministries as phenomena of different capital forms and applied a four-dimensional sustainability content model based on Talcott Parsons' AGIL paradigm about the continuity of social systems. In conclusion, the results of the study show that although some expectations are not met the management of these ministries is sustainable but the results differ between ministries. The authors' opinion is that future studies need to assess sustainability in the so-called Joint Ministry as a whole.

Index Terms — AGIL paradigm, capital forms, complex systems, content analysis, public sector financial management, sustainability phenomena in financial reports

1 Introduction

THIS paper carries forward the work of Branten and her co-authors [1] where the authors examined the financial reports of five ministries before and after their moving to a joint building in quite a short period (Q4 2017–Q1 2018 compared to Q4 2016–Q1 2017). In our study we analysed a 2-year period (2018–2019) to determine how the financial reports of these ministries reflect the phenomena and trends of sustainability. We also compared our results with the results of the first study. For that we applied the same 4-dimensional sustainability model based on Parsons' AGIL paradigm previously used by Branten and her co-authors, which guarantees the comparability of results.

Additionally, our target was to identify changes in some economic indicators such as office costs, building costs, transportation costs, economic costs per employee, and wages per employee, which were also the subjects of the first study.

Parsons' AGIL paradigm as a general sustainability model is presented in the next part of the article. In the following part, an overview of the case study is provided and in the final part of the article, the results and conclusions are discussed.

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2 Theoretical Background of the Study

According to the theory created by Talcott Parsons, a developer of structural functionalism, all social systems must be complex systems with their internal structural and functional relations. Parsons' AGIL paradigm or AGIL scheme defines the following four main functions required for the survival of a social system [2], [3]:

- adaptation to the environment (A);
- goal attainment and setting priorities (G);
- ensuring integration (I);
- latent pattern maintenance, latency (L), i.e. fostering and preservation of values.

These four main functions are divided between four fields of activities or four subsystems of a social system (Ibid):

- adaptation (A) is the responsibility of the economy;
- goals (G) are dealt within policy;
- integration (I) is required of the social sphere; and
- latency (L) is required of the area of culture.

According to Roostalu [4], this paradigm constitutes a four-dimensional sustainability model where values (L) have the most crucial role, as it was underscored by Parsons [5]. The balance between the four functions or dimensions is the basis for sustainability, but absolute balance is rather theoretical [6]. Roostalu and her co-authors proved that the dimensions of the AGIL scheme can be described by different capital forms [7], [8], [9], [1]:

1. A for both physical capital or assets and structural capital sustaining infrastructure for an organisation;
2. G for both intellectual capital as collective knowledge and natural capital as a strategy for saving nature;
3. I for social and relational capital measuring internal and external networks;
4. L for cultural and human capital consisting of all attributes (including cultural aspects) related to people within an organisation.

3 CASE STUDY

3.1 Methodology

The case study covers five Estonian ministries: the Ministry of Finance, the Ministry of Justice, the Ministry of Social Affairs, the Ministry of Education and Research, and the Ministry of Economic Affairs and Communications. The cost accounts of the financial reports or the so-called 'outcome reports' of these ministries from the period 2018–2019 as public information (see [10]) were under our investigation. The base field of the content model is the economic field or adaptation (A), in addition to which the representation of the other three fields is studied in the complex system: policy or goal-setting (G), integration or cohesion (I), and culture or values (L) (see Fig. 1).

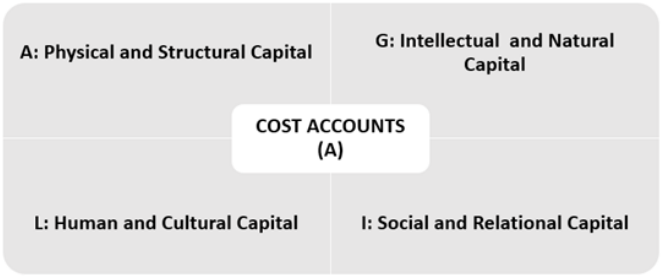

Fig. 1. The structure of the content model

Both qualitative and quantitative content analyses were used for interpreting several cost accounts as phenomena of different capital forms and calculating the sums.

