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INTEGRATED INFORMATION

International Conference on Integrated Information

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Preface: Proceedings of the International Conference on Integrated Information (IC-ININFO 2011)

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Aims and Scope of the Conference

The International Conference on Integrated Information 2011 took place in Kos Island, Greece, between September, 29 and October, 3, 2011. IC-ININFO is an international interdisciplinary conference covering research and development in the field of information management and integration.

The conference aims at creating a forum for further discussion for an Integrated Information Field incorporating a series of issues and/or related organizations that manage information in their everyday operations. Therefore, the call for papers is addressed to scholars and/ or professionals of the fields of Library and Archives Science (including digital libraries and electronic archives), Museum and Gallery Studies, Information Science, Documentation, Information Management, Records Management, Knowledge Management, Data management and Copyright experts the latter with an emphasis on Electronic Publications. Furthermore, papers focusing on issues of Cultural Heritage Management and Conservation Management are also be welcomed along with papers regarding the Management of Nonprofit Organizations such as libraries, archives and museums.

One of the primary objectives of the IC-ININFO will be the investigation of information-based managerial change in organizations. Driven by the fast-paced advances in the Information field, this change is characterized in terms of its impact on organizations that manage information in their everyday operations.

Grouping emerging technologies in the Information field together in a close examination of practices, problems and trends, IC-ININFO and its emphases on integration and management will present the state of the art in the field. Addressed jointly to the academic and practitioner, it will provide a forum for a number of perspectives based on either theoretical analyses or empirical case studies that will foster dialogue and exchange of ideas.

Topics of general Interest

Library Science, Archives Science, Museum and Gallery Studies, Information Science, Documentation, Digital Libraries, Electronic Archives, Information Management, Records / Document Management, Knowledge Management, Data Management, Copyright, Electronic Publications, Cultural Heritage Management, Conservation Management, Management of Nonprofit Organizations, History of Information, History of Collections, Health Information

Symposia

The Conference offered a number of sessions under its patronage, providing a concise overview of the most current issues and hands-on experience in information-related fields.

- Symposium on Integrated information: Theory, Policies, Tools
- 4th Symposium on Business and Management and Dynamic Simulation Models supporting management strategies

- Session on Open Access Repositories: Self-archiving, Metadata, Content policies, Usage
- Session on Evidence-Based Information in Clinical Practice
- Session on Business Management and Communication Strategies supporting Decision Making Process in Tourism Sector
- Session on Electronic Publishing: A Developing Landscape
- Session on Information and Knowledge Management
- Session on Information Content Preservation as Outcome of Conservation of Cultural Heritage: Ethics, Methodology and Tools
- Session on Advances Information for Strategic Management
- Session on Information History: Perspectives, Methods and Current Topics
- Session on Divergence and Convergence: Information Work in Digital Cultural Memory Institutions
- Session on Contemporary issues in Management: Organisational Behaviour, Information Technology, Education & Hospital leadership.

The wide range of aspects that the sessions covered, highlighted future trends in the Information Science.

Paper Peer Review

More than 300 papers had been submitted for consideration in IC-ININFO 2011. From them, 91 were selected for presentation, after peer review in a double blind review process. The accepted papers were presented at IC-ININFO 2011.

Thanks

We would like to thank all members that participated in any way in the IC-ININFO 2011 Conference and especially:

- The famous publishing house Emerald for its communication sponsorship.
- The co-organizing Universities and Institutes for their support and development of a high-quality Conference scientific level and profile.
- The members of the Scientific Committee that honored the Conference with their presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the Conference.
- All members of the Organizing Committee for their help, support and spirit participation before, during and after the Conference.
- The Session Organizers for their willing to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the Conference.
- PhDC Marina Terzi for her excellent editorial work, contributing in the production of the Conference proceedings.

CONFERENCE DETAILS

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KEYNOTE SPEAKER



Professor Amanda Spink

Professor Amanda Spink has published over 340 scholarly journal articles, refereed conference papers and book chapters, and 6 books. Many of her journal articles are published in the *Journal of the American Society for Information Science and Technology*, *Information Processing and Management*, and the *Journal of Documentation*. She is Editor of the Emerald journal *Aslib Proceedings*. Amanda's research has been published at many conferences including ASIST, IEEE ITCC, CAIS, Internet Computing, ACM SIGIR, and ISIC Conferences. Her recent books include *Information Behavior: An Evolutionary Instinct* and *Web Search: Multidisciplinary Perspectives*, both published by Springer. Amanda's research focuses on theoretical and empirical studies of information behavior, including the evolutionary and developmental foundations. The National Science Foundation, the American Library Association, Andrew R. Mellon Foundation, Amazon.com, Vivisimo. Com, Infospace.com, NEC, IBM, Excite.com, AlltheWeb.com, AltaVista.com, FAST, and Lockheed Martin have sponsored her research. In 2008 Professor Spink had the second highest H-index citation score in her field from 1998 to 2008 [Norris, M. (2008)]. Ranking Fellow Scholars and their H-Index: Preliminary Survey Results. Loughborough University, Dept of Information Science Report].

