On the Way to a Minimum Baseline in IT Governance: Using Expert Views for Selective Implementation of COBIT 5

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Abstract

Information Technology (IT) nowadays is integral part in most organizations and business models, putting Enterprise Governance of IT (EGIT) in focus of researchers and practitioners. A common approach for the implementation of EGIT in organizations is the use of best-practice frameworks, of which COBIT 5 is a very well-known example. However, recent studies show that COBIT 5, with its 37 EGIT processes, is often perceived as complex and organizations do not know where to start. To contribute to this concern, this papers reports on a Delphi study that was conducted to capture data on the perceived ease and effectiveness of specific COBIT 5 processes. Our results as such identify (perceived) effective and easy processes as a starting point for IT governance implementations. Experts view processes in the more strategic and governance area typical as more effective but less easy to implement. The more operational processes are typically experienced as easier to implement but also less effective. The result also reports that, according to experts, the most important process to start an EGIT implementation is the process around managing the IT related strategy.

1. Introduction

As IT has become a core element in most business models, industry and research have to design processes and structures for an effective business/IT alignment and value creation from IT-related business investments. These corporate governance tasks are central challenges of EGIT [1]. The implementation of EGIT in organizations is commonly done using best-practice frameworks such as COBIT 5. As a comprehensive best-practice framework for EGIT implementations requires the description of a large number of objects, processes and their relations, respective frameworks are at risk to become highly complex. High complexity is generally assessed as a severe barrier for it governance implementations and practice [2]. A promising approach to reduce the complexity in the work with IT governance frameworks is the development of a minimum baseline, selecting crucial processes as a starting point for implementation [3].

However, approaches for the development of such a starting point for EGIT implementations with the current version of COBIT as the dominating framework are still missing. Complex elements of COBIT are processes and practices such as structures and relational mechanisms. This study focuses on the processes as they are especially important in early implementation stages. We conduct an explorative expert study to derive a set of COBIT 5 processes that could serve as a basis for an EGIT implementation and discuss how this approach contributes to complexity reduction. For this purpose, we apply the Delphi approach and aim to develop a set of processes that are assessed as easy and effective for the implementation. The results of this work indicate that the chosen approach is effective in the initial situation of EGIT implementations. The preliminary Delphi study furthermore explains which types of processes usually are assessed as easy and effective.

The remainder of this paper is organized as follows. Section 2 provides a brief literature review of EGIT, COBIT 5 and related complexity issues. Section 3 presents the design and scope of an explorative study conducted among COBIT 5 experts. Section 4 discusses findings and implications of the study. Section 5 evaluates the findings with respect to their contribution to EGIT and complexity reduction.

Section 6 gives conclusions and an outlook on future research ideas.

With this research we specifically seek to address and contribute to research questions regarding COBIT 5 as an artifact and how organizations are implementing EGIT as similarly stated by De Haes et al. [4]. I.e., we acknowledge the complexity of COBIT and analyze its intellectual foundations, design, and applicability in this respect. Furthermore, we provide guidance in the question on how to implement EGIT.

2. Complexity of EGIT

In this section we will define the key concepts relevant to this paper. Additionally an outline on the dependencies and interactions between those elements will be given, which consequently lead to the complexity of EGIT as the originator of this paper.

2.1. Enterprise Governance of IT and COBIT 5

In the literature EGIT is defined as "an integral part of corporate governance and addresses the definition and implementation of processes, structures and relational mechanisms in the organization that enable both business and IT people to execute their responsibilities in support of business/IT alignment and the creation of business value from IT-enabled business investments" [1], [5]. In the field, many best-practice frameworks are developed and promoted to guide managers in implementing enterprise governance of IT [5]. One of these frameworks is COBIT, of which the latest –fifth– version has been released in April 2012 [6]. COBIT (formerly "Control Objectives for Information and Related Technologies", since version 5 only the acronym is being promoted by ISACA) is a freely available industry framework that describes a set of best practices for management, control and assurance of information technology, and organizes them around a logical framework of IT related processes and other enablers such as structures, policies etc.

