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DISCUSSING PERFORMANCE MANAGEMENT ARCHITECTURE IN PUBLIC SERVICE BROADCASTING

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Discussing performance management architecture in public service broadcasting

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Abstract

Purpose: To demonstrate design of Performance Management (PM) processes in highly complex, non-profit, culture-producing organisations specifically the shift from Performance Management Systems (PMS) to Performance Management Architectures (PMA) specifically using Danish Broadcasting Corporation (DR) as case.

Design/methodology/approach: Qualitative, case-based, inspired by information systems research using ontologies of organisational performance governance frameworks.

Findings: A closer connection between corporate activities, metrics and the technologies defining and underpinning these metrics, reflected in an architecture, raises the certainty and level of organisational consensus.

Research limitations/implications: DR is unique as the largest cultural institution in the Danish language area backed by a political consensus, strong popular support, high level of funding and a disproportional "market share" against commercial actors. This is both interesting to research but also issues limits on the conclusions given the uniqueness.

Practical implications: Ambiguity, bad connectedness, and lack of consensus of measurement of organisational performance can tentatively have a negative effect on the strategic reliance on measurements. The paper contributes to organise the heterogeneous indicators more meaningful.

Originality/value: The value of this paper resides with considerations of implementation of PMA in complex and “unmeasurable” organisations actively getting the most out of weak and indirect links in data, and evaluating the possibility to use the law of large numbers. Additionally the PMA connects with the traditional opposites of reporting systems such as account systems and payroll systems.

Keywords: Performance Management, Public Service Broadcasting, Mass Media, Performance Management Architecture, Business Intelligence, Cultural Performance

Article classification: Case study

Introduction

This paper presents a case of developing a performance management architecture (PMA) for the Danish Broadcasting Corporation (DR). Public broadcasting is facing increasingly complex requirements related to politics, culture, media platforms, language, democracy, minorities and commercial competitors (Andreea, 2008). In a small language area, the national broadcaster is in many ways the most central cultural institution (Moe, 2010). Performance management is critical to monitor, if money is being spend in optimal accordance with the expectations of the public and the political system (Chen, 2011), and if the desired goals of supporting the fine as well as popular culture are going in the right direction (Brants, 2003; Coppens and Sayes, 2006; Skinner, 2011). Regulating contracts are setting a number of metrics for the expectations from the political system (Picard and Siciliani, 2013) but these metrics are developed by time consuming manual processes including data collection, adaptation of data to the legislative system, adjustment for exceptions and maintenance of historical traceability (Moe, 2010).

The paper gives an account of the transition from a mostly “manually driven” performance management system (PMS) to a more automated performance management architecture (PMA) (Tambo et al., 2012; van Dooren, 2011). In the PMA, direct and indirect (computerised) data sources are identified (Dimon, 2013; McNamara and Mong, 2005). Processes are established to harmonise data. Data is characterised by dispersed sources, weak links between data, performance measurement is a secondary purpose of data, and there is little tradition for uniformity of data (Ballard, 2005). The cultural dimension is adding complexity in comparison to regular business performance by requiring static capacities (e.g. size of symphony orchestra), artistic freedom, and “quantity as quality” (e.g. hours of classical music played) (Bakhshi and Throsby, 2012; Raboy, 1996).

The paper is also having emphasis on organisations changing from loose, accounting-based performance management to more precise systems based on broadly available data sources. E.g., can computerised broadcasting systems produce fairly precise statistics on composition of contents. This can be linked to resources behind the content production such as studios, hosts and music. Allocation of physical resources such as cameras can be aggregated through inventory and lending systems registering projects and agreed associated cost of these resources. The performance management rationale is not so much a cost-cutting agenda, but to utilise resources responsibly, identify available resources, redistribute resources, and overall support the politically defined agenda of culture and entertainment.

The problem statement is twofold, with (1) design of performance management architectures in complex organisational environments without a tradition for quantitative measurements, (2) to analyse the process of actual PMA design at DR.