Applying Balanced Scorecard Strategic Management in Higher Education

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Abstract: *The functional efficiency of an institution of higher education depends on the size of the available resources and their efficient use, which is expressed using corresponding indicators e.g. the duration of study. Therefore, there is a need of using new and intelligent models and tools to control and evaluate the educational work. Such models give an emphasis in the processes of developing criteria, techniques, and indicators, and facilitate measurement and performance's investigation. Recent research showed that Balanced Scorecard gained preferences of the administration of Educational Institutions. This paper presents a discussion of basic elements in a balanced target setting in the area of Higher Education.*

Keywords: *Higher Education Institution; Balanced scorecard; Strategic management; Quality criteria; KPI, Quality assurance; Quality strategic Map; ADOscore;*

I. INTRODUCTION

In today's world, where knowledge and quality are considered as critical factors in the global economy, Higher Education Institutions (HEI) as knowledge centers and human resource developers play a crucial role. Strategic planning and management enables the Institutions to increase the adaptability with the environment and improve their performance. So, a well-informed strategic management will increase the overall quality of the services provided in the Institutions and Balanced Scorecard (BSC) can be considered as an appropriate strategic management tool for this purpose. In this direction, the decision makers and administrators will be able to organize the internal knowledge in order to support the mission of the institute, to control the outcome services and to design the outcome knowledge due to the needs of the society.

In our paper we describe how the application of the BSC methodology will enhance the quality in HEI and we present a case study regarding TEI of Athens (TEI-A). The paper is organized as follows: In the section II we present how the BSC strategic management enhances the quality in higher Educational Institutes. Section three presents the implementation of the BSC methodology to the TEI of Athens and finally the paper ends with a conclusion.

II. BSC STRATEGIC MANAGEMENT ENHANCE THE QUALITY IN HEI

The quality in a HEI can only be enhanced through a transparent, thorough and integrated evaluation, whose outcomes will be properly assessed and used by the

administration of the institute. For the evaluation processes of HEIs, International/National Quality Assurance Agencies have set quality criteria that are correlated with specific indicators that measure the performance in all sectors of the education. Those indicators are called Key Performance Indicators (KPI) 0.

The Hellenic Quality Assurance Agency [2], which is responsible for the accreditation and evaluation of the Greek HEI, has suggested the following sectors for the classification of the quality criteria:

- Educational Program
- Learning
- Research
- Relationships with Social and Cultural events, with industry and Production
- Academic development strategy
- Administrative services and infrastructures (administrative services, student concern, transparency in the management of economic resources, etc.)

The Academic Evaluation is a difficult and complex task but also very important and difficult is the monitoring and utilization of the outcome of the evaluation processes. For this purpose, it is necessary for a HEI to employ strategic management methodologies and models that will facilitate measurement and performance's investigation.

A. Strategic Management in HEI

Strategic management is a matter of mapping the route between the perceived present situation and the desired future situation. Well – formulated institutional policies that enhance the coordination and effective implementation of programs, projects and plans can support the administration taking the appropriate decisions for the educational development. Through strategic management, the vision, goals, tactics of the institute and strategies which fulfill its needs, will be integrated into a unified whole 0.

For the successful implementation of the goals set by the institute, appropriate tools must be determined and used. This paper is concerned with the BSC tool as a strategic management tool that supports linking strategy with operational initiatives.

B. Balanced Scorecard

Kaplan and Norton (1992) introduced balanced scorecard as a performance measurement tool for the first time. Till now many changes have been made to the physical design, application and the design processes used to implement the tool, that have enhanced the utility of balanced scorecard as a strategic management tool [53].

The typical BSC framework includes the following four perspectives 0:

Financial: encourages the identification of a few relevant high-level financial measures. In particular, designers are encouraged to choose measures that help in the formulation of an answer to the question "How do we see stakeholders?"

Customer: encourages the identification of measures that answer the question "How do customers see us?"

Internal Business Processes: encourages the identification of measures that answer the question "What must we excel at?"

