Chapter 19
Why IT Strategy Does Not Suffice?

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Abstract. As it results from studies carried out by the author, more and more government units in Poland has developed IT strategies. However, it appears that commonly these materials have purely declarative character and are not reflected by real actions — especially by information projects being realized (in compliance with a rule that the urgent things prevail over the important things). Considerations on how to perform the operationalization of IT strategy with use of a concept of Enterprise Architecture were undertaken in the article.

19.1 Introduction

Nowadays, no one ask the question **what for** to perform informatization of government. However, more frequently there appear questions: how to do it in an effective manner in order to dispose of public funding in a rational manner and, simultaneously, to ensure that IT solutions being created be matched to needs of both government units and its customers, that is citizens, enterprises and non-government units, as far as it is possible. This is all the more important since within a few coming years Poland will receive from EU significant financial contribution for implementing a widely understood concept of information society (including e-government).[1]

A starting point for answering these questions is a diagnosis of a current state within issues concerning: an informatics role in government units, methods of organizing IT personnel in these units as well as approaches applied for developing new information systems necessary for government. For this purpose, the author carried out poll studies during II–IV quarter of 2007, and then profound interviews with

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[1] For example, there is spent about 2.3 billion EUR on the priority "Information society establishment and development" within Innovative Economy Operational Programme 2007–2013.

representatives of selected government units (IT department managers and directors). Studies regarded all ministries, voivodeship offices, marshal offices as well as selected local government units. As a criterion of selection of local government units it was decided to use results of contests for the best local government units organized since 2003 by the Association of Polish Counties. Counties, cities with county rights and communes participating in the contests of the Association of Polish Counties undergo a very detailed evaluation through a wide set of criteria. By meeting each condition they receive a specified amount of points (i.e. possessing the ISO certificate 9001:2000 — 350 points, the certificate of participation in "Przejrzysta Polska" — 200 points). It was decided that a poll questionnaire will be directed to 100 best units in a contest (presuming that there are more than 100 units because one position in a contest may be occupied by more than one unit). In general, there were sent about 330 questionnaires responded by 31,6 % of units.

In the article there were also presented results of pilot studies carried out in I quarter of 2009 by the Department of Business Informatics in the Warsaw School of Economics[2] and the Sybase Polska company. These studies had character of structured phone interviews with IT departments directors or managers. In order to ensure the unified interpretation of questions by respondents each question was enriched by necessary definitions and an explanatory comment. The study itself was divided into two parts. The first one — general — focused on discovering a degree of describing business processes, enterprise data model and information systems among the analysed organizations. Furthermore, respondents answered questions concerning problems occurring when business and IT have a close contact with each other and related to an approach to implementing IT solutions. The second part of the study concerned issues directly related to Enterprise Architecture — a degree of knowledge about notion itself and applying concrete approaches to building architectures. In general, there took part 96 subjects representing companies from the Rzeczpospolita newspaper list gathering 500 largest enterprises as well as representatives of ministries and central units.[3]

19.2 Attempt to Evaluate the Selected Results of Poll Studies

For purpose of this article, results of poll studies concerning issues related to IT strategy in public organizations will undergo a detailed analysis.

Figure 19.1 depicts respondent answers for a question: "Does your organization have assumed IT strategy" depending on the respondent size. It shows that the larger an organization the more often it has developed IT strategy — and in case of very large organizations it is (or will become in the nearest future) even a standard.

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[2] The author was responsible for technical preparation of the studies on behalf of the Department of Business Informatics in the Warsaw School of Economics and carried out an analysis and interpretation of the received results.

[3] For purpose of this article results concerning solely government units will be presented.