Methodology

The case is presented using a qualitative, interpretivistic and socially inspired methodology in line with case-study research methods from information systems research. The performance management approach within the case is however predominantly quantitative and based on broad screenings of available data sources and numerical assessments of the feasibility, integrity and “connectedness”. The mixed method aims at both interpreting the context, applicability and appropriateness of available data projected towards meaningful business indicators.

Practically, the research has been conducted along the implementation of Oracle Business Intelligence Enterprise Edition (OBIEE). Existing data sources has been analysed for transfer to OBIEE. Management objectives and guidelines have been analysed. A mapping between organisational units and performance objectives has been made. Isolated performance indicators have been collected throughout the organisation. The form of interaction has typically been physical meetings and workshops involving business professionals, analysts and frequently also technological resource persons, e.g. software professionals.

Theory

Performance management must be closely integrated with the business processes that are to be measured (Ballard, 2005; Dimon, 2013). Business processes in terms of business process orientation and analytical indicators in form of PM are closely related and impose a synergistic dyad (Bronzo et al., 2013). Where performance management once was rooted in physical processes and at top management level, it is generally accepted as an approach to have metrics on services (Yasin and Gomes, 2011). Broadly performance management is not related to the sources of data underpinning it; weaknesses of performance management are therefore if there is a lack of scalability, objectivity, repeatability, and general consistence. Technology is critical in most performance management solutions whether it is as business intelligence systems, analytical online processing, datawarehouses and simulation / modelling tools (Tambo et al., 2012; Smith and Kavanagh, 2008; Ballard, 2005). Technology should support implementation of performance management systems to ensure timeliness, traceability, data management. Following the arguments of Ross et al. (2006) on the importance of changing the strategic implementation of IT in the organisation from silos to a more standardised, rationalised and finally modular architecture, and following Bieberstein et al. (2005) in defining Business Performance Management as the core of the design of Business Services, we use the term Performance Management Architecture (PMA) in the following.

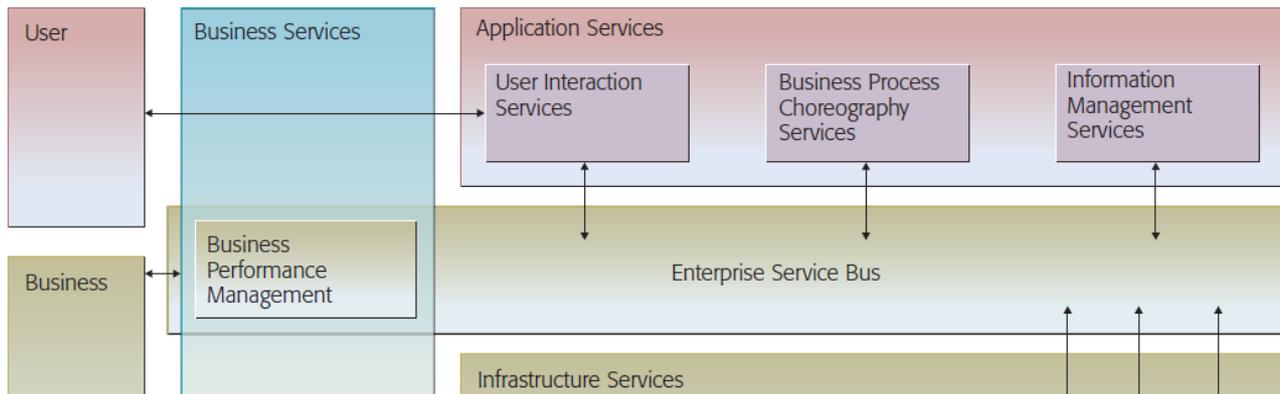


Figure 1. The integration of Business Performance Management from Bieberstein et al. (2005)

This reflects PMA as designed in the cross-section between business, organisation and technology in full analogy with Enterprise Architecture and follows the argument of Koyanagi et al. (2005) on co-design of business process management, technological infrastructure and performance management.