2.2 COBIT History

COBIT is developed by ISACA (Information Systems Audit and Control Association), an international professional membership association for IT professionals and IT auditors counting about 100.000 members worldwide. COBIT initially originated in the mid-nineties out of the (financial) audit community. Those audit professionals were confronted more and more with automated

environments. To guide their work in these IT-related environments, COBIT was initially developed as a framework for executing IT audit assignments, built around a comprehensive set of control objectives for IT processes. Building on this IT auditing basis, the COBIT framework was developed further becoming a broader IT management framework, with –in 2000– the addition of "Management Guidelines" in COBIT version 3, including metrics, critical success factors and maturity models for IT processes. In 2005 again a new release was issued, COBIT 4, containing several new management and governance concepts, such as (i) the alignment of business and IT goals and their relationship with supporting IT processes, (ii) roles and responsibilities within IT processes and (iii) the inter-relationship between IT processes. With these extensions COBIT wanted to continue to establish itself as a generally accepted framework for IT governance [5].

In April 2012, the latest version COBIT 5 was released, referencing the concept of enterprise governance of IT on its cover [7]. According to the ISACA website, "COBIT 5 provides a comprehensive framework that assists enterprises to achieve their objectives for the governance and management of enterprise IT. COBIT 5 enables IT to be governed and managed in a holistic manner for the whole enterprise, taking in the full end-to-end business and IT functional areas of responsibility, considering the IT-related interests of internal and external stakeholders." [6]. COBIT 5 will integrate all knowledge previously dispersed over the three important ISACA frameworks COBIT, ValIT and RiskIT, as such becoming a "one-stop-shop" to enter ISACA's body of knowledge.

2.3 COBIT 5 Enablers, Goals and Processes

COBIT states that, in order the implement EGIT, an organization should consider the use of seven different enablers (see Figure 1). These enablers depict the (tangible) representation of the "processes, structures and relational mechanisms" [5], additionally to the IT related resources, which are relevant to EGIT. Furthermore, their utilization leverages achievement of stakeholder needs in terms of value creation as well as benefits and resource optimization [7].

Central enabler are the manifested principles, policies and frameworks, which connect to and influence all remaining. These "are the vehicle to translate the desired behaviour into practical guidance for day-to-day management" [7]. Connected to these central elements, we find the organizational structures, which operationalize (primarily) the policies and frameworks into a hierarchical formation and set the decision-making entities. On the other hand, the

principles and policies are transported via the culture, ethics and behavior into the organization. The tangible and intangible resources of an enterprise are consisting out of three separate enablers, as they are information (i), services, infrastructure and applications (ii), as well as people, skills and competencies (iii).
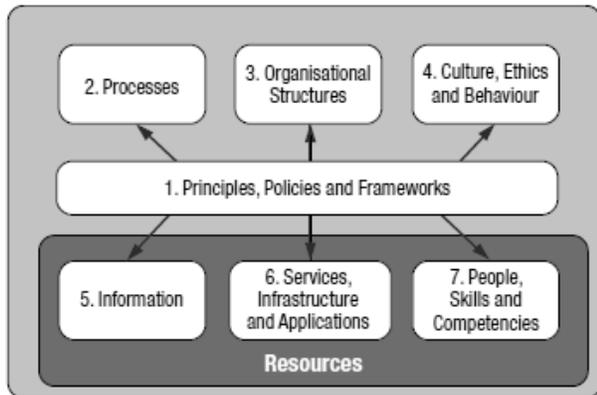

Figure 1. COBIT 5 Enablers and Connections [7]

Lastly, and most importantly[1] [8], the processes depict the final enabler. Via the processes of COBIT 5 an enterprise is enabled to pursue a holistic approach to all relevant tasks and activities in terms of operational management and governance of IT. The "processes describe an organized set of practices and activities to achieve certain objectives and produce a set of outputs in support of achieving overall IT-related goals" [7].

Apart from the enablers, COBIT 5 dedicates itself to fulfill the needs of an organization's stakeholders. This is manifested as the highest goal in order to succeed in the aforementioned utilization of IT. To do so, COBIT 5 and its 'COBIT 5 Goals Cascade' define generic goals on multiple levels, as shown in Figure 2. These levels ('Enterprise Goals', 'IT-related Goals' and 'Enabler Goals'), and their respective goals escalated and map to each other, so that, the strategic business goals can be cascaded to corresponding IT-related goals and enablers. Each goal (on every level) therefore maps individually to certain elements of each enabler. This mapping is realized via provision of mapping tables, which include three different dimensions ('Primary' relation, 'Secondary' relation and no relation). Thus, in practice an enterprise is able to align its specific strategic business goals to the generically defined 'Enterprise Goals' of COBIT 5. In the next step, these could accordingly map and identify

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[1] In justification of this argument we refer to the fact that the corresponding document was published as the first enabler to complement the core framework. In addition, the core framework predominantly focuses on this enabler.