Simultaneously, while analysing IT strategies of government units (especially with regard to local government units) which are available to the public within public information bulletins, it can be observed that frequently they are largely similar to each other. On the one hand, one can state that it is hard (or even impossible) to "reinvent a wheel" each time — and all the more since public units operate within the same legal regulations and have the same public tasks to realize. Simultaneously,
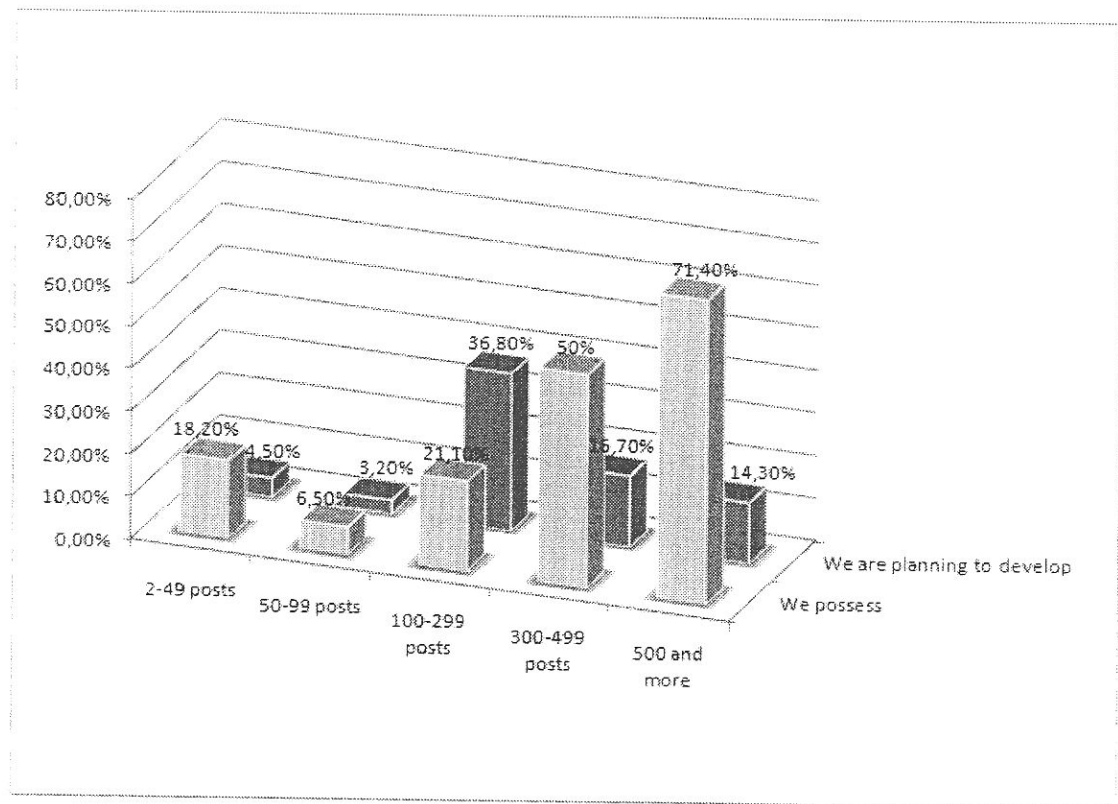

Fig. 19.1 Organization's disposition of IT strategies (an analysis including the size of an organization)

Source: Own work on the basis of results of the poll studies from 2007

one can feel some insufficiency within three areas. Firstly, strategy written in a generic manner (very often in its subsequent occurrences there change solely contact and localization data of an unit as well as results of the made IT resource inventory) is not real support for information projects planned for realization by an office — it becomes de facto a typical "thing outside the mainstream". Secondly, there is neglected a possibility of identifying information solutions which will be aligned to needs of an unit and its customers, that is enterprises (current and potential) and citizens. Finally, there are no chances of implementing systems having an innovative character enabling one office achieve a competition advantage (in contrary to the common opinion that public organizations frequently appear to function as

monopolists within production of goods and provision of services while, for example, between local government units most of all there is a rivalry for investors as well as for positive perception of a city/county/voivodeship in a scope of a whole country). In this last case, one should tell about a necessity of developing an innovation strategy with use of IT or about a society development strategy based on knowledge (most of all such tasks should attract interest of large cities).