Ochurub et al. (2012) discuss the importance of engagement of organisational resources, and the risks of not having a sufficient organisational maturity, when introducing performance management systems. Organisational robustness and stringency in relevance and metrical design is proposed by Bianchi and Rivenbark (2012) in a comparative study within the governmental sector. Tambo et al. (2012) stresses the fact that business intelligence is frequently presented as a strategic management tool, but would rightfully better be understood tactically.

PSB's are classified as service of general economic interest (SGEI) with opportunities to operate on governmental funding without tendering but with obligations to justify a distinction from commercial operators (Halmagyi and Fetea, 2011). The construct of PSB is frequently puzzling scholars with governmental organisations in direct competition with private actors (Armstrong, 2005; Donders and Raats, 2012). Definitions of PSB however generally remain clear and operable (Harrison and Woods, 2001; EU Commission, 2009; Soraka et al., 2013). Pluralism, media diversity, the medias in the democratic process, national identity, diversity, respect for minorities are all concerns in the ongoing discussion that will joint be mentioned as the PSB's role in national culture (van Dijk et al., 2005; Skinner, 2011; Joesaar, 2011; Chen, 2011). Fiser (2010) emphasise the PSB's social responsibilities. Among critical arguments are that the PSB in some national contexts might be politically biased, serve the view of the political elite, etc. (Hesmondhalgh, et al., 2014).

The protected and special status of PSB's does not exempt them from performance management. Several scholars discuss the design of measurement of PSB. Value for money is a recurring issue in funding of PSB. Fenn et al. (2009) propose a strict econometric framework in assessing PSB productivity growth but assume a range of data to be precise known. PSB has for long recognised performance assessment using non-commercial terms. Moe (2010) outlines the German-inspired Drei-Stufen-Test consisting of (1) support of democratic, cultural and social needs test (2)

contribution to the publicistic competition (3) cost assessment. However, this relate largely to an external view. Meijer (2005) discuss popular ratings versus “quality”. Brants (2003) proposed auditing processes in PSB to retain autonomy by justifying objectives and resources spend. Coppens and Saeys (2006) take offset in the PSB’s ‘public service contract’ normally having the government as counterpart, and stress that PSB’s most be more answerable to the public on spending of funds by implementing new processes targeting accountability and performance, especially setting criterias and executing performance analysis.

Fenn et al. (2009) have analysed productivity in PSB and generally found a lower level of growth then in the rest of the society. As a whole, several contributions exist on analytical processes applied to the PSB organisations (Frisk et al., 2005; Liao and Chang, 2010; Tosics et al., 2008), however, these largely take an external view, and leave the PSB without tools for converting the external expectation to operational performance management. In designing performance management systems in cultural organisations, Gstrauntaler and Piber (2012) suggest a broader stakeholder identification replacing traditional views of (commercial) customers and owners, also considering that the PM system must reflect the strong professional socialisation taking place in such organisations.

PM is desirable and should justify expenditures, but Modell (2004) raises the critique of PM as constantly competing myths that are replacing themselves in relative short span of years. The critique of PM as “a hidden agenda for harnesses the PSB’s” is widespread (Hesmondhalgh, et al., 2006; Picard and Siciliani, 2013). There is however sufficient evidence in literature that cultural organisations are as measureable as other organisations (Bakhshi and Throsby, 2012; Chen, 2011; Moe, 2010).

In the analysis below, the offset is that PM is valid and desirable, but strongly require organisational meaningfulness and a common sense of relevance.

Case presentation

DR is with a budget of 0,5 bn EUR the largest cultural institution in Denmark. DR operates 7 TV channels, 20 radio channels, 5 orchestras and an internet platform that is among the 5 most visited in the country. DR has the largest share of media consumption and its TV channels are the most watched; the market share is the highest in Europe. DR is fully owned by the Danish government, funded by license fees, and has a board of directors composed by representatives from the political parties. DR is supported by a strong political consensus with currently little or no threat on budget cuts although some pressure exist to reduce own production and support mostly film production done by private film producers.

