Paradise by the Dashboard Light: Designing Governance Metrics in Turbulent Environments

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Abstract

One of the emerging sweet-spots in business intelligence (BI) and business performance management (CPM) projects is the design of metrics (dashboards) in such a way that they balance the need for “inward-focused” operational management with the need for “outward-focused” strategic management. Unfortunately, hitting this sweet spot often proves to be a difficult process, particularly in more turbulent environments. This article aims to understand the forces at work in the design process of these metrics using two starkly contrasting case studies involving the design of dashboards for IT departments, specifically for IT governance which concerns the alignment between business and IT. The first case explores metrics design for an organization with low external and high internal turbulence (a German insurance company), the second contrasting case focuses on a similar metrics design process but now for an organization facing low internal turbulence and high external turbulence (an African national government). Our findings suggest how the source of project turbulence impacts the success of the metrics design process, the bias towards more inward-focused or outward-focused metrics, and the overall outcomes of the project.

1. Introduction

Firms are increasingly confronted with the challenge to balance the exploitation of existing competencies and exploring new ones [1]. The required “ambidexterity” [2] also translates into requirements for corporate performance management (CPM) and the information requirements for business intelligence (BI) processes and systems. Metrics or “dashboards” need to reflect the ambidexterity in order to perform well. This is true both at a firm level as well as at department levels, where attention towards inward-looking exploitation needs to be balanced with outward-looking exploration.

BI researchers and practitioners alike typically look at information requirements analysis as either demand-driven (user-centric) or supply-driven (based on available data in source systems). Winter and Strauch look explicitly at the link between corporate performance analysis and information requirements for BI [3], arguing how the process of information requirements elicitation is different for BI compared to other information systems - noting that little attention has been devoted to this important area and arguing for and proposing a demand-driven approach to the design of metrics.

That the effectiveness of information requirements analysis methods depends on many factors is already known since the Minnesota studies in the early 1980s [4]. As Nauman, Davis and McKeen show in these studies, “uncertainty” is the central concept here, with contingency factors contributing to this uncertainty including project size, degree of structuredness of the decisions that the system will need to support, user task comprehension and lastly developer task proficiency.

Following this, BI and CPM projects will typically score high in terms of situational uncertainty, necessitating more iterative or experimental methods and requiring that the information requirement analysts are proficient across a range of more advanced methods. Yet, as Hickey [5] found, most experts only use a single method because a) it is the only one they know, or b) they assume what worked last time will surely be appropriate this time.

This study addresses ambidexterity for CPM and BI with a focus on the information requirements elicitation process (resulting in a set of metrics usually displayed visually as a “dashboard”) while looking specifically at the role of uncertainty in this design process. Rather than propose a new method we aim to understand the challenges by studying and contrasting two case studies that each focus on the design of an “ambidextrous” dashboard (set of metrics). The contrast between the two cases lies in the origin of the uncertainty, either project-internal or project-external. Both cases focus on the departmental level, specifically the IT department where ambidexterity deals with balancing operational exploitation and control with exploration and demonstration of business value of IT.
IT and business alignment has been a perennial item in the Society for Information Management (SIM) top three IT management concerns in the last decade [6]. Attempting to better address this concern, an increasing number of companies has recently initiated IT governance initiatives. IT governance is defined here as the set of enabling mechanisms to request, prioritize, sponsor, fund, monitor, and enforce IT investment decisions [7, 8].

One of the key tasks in IT governance initiatives is the design of the right metrics (typically displayed visually as “dashboards”) that help to simultaneously control IT while demonstrating and improving business value from IT. As Luftman [9] states: “a balanced ‘dashboard’ demonstrating the value of IT in terms of contribution to the business is needed”. Precisely this aspect is missing: in their 2008 study Luftman et al. [10] indicate that one of the weakest maturity factors measured among 231 of the global 1,000 organizations was the availability of balanced business/IT metrics.

Traditionally, metrics used in IT management primarily relate to what we will call “inward” or IT-focused concepts such as network uptime or helpdesk response time. Sometimes these are tracked in simple spreadsheets, at other times organizations use elaborate business performance applications. Often these applications come as add-ons to software used to automate IT operations such as network monitoring software or incident tracking programs for helpdesks. Although these metrics are clearly valuable for efficiently managing the IT department as a cost center, often with a direct link to service level agreements (SLA), it is difficult (if not impossible) to translate them into “outward” or business-focused value metrics such as faster time-to-market.