Above considerations allow to form a conclusion that within Polish government units there emerges a gap between informatization strategies being formed and information projects and programmes (considered as a set of projects) being realized by offices — see Figure 19.2.
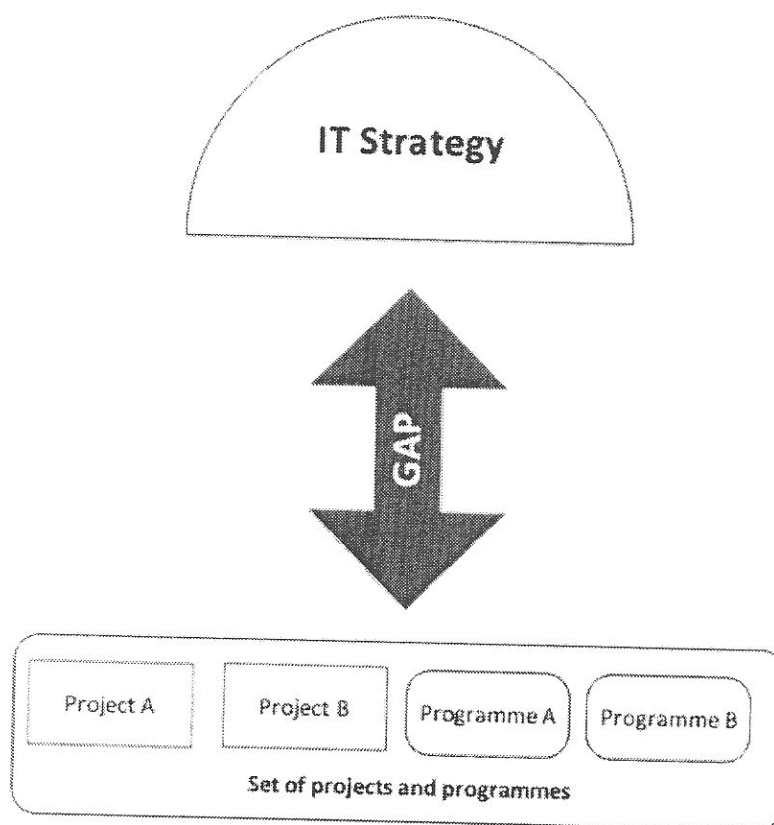
IT Strategy

GAP

| Project A | Project B | Programme A | Programme B |

Set of projects and programmes

Fig. 19.2 A gap between an IT strategy and projects and programmes being realized in offices

Source: Own work

In practice it takes place in such a manner that a strategy is formed, but it has such a general character that it is hard to address during a realization of concrete IT systems. It implies that information systems being realized within these projects and programmes does not support strategic organization goals. This conclusion has been confirmed empirically by the author within both mentioned studies.

During realization of studies in 2007 respondents were asked to determine from their point of view the importance of each feature during creation of new

information systems using a scale 1–10[4]. The mentioned features included: system implementation speed, wide functionality of a system, compliance with legal regulations in force, easy integration with currently exploited systems, use of high technology within a system, friendly and easy handling, agility and scalability of a system, small hardware requirements, data processing speed, support for the assumed strategy, alignment of an information system to an institution management system, provision of data security, compliance with standards and a system purchase price. According to respondents it appeared that "support for the assumed strategies" is the least important factor — see Figure 19.3.
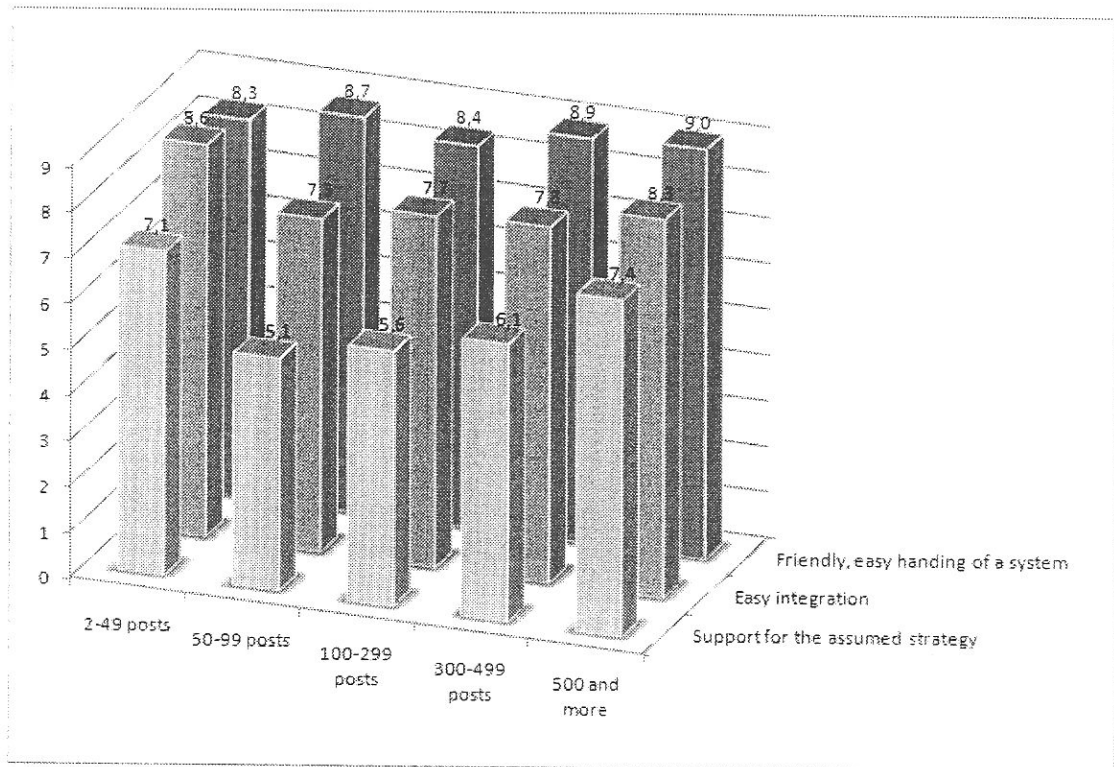