Threats on DR comes mostly from private, commercial, international TV channels attracting the younger segment, and particularly from streaming services allowing consumers to control their media consumption individually. It is of high priority to DR to continuously develop itself to reach most demographic groups to avert the long-term risk of simply being obsolete and thereby losing popular support.

The performance management initiative aims at improving the connection between data and operational activities to improve overall economic effectiveness and identify critical characteristics in the generation of attractive media content. To this day, most reporting has followed three tracks:

1. Financial reporting at management and operational level following governmental standard for reporting.
2. Reporting to the Ministry of Culture specifying the fulfilment of the operating contracts. These data are highly manual and highly processed to comply with the intent and philosophy of the political operating frameworks.
3. Disconnected and selective reporting at lower departmental level or ad hoc at management level.

Broadcasting is a fully digitalised process that broadcasts from a media server providing storage for offline produced content and records online (live) produced content. News, sport and weather are considered as online content even it is stored. This model applies to TV, radio broadcasting are more or less similar: Most content can be produced offline and broadcasted repeatedly. Content can be produced in-house or by contracted, however, most content is purchased from international distributors and from own backlog. Production of content is extremely diverse. DR has success with both ‘family prime time entertainment’ produced at low cost, but also long TV series and large show at very high cost. “Producer’s choice” is a cornerstone is the artistic freedom; when the producer has got a budget he is allowed to make the choices he believes fits the cultural expression.

The mostly digitalised processes of the broadcasting should pave the ground for better PM. Much data should be retrievable from digital sources. The following figure describes the alignment between possible sources and relevant business processes.

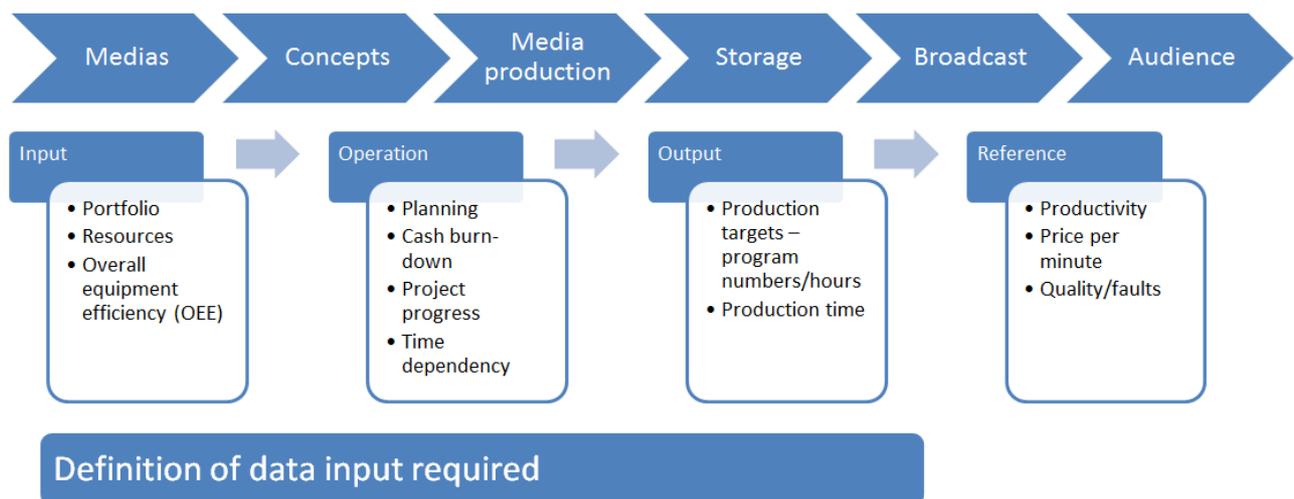


Figure 2. The media value chain – and it’s overall priorities

For each business process along the value chain, the aggregate and the underpinning KPI’s are defined together with the respective data sources. In the context the PM as a transitioning project, a

progress map has been defined. The progress on each KPI is marked to communicate current state of KPI definition as shown in the figure below:

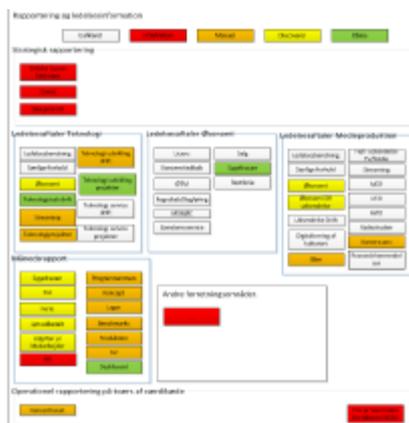


Figure 3. KPI structure and progress maps (blurred on purpose)

The process has distinguished between

- Content production
- Broadcasting

Where the first is mainly project oriented and the latter is mainly with a operational and continuous focus. In content production there is again a separation between

- Online (news, sport, weather, gossip)
- Offline (culture, shows, features)

This is organised to organisationally. Equipment is basically fixed in online production and borrowed from a pool or leased in offline production.

Behind the broadcasting, several relatively large support functions exist: Real estate, equipment management, technological infrastructure, editing and production facilities, financial department, IT services, props depot, carpentry, etc. In assessing effectiveness the magnitude of the use of the support functions needs to be considered but has at the moment not reached is fullest.

In this process around 300 data sources have been identified. There is a target of reaching 75 KPI's. Data are to be consolidated and aggregated in OBIEE.

Examples of KPI's are

KPI on monthly basis	Data source	Rationale
Complaints on streaming services	Complaints database	The perceived quality of streaming services is critical is competing with private streaming services
Concurrent streaming TV users - peak	Conviva ®	The users of streaming users justifies the popular impact

Number of hours streaming	Conviva ®	Individual users and hours per user is defining the popular reception of streaming
Started projects	Project management information system	The ability to develop, execute and deliver projects is critical to meet the overall targets of content production and technological renewal
Delivered projects		
Ongoing project		
Waiting projects		
Project burn down rate		
Media storage down	IT incident management system	Media storage down will stop most broadcasting
IT incidents		With the digitalisation of the production, IT at all levels is critical to continue operation
Camera utilisation per type of camera	Zytech	Cameras are critical to production and bottlenecks within certain types of cameras can hamper creative processes
Cars and mobile production units	Workplace	Expensive resources important to production
Internal invoicing per department	Cost centre system	Internal invoicing reflect support functions effectiveness and utilisation
Editing rooms utilisation	IT infrastructure	Reflect equipment utilisation
Studios utilisation	TV studio plan	Reflect real estate effectiveness
Number of broadcasted hours (per channel)	DALET	Broadcast performance and incident rate
Number of faults and incidents (per channel)	DALET	

Table 1. Selected KPIs and their rationale

The project has come so far that it is indicatively possible to highlight the cost of each program related to

- Cost of equipment, fixed assets, royalties
- Cost related to internal invoicing
- Not cost related to editorial and creative staff

Thereby it is possible to justify the cost of superprimetime (20-22), primetime (17-23) and non-primetime programming on each channel.

The project has shown that consistency and uniformity of data is difficult to achieve. In finding staffing cost, it has been tried to use hour registration and collective work agreement salaries. Some, however, receive various extra rewards, some are on reduced hours due to health issues, where parts of the salary can be refunded from the health insurance. Some full time employees are actually trainees receiving less payment, but are fully registered. Integration to the HR payroll system is further on assumed to be valuable in drilling down in the actual cost structure.

Discussion and conclusions

Important to the case is the broad management support related to “actual” PM, proactive management / control and simulation of scenarios. This can be expressed in the relationship diagram below.

