INFORMATION STRATEGY PERSPECTIVE FOR BUSINESS CONTINUITY ASSURANCE

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ABSTRACT

One of the biggest challenges facing organizations today is the protection of business knowledge and data, ensuring business continuity and integrity. With organizations increasingly looking to new technologies which drive innovative and efficient ways of working, security is about strengthening, accelerating and supporting business processes. From securely enabling remote and home working with secure usage of the internet, to meeting demands for trusted identities of customers and partners in a virtual business world. Effective business continuity is an essential part of the ability to manage any organization. To assure the business continuity, all companies at any level of development must implement a strategy which includes information strategy, business processes, metrics and other. Thus, authors of this paperwork are proposing to approach some directions to overview a consistent and industry-accepted documentation to ensure a focused and supported approach to the implementation of business continuity. Organizations that understand the strategic business implications of laying a strong development foundation and achieving this through Capability Maturity Model adaptation are best equipped to compete in the software industry.

Business strategy, business processes, information strategy, business optimization, business metrics

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INTRODUCTION

Most organizations face continuing challenges to improve access to data and information that will enable stronger business processes and provide competitive advantages. Information systems have been used successfully by many organizations in all sectors of industry and government as the foundation for a process to assess the relative maturity of practices in many areas, including but not limited to data and metadata management, data warehousing, and data governance maturities.

With the explosion of interest around data, information and knowledge, it has become extremely important for organizations to be able to measure their relative maturity in metadata management, data governance and stewardship as well as the processes which support them.

Information systems and its derivatives instantiated emerge the concepts of examining progression toward "maturity" in some discipline. The Capability Maturity Model CMM-oriented models measure how much an organization uses defined processes to manage some activity.

Thus, we need an information strategy because information environments in most firms are not well configure, information resources can always be better allocated, information strategies help organizations adapt to change, and information strategies make information more meaningful, information strategies are not that burdensome. There are many way to focus an information strategy on specific information content, on a firm's common information, information processes and information markets.

Recent world events have challenged us to prepare to manage previously unthinkable situations that may threaten an organization's future. This new challenge goes beyond the emergency response plan or disaster management activities that we previously employed. Organizations now must engage in a comprehensive process best described generically as *Business Continuity*. It is no longer enough to draft a response plan that anticipates naturally, accidentally, or intentionally caused disaster or emergency scenarios (Tutor for you, 2009).

1. INFORMATION STRATEGY

1.1 Information system

An information system can be defined technically as a set of interrelated components that collect (or retrieve) process, store and distribute information to support decision making and control in an organization. In addition to supporting decision making, coordination and control, information systems may also help managers and workers analyze problems, visualize complex subjects and create

Vol. 8, No. 4

new products. Data, in contrast, are streams of raw facts representing events occurring in organizations or the physical environment before they have been organized and arranged into a form that people can understand and use (Laudon & Laudon, 2005).

"The way in which information can be stored, accessed and disseminated is changing fundamentally. In the light of these changes, each institution should develop an information strategy setting out how it proposes to meet the needs of those working within it. This should aim to foster integration with other aspects of the institution's work, and in particular the planning of its other resources and cover organizational and managerial issues" (Follett Report, 1993).

1.2 Information strategy

The information resources represent a major asset as a whole and for the companies. This is reflected in the patterns of their funding. It is in everyone's interest that they be managed and developed in the most cost-effective manner; at the same time, it is essential that aspects of uniqueness and excellence that exist should be maintained, and that the total resource be made available both to as wide a spectrum of members as possible. Such an aim cannot be achieved without change; it also requires stability of fundingⁱ.

The fundamental objective of Information Strategy Planning (ISP) is to develop a plan for implementing business systems to support business needs. The objectives of the Information Strategy Planning stage are to:

- Establish an information strategy based on an evaluation of the business strategy;
- Establish a development plan of user-oriented systems to meet business information needs and priorities;
- Define information architecture for the future development of compatible data-sharing systems;
- Establish a technical strategy for the best use of new information technology;
- Define the most effective organization of the information system function within the enterprise (Information strategy, 2009).

Other needs addressed by ISP include evaluate the effectiveness of existing systems, identify data as a corporate resource and establish a basis for its analysis and control, assess the impact of the effective use of information technology on the overall organization of the enterprise, and increase the awareness of management about developments in and opportunities of information technology. Additional benefits or by-products may be to improve communications within the enterprise about the effective use of information technology and to involve users in the management of system development to increase their confidence in the possibilities offered by new systems.