Existing prescriptive models such as CobiT [11] offer some help but (again) have their roots in IT rather than in business. CobiT has embraced the ideas of business- and process-orientation in its design philosophy. Yet still, in actual implementation projects IT control tends to be emphasized over IT business value. As stated before, IT governance initiatives that concentrate on inward-focused metrics are unlikely to result in improved business/IT alignment.

The above resonates with our own observations as researchers and our consulting experience - working with different private and public sector organizations - where we also observe a tendency to stick to more traditional “inward” metrics. Claims that IT can offer business by reducing time-to-market or increasing customer satisfaction are often anecdotal and not systematically tracked in relation to performance evaluation of IT. Apparently there are forces at work that prevent organizations from embracing metrics that balance IT business value and IT control. But what are those forces, and how do they come into play when IT governance initiatives specifically address the redesign of dashboards?

Due to a lack of established research in this area this question calls for a more exploratory research approach. Although we will address our research approach later in more detail, it is important to state here that, as a first step, we reflect on our own current and past exposure and involvement with the metrics design process as part of IT governance initiatives.

One aspect that stood out for us was that these design processes were often characterized by some form of turbulence. Sometimes the turbulence was internal - within the IT governance project itself - ranging from "normal" stress about deadlines and resources to specific turbulence regarding the design of metrics between different stakeholders, be it within IT, within business or between them. At other times the turbulence was external to the project, involving stress from a broader reorganization project, from turbulence in the industry or economy. Our feeling was that this internal or external turbulence could interplay with the forces shaping the design process and leading the firm's bias to more “inward” IT or more “outward” business metrics.

To explore this more fully we therefore decided to select two contrasting case studies, one with a strong internal turbulence and one with a strong external turbulence. The remainder of this paper is organized as follows. In section two the research framework is developed on the basis of a more comprehensive literature review, both in terms of IT governance concepts, metrics, and the metrics design process. Based on this we formulate a set of propositions for our empirical exploration. Section three provides more details for the research method, an exploratory case study design using two contrasting cases. Section four presents and discusses both case studies. In section five, we present and discuss results and propose future research steps.

2. Research Framework

2.1. Overview of Building Blocks

To examine the dynamics in the design of metrics as part of IT governance initiatives we introduce our core concepts based on our main research framework depicted in Figure 1, which is derived from the framework developed by Borgman and Heier [7]. This framework shows, in essence, the link between IT governance processes and business/IT alignment, highlighting the influence of both project-internal and
project-external factors and more general IT governance strategies and structures on this link. The project-internal factors in this framework all relate to change management issues in IT governance initiatives and therefore fit well with the design process focus of this current study.

Within this framework our particular focus is on the design of metrics which concerns the IT governance processes and software modules box (see section 2.2), the project-internal factors (2.4), the project-external factors (2.5) and the IT governance outcomes alignment maturity (2.3). The IT governance strategies and structures box is primarily relevant where it plays a role as a source of the turbulence in the project-internal and project-external factors, which follows the description in the previous section. We will briefly describe the IT governance strategies and structures box here before describing the other areas in more detail in sections 2.2 and beyond. Our descriptions are based on [7, 12, 13]

IT governance strategies and structures comprise structural aspects of IT governance. There are three archetypes and several subtypes: centralized (IT or business monarchy), federal or decentralized (IT duopoly, feudal or anarchy) [14, 15]. Centralized IT governance structures allocate decision-making responsibilities to a central function, be it within IT or within the business. Benefits of increased coordination and control are counterbalanced by more bureaucracy and less responsiveness to more “local” demands. In a firm with a decentralized governance structure most decision making powers are delegated. The flexibility which is achieved by this structure mode is offset with for instance missed standardization gains.

Firms employing a federal IT governance structure mode maintain central control of some IT domains while business units can deploy more “local” business applications at their own discretion. We can expect the arrangements chosen within a particular organization to be reflected in their metrics design as well as in the design process (stakeholders, interests, and power).