'IT-related Goals', before finally receiving a detailed list of the corresponding 'Enabler Goals", e.g. suitable processes from within the COBIT 5 reference process model.

In the area of EGIT processes, COBIT identifies 37 processes spread over a governance and a management domain, as visualized in Figure 3. The five governance processes are the board's responsibilities in IT, covering the setting of the governance framework, responsibilities in terms of value (e.g. investment criteria), risks (e.g. risk appetite) and resources (e.g. resource optimization) and providing transparency regarding IT to the stakeholders. In the management area, four subdomains are defined: 'Align, Plan, Organise' (APO), 'Build, Acquire and Implement' (BAI), 'Deliver, Service and Support' (DSS) and 'Monitor, Evaluate and Assess' (MEA). The domain APO concerns the identification of how IT can best contribute to the achievement of the business objectives. A management framework is required, and specific processes related to the IT strategy and tactics, enterprise architecture, innovation and portfolio management. Other important processes in this domain address the management of budgets and costs, human resources, relationships, service agreements, suppliers, quality, risk and security. The domain BAI concretizes the IT strategy through identifying in detail the requirements for IT and managing program and projects.
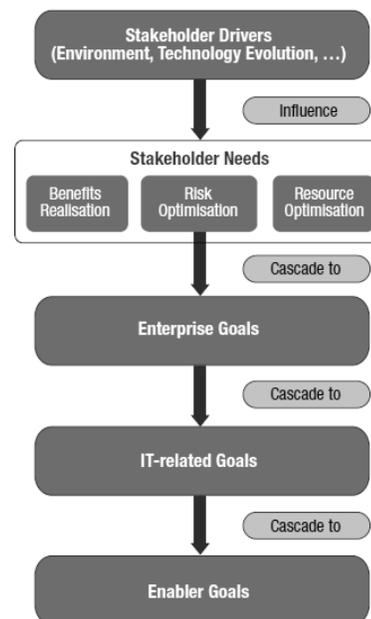

Figure 2. COBIT 5 Goals Cascade [7]

This domain further talks about managing capacity, organizational change, IT changes, acceptance and transitioning, knowledge, assets and configurations.

The domain Delivery and Support refers to the actual delivery of required services.
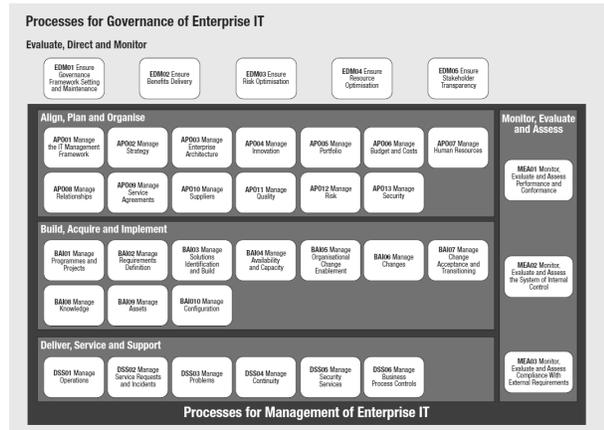

Figure 3. COBIT 5 process reference model [7]

It contains processes around managing operations, service requests and incidents, problems, continuity, security services and business process controls. The fourth management domain, MEA, includes those processes that are responsible for the quality assessment in compliance with the control requirements for all previously mentioned processes. It addresses performance management, monitoring of internal control and regulatory compliance [7], [9].

2.3. Complexity

Although numerous definitions, depending on the point of view or approach, are available, complexity in general can be defined as "property of a language [representation] expression which makes it difficult to formulate its overall behaviour, even when given almost complete information about its atomic components and their inter-relations." [10]. Choosing this generic and overarching definition enables the adoption to various fields of application and incorporates specific complexity theories, views and paradigms. This, of course, includes complex systems, as part of systems theory [11].