Fig. 19.3 The importance of selected factors during creation of new information systems

Source: Own work on the basis of results of the poll studies from 2007

Much more important issues regarded friendly handling or easy integration with currently existing information solutions. It is a confirmation of a rule that the urgent things prevail over the important things. However, such an approach leads to creation of suboptimal solutions (locally optimal), that is a situation when information systems being created realize needs of the separated part of an organization (i.e. department/section) but its operation does not support realization of strategic IT goals. It can result in emergence of difficulty in long-term maintenance and development of systems in a scope of a whole unit.

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[4] 1 — stood for the least important feature, 10 — stood for the most important feature.

Results of the pilot studies in 2009 also confirmed the gap diagnosed beforehand. Respondents were asked to evaluate a level of alignment of IT systems to strategic goals in force in scale 0–5[5]. It appeared that 42.8% of respondents indicated that there is no such alignment or that this alignment is relatively poor (herein included indications of respondents which had value of 0, 1 or 2). It is also symptomatic that no respondent believes that information systems in his/her office are fully aligned to the assumed strategy (see Fig. 19.4).
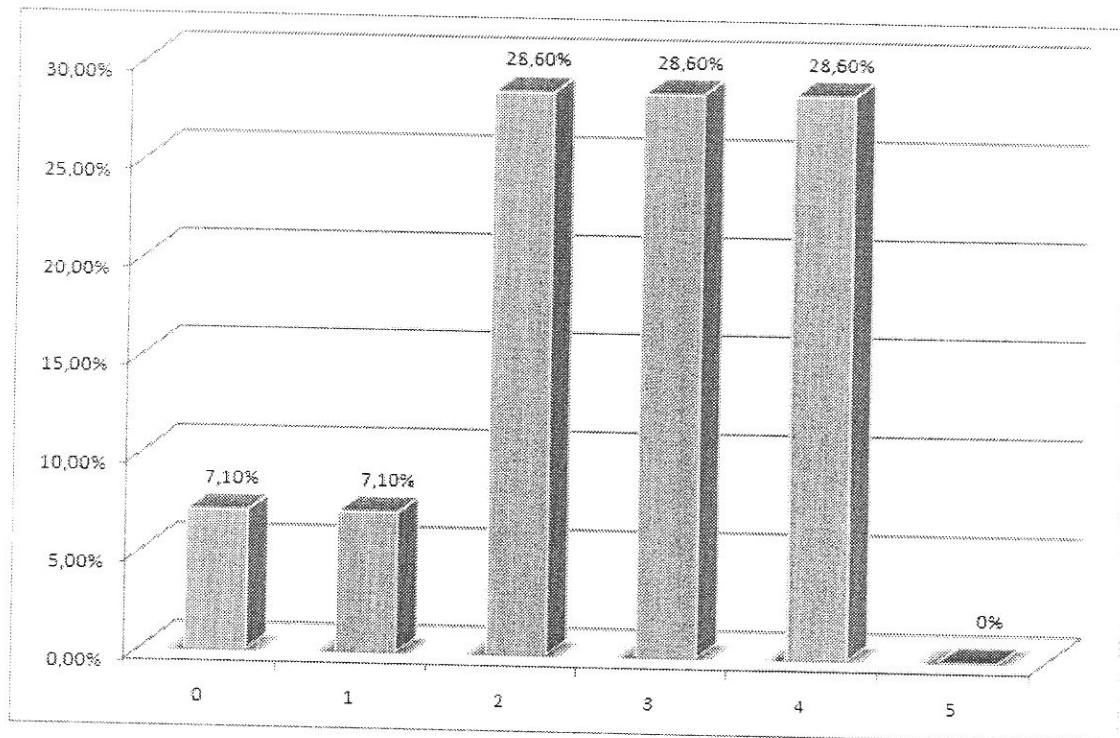