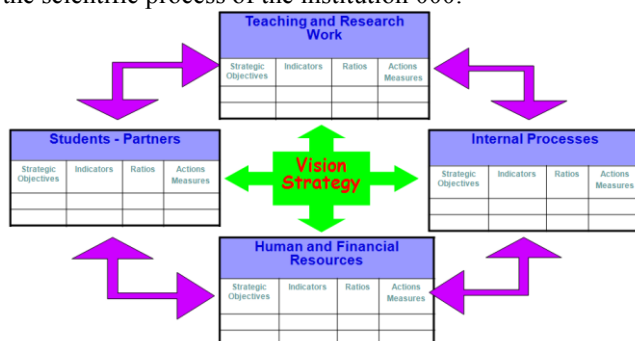
Learning and Growth: encourages the identification of measures that answer the question "Can we continue to improve and create value?"

The finale purpose of BSC is to support managers by providing them all the factors for aligning the performance of the organisation with its strategy 0.

C. Applying BSC in HEI

The adaptation and application of BSC in an organisation has been described extensively. On the other hand very little research has been conducted for its adaptation and application in the education context 0. When a higher education institute wants to apply BSC it should emphasize in academic measures than in financial performance 0.

Thus, we considered as necessary to adapt the four typical perspectives of the BSC to those presented in the following figure (Figure 1). In this approach.), the "financial perspective" is replaced by the "teaching and research work perspective" which refers to the highest possible quality of the supplied teaching and research work. The "customer perspective" is replaced by the "students and partners perspective" since they are considered as customers of the HEIs. The "internal processes perspectives" remains the same, while the fourth perspective "learning perspective" is replaced by the "human and financial resources perspective". This perspective refers to input and infrastructure elements of the scientific process of the institution 000.



Four perspectives of BSC for HEI

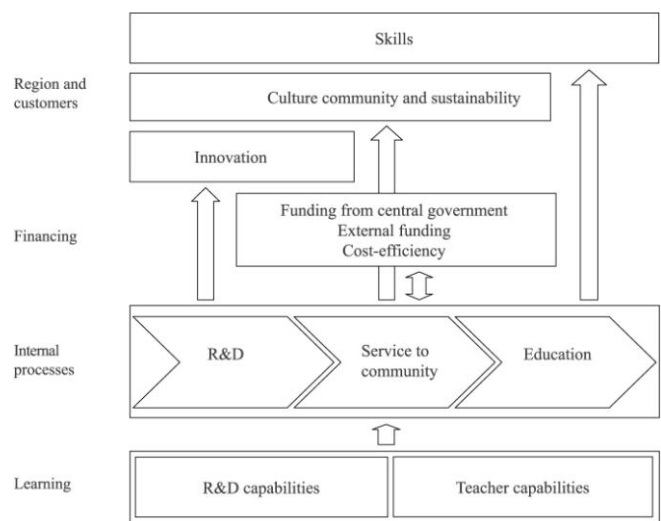
D. The impact in the Quality Assurance Processes

Quality Assurance (QA) in a HEI refers to all processes,

infrastructure and personnel that are used in order to improve the quality of the education 0.

For the better description of the quality assurance processes, we can use the quality strategic map that shows the influence of the external factor to the procedures of a HEI and also the interactions between the management processes and the internal processes.

Figure 2 presents the quality strategic map, which is proposed in a study by Kettunen & Kantola 0, where there is a linked series of objectives that are located in the four perspectives of the BSC framework and also includes a set of cause and effect relationships among the objectives.



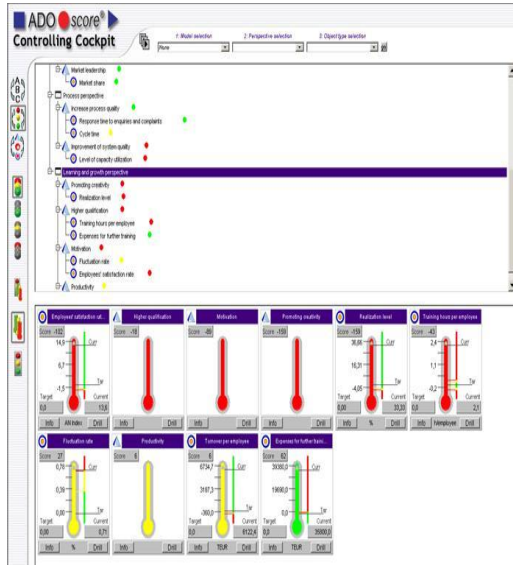
Balanced scorecard – quality strategic map

By adopting this suggestion, a HEI, after defining the KPIs that are related to the quality criteria, can define its strategy based on the outcomes of the application of BSC which will present if the objectives set have been achieved. In particular, the management of the Quality Assurance Unit of an institute can monitor all performance indicators in order to support the administration of the institute in taking decision for the improvement of the quality of the educational and operational processes and in setting its strategic objectives.

For this purpose a tool for supporting the BSC methodology is considered as necessary for the better monitoring, measurement and dynamic controlling of the institute performance. As such a tool we suggest ADOscore that offers a unique Management Portal to display information and aid decision making using actual company strategy and performance results 0. Web-based management reports automatically generated by ADOscore and intuitive Controlling Cockpits with charts, trends, and traffic lights, deliver the right information at the right time (see Figure 3).