Vol. 8, No. 4

The following diagram (*Figure 1*) shows the dependency relationships between the stages in the Information Strategy Planning template. The information strategy will be governed by the policy. The strategy will be based on the messages intends to convey, the target audiences, and the modes of delivery it deems relevant to use. The choice of messages, target audiences, and modes of delivery will depend on the business's needs at any given time. As such, the strategy will be sufficiently flexible and will be reviewed and amended as necessary to accommodate broader priorities that may change from time to time.

In the medium term, the major objective of the information strategy is to determine how best to support the business's strategic and operational agenda. The strategic agenda of promoting development, mobilizing resources, and encouraging regional cooperation have important implications for the business's activities. Johnson and Scholes (Exploring Corporate Strategy) define strategy as follows:

"Strategy is the *direction* and *scope* of an organization over the *long-term*: which achieves *advantage* for the organization through its configuration of *resources* within a challenging *environment*, to meet the needs of *markets* and to fulfill *stakeholder* expectations".





(Source: http://www.gantthead.com/content/processes/7278.cfm#Process Flow)

Vol. 8, No. 4

In other words, strategy is about:

- Where is the business trying to get to in the long-term (direction)
- Which markets should a business compete in and what kind of activities is involved in such markets? (markets; scope)
- How can the business perform better than the competition in those markets? (advantage)?
- What resources (skills, assets, finance, relationships, technical competence, facilities) are required in order to be able to compete? (resources)?
- What external, environmental factors affect the businesses' ability to compete? (environment)?
- What are the values and expectations of those who have power in and around the business? (stakeholders)

Strategies exist at several levels in any organization - ranging from the overall business (or group of businesses) through to individuals working in it. Corporate Strategy is concerned with the overall purpose and scope of the business to meet stakeholder expectations. This is a crucial level since it is heavily influenced by investors in the business and acts to guide strategic decision-making throughout the business. Corporate strategy is often stated explicitly in a "mission statement". Business Unit Strategy is concerned more with how a business competes successfully in a particular market. It concerns strategic decisions about choice of products, meeting needs of customers, gaining advantage over competitors, exploiting or creating new opportunities. Operational Strategy - is concerned with how each part of the business is organized to deliver the corporate and business-unit level strategic direction. Operational strategy therefore focuses on issues of resources, processes, people etc (van der Aalst & Weijters, 2004).

In its broadest sense, strategic management is about taking "strategic decisions" - decisions that answer the questions above. In practice, a thorough strategic management process has three main components:

• Strategic Analysis

This is all about the analyzing the strength of businesses' position and understanding the important external factors that may influence that position. The process of Strategic Analysis can be assisted by a number of tools, including:

• *PEST Analysis* - a technique for understanding the "environment" in which a business operates;

• *Scenario Planning* - a technique that builds various plausible views of possible futures for a business;

• *Five Forces Analysis* - a technique for identifying the forces which affect the level of competition in an industry;

• *Market Segmentation* - a technique which seeks to identify similarities and differences between groups of customers or users;

Vol. 8, No. 4

Directional Policy Matrix - a technique which summarizes the competitive strength of businesses operations in specific markets;

• *Competitor Analysis* - a wide range of techniques and analysis that seeks to summaries a businesses' overall competitive position;

• *Critical Success Factor Analysis* - a technique to identify those areas in which a business must outperform the competition in order to succeed;

• *SWOT Analysis* - a useful summary technique for summarizing the key issues arising from an assessment of a businesses "internal" position and "external" environmental influences.

• Strategic Choice

This process involves understanding the nature of stakeholder expectations (the "ground rules"), identifying strategic options, and then evaluating and selecting strategic options.

• Strategy Implementation

Often, this is the hardest part. When a strategy has been analyzed and selected, the task is then to translate it into organizational action.

2. IMPLEMENTING A MATURITY MODEL INTO BUSINESS ORGANIZATION

Organizations that can manage change effectively are generally more successful than those that cannot. Many organizations know that they need to improve their IT-related development processes in order to successfully manage change, but don't know how. Such organizations typically either spend very little on process improvement, because they are unsure how best to proceed; or spend a lot, on a number of parallel and unfocussed efforts, to little or no avail.

