Description of the BI-Framework

Activities and BI roles

1. **Determine information needs** by business user, business analyst, and BI analyst / designer. The purpose of BI is to provide cross-organisational business analysis capabilities to all business users in the organisation (Moss and Atre, 2003). Demand for information comes from various business users located within different functional departments. BI analyst / designer gather and specify the information needs coming from business users. The determination of information needs can be very difficult and challenging and therefore business users need guidance. Determining the information needs is in practice also harder to structure than other phases of the BI process (Philips and Vriens, 1999). The BI analyst / designer support the business users in determining and specifying their information needs. A demand for information might not be feasible due to the complexity and size of the information need, the required development time, the authority of the business user, or the data is not available.

2. **Formulate Requirements** by business user, business analyst, and BI analyst / designer. When the information needs are specified, the second step is to determine what is required to satisfy the demand for information. This step entails identifying the required data and data sources, formulating the functional and technical requirements (Moss & Atre, 2003). The functional requirements consist of which types of information are required including a definition, description and reasoning for which business users the reports are developed. The technical requirements consist of how the reports have to be developed, including required data, data sources and the architecture of the BI-system. The requirements are documented into a functional and technical design that needs to be validated by the business users to assure agreement on what needs to be developed.

3. **Determine Impact** by BI analyst / designer, and BI developer. When the functional and technical design is validated, the third step is to determine the impact of the reports as they differ in development time and impact on the required architecture. The BI analyst / designer and BI developer, based on the functional and technical design, determine the required activities and effort (time and costs) to develop the reports for business users. The two categories used for determining the impact and classifying development efforts are Request For Change (RFC) and a project. The categories are based on and extracted of Prince2 and IT Service Management theories. The distinguishing factors are difference in scope, size of the required efforts and the number of people involved. A project has a broader scope, requires more development time and has more impact on the architecture and infrastructure than a RFC. For a project also a formal project organisation including steering committee, project manager and project team needs to be set up. A RFC is a formal request to change or extend existing reports. At the end of this step, the reports to be developed are categorised into Projects and RFC’s. The succeeding steps are similar but treated separately due to extend, size and level of detail in which they are performed, and the number of people involved. No boundary line is provided to distinguish between a RFC and Project.

4. **Determine Business Case or Cost/Benefit** by BI analyst / designer, and BI developer. In this step, for a Project and an RFC, the required information justifying the development and implementation is identified. It is important to show a balance between the costs involved and the benefits gained (Moss and Atre, 2003). The benefits of having the reports and information has to be expressed in measurable quantities for instance, increased revenue, profit, customer satisfaction, gained market share and costs savings (Moss and Atre, 2003). The costs of software, hardware and labour of implementation and development have to be estimated.

5. **Justified Business Case or RFC?** Once the benefits and costs are defined, the next step is to compare them and provide a justification (Moss and Atre, 2003). Based on the required development time/costs weighed against the expected benefits, a decision should be made whether or not a project and RFC is justified and should be implemented. If the investment of the project and RFC can be justified and/or is authorised (YES), the next step is to determine its priority. However, if the business case is negative, cannot be justified or is not authorised (NO), the...
RFC and project will not be implemented. In this case, the reports are not developed and thus the information needs of business users are not answered.

6. **Determine Priority** by BI program manager. Demand for information will come from various business users. Therefore, all the different types of information needs have to be listed and prioritised which is not an easy task because departmental differences and cross-departmental politics must be reconciled and resolved (Moss and Atre, 2003). One of the risks of BI activities is the lack of prioritisation and coordination of BI development activities (Miller et al, 2006). The importance of prioritising business needs in the definition phase of the construct cycle is emphasised by Dresner et al (2002). Therefore, analyse and prioritise the different information needs coming from various business users within the organization (Miller et al., 2006). After this step, the different justified BI projects and RFC’s are prioritised. The output of this step is a list with an overview of the RFC’s and projects to be implemented. To keep a good overview of the BI activities the two categories have to be combined. This improves the allocation of people and resources. The RFC’s and projects can also have dependencies regarding used data, data sources, problems and required information. The priority list contains a planning for the execution of the RFC’s/projects and used to monitor and control the development progress.

7. **Implement Project or RFC** by BI program manager, BI analyst / designer, BI developer, additional BI and project roles. Based on the priority list, the functional and technical design and their dependences the projects and RFC are implemented. The research focused on the coordination and communicating between the business users and the IT organisation and therefore the technical aspects, like the actual BI architecture, actual implementation was considered out of scope. After implementation, the reports and information is made available to business users and can be used to assess the performance of the organisation. Due to changing environments and the use of information, the information needs of business users change which leads to a new demand for information.

**Program Management.** The vertical bar in the framework represents BI program management, which is an integral approach to better plan and coordinate BI activities (Den Hamer, 2005). BI program management represents:

- aligning the BI activities with the strategy of the organisation (Dresner et al., 2002, Miller et al., 2006),
- promoting the value and benefits of BI to the organisation (Van Beek, 2004),
- reconciling and solving departmental differences and politics (Moss and Atre, 2003),
- planning and allocating BI people and resources (Miller et al, 2006),
- standardising and stimulating the use of BI tools, templates, models and definitions (Den Hamer, 2005),
- creating a common set of best practices, policies and governance rules for the organisation (Miller et al, 2006),
- defining and monitoring the required BI architecture and infrastructure (Den Hamer, 2005; Miller et al, 2006),
- deploying initiatives to monitor and improve data quality (Den Hamer, 2005),
- managing vendor relations and licensing (Miller et al, 2006)
- executing change management to change the way in which information is valued and applied (Den Hamer, 2005)