2.2. Metrics Design: IT Governance Processes and Software Modules

Our first focus area comprises all key IT governance processes and the corresponding software modules with the capability to capture, streamline, digitize and automate those processes. Computer Associates Technologies, Compuware, IBM, HP and PlanView [16] are the market leaders in the field of IT governance software. Most of them offer support for the entire IT governance lifecycle from requesting to divesting. The software tools can enforce processes by automatically routing workflows and decisions, as well as escalating exceptions and delays when reaching a certain threshold [17].

Following our earlier definition we distinguish between processes and software for demand management, portfolio management, program/project management, and finally resource/time management. The processes are described below:

The demand management capability comprises filtering and managing of IT demands and their categorization into projects, enhancements, or ad-hoc changes [17]. The portfolio management capability refers to a maximization of the portfolio value, aligning the business strategies to IT and identifying the
interdependencies between projects as well as their resources. The program/project management capability refers to the management of a project and the associated resources, budgets, and schedules during the entire project lifecycle. This also includes the management of risks and issues. The resource/time management capability manages the utilization of resources on projects and line activities.

For each of these areas, a set of dashboards/metrics can be defined to support the management and governance of IT, and in IT governance projects organizations will invariably address this, either designing new dashboards from scratch, using templates built into the software modules (if these are used) or (partly) re-using existing metrics.

2.3. Metrics Success: IT Governance Outcomes/Alignment Maturity

The importance of IT governance initiatives has been argued for at least a decade. In 2000, Lainhart [18] found empirical evidence that well-governed enterprises can command acquisition premiums of up to 16% in takeover situations, and Weill and Ross [15] found that firms with better IT governance can achieve a return on assets of up to 40% above industry average. Both studies emphasize financial measures and a relatively simple metric to assess the companies “score” on IT governance.

A broader and well accepted set of measurements has been developed by Luftman [9, 10] as the Strategic Alignment Maturity (SAM) model. This model distinguishes between six dimensions and is not only developed to generate a quantitative score but also to offer specific recommendations for improving the alignment of IT and the business. The underlying rationale is that the creation of business value from IT projects critically depends on the correct alignment of IT projects with business strategies.

Independent studies by Van Grembergen and De Haes [19] have added support to this by identifying a positive correlation between the degree of business/IT alignment and the achieved business value. For this study we have chosen the SAM model as our yardstick to measure both overall IT governance project success, as well as to explore in more detail the quality and balance of the metrics in use.

Luftman's SAM framework has been adopted by various research projects in order to measure alignment maturity [9, 10]. SAM consists of six alignment maturity constructs: partnership, communication, governance, value, skills, and technology scope. For each construct organizations can be ranked at five distinctive maturity levels, i.e. with process (no alignment), beginning process, establishing process, improving process and optimal process with complete alignment. The model was validated internally for reliability and consistency and externally in its relation to company performance (ROA and ROI) using structural equation modeling [10].

Both internally and externally the authors reached strong and positive conclusions. Based on this, and on the model's wide use in the literature we chose to adopt the SAM model and the corresponding instrument (questionnaire and scoring algorithm) to compare the alignment maturity of the firms before and after the IT governance projects we studied and for a more detailed analysis of the metrics.

For this last part (the use of balanced business/IT metrics) we specifically looked at Luftman's measurement of value construct. This construct comprises concepts including IT metrics, business metrics, integrated IT and business metrics, service level agreements, benchmarking, formal assessment reviews, continuous improvement activities and IT function contribution. It should be noted that Luftman's SAM is an assessment tool and although it is aimed at helping companies improve their business/IT alignment maturity it does not offer concrete guidance or best practices like for instance CobiT [20].

2.4. Project-Internal Factors

Factors that bring uncertainty into the link between IT governance processes (and their supporting applications) and business/IT alignment can either be project-internal or project-external. “Project” refers here to the IT governance initiative during which the metrics are being (re)designed. In essence these project-internal factors all relate to change management, and consequently we have identified them through literature review of the rich and long information systems change management research, as well as from more recent IT governance implementation studies.

Our review has identified a series of implementation factors, issues and themes (see [12] for a more detailed description). We have clustered these into seven overall implementation factors, also listed in Figure 1: project planning & analysis (PPA), executive support (ESU), user involvement (UIN), user training (UTR), commitment (COM), organizational integration (OIN), as well as metrics and feedback (MFE). Each factor is discussed below, linking it to both established IT implementation literature as well as to relevant research from the field of IT governance.