Capability Maturity Models (CMMs) address this problem by providing an effective and proven method for an organization to gradually gain control over and improve its IT-related development processes. Such models provide the following benefits: (i) They describe the practices that any organization must perform in order to improve its processes.; (ii) They provide a yardstick against which to periodically measure improvement; (iii) They constitute a proven framework within which to manage the improvement efforts.

The various practices are typically organized into five levels, each level representing an increased ability to control and manage the development environment. The benefits of capability maturity models are well documented for software and systems engineering. Their application to enterprise architecture has been a recent development, stimulated by the increasing interest in enterprise architecture in recent years, combined with the lack of maturity in this discipline.

Vol. 8, No. 4



(Source: http://www.12manage.com/methods_cmm.html)

The Capability Maturity Model is an organizational model that describes 5 evolutionary stages (levels as shown in *Figure 2*), in which the processes in an organization are managed.

The thought behind the Capability Maturity Model, originally developed for software development, is that an organization should be able to absorb and carry its software applications. The model also provides specific steps and activities that help to bring an organization from one level to the nextⁱⁱ.

The 5 stages of the Capability Maturity Model: Initial (processes are ad-hoc, chaotic, or actually few processes are defined), Repeatable (basic processes are established and there is a level of discipline to stick to these processes), Defined (all processes are defined, documented, standardized and integrated into each other), Managed (processes are measured by collecting detailed data on the processes and their quality), Optimizing (continuous process improvement is adopted and in place by quantitative feedback and from piloting new ideas and technologies).

The CMM describes the principles and practices underlying software process maturity. The maturity framework provided by CMM establishes a context in which:

• Practices can be repeated. If you don't repeat an activity, there is no reason to improve it. There are policies, procedures and practices that force the organization to implementing and performing consistently.

Vol. 8, No. 4

- Best practices can be rapidly transferred across groups. Practices are defined sufficiently to allow for transfer across project boundaries, thus providing some standardization for the organization.
- Variations in performing best practices are reduced. Quantitative objectives are established for tasks; and measures are established, taken, and maintained to form a base-line from which an assessment is possible.
- Practices are being continuously improved to enhance capability (optimizing).

The Capability Maturity Model is useful not only for software development, but also for describing evolutionary levels of organizations in general and in order to describe the level of Management that an organization has realized or wants to aim for.

The Structure of the Capability Maturity Model is as follows:

- **Maturity Levels** A layered framework providing a progression to the discipline, which is needed to achieve continuous improvement. It is important to state here that an organization develops the ability to assess the impact of a new practice, technology, or tool on their activity. Hence it is not a matter of adopting these; rather it is a matter of determining how innovative efforts influence existing practices. This empowers projects, teams, and organizations by giving them the foundation to support reasoned choice.)
- **Key Process Areas** Key process area (KPA) identifies a cluster of related activities that, when performed collectively, achieve a set of goals considered important.
- **Goals** The goals of a key process area summarize the states that must exist for that key process area. The states must be implemented in an effective and lasting way. The extent to which the goals have been accomplished is an indicator of how much capability the organization has established at that maturity level. The goals signify the scope, boundaries, and intent of each key process area.
- **Common Features** Common features include practices that implement and institutionalize a key process area. These five types of common features include: Commitment to Perform, Ability to Perform, Activities Performed, Measurement and Analysis, and Verifying Implementation.
- **Key Practices** The key practices describe the elements of infrastructure and practice that contribute most effectively to the implementation and institutionalization of the key process areas.

Vol. 8, No. 4

Process Definition Criteria are the set of process elements that must be included in a software process description for it to be usable by the people performing the process. To establish the criteria you are asking the question - "What software process information do I need to document?"

Such process elements are: Purpose (why is a process performed?), Input (what work products are used?), Output (what work products are produced?), Role (who or what performs the activities?), Activity (what is done?), Entry criteria (when (under what circumstances) can processes begin?), Exit criteria (when (under what circumstances) can processes be considered complete?), Procedure (how are activities implemented?), Reviews and audits performed, Work products that are to be managed and controlled (or placed under configuration management), Measurements to be made, Training and Tools.

3. INFORMATION SYSTEM INTERACTION WITH BUSINESS PROCESSES (DEPENDENCES OF BUSINESS PROCESSES)

3.1 Defining business process

A business process or business methodⁱⁱⁱ is a collection of related, structured activities or *tasks* that produce a specific service or product (serve a particular goal) for a particular customer or customers.

