Enterprise Coherence Governance in the Public Sector[α]

Custodial Institutions Agency of the Dutch Ministry of Security and Justice

Roel Wagter[*†], Hend*erik* A. Proper[‡†] and Dirk Witte[§†]
[*]PMTD, Rotterdam, the Netherlands
[†]Radboud University Nijmegen, Nijmegen, the Netherlands
[‡]CRP Henri Tudor, Luxembourg
[§]Logica, Amstelveen, the Netherlands
E-mail: roel.wagter@pmtd.nl, erik.proper@tudor.lu, dirk.witte@logica.com

***Abstract*—This paper is concerned with an application of the GEA (General Enterprise Architecting) method in the Dutch public sector, in particular at the Custodial Institutions Agency (Dienst Justitiële Inrichtingen, DJI), an agency of the Ministry of Security and Justice. The DJI is, on behalf of the Minister of Security and Justice, responsible for the enforcement of fines and custodial measures, following the decision imposed by a judge. The case study itself concerns the assessment of the impact of the introduction of a new law (the law on '*conditional realease*') on the DJI. The discussed DJI case is one of several cases that have been used to iteratively evaluate and improve the GEA method. This paper therefore also reports on the evaluation of the GEA method that was conducted after applying to the DJI case.**

***Keywords*—enterprise transformation, enterprise architecture, enterprise coherence.**

I. Introduction

In this paper we discuss a case study on the use of (a part of) the GEA (General Enterprise Architecting) method for enterprise coherence governance. The case as discussed in this paper is one of multiple cases that were used to iteratively evaluate and improve the GEA method, and to refine the GEA theory. In [22], [23] another one of such case studies on the use of GEA was presented.

The GEA method was developed in a multi-client research programme involving twenty organizations[1]. The development of the GEA method was initiated by the consultancy firm Ordina. The core driver for initiating the GEA programme (see [18]) was their observation that enterprise transformations (changing an enterprise from its business processes to its underlying IT) fail more often than not, while in their experience existing methods and frameworks for enterprise architecture fell short in contributing to the success of enterprise transformation efforts [17], [18].

A survey [18] held at the start of the GEA research programme showed that these experiences were not limited to Ordina alone, but were also shared among the client organizations participating in the programme. The underlying issues were also considered grave enough for these organizations to indeed co-invest, in terms of time and money, in the GEA research programme.

These experiences and observations were also supported by a study conducted by the (Dutch) General Court of Auditors on the causes of failures of IT projects in the public sector in the Netherlands [3]. The resulting report also links the failure of these projects to a lack of coherence/alignment between core aspects of the involved government agencies (translated from Dutch):

"*ICT projects for the government seem to be much more expensive than anticipated initially, require more time than planned to complete, or do not deliver the desired results. This is a serious matter, since ICT projects of the government mostly involve the spending of public money. Furthermore the effects of projects that fail, to a larger or lesser extent, are often large-scale projects with profound social impact.*

The most important cause of the (partial) failure of ICT projects revealed by the first part of the research was that ICT projects for the government are often overly ambitious and too complex because of the combination of politics, organizational and technical factors. With these overly complex projects there is no balance between ambition, available people, resources and time."

In developing GEA, an iterative approach was used, involving a design science approach [11] and case study research [26] to evaluate (iterations of) GEA. This paper reports on one such case, in the context of the Dutch government agency which is responsible for the enforcement of fines and custodial measures, the *Dienst Justitiële Inrichtingen* (DJI; Custodial Institutions Agency). As mentioned before, another example of a GEA case study was provided (in the context of the Dutch Ministry of Social Affairs and Employment) in [22], [23].

The remainder of this paper is structured as follows. In Section II, we provide more background to the GEA programme and its results. Section III, then continues by summarizing that part of the GEA method that is relevant to this paper; the Enterprise Coherence Framework (ECF) [20]. Section IV reports on the actual DJI case study in terms of its context, the specific enterprise coherence framework used, the analysis of the issue at hand (the introduction of the new law on '*conditional release*'), and the results achieved by this impact

[α]This work has been partially sponsored by the *Fonds National de la Recherche Luxembourg* (`www.fnr.lu`), via the PEARL programme.