PPA describes whether a detailed plan of the required steps and resources for the implementation
process has been developed [21, 22]. Various studies have pointed out the importance of investing substantial time and effort in early project stages, where objectives are made operational and the configuration of the tool is planned by breaking it down into clear implementation steps [23].

ESU deals with executive participation, involvement and other types of support [24]. As IT governance initiatives almost invariably involve increased transparency and power reallocations among a large group of stakeholders, resistance and other forms of project turbulence are common. Key executives can play an important role in these transformations in terms of vocal or resource support [25, 26].

UIN concerns the various forms of user involvement and their role in affecting change. Whereas traditionally most studies have shown how a high UIN is "the most important element of effective change" [27] as a means to foster ownership or to form more realistic expectations [21], recent studies have also shown how in some situations a "magic bullet" approach with a more forced and immediate intervention can also lead to successful change management. Regardless, UIN is clearly a factor that can help describe and understand project turbulence as mandated in this current study.

UTR involves any means of explaining the scope of the IT governance initiative and the changes it entails both within the organization, as well as in its relations to its environment [28, 29]. A lack of training or awareness can greatly contribute to turbulence.

COM comprises both commitment to the project as well as - more broadly - commitment to change, the willingness to implement changes in behavior, procedures, etc. [21].

OIN describes whether or not the IT governance software rollouts are isolated efforts or more integrated in the organizational context [28, 29] to ensure that it will stay alive when the project team is disbanded.

MFE is particularly concerned with project-internal metrics and should not be confused with the metrics designed as part of IT governance initiative itself (these are discussed as part of the IT governance outcomes). The MFE factor addresses whether project-specific KPIs for monitoring progress, issues, and risk are employed as part of the change initiative [26]. Not doing so is a very likely source of project turbulence.

2.5. Project-External Factors

The dynamics of the metrics design process can also be caused by factors external to the IT governance project. Some of these factors relate to the IT governance strategies and structures discussed in the beginning of this section (the organizational arrangements related to IT governance and firm size), here we add three more areas that possibly influence the metrics design process as project-external factors:

- **Macro-economic turbulence** relates to general economic conditions in the industry or the overall economy that can directly or indirectly influence the IT governance/dashboard initiative. For example, an economic downturn may well put additional pressure on budgets, potentially resulting in a bias towards more cost-related metrics [30]. Conversely, it may create a sense of urgency or a sense of opportunity which can benefit the project and lead to a more balanced set of business and IT focused metrics.

- **Organizational stability** relates to the presence or absence of factors such as reorganization projects or similar sources of project-external turbulence that may well put pressure on the project or otherwise influence the various stakeholders involved in the metrics design process. It is likely that this factor will interact or overlap with some of the change management factors listed under the project-internal factors, particularly COM.

- **Organizational culture** completes the list of project-external factors, again likely being very similar to the project-internal COM factors as it is unlikely that the organizational culture will be different outside versus inside the IT governance project. Both organizational stability and culture will therefore be discussed in the context of the project-internal factors.

2.6. Working Propositions

To guide our empirical exploration we inferred the following tentative working propositions (WP):

- **WP 1** - A higher degree of project-internal turbulence will stifle a project and lead to less change in metrics used before and after the IT governance/dashboard project and therefore less change in business/IT alignment maturity.

- **WP 2** - A higher degree of project-external turbulence will accelerate the metrics design process; it can either lead to more IT-focused "inward" metrics or more business-related "outward" metrics.

- **WP 3** - The equal involvement of both IT and business in the metrics design process will lead to an increased business/IT alignment maturity, i.e. a higher SAM level on all dimensions.

3. Research Method

As stated in the introduction, the lack of established research on the metrics design process in the context of
IT governance has led us to pursue an exploratory case study based approach [31, 32]. Given the expected role of project-internal and project-internal turbulence we chose a comparative case study design, selecting two cases that show either a high degree of project-internal or project-external turbulence. The cases were selected from among the consulting engagements from the practice of one of the authors, avoiding projects the author was personally responsible for so he could act as observer rather than directly influence the object of study.