Complex systems can be understood as a heterogeneous amount of elements with diverse interrelations and dependencies [12]–[14]. In this context, complexity is divided into multiple dimensions. Namely these are task-related complexity, structural complexity and time-related complexity/dynamics [10], [15], [16]. While structural complexity can be quantitatively measured [15], the remaining dimensions often depend on the subjective reception of an object by the observer [11], [17]–[20]. This observation leads to a differentiation between real or structural complexity and perceived complexity [15], [21], [22].

2.4. Complexity of EGIT

Based on the elementary understanding of complexity the complexity of EGIT and the supporting reference model COBIT 5 can be elaborated. The complexity of EGIT arises from the challenge to design processes and structures that enable an effective business/IT alignment and value creation from IT. This potentially involves an indefinite number of related elements. COBIT 5 provides a reference model of definite generic processes and structures. Though, the framework itself in its generic approach involves a huge number of related elements that can make an implementation quite challenging task.

The depiction of organizations as complex systems, in particular as socio-technical systems [20], [23], [24], has been broadly discussed. According to Hasan, "despite the prevalence of computing in all aspects of society, some computer systems may not be fully accepted by their intended users or become underutilized. Thus, acceptance and use of information technologies remain a paramount issue in information systems (IS) research and practice" [22].

In consequence, any kind of 'actions' within these socio-technical systems, can already be considered to be complex [20], [23], [24]. These 'actions' are not limited to, but include utilization, adoption and acceptance of information systems [22], information systems development projects [25]–[27], implementation of IT service management [28], [29], let alone implementation of EGIT [2], [29], [30]. Research indicates "that computer self-efficacy and system complexity had significant direct effects on perceived usefulness and perceived ease of use as well as indirect effects on attitude and behavioral intention" [22].

As aforementioned, the standing and usefulness of COBIT 5 is undisputed, However, the framework and its implementation are widely perceived as being very complex [4], [31], [32]. Based on previous research [32] the structural complexity of COBIT 5 as a complex system can be determined, though, a quantitative analysis and classification cannot be made due to missing reference values or benchmarks.

Besides the structural complexity, extensive research in various publications regarding the perceived complexity of COBIT has yet been done. The current state of research suggests that various aspects and elements of COBIT contribute to the perceived high complexity of the framework. Generally a criticism on the complexity of frameworks like COBIT 5 is issued in literature [2], [29], [4], [31],

while some authors address more specific aspects of COBIT. In particular, a group of publications determines, that the implementation is considered challenging since there is no or insufficient guidance on how to plan, initiate and structure this important, costly and critical process [3], [4], [31], [33]–[37]. The degree of complexity of COBIT 5 becomes ultimately tangible when consulting the research project by Bartens et al. [32], which dealt with the prototype development for designing [38] a graphical layer onto the COBIT 5 process model as a possible addition to ISACA's COBIT 5 knowledge base and product suite.

As shown in Figure 4, the prototype visualizes all 6188 interfaces between the 214 practices within the COBIT 5 reference process model. It becomes very clear, that the existing degree of complexity is truly to be considered high.

Although first very specific attempts on reducing the level of perceived complexity of COBIT 5 have already been done [32], by far the issue has not been resolved completely. Furthermore, generally speaking "there is limited academic research that either analyzes COBIT or leverages COBIT as an instrument in executing research programs" [4].
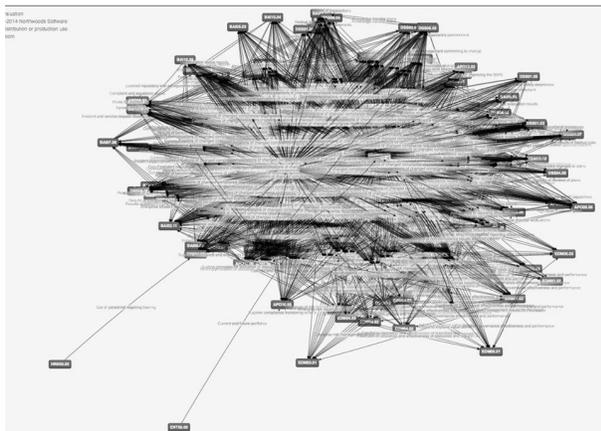
Figure 4. Visualization of the COBIT 5 reference process model [32]

3. An Explorative Study

On the basis of all the above-mentioned arguments, examples or instructions it may be concluded that COBIT 5 is a very large and complex framework. Naturally this degree of complexity is actually unavoidable as COBIT 5 is an overarching framework. Many authors are convinced that some of the complexity, and therefore part of the difficulty of implementing COBIT 5 and other similar frameworks, can be reduced by an initial selective implementation

of the COBIT 5 processes that are most effective and the easiest to implement [2], [31], [34], [39], [40].