[1]During different stages of the GEA research programme, the members of the programme included, next to Ordina and the Radboud University Nijmegen, the following client organizations: ABN AMRO; ANWB; Achmea; Belastingdienst - Centrum voor ICT; ICTU; ING; Kappa Holding; Ministerie van Binnenlandse Zaken en Koninkrijksrelaties; Ministerie van Defensie; Ministerie van Justitie – Dienst Justitiële Inrichtingen; Ministerie van LNV – Dienst Regelingen; Ministerie van Landbouw, Natuur en Voedselkwaliteit; Nederlandse Spoorwegen; PGGM; Politie Nederland; Prorail; Provincie Flevoland; Rabobank; Rijkswaterstaat; UWV; Wehkamp.

analysis. Before concluding, Section V discusses the evaluation of the GEA method as it was conducted after the case study, as well as some lessons learned on how to further improve and evolve GEA.

II. The GEA research programme

The development of the GEA method started in 2006 [18]. As a prelude to the GEA development programme, a survey was conducted among the participating organizations to identify their specific requirements on the outcomes of the programme. This survey also resulted in the formulation of the driving postulate of the GEA research programme: *the overall performance of an enterprise is positively influenced by a proper coherence among the key aspects of the enterprise, including business processes, organizational culture, product portfolio, human resources, information systems, IT support, etc.* The GEA programme refers to the latter coherence as enterprise coherence [18]. Enterprise coherence subsumes the traditional notion of 'Business-IT alignment' in the sense that it is not just 'business' and 'IT' that need to be aligned [19].

A first step in the GEA programme was the development of an Enterprise Coherence Assessment (ECA) [19] to obtain a clearer understanding of the challenges to enterprise coherence, and its potential impact on organizational performance. This assessment was consequently applied at the participating client organizations. Based on the outcomes of the ECA studies, among the programme members, the GEA programme [18] focussed its efforts on five research objectives:

1: Definition of the core indicators and factors that define enterprise coherence.

2: Definition of the core indicators and factors that influence enterprise coherence.

3: Identification of the potential impact factors of enterprise coherence governance on the organisational performance.

4: Be able to measure an enterprise's level of coherence governance.

5: Development of a design theory on how to guard/improve the level of coherence in enterprises during transformations.

As mentioned before, in developing the GEA method, the design science approach [11], [14] was used as the overarching approach, while case study research [26] was used to evaluate the application of the different iterations of the GEA method. The results on the ECA studies provided the requirements towards the first iteration of the design cycle for the design of the GEA method. The outcomes of the initial ECA studies were also used to gather more specific requirements on the GEA method. These initial requirements were complemented, using desk research, by requirements originating from three relevant other fields: *management control* [16], *cybernetics* [8], [9] and *strategic change* [5]. It is considered beyond the scope of this paper to discuss these requirements in detail. A more detailed discussion can be found in [18], [17], [20].

Consequent case studies in the use of the GEA method at client organizations then drove the relevance cycle, leading to further iterations in the design cycle of GEA. Case studies, such as the one reported on in this paper, are used to further improve the GEA method. This case study specifically contributes to the above formulated research objectives 1 and 4. The rigour cycle of the development of the GEA method consisted of the use of the afore mentioned sources on *management control* [16], *cybernetics* [8], [9] and *strategic change* [5], existing architecture frameworks such as DYA [25], ArchiMate [13], TOGAF [4] and Zachman [27], as well as architecture maturity models such as NASCIO [2].

In its current form, the GEA method comprises three core ingredients [17]. In addition to the Enterprise Coherence Assessment (ECA) [19], [24], which allows organizations to assess their ability to govern coherence during enterprise transformations, GEA comprises of an Enterprise Coherence Framework (ECF) [20] and a (situational) Enterprise Coherence Governance (ECG) [17] approach. The latter includes the identification of specific deliverables/results to be produced, the processes needed to produce these deliverables/results, as well as an articulation of the responsibilities and competences of the people involved [21]. The ECF enables enterprises to set up their own *coherence dashboard*. This, enterprise specific, dashboard enables senior management to govern the coherence between key aspects of an enterprise during transformations. The ECF will be summarized in the next section, as it was the key component of GEA used in the DJI case.

III. The Enterprise Coherence Framework

The DJI case study centres around the use of the ECF part of the GEA method. We therefore provide a short overview of the ECF (for more details see [20], [24]). The Enterprise Coherence Framework (ECF) defines a series of cohesive elements and cohesive relationships, which together define the playing field for an enterprise's coherence. By making the definition of these elements explicit in a specific enterprise, a *coherence dashboard* results in terms of which one can gain insight in the 'state of coherence' while also being able to assess the impact of potential/ongoing transformations. This then enables a deliberate governance of enterprise coherence during/driving transformations.