Fig. 19.4 A level of alignment of IT systems to strategic goals in force in government units

Source: Own work on the basis of results of the poll studies from 2009

19.3 Enterprise Architecture as a Basis for IT Strategy Realization

A tool which allows to decrease or even eliminate the gap diagnosed in the previous point is Enterprise Architecture [3] — see Figure 19.5. For purpose of the US government there was defined Enterprise Architecture as a strategic organization information resource within which its mission, information and technical resources necessary for realization of this mission as well as a transition process intended to implement new technical solutions in response to strategic changes in organization [1] are defined.

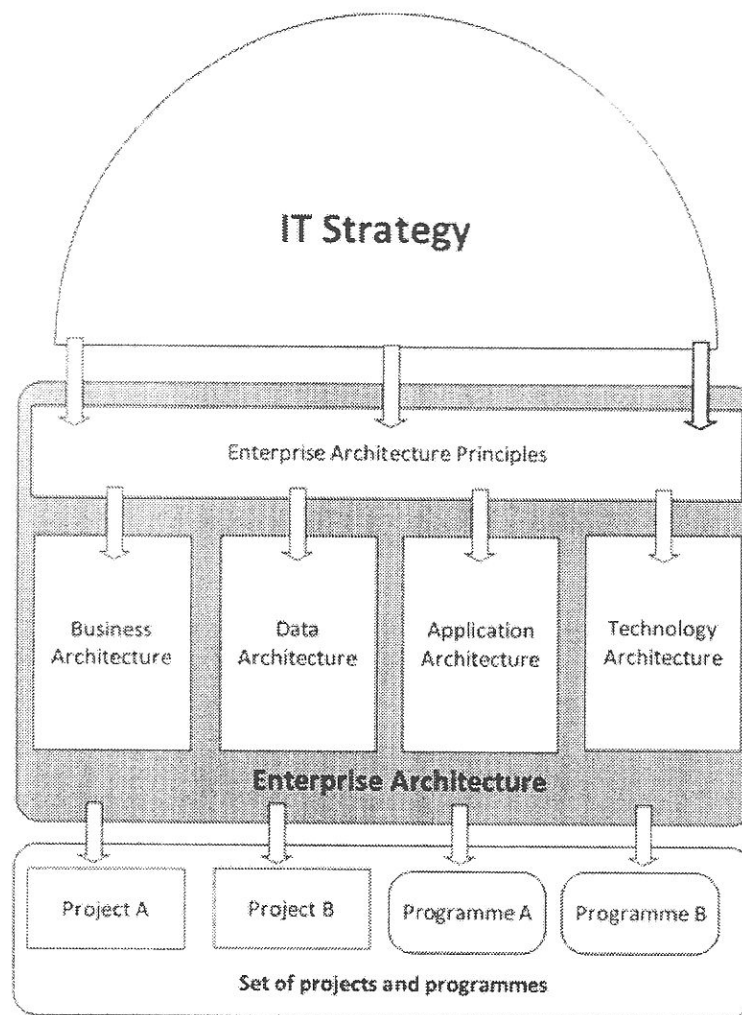[5] 0 — stood for lack of alignment, 5 — stood for full alignment.

Fig. 19.5 Minimization of a gap between an IT strategy and projects and programmes being realized in offices with use of Enterprise Architecture

Source: Own work

Enterprise Architecture has a form of a set of models which comprises of reference architecture — in the literature named as "as-is", target architecture — in the literature named as "to-be" and a transition plan being a strategy of an organization change within a transformation of its reference architecture to target architecture [4, 7]. The Open Group indicate in its elaboration that Enterprise Architecture comprises of following elements [8]:

- Enterprise Architecture Principles, which is a set of durable principles based on an organization strategy that are a representation of holistic needs of an organization within creation of information solutions;
- Business Architecture, which documents a business strategy and ways of managing an organization, its organizational strategy as well as main business processes and relations between these elements;