Starting early 2009 until mid 2010, data was gathered through various means: document analysis (e.g., project data and metrics analysis and design documentation), interviews (partly structured and partly open), and through direct observation. For each case the state of the IT governance processes and supporting software was assessed before and after the IT governance/dashboard initiative.

The business/IT alignment maturity was measured both at the beginning and after completion of the project using Luftman’s SAM framework (which includes a questionnaire and a calculation method to transform answers to SAM scores). Data offering an in-depth understanding of the actual design process as well as on project-internal and project-external turbulence was obtained through semi-structured interviews. Interviews were recorded and summaries were sent back to the interviewees for confirmation. Wherever possible, data were cross-checked, also through triangulation with available documents.

The case studies were set respectively in a large insurance company in Europe and in a national government in Africa, so in very different industries and environments with contrasting types of turbulence, with different IT strategies and different IT governance arrangements. A total of 10 semi-structured interviews was conducted with key IT governance stakeholders, lasting 1 hour on average.

4. Case Study Results

4.1. European Insurance IT Service Provider

When the captive IT service provider of a large European insurance carrier embarked on a large-scale IT governance/dashboard initiative the future looked bright. A pre-study and a subsequent project had been launched to tackle inconsistent portfolio, program/project and resource/time management reports and processes, as well as what was internally referred to as a "zoo" of 19 piecemeal legacy applications. Only six of those tools would survive, becoming tightly integrated with the IT governance tool suite of a major software vendor.

The original intent was twofold: first, to consolidate heterogeneous and outdated software components in order to reduce complexity and maintenance costs; second, to optimize the comprehensive IT (portfolio) planning process on a strategic, tactical, and an operational level. Our interview analysis showed that that first intention could be regarded as fully achieved. However, much to our surprise it turned out that the second intention which had originally been set and identified via document review was never mentioned again and obviously had been lost out of sight. To line up to those expectations, the project steering board defined four key guidelines for the IT governance/dashboard initiative:

- **Standards application**: stick to best practice designs built into the IT governance software and leverage experiences from external consultants;
- **Governance rigidity**: tight control over portfolio, financial, and project information with segregation of duty and audit trails;
- **Mandatory use**: enforced use of data entry and reports provided by new tool and discontinuation of redundant data sources for ad-hoc reporting;
- **Landscape optimization**: replacement of various legacy systems and avoidance of complex interfaces.

The 14 month project was split into four project streams - all aiming for the same and single go-live date under a “big bang” approach. The multi project management stream focused on the annual (portfolio) planning process, as well as on periodical adjustments of the defined portfolio. The insurance IT service provider was keen to optimize the portfolio along the dimensions strategic alignment, cost effectiveness, and risk. Scenario functionality was introduced to simulate the impact of pending decisions, as well as to iteratively shift a set of investment requests as closely to an efficient boundary as possible. Several online reports/portlets and Business Objects (BO) provided finance- and resource utilization-related data in a management-relevant format.

The single-project management stream comprised general project and release planning features and dashboards - including issue, risk, and change request management. Measurement and control at individual project level were introduced through earned value analysis (EVA), project status reporting, as well as through plan and actual cost comparisons. The resource and skill management stream built a revised staffing process with assigning employees to projects based on skills and competency levels. In order to support organization unit leads with utilization measurement (a compensation-relevant KPI) and
personnel development, extensive status quo-reporting was “re-platformed” to the new IT governance/dashboard tool.

The final project stream - cross-functional topics - included financial management reporting and processes, interfaces to chargeback systems and data migration from decommissioned systems onto the new IT governance software. The project team over all four project streams comprised ten external and some 25 IT service provider-internal resources. An external and internal project lead shared the ultimate delivery responsibility and reported directly to two internal department leads - one having a more strategic/portfolio focus and the other one a more technical IT focus.

During the metrics/dashboard design different IT stakeholders - mainly coming from the strategic/portfolio department - and a few business customers were involved in the design process. The business stakeholder involvement was restricted to the multi project management stream since the captive IT service provider made the deliberate decision not to involve too many external stakeholders since they had previously faced issues of scope creeps, delays, and even project cancellations. All other project streams were dominated by IT-internal stakeholders.