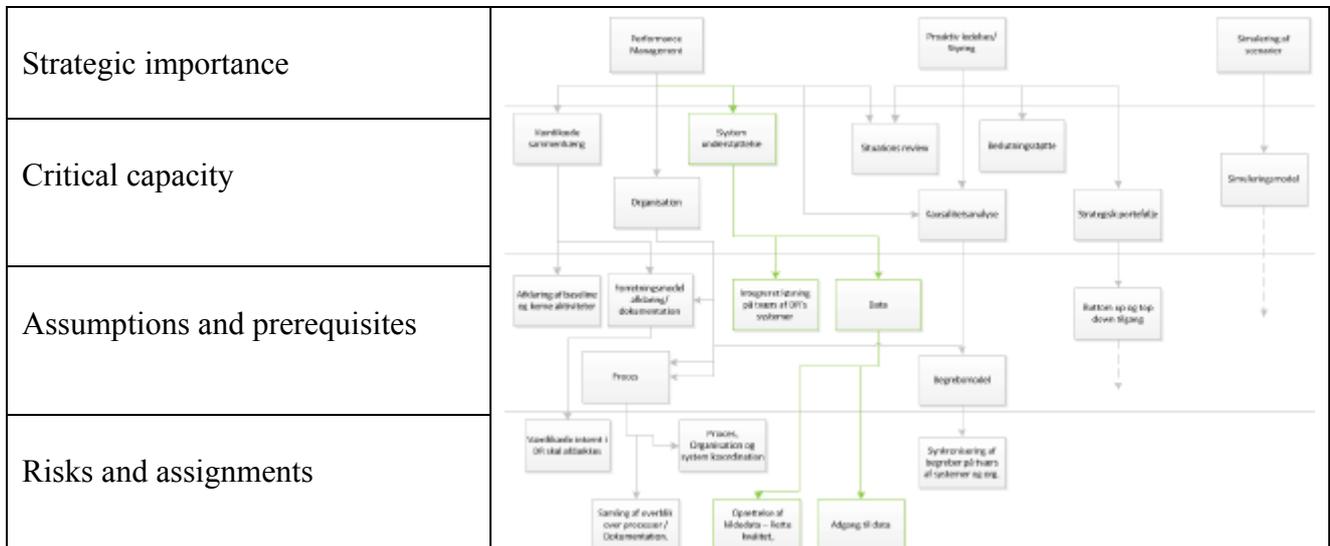


Figure 4. Strategic management map (blurred on purpose)

PM is thereby defined as connectedness to the value chain, organisation and systems support. This means that PM without system support is problematic. Assumptions for system support are an integrated, cross-organisational solution, probably OBIEE, and data with availability of data as a risk. This is highlighted with green in the figure.

The case illuminates a requirement for connecting activities and measurements more closely also in areas where measurement has been regarded as professionally inappropriate as of a cultural institution. This paper has demonstrated a transition from a ‘soft’ and frequently haphazard measurement system with multiple objectives to a more well-defined performance management architecture although not completed but underway.

In the development from conceptual PM to a more systematic approach, technology is therefore put in a determining role. Following Ross et al. (2005), the integrated and technology-based approach is moving from silos, through the use of standardised technology, into a rationalised data architecture, and this applied into the strategic and organisational framework of figure 4 will aim at providing a modularised architecture. Thus the transition from PMS to PMA will empower the DR management in the strategic development.

The continuous process recognising the DR PM project is expected to ensure the organisational engagement. At the same time, the technological foundation of the PM raises credibility at the organisational level. The PM effort is expected to increase effectiveness by shedding light to issues, although it is not at this point in time challenging the “producer’s choice” of creative liberty.

This study has demonstrated PM as a multi-faceted approach to a large cultural institution, where the digitalisation is giving sense to both providing data, but also elevate this insight to positively influence management processes and strategic development.

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