The ECF is defined in terms of two levels and their connections: the level of *purpose* and the level of *design*. At the level of purpose, the following cohesive elements have been identified, which are based on commonly known concepts from strategy formulation [12], [7], [6]:

Mission: a brief, typically one sentence, statement that defines the fundamental purpose of the organization that is enduringly pursued but never fulfilled.

Vision: a concise statement that defines the mid to long-term goals of an organization.

Core values: defines the desired behaviour, character and culture of an organization.

Goals: the vision's quantified success factors, which become the reference points to judge the feasibility of strategies.

Strategy: forms a comprehensive master plan stating how the corporation will achieve its mission and goals.

The cohesive elements at the design level are:

Perspective: an angle from which one wishes to govern, steer, or influence, enterprise transformations. The set of perspectives used in a specific enterprise depend very much on its formal and informal power structures. Both internally, and externally. Typical examples are *culture*, *customer*, *products*, *services*, *business processes*, *information provision*, *finance*, *value chain*, *corporate governance*, etc.

Core concept: a concept, within a perspective, that plays a key role in governing the organization from that perspective. Examples of core concepts within the perspective of *finance* are, for instance, 'Financing' and 'Budgeting'.

Guiding statement: an internally agreed and published statement, which directs desirable behaviour. They only have to express a desire and/or give direction. Guiding statements may therefore cover policy statements, (normative) principles [10] and objectives.

Core model: a high level view of a perspective, based on, and in line with, the guiding statements of the corresponding perspective.

Relevant relationship: a description of the connection between two guiding statements of different perspectives.

The presence of a well documented enterprise mission, vision, core values, goals and strategy are preconditions to be able to determine the content of the cohesive elements on the design level of the organization and they are the essential resources for this determination.

The GEA concept of *perspective* is related to the notion of *viewpoint* as defined in architecture standards such as TOGAF [4] and the IEEE definition of architecture [1]. The two notions are, however, not equal. A perspective is an angle from which one wants to *govern* enterprise transformations. Given a desire to govern transformations from a certain angle, a viewpoint can be defined that captures the way one wants to view/contemplate from this angle. As such, one might say that GEA's notion of *perspectives* are *transformation-governance viewpoints*.

As mentioned before, the set of perspectives used by a specific enterprise on its *coherence dashboard* is highly organization specific. This set is not likely to correspond to the cells of well known design frameworks such as Zachman [27] or TOGAF's content framework [4]. Such frameworks, however, can indeed play an important role in the development of the core models within the different perspectives. Based on their respective underlying 'design philosophies', these more design/engineering oriented frameworks provide a way (1) to ensure completeness and consistency from an engineering point of view, (2) to enforce/invite a specific line of reasoning on the design/construction of the enterprise and (3) to classify/structure the different core models.

Services	**Processes**	**Stakeholders**
Customer (Police, etc.)	Result	Detainees
Service level	Effect	Chain partners
Production asset	Means	Society
Design/Specifications	Control	Politics
Maintenance	Organization	Principal
Law & regulations	Standard (NEN definition)	Employee
	Environment requirements	Supervisory authority
Culture	**Security**	**Employees**
Leadership style	Personal protection	Payment
Values	Information security	Working conditions
Behaviour	Fire protection	Trade unions
Standard	Security level	Competencies
		Career counseling
Detainees	**Governance**	**Information provision**
Identity	Policy cycle	People and Resources
Personal characteristics	Planning & Control	Quality
Enforcement	Control means of disposal	Governance
Reducing recidivism	Coherency	Organization
Return to society	Formality	Communication
Self Registers	Mandate	Architecture
Withdrawal	Delegation	
Time Calculation	Goals	
	Time horizon	
	Decision	
	Steering instruments	
Finance	**Organizational structure**	
Product pricing	Administrative organization	
Output financing	Duties, Responsibilities, Powers	
Policy financing	Labour division	
Project financing	Function framework	
Budget cycle	Formation	
	Geographical location	
	Function	
	Employee participation	

TABLE I. EXAMPLE OF PERSPECTIVES AND CORE CONCEPTS OF DJI'S ECF

IV. THE DJI CASE STUDY

A. Context of the case study

The DJI case study concerns the introduction of a new law on the '*conditional release*' of prisoners. DJI (Dienst Justitiële Inrichtingen) is the Custodial Institutions Agency of the Ministry of Security and Justice in the Netherlands and is, on behalf of the Minister of Security and Justice, responsible for the enforcement of fines and custodial measures. With over one hundred locations across the country and some 17.000 employees, DJI is one of the largest organizations in the Netherlands. DJI yearly hosts, for short or long time stays, about 70.000 'guests'. Imprisonment takes place in different types of establishments, such as in prisons and detention facilities for adults, respectively called penitentiary institutions (PI). But also in special facilities for the youth, the youth custodial institutions. For prisoners with mental instabilities, the DJA makes use of forensic psychiatric centres. For illegal aliens, the DJI makes use of detention and deportation centres.