The strategic/portfolio management stakeholders clearly dominated requirements gathering and implementation to the dismay of other organization units involved in the IT governance/dashboard initiative. The former group was more than reluctant to adopt any changes in metrics and even in dashboard/report layouts; the continued to demand a fully-replicated and redundant data set outside the new tool to continue with their custom-tailored reporting. As one interviewee remarked “those people had build their entire careers on being the only people in charge of collating and interpreting data - why should they put their jobs at risk through making formerly implicit knowledge explicit in standard software?”

Though the business stakeholders and the external consultants had continued to recommend industry best practice metrics and reports, the IT service provider could hardly bring itself to make adjustments to the status quo. Only where data discrepancies emerged from bringing the previously independent IT governance disciplines - and project streams - together, they agreed to few changes. In the single and multi project management streams only a few metrics were adjusted or replaced in accordance with industry standards. Resource and skills-management metrics were maintained as formerly designed. This goes along with the interviewees’ statements that mainly a one-to-one representation of former existing metrics was created and only a few changes had been put into effect.

Turbulences encountered during the metrics design process and during the project primarily had an internal character. Most of the pressure came from the fact that the time for designing metrics was very tight - there was hardly any time for long analysis and design-related discussions. In addition, a fear of losing jobs - or at least power bases - prevailed throughout the organization. Project managers were less concerned and even embraced the integrated functionality but the degree of resistance increased with the degree of remoteness from core operations/day-to-day business. This is why the strategic/portfolio stakeholders were fighting most bitterly.

Eight months after the pilot go-live and four months after the full rollout with some 1,500 users the project was seen as a success by most stakeholders. The project steering board was convinced that more than $4.0 million have been spent wisely and that most of the project guidelines were followed. Only two board members showed slight disappointment that the shift towards best practices was not as comprehensive as originally envisaged and that some organization-specific features had (again) survived this IT governance/dashboard revitalization. Table 1 summarizes the IT/business alignment maturity levels for this case before the IT governance change initiative (December 2008) and after (May 2010) the IT governance initiative.

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Table 1. European Insurance IT Service Provider Alignment Maturity

4.2. African National Program Governance Organization

The cross-ministry government unit was established to coordinate, monitor, and evaluate policy, program, and project implementations throughout the African country. Though politically relatively stable - in contrast to other African developing countries - the nation was heavily affected by the economic downturn and its overreliance on just two major industries: (diamond) mining and tourism. Former attempts to diversify the economy and to embrace a stronger
services sector had failed. The diversification issue was mentioned as key issue and leading trigger of the IT/governance project by our interviewees. In order to counteract the economic destabilization and to restart diversification, a governmental task force recommended establishing more efficient governance over country-wide public projects. The IT governance project we studied was key to this initiative.

Multi-year experience had also shown that a large number of national/public projects failed and did not deliver in time or on-budget. In line with the task force suggestions the office of the president mandated an IT governance/dashboard project and the implementation of a program management office (PMO) structure to quickly get control and to improve the alignment between key initiatives and the country’s six year strategic plan. In order to reach these goals, the ministerial steering committee overseeing the initiative defined four key guidelines:

- **Automated reporting:** enforced and automated reporting capabilities across all public projects featuring cost, schedule, quality, risk, and issue information;
- **Increased alignment:** evaluation of the national strategy and ongoing projects to enable increased alignment based on qualitative and quantitative information;
- **Project quality:** standardization of project management processes in order to deliver projects in time and on budget;
- **Standard applications:** stick to best-practice project lifecycle processes, standard reports, and dashboards designs built into the IT governance software and leverage experiences from external consultants.

The project started in January 2009 and was delivered within a twelve months timeframe. The project team was split into four work streams - strategic, functional, technical, and change management. The project sponsors were convinced that only multi-faceted specialist teams would be able to accomplish the implementation of processes, structures, systems, tools, and measurement methods in such a short timeframe. The entire project team comprised 30 external project members and some 20 ministry resources. An external and an internal project lead shared the ultimate delivery responsibility.

As a major structural change, the project team established a new federal governance model comprising a central national PMO, as well as decentralized ministerial PMOs. The national PMO was meant to be responsible for aligning project delivery with the national strategic plan. The decentralized PMOs would coordinate and implement projects falling under their governmental responsibilities. The PMO processes and key activities were built on best practices and industry standards for project management and monitoring.