- Data Architecture, which describes main types and data sources necessary for operation of an organization;
- Applications Architecture, which describes software systems, its location, mutual co-operation and relations between these systems and main business processes of an organization;
- Technology Architecture, which describes technical infrastructure that is a basis for operation of key software systems (it includes operational systems, database management systems, application servers, hardware and communication infrastructure).
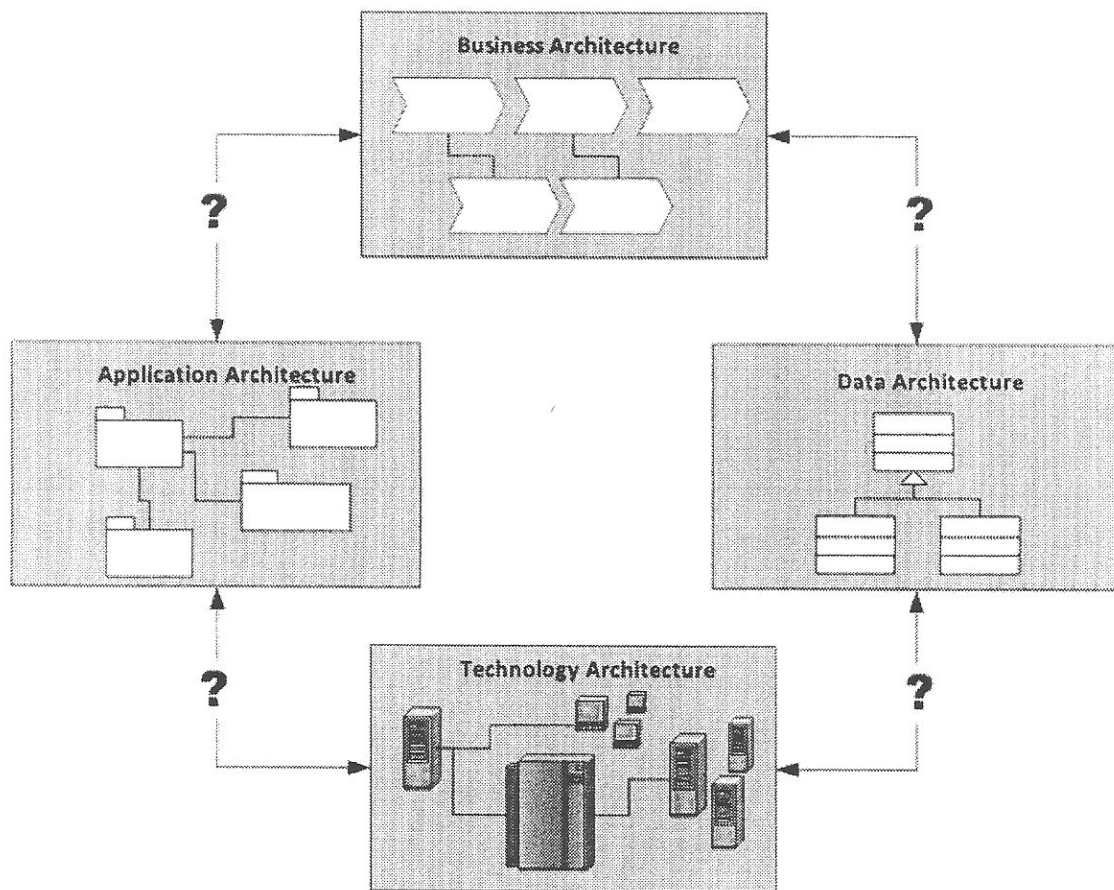

Fig. 19.6 Relations between components of the Enterprise Architecture

Source: Own work

A key factor deciding on the power of Enterprise Architecture are relations between components of Enterprise Architecture — see Figure 19.6. Owing to this, there is a possibility of coordinating several aspects of organization operation in a holistic manner. It ensures also a possibility of efficient alignment of IT systems to an organization strategy and improvement of allocation of resources spent on development of information solutions.