Since DJI is an agency, it means that DJI has a certain degree of independency. Yearly a budget is allocated to DJI from the ministry and agreements are made on the DJI deliverables.

For the stakeholders at DJI, the introduction of the new law triggered two major business issues:

1: *What are the effects of the introduction of this new law on our organization?*;

2: *What are the best choices in terms of solution direction and approach?*

To meet these business issues, DJI management agreed to apply GEA. In particular they agreed to use GEA's enterprise coherence framework to analyse the impact of the introduction of the new law on the existing organisation. Therefore, in the second quarter of 2007, a series of workshops was held at the DJI with the aim to formulate/identify the relevant cohesive elements in terms of the DJI specific enterprise coherence framework. In the summer of 2007, with the help of this framework, the GEA process '*develop integral solution*' could then be executed, in order to gain insight in the aforementioned business issues. The main objective of the effort was to provide

senior management of DJI a well founded recommendation with regards to the desired future direction, and general approach to achieve this. Part of the enterprise coherence framework and the results of this last one day session are included in this paper.

B. The Enterprise Coherence Framework for the DJI

At the start of the development of the enterprise coherence framework for the DJI, a number of workshops were organised involving the executives of the agency, complemented with a number of opinion leaders and key stakeholders. These MetaPlan workshops [15], resulted in a list of the cohesive elements and their definitions, covering both the purpose level and design level. Starting point for the creation of this list were the strategic documents of the organization such as the mission statement, vision notes, policy plans, business strategy, business plan, etc. With these results a first draft was made of the enterprise coherence framework. Within this framework, the set organization specific perspectives (i.e. the angles from which to govern the organization and its transformations) was determined. This resulting eleven perspectives, and their core concepts, are depicted in Table I.

In Table II, the definitions of the perspectives for the DJI are shown. Discussing the formulation of all the guiding statements would go beyond the purpose of this paper. However, Table III shows the main guiding statements for the perspective *Processes*.

Perspective	Definition
Services	All results produced by DJI within the context of legal frameworks, or through agreements with statutory authorities, and that are delivered to customers.
Processes	A coherent set of activities needed to deliver results of DJI (products, services, support).
Stakeholders	Legal entities or persons for whom the activities of DJI are important.
Culture	Explicit and implicit norms, values and behaviours within the DJI organization.
Security	The way in and degree of control for DJI relevant risks.
Employees	All persons who execute tasks or activities within the DJI organization in the broad sense.
Detainees	A natural person in respect of whom at any time, based on a valid title, the execution of a custodial sentence or detention order has been imposed, under the responsibility of the DJI.
Governance	The influencing of the organization so that a desired goal is attained.
Information provision	All processes, activities, people and resources for obtaining, processing and delivery of relevant information.
Finance	The planning, acquisition, management and accountability of funds DJI.
Organizational structure	Describes the organizational form and operation of the organization and consists of three sub-systems: function structure, personnel structure and organisational structure.

TABLE II. DEFINITIONS OF PERSPECTIVES FOR THE DJI

C. The analysis process

With the dashboard in place, the next step was to organize a workshop involving the representatives of the identified perspectives. In this workshop, the business issue at hand was put central and jointly analysed from the different perspectives. During the workshop, the representatives of the perspectives had (delegated) ownership for 'their' perspective, including its cohesive elements (in the real organization, i.e. not just the documentation). At the start of this workshop, the owner of the business issue gave a thorough introduction of the issue in terms of causes, degree of urgency, degree of interest, differences between the existing and new law, implications, risks, etc. This introduction gave the representatives of the perspectives a deeper insight into the associated issue of this business issue, enabling them to make a translation of the issue to their own perspective.

With the latter introduction in place, the representatives of the perspectives were capable of determining jointly, which perspectives were most affected by/related to the business issue at hand. These affected perspectives are referred to as *dominant* (for the issue at hand) and the others *subordinate*. In this case the perspectives *Processes*, *Services* and *Stakeholders* were addressed as dominant, while the remainder of the perspectives were addressed as subordinate perspectives.