The processes covered the entire project lifecycle process from conception to closure. Each project was linked to a defined set of strategic key performance indicators (KPIs) derived from the country’s mission and vision statements. The second process step - project initiation - covered the selection of projects for the annual development plan. Multi-year projects were reprioritized every financial year to accommodate changes in delivery dates and interdependencies. During the project planning process, detailed objectives, scope items, deliverables, and management plans were defined and agreed by the service provider and the ministry project teams. During the project execution process the project would be monitored and controlled - until closure.

With a strong focus on monitoring and evaluation (M&E) several dashboards and reports were created in order to track the performance of projects/programs against defined targets. The African program governance organization decided on the procurement of standard IT governance software for digitizing and automating processes, online reports (so called portlets) and BO reports. Prior to the start of the IT governance/dashboard initiative there was a wealth of ministry-specific reports based on their silo objectives. The initial dismay of using IT for enabling or driving their country-wide strategy had been high; most of their former reports had been paper-based. The use of advanced technology had not yet penetrated all governance units.

During the metrics design process several KPIs for strategic alignment were derived from benchmark implementations and refined during workshops according to the country’s national six-year strategic plan. A three-month period was devoted to the design of suitable KPIs, a process involving an equal mix of participants from IT, business and external stakeholders. All stakeholders agreed that a consolidation of ministry reports and redundant KPIs would be a key goal of this initiative.

Despite general agreement on the overall goal, the entire design process was characterized by stakeholder power struggles peripheral to the IT governance project. In particular, there was a widespread fear of losing control over organization-specific interpretation of data - would education progress now be measured in terms of school enrollment, school dropouts, or adult literacy? Or was the number of students a better KPI? Attempting to counteract the power struggle, the project leadership replaced several stakeholder representatives, which helped but did not end the power struggles.
Despite all efforts, the concept of country-wide strategic project alignment - as well as balancing overlapping ministry activities - remained unclear and abstract until a large-scale change management and education campaign was started. As a result, six months after the go-live the new governance arrangements were operational and most organization units started to see positive outcomes along the lines of the original agreed-upon goals.

One example is that the various ministries by the end of the project were exchanging strategic information via the newly introduced software and were tracking inter-ministry performance through the newly introduced dashboard capabilities, with IT business value dominating over IT control. Employing the SAM model to assess the initiative’s results, it is clear that the African country has made a great leap according to the national development plan. Table 2 summarizes the business/IT alignment maturity levels for this case before the IT governance/dashboard initiative (January 2009) and after (December 2009) successful completion.

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Table 2. African Country Alignment Maturity

5. Discussion and Future Research

The European Insurance IT Service Provider case (further “European Insurance”) combines two driving forces: firstly a revamp and consolidation of an aging suite of IT Governance applications, and secondly a redesign of metrics to increase visibility and transparency of IT viz-a-viz the business. Perhaps not surprisingly, each side stressed a different perspective throughout the project and had different success criteria, resulting in what can be considered a significant amount of internal turbulence within the IT governance project as a whole.

As illustrated in table 1, all SAM indicators show a (modest) improvement, and the project was also completed within the tight time schedule. With IT sponsoring the project and supplying both project leads, there was a considerable focus on the revamp/consolidation perspective and efforts to redesign the metrics to improve SAM levels were resisted by IT and communicated internally as being out-of-scope. The organizational culture in general was also not conducive to change, perhaps not surprising for a rather formal, conservative and established insurance company.

In terms of the change management factors, PPA and MFE were properly addressed which greatly helped in assuring the project was completed - albeit with a considerable amount of time pressure - just within the available time constraints. Comparing the metrics used before and after the project we observe a relatively modest change, in line with the modest gains in the SAM levels, particularly where it concerns the Value dimension which essentially describes the use of more balanced IT-business metrics. Analyzing the various documents produced as part of the (many) metrics workshops conducted with both business and IT employees and the best-practice templates brought in by the external consultants, the ultimately modest changes suggest that the resistance within IT largely prevailed.

In terms of the change management factors, the COM factor, specifically the more general commitment to change rather than the commitment to the project itself was quite low, despite fairly high ESU (the board members in the steering group were therefore somewhat disappointed). UTR and UN are difficult to interpret correctly, as internally IT employees were briefed that the project was a revamp/consolidation and in that sense they co-operated very well, whereas in terms of the metrics redesign perspective they could be perceived as resisting change.