Due to the fact that the chart of accounts of the Estonian public sector is very long and the data from 60 accounts were included in the model, it is not possible to give a detailed overview about which accounts were selected for different forms of capital by means of content analysis. Therefore, a brief overview is provided instead.

- In this model, physical capital comprises expenditures on office furnishings (including inventory and ICT costs), maintenance costs of buildings, transportation expenses, and the associated depreciation costs.
- Software costs including depreciation are considered as structural capital.
- Expenditures on staff (including training, business trips, reimbursement of health and sports expenses) characterise human and cultural capital.
- Social and relational capital are described by costs related to gifts, events, and other special benefits.
- Intellectual capital is associated with activities related to research and development.

Cost accounts associated with natural capital (e.g. biological assets) were not applicable to the ministries; therefore, this capital form could not be used to describe the policy field (G).

3.2 Results

The results of our study indicate that in the period 2018–2019, intellectual capital has larger growth (33%) followed by human and cultural capital (7%), and physical and structural capital (5%) while social and relational capital have decreased 3% (see Table 1 and Fig. 1). In the first study, it was just the opposite, as the increase of social and relational capital was 32% (which suggests that cooperation between ministries may have improved), intellectual capital increased 7%, human and cultural capital increased 3%, and physical and structural capital decreased 5%.

TABLE 1

Changes in capital forms for the Joint Ministry.

	2019	2018	2019-2018	2019/2018
A. Physical and structural capital	243 498 005	231 720 578	11 777 427	105%
G. Intellectual capital	25 624 503	16 543 538	9 080 965	155%
L. Human and cultural capital	28 446 393	26 617 155	1 829 239	107%
I. Social and relational capital	25 261 255	26 129 424	-868 169	97%

Due to the use of financial statements as the basis for the study, the reports primarily covered physical capital, which had a stronger presence than the other types of capital. Therefore, physical capital is not presented in Figure 1. By eliminating physical capital, the presence of other capital forms is quite well balanced in the AGIL scheme. For that reason, it can be concluded that the overall financial management of the ministries is sustainable.

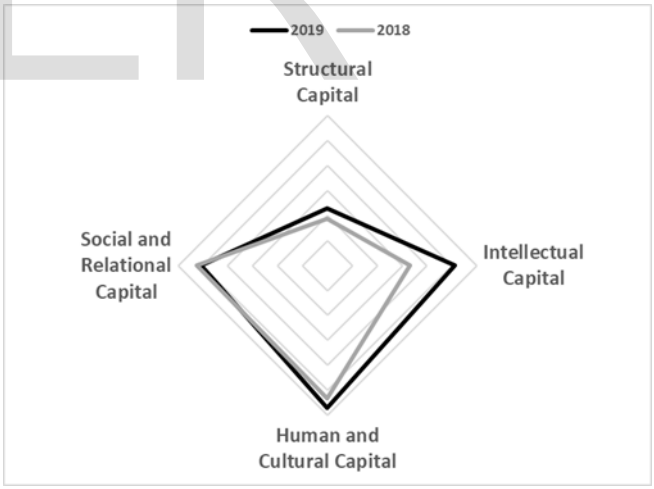

Fig. 2. Changes in capital forms without physical capital for the Joint Ministry

It also occurred that in the period 2018–2019, transportation costs, which had not decreased in the first study, decreased 10% (see Table 2). At the same time all other economic indicators have increased compared to the study of Branten et al. excluding wages per employee (Ibid).

The results of the study differ between the ministries and compared to the study of Branten et al. [1]. In the first study, savings on office-related costs were met in all ministries, but

now only in three ministries. The costs related to buildings decreased in three ministries versus in one now. In both studies, transportation costs did not increase in three ministries. Economic costs per employee decreased in two ministries versus in one now. Wages per employee increased in four ministries versus in all now.