The business issue: '*effects of the new law on conditional release*' was then addressed in terms of two questions, leading to two sub-analyses of the business issue:

1: *Determine the impact of, and the solution space for, the business issue on the dominant perspectives*

2: *Determine the impact of, and the solution space for, the business issue on the subordinate perspectives*

All participants got the opportunity to indicate for the dominant perspectives the most important guiding statements they consider. Twelve guiding statements were highlighted within the three dominant perspectives. These guiding statements provide most strongly either direction, or a restriction on the solution direction and choice of approach to the business problem. Below we show for the three dominant perspectives the most relevant guiding statements, the resulting insights and recommendations on decision-making for the management of DJI.

The guiding statements pertaining to the subordinate perspectives can also provide insights to possible solutions and choices of approach. In Table V this is shown for the perspectives *Governance*, *Information provision*, *Detainees* and *Finance* respectively.

D. Results of the programme

The synthesis of the two conducted sub-analyses resulted in an integral solution and associated realisation strategy. The core advice to the management of the DJI was:

Opt for one integrated approach. Integrate the relevant projects into one rehabilitation program (Processes GS 1 and Governance GS 6). Let central project coordination monitor for coherence (Information provision GS 5) in view of the supposed coherence with the projects Reducing Recidivism *(RR),* Penitentiary Programme *(PP), as well as the running chain processes.*

The referenced guiding statements (GS) can be found in Table IV and Table V. Additional recommendations to senior management of DJI included:

1: Investigate if the execution of the forecast capacity requirement and the term calculation can be transferred to Public Prosecution. Nevertheless, periodically and independently, audit the transparency of the term calculation (Finance GS 4).

Guiding statement	Type
Processes need to work together (prevent sub optimization and inconsistencies, do not pursue conflicting goals, both in internal and external chains).	Principle
Effectiveness comes before efficiency (security is not to explain in monetary terms).	Principle
For each process, one supporting application system instead of multiple systems (de-duplication).	Policy
Work towards standardization, uniformity, etc.	Policy
Standardization of work processes.	Policy
The primary process must be scalable (DJI ensures timely availability of capacity where needed, which is unpredictable and whose requirements may not be clear).	Principle
The target group layout of our prisoners, (imprisoned mental) patients and (underage delinquents) pupils is a decisive criterion for process design and process implementation.	Policy
Outsourcing is subject to safety criteria (commercial interests should not negatively affect safety).	Principle
Improve the detainees flow through the different detention types.	Policy
Processes must be verifiable, make results explicit (visible, measurable) and deliver results according to desired specifications (make DJI contribution explicit to objectives).	Principle
Primary processes should be organized integrally (in conjunction, seamlessly). Both manual and automated operations are to be modelled integrally as well. The focus is primarily focused on optimizing the processing flow.	Policy
Business strategists, enterprise architects, process analysts and IT experts, should work jointly on the modelling of the primary process.	Policy
DJI aims for a common business process model.	Principle
Process improvement and redesign makes use of the common business model (various efficiency goals, less IT, interoperability, standardization, . . .)	Principle
The processes should be clearly described and up to date.	Principle

TABLE III. GUIDING STATEMENTS FOR THE *processes* PERSPECTIVE

2: Develop a programme plan from the DJI point of view, including the translation into objectives. Specify the associated costs and benefits for DJI (Services GS 2, Governance GS 1). Check whether the efforts outweigh the benefits. Incorporate a long-term prognosis and translate this into a multi-annual investment plan (Finance GS 5).

3: Define a chain-wide process model to identify and support the mutual cooperation of processes (Processes GS 1) and treat re-integration issues from a process point of view (Information provision GS 7).

4: Let the chain partners forecast the impact on the cell capacity, while taking greater uncertainties into consideration, as well as possible impacts by the decisions of judges (Services GS 4).

5: Investigate the necessary changes in the interactions with detainees, and the needed competencies for employees (Services GS 6).

6: More clearly position the role and task of DJI in the programme '*new law on conditional release*'. Outwardly communicate with one clear message to all chain partners '*chain interest goes beyond partner interest or service interest*' (Stakeholder GS 2 and 3)

7: Ensure that we know the requirements of all of our chain partners with regard to effectiveness and efficiency, and formulate DJI's contribution to this (Stakeholder GS 2).

8: Develop a measurement instrument to visualize the added value of DJI and the impact of the new law; develop this instrument along with the social rehabilitation service and other chain partners (Services GS 3).

V. EVALUATION OF THE USE OF GEA

At the end of the DJI case, the application of GEA was evaluated by the people involved, which involved both people from the GEA research team and DJI representatives. The results of this evaluation (showing the average score) are listed in Table VI.