There are three types of business processes:

- Management processes, the processes that govern the operation of a system. Typical management processes include "*Corporate Governance*" and "*Strategic Management*".
- Operational processes, processes that constitute the *core business* and create the primary value stream. Typical operational processes are *Purchasing, Manufacturing, Marketing*, and *Sales*.
- Supporting processes, which support the core processes. Examples include *Accounting, Recruitment, and Technical support* (Jelassi, 2005).

A business process begins with a customer's need and ends with a customer's need fulfillment. Process oriented organizations break down the barriers of structural departments and try to avoid *functional silos*. A business process can be decomposed into several sub-processes, which have their own attributes, but also contribute to achieving the goal of the super-process (Craig, 2001). The analysis of business processes typically includes the mapping of processes and sub-processes down to activity level.

Business Processes are designed to add value for the customer and should not include unnecessary activities. The outcome of a well designed business process is increased effectiveness (Value for the customer, 2009) and increased efficiency

Vol. 8, No. 4

(less costs for the company) (Moore & Gooderl, 2008). Business Processes can be modeled through a large number of methods and techniques. For instance, the *Business Process Modeling Notation* is a *Business Process Modeling* technique that can be used for drawing business processes in a *workflow*.

3.2 Business processes that are commonly automated

Listed below are a few of automation development platform common uses (Scheer, 2002):

- Application Integration -Powerful tools for application integration and orchestration of complex processes. There are applications that provide the extensive set of integration tools we need to streamline your operations. From database queries and transactions with any ODBC database, to file transfer capabilities (via FTP, SFTP, HTTP, and Windows network protocols), XML parsing and transformation, text file parsing and creation, Excel integration, and much more offers intuitive, drag-and-drop tools for integrating applications.
- Automated FTP/SFTP Transfers A complete toolset for all FTP, SFTP, and other file operations. FTP and SFTP support provides automated file encryption (using PGP and other widely used encryption formats), automated file compression and decompression, and automated file and folder operations in Windows network environments.
- ODBC/OLE Database Queries & Transactions Orchestration of complex business processes involving database transactions. Before you can automate systems, networks, and applications, you need access to databases to provide the tools for database access, queries, and transactions with all ODBC / OLE databases.
- Automated Software Testing Powerful tools for robust automated software testing. Product testing can be a time consuming process for even the most efficient Quality Assurance departments. However, the importance of testing a product can never be understated, and the quality of the product can be directly tied to the amount of testing the product has undergone. Automating these processes can provide better results in less time and with much less effort, allowing a better product to be delivered in a shorter period of time and with less investment.
- Automated Report Generation and Distribution Tools for automating the tedious activities of generating and distributing reports. The information that drives business success in your company is contained in reports. These reports, numbering from dozens to thousands, are typically generated in a manual fashion by a horde of analysts. While the role of analyzing data is vital and is best left for human beings, the role of generating and distributing reports is an activity that should be automated (Dustdar, Hoffmann & van der Aalst, 2005).



- Automated Data Backup & File Replication Everything under one hood for file replication, data backup, and disaster recovery. Nothing is more valuable than the data that drives your business. And nothing is more critical than backing up key systems and databases.
- Batch Processing Automation of multi-machine, cross-platform batch processes in distributed networks. Never write another batch file or custom script again.
- Event Log Monitoring and Automated Problem Resolution Monitor event logs and automatically rectify process errors. Traditional Event Log monitoring solutions watch for problems and notify IT staff when a problem occurs. Some even allow a single program or batch file to be run.
- System Monitoring and Automated Problem Resolution -Monitor systems and automatically rectify system problems and outages.
- Scripting without Code Eliminate the need for code and syntax without sacrificing power.
- Enhance Processes Driven by BPM -Automation workflows enhance BPM deployments and deliver real business value (van der Aalst, 2003).

Business Process Management (BPM) is at the heart of many organizations' integration infrastructure. BPA Server harnesses the integrated data from BPM to enable streamlined business processes involving workers, data, applications, and machines. It does this through the rare combination of power and simplicity made possible by high-level workflows, distributed processing, and detailed task capabilities (Bahram, 2007).

• Industrial Strength GUI Automation and Macros - Automated Interactivity with Interfaces.

3.3 Business metrics

A business metric is any type of measurement used to gauge some quantifiable component of a company's performance, such as return on investment (ROI), employee and customer rates, revenues. Business metrics are part of the broad area of business intelligence, which comprises a wide variety of applications and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users make better business decisions (Koller, 2007).