TABLE 2
Changes in some economic indicators for the Joint Ministry

	Q4 2017-Q1 2018/ Q4 2016-Q1 2017	2019/2018
OFFICE COSTS	92%	98%
BUILDING COSTS	101%	106%
TRANSPORTATION COSTS	108%	90%
ECONOMIC COSTS PER EMPLOYEE	92%	105%
WAGES PER EMPLOYEE	108%	107%

There were also big differences in the dimensions of the sustainability model between ministries. For example, in the period 2018–2019, intellectual capital increased significantly in the Ministry of Finance and Ministry of Economic Affairs and Communications, which means that these two models were not in balance. We can assume that the increase of intellectual capital refers to the development of information systems related with the target of the Estonian state going over to activity-based costing (ABC) and budgeting (ABB). Hence, these costs are common costs for all ministries.

4 Conclusions

In August–September 2017, five Estonian ministries moved into a new building that was designed specifically for the ministries with the aim of reducing maintenance and transportation costs and improving communication between the ministries [11]. The aim of this case study was to assess the achievement of these goals and the sustainability of the financial management of the ministries in the period 2018–2019.

Our approach is based on content analysis of the financial reports of these five ministries using Talcott Parsons' AGIL paradigm or AGIL scheme. According to Roostalu [4], Parsons' AGIL scheme can be seen as a general sustainability model. Various cost accounts in financial reports were grouped under different capital forms, which, in turn, were divided between the four dimensions of the AGIL scheme.

Parsons argued that balance between the four dimensions (A, G, I, L) is required for the survival of the social system as a complex system [6]. In our study, the dimensions of the model are in harmony (see Fig. 2), which means that the financial management of the ministries as a whole is sustainable. Branten et al. [1], who studied this case for a period of half a year after moving together, had the same result but there are some differences in the dimensions of the model. Namely, Branten et al. found that cooperation between ministries (i.e. social and relational capital) is significantly increased. Our study did not confirm this trend and in our study, we detected a big increase of intellectual capital, which refers to a higher level of research and development being a keyword of sustainable development.

In achieving continuity, latency (L) has a crucial role because values motivate the members of any social system voluntary to act in such a way that is expected by their social system [5],[12]. Our results indicate that human and cultural capital within ministries have increased 7%, taking second place in rising after intellectual capital.

Additionally, in our study as well as in the study of Branten et al., some economic indicators were under investigation. Transportation costs, which did not decrease according to the first study, are now showing a downward trend, meeting expectations of moving. In contrast, office and building costs are on the rise, as are the costs per employee, which means that the expected savings have not occurred here. Wages per employee have also risen, although growth has declined.

We also pointed out that in some ministries the dimensions of the model were not in balance. As complex thinking characterises sustainability, we conclude that in future we must evaluate sustainability in the so-called Joint Ministry as a complex system and not in each ministry or subsystem separately.

The theory of sustainable development is based on the ethical responsibility of an organisation before society [13]. The findings of Schwartz [14] prove that ethical values serve an important purpose with respect to establishing an ethical corporate culture, ethical decision-making, and leading to better financial performance.

Unfortunately, not enough attention has been paid to the ethical management of the public sector, as the main emphasis is on the so-called three E-principles of New Public Management, i.e. Economy, Efficiency, Effectiveness, which have pushed the principles of the ethical behaviour of public management, i.e. the three C-principles – Conduct, Code of ethics, Culture – into the background [15]. Indeed, Pevkur [16],[17] has drawn attention to the fact that the fourth E-principle – Ethics – should be added to the three E-principles.

Drechsler [18] claimed that since public administrators' values and attitudes directly affect the processes and outcomes of public administration – often more than the structures and processes themselves – Estonian public administration is still rather far from good public administration.

Our study also underscores the need for ethical and sustainable management in the public sector. Moreover, the results of this case study confirm the suitability of our content model for modelling and evaluating sustainability using only financial reports; on that account, the authors hope that their model will be applied in other studies.

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