3.1. Objective of the Study

In order to identify candidates for this selective implementation approach, a preliminary Delphi study was conducted. The study aimed at contributing to a better understanding regarding the perceived effectiveness and perceived ease of implementation of each COBIT 5 process and ultimately identifying a set of COBIT 5 processes that are considered to be the most effective and the easiest to implement. More specifically, the following research questions were addressed:

1. What is the perceived score of each COBIT 5 process regarding its effectiveness?
2. What is the perceived score of each COBIT 5 process regarding its ease of implementation?
3. What are the most important processes of COBIT 5 to start an EGIT implementation?

The authors wish to explicitly alert that this set of processes must not be taken overhasty and prematurely as a baseline of COBIT 5. The elicited set of processes does not reflect the essential requirements of a practicable EGIT environment enforced by a general EGIT baseline [3]. In addition, expedient additional processes, induced by the inter-relations and dependencies within the framework [32], have not been recognized.

Nevertheless, when approaching the implementation of COBIT 5 via an initial selective choice of processes (see Section 4), the set of processes is to be completed later by other COBIT 5 processes depending on the specific situation of each organization.

The effectiveness of a COBIT 5 process is defined as the extent to which the process contributes to the realization of the IT-related business goals and objectives, relative to the other processes. In addition, the ease of implementation of a COBIT 5 process is defined as the amount of time and effort needed for the implementation of a process, relative to the other processes.

With this research it is attempted to contribute to the 'implementability' of COBIT 5. In recap of the reviewed research on the perceived complexity of COBIT 5, selective implementation and a possibly going-to-be developed comprehensive baseline of COBIT 5 can be applied as a solution to every single reviewed publication, thus reducing the problem in question. In support of this argumentation, De Haes, Van Grembergen & Debreceny [4] state, that choosing

the processes and the order in which these processes must be implemented are significant problems with the implementation of COBIT. Our research is assumed to largely reduce the problems just.

3.2. Scope of the research

To ensure the internal validity of the conducted study, an explicit scope was set before the empiric gathering process was initiated. In addition, the scope was set to prevent uncertainty for a possible application and future research. Nevertheless, it is aimed at an outcome that is as generic (just as the framework itself) as possible, some boundaries were assigned to the investigation. First division is focused on IT-intensive organizations. A second limitation is related to the size of the organizations. This study is only focused on large organizations (≥ 250 employees).

The final definition relates to the COBIT 5 enablers. This research focuses only on the processes enabler of COBIT 5, since, as aforementioned, it can be considered as superiorly important [8], key in implementation of COBIT 5 and EGIT [3], [8], [9], as well as highly complex by oneself [9], [32]. Focusing on the processes is therefore justified since their impact and difficulty in implementation is affirmed.

3.3. Methodology

To find answers to the issued research questions, as mentioned in Section 3.1, the Delphi method [41], [42] was applied. The appropriateness of this method for the pre-assigned aims can be reasoned via the following three arguments:

- Firstly, the method is mainly used in cases where judgmental information is indispensable, as intended by answering the defined research questions [41].
- Second, the method is often used as a ranking method for developing a group consensus on the relative importance of things [41], [42].
- Finally, as the nature of this study is exploratory, rather than concerned with the testing of hypotheses, literature considers the Delphi method as "a tool particularly well suited to new research areas and exploratory studies." [41].

The compilation of the expert panel was carried out by members of the Information Technology Alignment and Governance (ITAG) Research Institute group and the "ISACA Belgium" group on LinkedIn. In addition, personal invitations were sent out to 23 COBIT experts via e-mail. This resulted in 15 experts who were willing to participate in the study. From this initial group, nine experts participated throughout the entire research process (drop off rate of 40%). The panel consisted of different profiles (CIOs, IT consultants, IT advisors, risk assurance services directors, enterprise engineers, IT auditors), all with at least two years of experience with COBIT. The nationalities of the participants ranked from different countries (Belgium, Netherlands, USA and Germany).