Looking back at the working propositions (WP) from section 2.6 we see a high degree of project-internal turbulence and a low amount of change in metrics and a little change in the SAM levels. Whether the causal chain is indeed in line with the one postulated in WP 1 is debatable: does the turbulence stifle the project and lead to less change in metrics, or is the resistance to change the metrics itself the cause of the turbulence and the stifled project. As in this case all elements occurred from the outset a more detailed analysis is not possible.

WP 2 assumes project-external turbulence and is not applicable here. WP 3 looks at the equal involvement of IT and the business side in the metrics design process. In the European Insurance case this was true, and correspondingly the SAM levels increased. As both sides however clearly had different perspectives and IT brought in significant resistance to change the postulated SAM increase was only modest.

Our second case, the African National Program Governance case (further “African Government”) primarily contains project-external causes of turbulence. Both macro-economic problems as well as (resulting) organization-wide restructuring to overhaul
the governance structure in order to create synergies and transparency, greatly affected the IT governance initiative. This was directly visible within the dashboard design process where discussions about performance metrics and transparency caused significant turbulence. Although used to change, the organizational culture was characterized by strong reactions and power struggles, and this project was not different.

Judging from the final results and the strongly increased SAM levels, one might argue that the turbulence here was productive as it pertained to the core of the metrics design process. In addition, the external turbulence was matched by strong score on all of the Change Management Factors, starting with project planning & analysis (PPA) and executive support (ESU). User involvement (UIN) was strong throughout the project, as was user training and awareness (UTR). The commitment to change as well as to the project (COM) were strong but mixed, as evidenced by the replacement of various stakeholders during the project.

Organizational integration (OIN) was strong, particularly the link with the overall governance changes and the strong sense of urgency felt (from the external turbulence), and finally also a strong use of project management metrics and feedback (MFE), in part by the large team of external consultants who shared leadership with the internal lead from the organization.

Looking back at the working propositions (WP) from section 2.6 we see a high degree of project-external turbulence. WP 2 postulates that this will lead to an accelerated metrics design process, and although we do not have sufficient data to compare the speed in the African Government case with other projects we did see a strong increase in the SAM levels within only 12 months, including a strong change in the Value dimension relating to the use of metrics. WP 2 further postulates that strong project-external turbulence will cause a more pronounced change to either IT or business focused metrics. Again lacking sufficient comparison, we do see that the African Government case exhibited a strong change from more local and IT focused metrics towards strongly business-focused and cross-departmental metrics.

WP 3 looks at the equal involvement of IT and the business side in the metrics design process. In the African Government case this was true, and correspondingly the SAM levels strongly increased. This exploratory case study design has unearthed some of the forces shaping the dashboard design process, specifically for IT governance projects. The results offer a deeper understanding of the anatomy of this process, both focused on a very small sample of two contrasting case studies. Both cases illustrate that the metrics design process forms a crucial connection between IT control and IT business value, at a point where IT can and should make a difference. The study calls for replication in different environments and different aggregation levels (including firm-level studies), leading to the development of more detailed hypotheses (for which the working propositions from this study may well form a starting point), if possible followed by a quantitative survey.

References


Appendix - Interview Questions

These questions address the IT governance initiative within your organization concerning the IT governance metrics in the following areas: demand management, portfolio management, program/project management and time/resource management and factors influencing the (re)design of IT governance dashboards/metrics.

1. Please briefly describe the kind of dashboards existing in the organization before the IT governance initiative started. What was measured (such as specific IT outcomes, or business outcomes including financial and non-financial measures) and who was using the dashboards? Could you share some of the most used examples?

2. Same question, but now “today”.

3. How were the “old” metrics designed, and if today’s metrics are different, please describe the process and stakeholders involved in the (re)design of the metrics. How much time was spent by the various stakeholders, and what was their ‘agenda’ in this process?

4. Please indicate the causes having triggered the IT Governance initiative and describe the forces affecting the IT governance initiative throughout the process.

5. Please briefly describe any factors or events external to the IT governance project that affected this project (e.g. market changes, regulatory changes, budgets, reorganizations, etc.)

6. Please briefly describe the resulting project dynamics (when/how much)