In today's super-competitive marketplace, businesses are devoting more and more time and resources (financial and human) to measure their performance to achieve strategic goals. However despite this effort, seven out of ten organizations are unsatisfied with their measurement efforts.

Vol. 8, No. 4

Metrics - when combined with an effective process improvement methodology, can help your company identify very quickly and accurately - what "pieces" of the business performance puzzle are improving and what aren't.

Process is as important in terms of metrics effectiveness as the data itself. Don't discount the administration of business metrics collection & delivery. The development and collection of metrics is a process. In order for the information to be timely and useful to the organization, the systems, processes and people must work in unison to capture, monitor, analyze and communicate results.

In addition to the obvious benefits of business metrics and measures, a solid measurement system can also: reduce variation in the delivery of products and services to your customer, gain greater predictability in future performance, ensure sustainable results, gain greater predictability over your process inputs & outputs, have the ability to select suppliers based on the effect of their input on your processes, identify relationships in performance between organizations, help support data-driven decision making - make your decisions based on fact rather than feeling.

A few types of important business metrics include:

- *Customer Metrics* measuring what products and/or services are important to the customer
- *Balanced Scorecard Metrics* a comprehensive view of the performance of a business. Focusing on both financial results AND human issues that drive performance.
- *Process Metrics* measuring process performance to identify successful and/or problem processes.
- *Activity / Responsibility Metrics* activity and individual performance measures of employees
- *Vendor (supplier) metrics* measuring supplier quality and service performance
- Dashboard Metrics & Measures key business indicators. Visual/pictorial depiction of business activities to identify business exceptions and conditions.
- Organizational Metrics Relationships linking strategic, management, operational and individual metrics to help identify associations and business impact between organizations.
- *Metrics Reporting and Analysis* processes developed to report, maintain and analyze business metrics
- And of course, *commitment to Documentation* a full set of management, process and procedure documentation to support all metrics and measurement activities.

Vol. 8, No. 4

4. BUSINESS OPTIMIZATION IN FINANCIAL CRISES

Reductions in turnover, order cancellations, high inventory levels and difficulties with credit and payment terms: all these factors require companies to react quickly, systematically and dynamically on the current crisis. Effective cost reduction is vital, and liquidity needs to be safeguarded. Though the pressure to succeed is great and the impulse to act feels urgent, measures taken by companies still need to be well thought as anything else could potentially threaten their very existence (Abramowicz, 2007).

The initial phase focuses on us working in partnership with you to streamline your firm's business processes and corporate structures. This delivers improvements in costs, working capital and liquidity – and safeguards your market position. At the same time we work together ensuring that measures implemented are efficiently monitored and managed right along the value-added chain:

- Short-term cost reduction: Elimination of non-value-adding activities;
- Unlock liquidity reserves: Optimum working capital management;
- Secure delivery capability: Establishing cost-optimized flexibility (business process redesign, 2009).



Figure 3. Business optimization

(Source: http://www.jnm.com/business_strategy.html)

Starting with defining the strategic direction (see *Figure 3*), the organization and processes are determined and means for assessing performance are established. This is then realized building on the underlying information and process technologies. The sustainability of the measures which are defined and introduced is ensured thanks to person-focused change management, allowing the necessary changes and new working methods to become firmly anchored both on the level of those directly involved in the process and on the management level.

Vol. 8, No. 4



Figure 4. Information Management Overview – Information on demand

(Source: IBM Corporation, 2008)

The IT environment within companies is becoming more and more complex. This complexity must be made controllable. IT solutions (see figure 4) must be consistently aimed at providing optimal long-term support for the company's strategy. At the same time, care must be taken not to underestimate the risks, for example data security concerns. On the other hand, however, transparency ought to be created by introducing suitable business intelligence solutions.

Once the most pressing challenges have been overcome it is a matter of using the momentum created to quickly re-grasp the initiative, correct structural deficiencies and actively improve strategic positioning. This second phase of approach to Business Optimization sees us work jointly with you to systematically develop a road map and blue print for the future business.

- Identifying opportunities: Developing strategic options
- Strengthening competencies: Identifying and consolidating factors for success
- Achieving market supremacy: Reorienting business systems.

Appropriate measures will be highly bespoke and company-specific. Identifying, designing and implementing them requires a high degree of consulting experience, sector knowledge, knowledge of appropriate consulting tools and approaches to apply. The initial business reorientation can then be followed up with additional optimizations which push towards the next curve of business and process excellence (Dieter Bölzing, 2009).