The study consisted of two rounds in which the experts were questioned via an English electronic questionnaire based on MS Excel, which had to be filled out each time. These were largely based on questionnaires from the study of De Haes & Van Grembergen [3]. Additional information and the original material can be provided upon request.

In round 1, the participants were asked for each of the 37 COBIT 5 processes to give a rating from 0 to 5 on a perceived effectiveness score (0 = not effective, and 5 = very effective), and on perceived ease of implementation (0 = not easy, and 5 = very easy). In accordance with the scope of this study, it was ensured that the participants originate from large organizations (over 250 employees) and with an IT intensive business background. In addition, the experts were also asked to name and rank the top 10 most important COBIT 5 processes to identify which in their opinion are crucial based on their scores on the previous attributes and their personal experience. After this first round, averages were calculated based on the collected input. Additionally, a provisional arrangement of the ranked top 10 processes was established. In the second and final round, in addition to their own personal scores and rankings from round 1 also the group averages were presented to the participants. Based on this information, the participants were then asked for their scores and ranking from the previous bill to revalue their judgments. The main objective of this round was to elevate the results to a higher degree of consensus [3].

4 Findings and Implications

In a first step an analysis of the most effective processes was conducted in order to derive an answer to research question 1. The intention here was to focus on important and effective processes that deliver the highest value to an organization when being implemented. An important process is a process that covers an important function for the organization, while an effective process helps the organization effectively to support the respective function. It has to be noted, that due to the preliminary layout of this study and space limitations in this paper, just an overview onto the key results and findings will be given.

Table 1. Most effective processes of COBIT 5

Process	Rank 1: Effectiveness	Rank 2: Ease of implementation
APO02	1	22
BAI02	2	29
BAI01	3	7
APO05	4	10
BAI05	5	31
EDM02	6	37
EDM01	7	36
MEA01	8	27
EDM03	9	33
BAI03	10	15

Table 1 shows the aggregated results on the most effective processes of COBIT 5. This aggregation was complemented by the calculated rank regarding the ease of implementation. It shows that the most effective processes score fairly low in terms of ease of implementation. Moreover, on the level of the domains of COBIT 5, the results show that the average EDM processes are most effective but the most difficult to implement. We also see that the MEA processes average the lowest score on effectiveness, while the average ease of implementation also ranks significantly below average. The APO and processes BAI score, on average, are comparable in both dimensions. Finally, the DSS processes inhibit the second lowest average score on effectiveness, but they seem by far the most easy to implement processes.

Analysis of the results shows that the more effective the process is, the more difficult this process can be implemented.

Another important part of this research was formulated as identifying the most important processes of COBIT 5 to start an EGIT implementation. To identify these processes, the participants were asked to select and rank the ten most important COBIT 5 processes, while taking into account their scores for effectiveness and ease of implementation, but also with their personal experience. The final ranking was calculated by the achieved score of each process, considering the frequency of choice as a secondary criterion in case of a tie in the score. Table 2 shows the corresponding results, also giving an answer to the third research question.

Table 2. Most important processes of COBIT 5

	Process	Rank
APO 02	Manage Strategy	1
EDM 02	Ensure Benefits Delivery	2
EDM 01	Ensure Governance Framework Setting and Maintenance	3
BAI 02	Manage Requirements Definition	4
BAI 01	Manage Programmes and Projects	5
APO 06	Manage Budget and Costs	6
EDM 03	Ensure Risk Optimisation	7
BAI 05	Manage Organisational Change Enablement	8
MEA 01	Monitor, Evaluate and Assess Performance and Conformance	9
APO03	Manage Enterprise Architecture	10

Analyzing on a more detailed level, it became evident, that process APO 02 ("Manage Strategy") scored strikingly and far above protruding all other processes as the most important one. Another interesting observation was made by the realization that all domains are present in the top 10, except for the DSS domain.