The overall conclusion of this evaluation led to the following insight: the required documents at the level the purpose were not easy to obtain and to set up the ECF was a lengthy and time-consuming task. However, once the ECF was created, the representatives of the different perspectives were more than able to perform the required analysis processes. The prolonged time needed to set up the ECF was mainly caused by the culture of DJI; every detail and every decision had to be discussed and decided upon by the entire group.

Using the feedback from Table VI, as well as the *remarks* made on the evaluation form, and ensuing discussions, the following positive aspects were identified:

1: With the DJI-framework, and the right people involved, it only took one day to achieve key results. It also produced *quick wins* that could lead to short term improvements.

2: The most relevant guiding statements were quickly addressed, while also offering guidance during the elaboration of the business issue at hand.

3: The insights and sub-solutions were identified swiftly using the coherence framework.

4: The GEA approach stimulates the considerations about the impact and approach, while not force/invite a thinking in terms of specific solutions too early.

5: The DJI framework is a good testing framework, it provides immediately useful results. The discussions aid in making the framework come 'life'.

6: Through the use of GEA a separate project with all the additional costs was avoided.

Additionally, the following potential improvements to the application of GEA at the DJI were identified:

1: Relevant relationships were not explicitly named yet. Having these available would have made it easier to detect the full impact on the perspectives.

2: In future more input is needed from the line organization. In the current situation, DJI's (GEA based) coherence framework is too much the instrument of corporate staff.

3: Because of scheduling problems it has not been possible to involve all the representatives of the perspectives on a single day. To complete a comprehensive picture, this is additionally required, and can cause further important new insights and recommendations.

Finally, the DJI case study yielded the following insights on GEA:

1: The initial investment by making the enterprise coherence explicit in terms of the ECF is repaid well by a better understanding of the environment, the stimulation of innovation within the company's boundaries or even beyond and a vast improvement of the collaboration of all parties involved.

2: This case contributes to our believe that the application of GEA leads to achievable and high quality solutions.

3: Application of GEA implies the involvement of the key social forces in an organization and redirects these into 'a

Perspective	Guiding statement	Insights	Elements of the integral solution
Processes	1: Processes need to work together, (prevent sub optimization and inconsistencies, do not pursue conflicting goals, both in internal and external chains)	There are linkages to existing projects within DJI, such as *Reducing Recidivism* (RR) and *Penitentiary Programme* (PP)	Integrate the relevant projects into one re-socialization programme and set a chain-wide process model to identify and support the mutual cooperation of processes.
	14: Process improvement and redesign makes use of the common business model (various efficiency goals, less IT, interoperability, standardization, . . .)	Regarding the execution of the new law on *conditional release* the same businesses process model should be used as in the projects RR and PP.	
		Cohesion is at risk; the main themes of detention and re-socialization are likely to be treated separately, through conducting three projects. This can lead to non-ordinated process modification and / or unnecessary duplication of IT systems.	
Services	2: We check regularly whether the social effects of our products and services correspond with our goals (we want to know if the frameworks of functional execution objectives are met, namely encouraging security).	This guiding statement states that concerning the new law on *conditional release*, the objectives should be clear in order DJI can examine if their products and services contribute effectively to the objectives of the new law.	Adjust the objective of the implementation program of this new law.
		In the case of this new law one put question marks at the point if its assumed policy objectives the investment were worth. In particular the third objective '*Strengthening image issues as justice to the society*' is expected to contribute, unlike the first two.	
	3: We make agreements about the quality of our service and we regularly test if we met these appointments laid down in service levels. (continuous pursuit of enhance customer satisfaction and product development.	This guiding statement indicates that products and services, such as term calculations and reports on detainees, should be tuned with stakeholders (including the Public Prosecutor) about: what the quality can/should be and what product development is needed.	Product development is necessary to establish measurement points about indications of Detainees under this new law to increase customer satisfaction (with the society as a client), and the added value of DJI can be indicated.
	4: For cell capacity we never sell no (politically / socially unacceptable).	The guiding statement indicates that in fact any amendment of the law finally will be executed while high performance and cost implications are accepted. The introduction of the new law would lead to capacity adjustments. Probably, the introduction of this new law is a good moment to transfer the cell capacity forecast at the Public Prosecution where DJI, like all the other chain partners, provide this data.	Let the chain parties forecast the impact on the cell capacity and determine whether the execution of the cell capacity forecast and the term calculation can be transfered to the Public Prosecution.
	6: The degree in which objectives are achieved is largely determined by staff and the social interactions between staff and Detainees (many objectives as reducing recidivism can only be achieved through social psychological processes).	The guiding statement clearly indicates that the quality of products and services are largely determined by staff in interaction with Detainees and raises the questions what would be changed in the interactions in the treatment of Detainees and what are the necessary changes in the competencies of employees by implementing the new law.	Investigate the necessary changes in the interactions with Detainees and competencies of employees.
Stakeholders	2: DJI operates transparently to all stakeholders as far as legislation permits (to achieve best collaboration and to contribute to efficiency and effectiveness with these stakeholders).	The guiding statement indicates that it is desirable DJI specifies very clear the tasks, responsibilities and authorities to all stakeholders concerning the implementation of this new law. More transparent collaboration and more visibility in what DJI does. It is stated however that this guiding statement is not always respected; there is a tendency for each chain partner to prioritize its own interests above the chain interest, while the opposite should be: '*Chain interests is beyond partner interest*'.	Know from all chain partners their requirements with regard to effectiveness and efficiency, formulate the DJI contribution to this and communicate new tasks and responsibilities to all stakeholders in which chain interests is beyond partner or service interest.
	3: DJI operates to stakeholders as one company (uniformity in appointments is required on strategic, tactical and operational level).	Also in the context of the execution of this new law it is important to appoint all internal parties to let them timely collaborate and then make sure to come forward as one company , so that stakeholders get a (more) clear clue where DJI stands for.	DJI has to come forward as one company at all stakeholders, so the stakeholders know where DJI stands for.