Vol. 8, No. 4

5. CASE STUDY

5.1 Sample of IT strategy

Methodology - A series of interviews must be held face to face and a few using the telephone to determine the expectations of the service, level of service received, level of satisfaction, and requirements of the strategy.





(**Source**: *www.socitm.gov.uk*)

The outputs from the interviews, workshops, benchmarking exercise and research have been used to inform both the strategy.

Executive Summary - Interviews and workshops must be run to provide the opportunity for as many staff, members, stakeholders and partners as possible to contribute. The ITC Strategy is supported by two further documents, The ITC Service Review and a Highlight Benchmark Report. A fourth document entitled, ITC Service Improvement, Information Security Awareness has been supplied to assist with promoting the ITC Security Policy and the ISO27001, Information Security Management standard.

Outputs from the interviews and workshops indicate that the ITC service is generally well thought of throughout, is good at providing quick fixes to problems, but finds it harder to resolve the more complex problems and is constantly fire fighting. This is due to the number of staff, lack of work program and limited skill sets and experience.

Vol. 8, No. 4

Summary Recommendations - For summary recommendations in strategy, there are: resilient ring, working group, work program, structure, help desk, e-financials, revenues and benefits, website, CRM, desktop provision, service delivery statements, disaster recovery & business continuity, high priority, information management and health warning.

External environment - Citizens in their communities will expect the strategy to provide help for communities in using technology for administration, and in order to publicize themselves and their activities.

Strategies and Policies - All the strategies and policies should compliment and support one another. They should be live documents that are understood by all levels of the organization and are regularly reviewed and revised. All strategies and policies should include consideration to funding, personnel and ITC issues, which should be developed by seeking expert advice from the council's service providers (CMM,2009).

The Communications Strategy should detail the communication channels to be used by the council to promote its services and how it will communicate with members of the public, the press and general publicity. Information and supporting technologies are a key resource to any organization. The strategy should ensure that the ITC Security Policy is robust and is as a minimum working towards the principles of ISO27001, The Code of Practice for Information Security Management.

Governance ITC - Investment in ITC should be linked to objectives and provide sustainable funding for the ITC infrastructure (network, telecommunications, desktop, databases and applications software). The main principles are: policies, organization of ITC function, risk management, prioritization process, and business continuity.

ITC Service Planning - A comprehensive managed prioritized programmers that are coordinated between corporate and departmental projects in line with departmental ITC strategies. External funding and other procurement routes should be proactively sought. Resource requirements for project implementation and, once implemented, for service delivery and ongoing maintenance and support should be identified and sourced appropriately.

Information Management - Processes should be adopted whereby paper-based records can also be accessed and referred to as part of a corporate and comprehensive service to customers. Archiving standards should be set.

ITC Service Delivery - ITC should be consistently managed and delivered in accordance with service level agreements (SLAs), with accompanying performance management and costing/charging regimes.

Vol. 8, No. 4

Technology architecture - Provision of these facilities should relate to the demand from customers (in terms of what, when, where and how) but customer demand should be managed where reasonable to do so, to promote the use of contacts that optimize effective service delivery against cost.

ITC Service Role and Structure - The ITC Service Review presents three structures for the ITC service based upon three roles for ITC service delivery. This role is a very small unit with specialist contract and negotiation skills which have chosen to outsource all of its ITC products and services to external service providers.

Implementation - This strategy means that a significant number of general functions will need to be done. There are also a number of departmental software reviews and procurements that will need to be undertaken (Capability, 2009).

5.2 Business Strategy Diagram

To represent the business strategy, we may use the Business Process Modeling Notation (BPMN), as in figure 6b. Each process may be detail as it is presented in figure 6c.

Figure 6a. Business Strategy Diagram



(**Source**: *http://www.bized.co.uk*)

Vol. 8, No. 4



Vol. 8, No. 4

CONCLUSION

The benefits of capability maturity models are well documented for software and systems engineering. Their application to enterprise architecture has been a more recent development, stimulated by the increasing interest in enterprise architecture, combined with the lack of maturity in the discipline of enterprise architecture.

A sound business strategy is necessary for the sustenance of an organization in the long run. Strategic analysis is about how changes in the wider environment affect the business proposition. The SWOT analysis, PEST analysis and Porter's Five Forces Model are the tools used in assessing the internal and external environment of the organization and, thereby, devise an effective business strategy. Portfolio analysis also plays an important role in formulating business strategy.