With the usage of this tool each user – role of the institute can select the sector he is interested in and continuously monitor the performance of the indicators of the evaluated sector. In this direction, the manager of

the Quality Assurance Unit of the institute can observe all performance indicators in order to support the administration of the institute taking decision for the improvement of the quality of the educational and operational processes and in setting its strategic objectives.

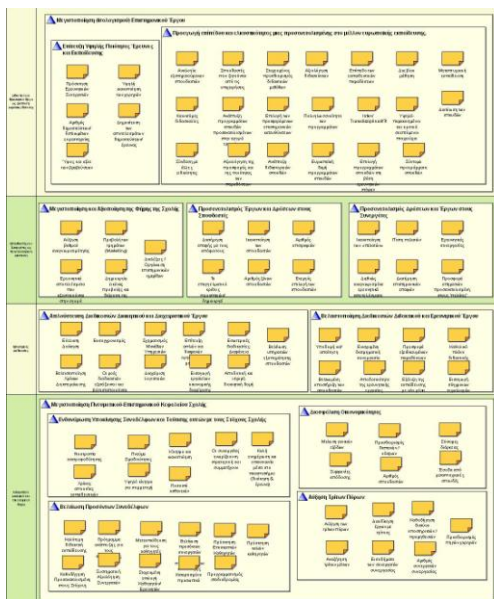


Controlling and Reporting Cockpit

III. The Case Study of TEI of Athens

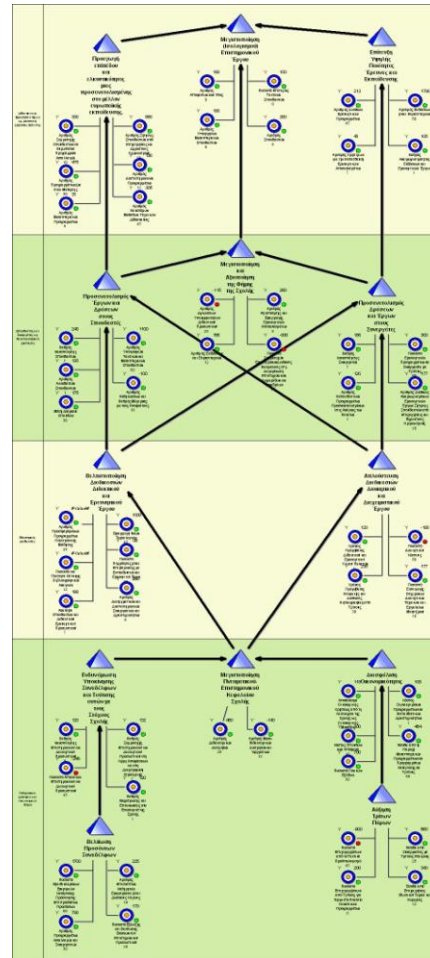
In TEI of Athens, and specifically in the department of Informatics, a first attempt has been conducted to implement the BSC technic with the support of the ADOscore tool.

First it has been defined the vision and the strategic target of the department, and thus the institution's. Then, and for each of the four adapted perspectives of the BSC, strategic objectives have been defined setting in addition the success factors that have to be achieved (see Figure 4).



Model of strategic objectives and succes factors

Further, one of the most important steps was to present the quality strategic map which shows the interactions between the strategic objectives as well as the quality criteria related to each one (see Figure 5).



Model of Balanced scorecard – quality strategic map

What was missing for the accomplishment of this attempt was the definition of the specific indicators that are related to the quality criteria. In other words, the indicators could only be described theoretically without relating any measurable values. So, there was not possible to monitor, through the intuitive Controlling Cockpits of ADOscore tool, the existing situation and the grade of achieving the strategic objectives and the performance of the strategy in total.

IV. CONCLUSIONS

This paper represents how the application of the BSC methodology will enhance the quality in HEI and presents also an attempt to apply the balanced scorecard methodology in TEI of Athens (TEI-A).

This first attempt in TEI-A, showed that BSC is indeed an appropriate strategic management tool that will enhance the quality of a HEI. Its application will support the administration entities to observe all performance indicators and suggest solutions for the improvement of the quality of the educational and

operational processes especially when this application is supported be a tool for the better monitoring, measurement and dynamic controlling of the institute performance, like ADOscore.

As a further step concerning the implementation of BSC in TEI-A, we will try, within the project “MODIP of TEI of Athens”, to set the specific and measurable indicators and relate them with the quality criteria and strategic objectives of the institute. As basis for this attempt will be the evaluation model proposed by the Hellenic Quality Assurance Agency.

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