In addition, A. DiMaio believes that Enterprise Architecture is a tool supporting an organization transformation process being realized on the basis of the assumed strategy. The transformation itself is defined as changes in processes and organization frequently supported or expanded by information solutions leading to realization of strategic unit goals. He gives examples of governments that have applied this approach for some years: Canadian, German, English and US. [2, 5].
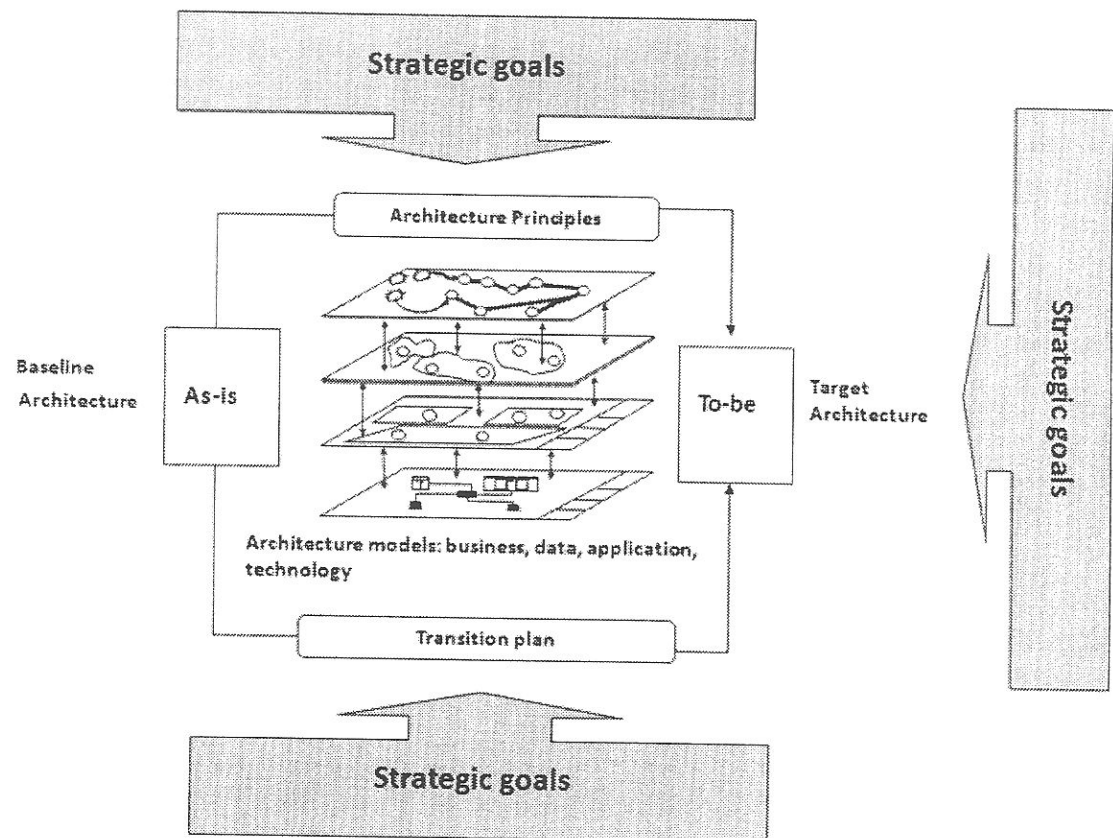

Fig. 19.7 Strategy operationalization with use of Enterprise Architecture

Source: Own work

Figure 19.7 depicts a schematic view on strategy operationalization with use of Enterprise Architecture. A starting point is determining reference architecture, that is settlement what an unit disposes of in a given period of time (within all four architectural domains: business, data, software and technical infrastructure). Then, on the basis of a strategic goals analysis target architecture (also within four architectural domains) is defined. It is a basis for creating a transition plan (realization projects and programmes related to each other). Its realization includes the architectural principles assumed by an organization.

From such a perspective, Enterprise Architecture has a role of a filter allowing to evaluate real resources necessary for realization of each strategic goal. From the

experience of the author it results that a strategy in public units is frequently only a set of not realized expectations within existing resources.

19.4 Summary

An issue of Enterprise Architecture is still relatively little popular in Poland - on both research and application layer [4]. A purpose of the considerations discussed in the article was an attempt to draft applying this concept as a tool supporting realization of IT strategy. Owing to Enterprise Architecture it is possible to prevent creation suboptimal solutions (locally optimal), that is situation when information systems being created realize needs of the separated part of an organization (i.e. department/sector) but its operation does not support realization of strategic IT goals. It has the significant importance in case of government units because this concept enables rational management of public funding spent on informatization [6].

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