TABLE IV. IMPACT ON, AND POSSIBLE ACTIONS FOR, THE DOMINANT PERSPECTIVES

Perspective	Guiding statement	Insights	Elements of the integral solution
Governance	1: The DJI is responsible for the translation of ministerial policies into tactical and operational goals and achieves them in a way that is clear and transparent to all stakeholders.	This guiding statement provides the insight of the need to determine the objectives of the new law on '*conditional release*', to incorporate these into the programme plan and to communicate them to stakeholders.	Define the implementation process for the new law on '*conditional release*' as a programme. Translate the strategy of the new law on '*conditional release* into objectives and incorporate these into the programme plan and communicate this plan to stakeholders.
	5: The DJI ensures that the target with respect to capacity, as defined in the judiciary budget and any supplement thereto timely, fully and efficiently will be realized.	This guiding statement provides the insight that the uncertainty in capacity requirements of the new law on '*conditional release*' must be included in the capacity calculation.	Adjust the capacity calculation in line with the new law on '*conditional release*'
	6: The DJI takes maximum advantage of the opportunities for synergy which occur within the organization.	This guiding statement leads to the observation that all projects that deal with reintegration must be combined.	Bundle the implementation of the new law on '*conditional release*' with the existing projects RR and PP into one change programme.
Information provision	5: Project Coordination: All (business) projects involving IT solutions, will be monitored by a central project coordination point and all the major and important projects will be submitted to the Executive Board for approval.	The implementation programme for the new law on '*conditional release*' meets the criteria large and important.	Apply the implementation programme for the new law on '*conditional release*' to the central project coordination point, so that on that level consistency with other projects can be monitored.
	6: Project Management: All projects are judged by the project coordination process to ensure that they have a suitable sponsor, business case and approach.	All projects, including the implementation program 'new law on conditional release', are obliged to conform to the latest DJI Project Management Guidelines	Identify the consequences the DJI Project Managent Guidelines represent for the implementation programme of the new law on '*conditional release*'.
	7: Purchase and procurement: Where common standards exist for services and / or technologies, a set of common (out) sourcing solutions and purchase agreements are used. Facilities are bound to these rules unless there are reasonable grounds for not doing so. In this case permission is required of the Executive Board.	This guiding statement provides the insight with regard to the implementation programme for the new law on '*conditional release*' that the solutions must be synchronized and that the re- integration issue should be considered from a process point of view.	The implementation programme for the new law on '*conditional release*' has to use the same businesses process model as the projects RR and PP and partial solutions are to be synchronized with other existing or yet to develop solutions.
Detainees	1: DJI will ensure the best possible return of the Judicial to society.	This is the principle of rehabilitation that involves collaboration with third parties including the social rehabilitation service. In the context of the new law on '*conditional release*', this cooperation should be intensified in order to meet the goals of this new law. Think about drafting of opinions on specific conditions. A side note to be made here is the relatively small number of expected Detainees that qualifies for the new law.	Intensify the collaboration with third parties in the context of the new law on conditional release in order to meet the desired goals.
	6: DJI pursues a high quality of term calculation	The term calculation is an issue of concern; this would be the responsibility of the Public Prosecution. They should ensure the organization of the right information management system. DJI would like to be one of the partners obliged to supply information for input.	Investigate if the execution of the forecast capacity requirement and the term calculation could be transfered to the Public Prosecution.
Finance	4: DJI aims for a transparent financial accountability.	For the new law on '*conditional release*' it means the requirements of transparency may be reviewed (audit), eg by the internal audit department of DJI. Furthermore, implementation of this new law as a project makes the implementation sooner and better measurable.	Audit periodically and independently the transparency of the term calculation
	5: In the context of responsible financing DJI pursues to a multiyear budget vision (to make correct long-term investments, ie to become more flexible in the deployment of capacity)	Due to the business issue of the new law on '*conditional release*' the project must (also) provide financial projections for the long term.	Incorporate a long-term prognosis and translate it into a multi-annual investment plan.