Table 3. Most important processes of COBIT 5 with their ranks on effectiveness and ease of implementation (combined results)

Process	Rank 1: Effectiveness	Rank 2: Ease of implementation
APO 02	1	22
EDM 02	6	37
EDM 01	8	36
BAI 02	2	29
BAI 01	3	7
APO 06	17	13
EDM 03	9	33
BAI 05	5	31
MEA 01	7	27
APO03	14	30

Table 3 shows the combined results of the study. It can be concluded, that the participants considered the ease of implementation as less important when identifying the most important processes. Therefore, overall especially the effectiveness dimension has played a crucial role. In addition to these two dimensions of effectiveness and ease of

implementation, the results of the participants indicated that they used to set additional criteria (personal experience). The superiority of tactical and strategic processes over operational ones can be considered a key insight from our research, depicting valuable information towards a comprehensible baseline of COBIT 5. Though, the ranking seems to indicate, that operational processes are contributing a high value to an organization and interact somehow with more tactical or strategic processes. Based on the results unfortunately no assertion on the causal relation between these types of processes can be made. It is plausible that either tactical and/or strategic processes are needed to set a direction for operational processes to contribute value, or operational processes are needed as a foundation for tactical/strategic processes.

5. Discussion

As literature suggests, selective implementation is considered to be a pragmatic, though only temporary solution [29], [31]. The adjustment of complexity and initial implementation problems with COBIT 5 require specific and detailed guidance [2], [29], [30], [4], [33]. To address these issues the development of a minimum baseline, as known from COBIT 4.1 [43], indeed would possibly depict a suitable approach [3]. Thus, in the following we outline an approach possibly leading to such thing, utilizing the results from the presented research in this paper.

As elaborated in Section 3.1, the creation of universal minimum baseline demands the consideration of various requirements, of which the presented Delphi study represents only one possible. To ensure their consideration and validity in terms of rigor and relevance we propose the adoption of the design science research paradigm [38], which enables both. Besides the research of this paper, Van Grembergen & De Haes [3] provide one of the possible (key) sources of input for the requirements to be derived from. Specifically this input could be matched to the COBIT 5 processes. In addition, the work by Bartens et al. [32] could be utilized to receive a complete and valid group of processes, being relevant for a minimum baseline.

Choosing this approach, criticism associated with the scope and limitations of COBIT 4.1 Quickstart [43] or this paper could be reduced. Though, the significance and degree/approach of consideration of specialized requirements as for example issued in earlier work by Bartens et al. [44] (i.e. differentiations in process concretization) or scope limitations and restrictions as set by COBIT 4.1 Quickstart [43] (i.e., enterprise branch and size, degree of IT dependency/intensity) or this paper, remain not yet addressed.

We argue that the results of this research also include valuable findings for practitioners and for the adoption/implementation of COBIT in practice. We postulate that a minimum baseline can either replace the existing COBIT 5 Goals cascade and mapping tables or can be used in combination. When used in combination, one option is to implement the minimum baseline processes and add processes using the COBIT 5 Goals Cascade and mapping tables. The second option is to identify the needed processes using the COBIT 5 Goals Cascade and mapping tables and prioritize those processes that are part of the minimum baseline.

6. Conclusion

Previous research has pointed the problem of complexity in best-practice frameworks for EGIT implementations. Furthermore, selective process implementations have been introduced as an effective vehicle to reduce complexity but similar approaches have not been applied to the dominating EGIT framework COBIT 5.

This study revealed that the degree of complexity of EGIT, and especially COBIT 5, is being considered fairly high and problematic. Based on this observation we identified selective implementation as a possible measure to encompass this issue quite pragmatic; however, implementation of a fully capable (minimum) baseline is considered to be more suitable. In order to expedite this issue, we conducted a Delphi study to elicit helpful knowledge from experts in the area of EGIT and COBIT 5. The preliminary results of this study provide a set of processes that could potentially be used in the first step of EGIT implementations. In this result, The superiority of tactical and strategic processes over operational ones can be considered a key insight. Also this study helps to understand which types of processes are most effective respectively easy to implement and how these characteristics correlate. In addition, an expert view on starting point of COBIT 5 implementations is provided. The derived classification of processes can also be used to support specific EGIT implementations.

However, the conducted Delphi study needs to be conducted with more and more diverse participants in order to define a clear minimum baseline for COBIT 5. Furthermore, future research will cover a quantitative evaluation of COBIT 5 and selective process implementations towards a comprehensive baseline. Finally, it should be recognized that this research is focused on the "process" perspective from COBIT 5, but COBIT 5 also identifies six other enablers required

to implement enterprise governance of IT such as structures, policies, information etc. Further research should consider these extra elements as well.

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