The business process is the flow of information, modified by value-added tasks, that begins with the first contact with a prospective customer and continues through delivery of a finished product. Well-developed business processes can create a seamless link from initial customer interface through the supply chain. Automation of those processes improves the accuracy of the information transferred and ensures the repeatability of the value added tasks performed.

REFERENCES

- van der Aalst, W.M.P., von Dongen, B.F., Herbst, J., Maruster, L., Schimm, G. & Weijters, A.J.M.M. (2003) "Workflow mining: a survey of issues and approaches", *Data and Knowledge Engineering*, vol. 47 (2): 237–267
- van der Aalst, W.M.P. & Weijters, A.J.M.M. (2004) "Process mining: a research agenda", *Computers in Industry Journal*, vol. 53 (3): 231-244
- Abramowicz, W. (2007) Business Information Systems: 10th International Conference, BIS 2007, Poznań, Poland
- Bahram, S., (2007) Auditing: an international approach, Pearson Education
- Băbeanu, D., Cozgarea, G., Pugna, I.B. & Gavrilă, A.A. (2009) "Information flow assured by IT&C continuity planning", *The Annals of the University of Oradea - Section Economics* - vol. 18
- Craig, J. & Jutla, D. (2001) *E-business readiness, a customer focused framework*, Prentice Hall
- Dr. Dieter Bölzing, 2009, http://www.jnm.com/business_strategy.html
- Dustdar, S., Hoffmann, T. & van der Aalst, W.M.P. (2005) "Mining of ad-hoc business processes with TeamLog", *Data and Knowledge Engineering*, vol. 55 (2): 129–158
- Jelassi, T. & Enders, A. (2005) Strategies for e-business, creating value through electronic and mobile commerce, concepts and cases, Prentice Hall
- Koller, G. (2007) Modern Corporate Risk Management: A Blueprint for Positive Change and Effectiveness, J. Ross Publishing

Vol. 8, No. 4

- Laudon, K.C. & Laudon, J.P. (2005) *Essentials of management information* systems, managing the digital firm, Pearson Prentice Hall
- Moore, C.W. & Gooderl, J. (2008) Managing Small Business: An Entrepreneurial Emphasis, Cengage Learning EMEAScheer, I.D.S. (2002), ARIS Process Performance Manager (ARIS PPM),
 - Available at: http://www.ids-scheer.com
- *** Business process redesign, 2009, http://anticriza.bizcity.ro/reactii/businessprocess-redesign-si-reducerea-costurilor/
- *** Business Strategy Diagram, www.bized.co.uk
- *** Capability Maturity Model Integration, 2009,
 - http://www.12manage.com/methods cmm.html
- *** Capability Maturity Model, 2009, www.socitm.gov.uk
- *** Capability, 2009, http://www.ewsolutions.com/education/cmm-training/ implement-cmm
- *** CMM, 2009,
 - http://www2.umassd.edu/swpi/processframework/cmm/cmm.html
- *** http://en.wikipedia.org/wiki/Capability_Maturity_Model
- *** IBM corporation, 2008, www.networkautomation.com/automate/businessprocesses IBM corporation PowerPoint software presentation
- *** Information Strategy, 2009,http://www.isu.mmu.ac.uk/general/informationstrategy.shtml
- *** Information strategy,
 - http://www.ulrls.lon.ac.uk/information_strategy_stage_2.pdf
- *** Information strategy planning,

http://www.gantthead.com/process/processmain.cfm?id=2-6833

- *** The Follett Report, December 1993, A Report for Higher Education Funding Council for England, Scottish Higher Education Funding Council, Higher Education Funding Council for Wales, Department of Education for Northern Ireland
- *** Tutor for you, 2009, http://tutor2u.net/ebusiness/index.html
- *** Value for the customer, 2009,
 - http://www.itil.org/en/itilv2-itservmgmtprozesse/itilv2itservicemanagementprozesse.php

^{iv} Băbeanu, D., Cozgarea, G., Pugna, I.B. & Gavrilă, A.A. (2009) "Information flow assured by IT&C continuity planning", *The Annals of the University of Oradea - Section Economics*-vol. 18



http://www.ulrls.lon.ac.uk/information_strategy_stage_2.pdf

http://www.12manage.com/ methods_cmm.html

iii As defined by Wikipedia