TABLE V. IMPACT ON, AND POSSIBLE ACTIONS FOR, THE SUBORDINATE PERSPECTIVES

valuable business asset'. More specifically, the key players of the organization, the representatives of the perspectives in this case, did not only know and trust each other more during the design of the GEA framework, but gained also a better insight into and understanding of each other's domains.

4: The process of bringing and keeping the key players together in the workshop sessions makes a strong appeal on the competencies of the facilitators (enterprise architects).

5: The quality in which the business problem in all its facets is introduced determines the quality of the integrated solution.

6: A major business issue can perturb the enterprise coherence in all its facets at the moment an organization decides to react on it. This means that all the preserved, newly added, eliminated and modified cohesive elements must be established in a new actual state of the enterprise coherence at the moment the decision to adopt an integral solution is made! By doing this, the organization is ready to develop an integral solution for a next business issue.

7: There are several ways to create the ECF. In this case it is almost entirely done by the representatives of the perspectives. In other cases, the facilitators developed mainly the ECF after which the representatives of the perspectives the ECF established in a validation session. The first method requires more processing time but has the advantage that the ECF becomes more 'organization-own'. The latter approach allows for faster start an impact analysis of a business case and thus allows faster tangible results.

In our further research we will, in line with the research methodology used, continue to conduct case studies and based on the findings elaborate and perfect the theory.

VI. Conclusions

In this paper, we discussed a real world case study involving the use of the GEA method. In an evaluation session, the participants in the workshop shared what they found positive about the GEA approach, and what could be improved.

As discussed in the introduction, in the case of the Dutch Ministry of DJI, the GEA method was a given. However, as also indicated, the GEA method is continuously developed further using a design science rhythm. The lessons learned as listed in the previous Section, have already lead to further improvements of the GEA method. In our further research we will, continue to conduct real life case studies, and based on the findings, further elaborate and improve GEA.

Evaluation of the GEA approach at DJI						
Nr	Question	Score			Remarks
		High	Avg	Low	
Level 1 questions					
1	Are the guiding statements valid and up to date?	×			
2	Do the representatives of the perspectives agree with the identified perspectives, the identified core concepts within it and the related guiding statements?		×		
3	Do the causes, triggers, sub problems, risks, implications, et cetera of the business issue lead to change initiatives?	×			
4	Do the (existing) guiding statements result in additional change initiatives or restrictions (the so called solution space)?	×			
Level 2 questions					
1	Are the documents at the level of purpose present and accessible?		×		
2	Does the definition of the level or purpose result in a clear understanding of the sense of purpose and design of the organization? (Do we get all the desired cohesive elements of GEA?)		×		
3	Is one capable to identify, and engage, the right representatives for each of the perspectives? This engagement should cover both the identification and validation of the cohesive GEA elements (ECF), and the GEA analysis processes to solve the business issue.		×		
4	Are the representatives of the perspectives able to validate the ECF?		×		
5	Are the representatives of the perspectives, using the validated ECF, able to execute the analysis processes to solve major business issues?	×			
6	Does the development of the ECF lead to increase coherence?	×			
7	Does the use of GEA lead to an integral solution that contributes to the coherence of the organization?	×			
8	Is the organisation able to, independently, specify a business issue that can serve as input to a GEA based analysis?	×			
9	Do the owners of the business issue succeed in specifying the business issue in such a way the representatives of the prospects can perform the complete GEA analysis and develop an integral solution?	×			

TABLE VI. Evaluation of the GEA method applied at DJI

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