

ViSTa – A Strategic Planning Process for NJIT

Vision – Strategy -- Tactics

This document provides a framework for a strategic planning process at NJIT. NJIT faces many challenges, including changing demographics among its student population, increased competition for financial support from public and private sources, and rapid obsolescence of technology. An effective strategic plan can help the university adapt to - and thrive in - this rapidly changing environment. Specifically, strategic planning can help NJIT:

- Create a vision of its desired future and a course of action for achieving that vision
- Determine how it can obtain competitive advantage given the array of alternatives available to its customers and stakeholders
- Establish priorities and objectives
- Make decisions about where to allocate scarce resources
- Align the work of all its constituents around its objectives

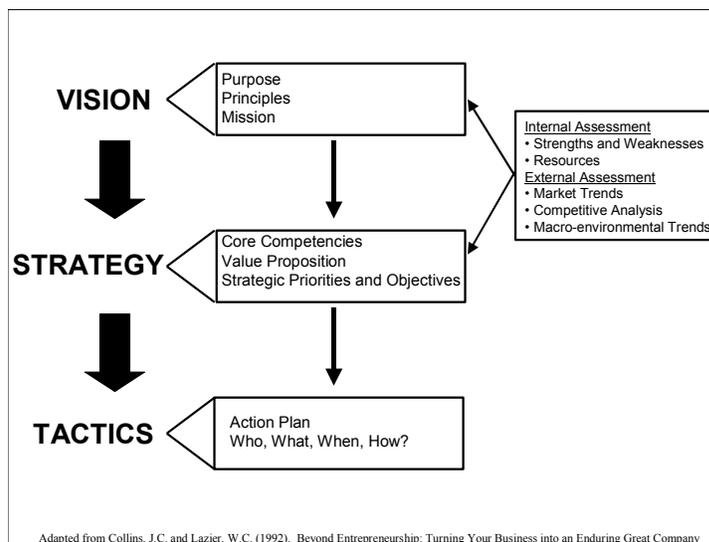
The framework that follows contains three core elements:

Vision – A statement of the fundamental purpose of the university, its principles, and mission.

Strategy – The methodology the university has chosen to use to achieve its mission.

Tactics – The specific actions the university has decided to take to implement its strategies.

NJIT ViSTa Process



Examples of each of these elements are provided throughout this document. These examples are provided merely to illustrate key points, not to guide the content or direction of NJIT’s strategic plan.

This document also describes a process for monitoring and measuring the progress the university is making toward implementing its strategic plan and achieving its mission. This approach to measurement is based on Kaplan and Norton's (1993) balanced scorecard model.

In a university setting, gaining consensus around the content of a strategic plan is critically important, in part because of the university's use of a share governance model for management (Lerner, 1999). With this consideration in mind, this document recommends a "top down – bottom up" approach to developing NJIT's strategic plan and associated metrics. The bottom up component is designed to elicit input from the university's key stakeholders including representatives from university faculty, researchers, administration, alumni, students, Board of Trustees, Board of Overseers, local and state government agencies, etc. The top down component is equally – if not more – important, as it is designed to ensure that the university selects a small number of strategic priorities on which it can focus to achieve its objectives. (See the attached document "Unique Aspects of Strategic Planning in Higher Education" for further elaboration on some of the differences between strategic planning in university and business settings.)

Following is a proposed structure for implementing a top down – bottom up strategic planning process.

Organizational Group	Key Members	Responsibilities
Steering Committee	<ul style="list-style-type: none"> • University President • Representative from stakeholder groups, as determined by the University President 	<ul style="list-style-type: none"> • Coordinate and guide strategic planning process • Participate in a series of planning workshops • Draft the Vision Statement, Strategic Priorities, and Strategic Objectives • Review input and make decisions • Direct Institutional Research and Planning staff in creation of written strategic plan
Institutional Research and Planning	<ul style="list-style-type: none"> • Executive Director, Institutional Research and Planning • Planning staff 	<ul style="list-style-type: none"> • Write and revise drafts of strategic plan to reflect content and direction set by Steering Committee • Design and conduct workshops • Conduct environmental analysis • Compile input, analyze trends • Support Steering Committee, Department Heads, Task Forces

<p>Department Heads and Key Stakeholders</p>	<ul style="list-style-type: none"> • Head of each faculty, research and administrative department • One representative from the remaining stakeholder groups, including: <ul style="list-style-type: none"> • Board of Trustees • Board of Overseers • Students • Alumni • State/local government 	<ul style="list-style-type: none"> • Represent constituents (e.g., department members) by sharing information with them and soliciting their input • Review and provide input to <ul style="list-style-type: none"> • Vision statement • Value proposition • Strategies and objectives
<p>Task Forces</p> <p>One task force organized for each strategic objective</p> <p>Additionally, one task force established to develop metrics</p> <p>Six to eight members per task force</p>	<ul style="list-style-type: none"> • Faculty, researchers and administrative staff with appropriate expertise (e.g., if task force is established to develop tactics for obtaining bio-engineering talent ranked in the top 10% internationally, then task force members with expertise in recruiting and/or bio-engineering may be selected) 	<ul style="list-style-type: none"> • Draft tactics/action plans • Draft metrics

Note that in this structure, the Steering Committee, led by the University President and guided by input received from the various stakeholder groups and task forces, assumes significant responsibility for determining the content of the University’s strategic plan. Institutional Research and Planning staff support the planning process and create and revise drafts of the plan as directed by the Steering Committee.

Steps to Creating the Strategic Plan

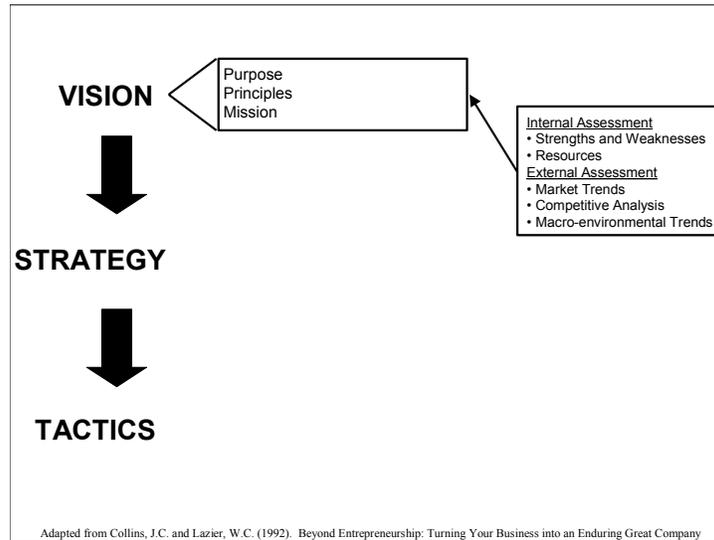
The chart below presents a summary of the steps NJIT can follow to create its strategic plan. For additional details on each of these steps, refer to the pages that follow.

Element	Steps to Create	Page
Analysis <ul style="list-style-type: none"> • Internal Environment • External Environment 	<ol style="list-style-type: none"> 1. Institutional Research and Planning staff perform market and competitive analysis, evaluate university strengths and weaknesses, and identify external opportunities and threats. They distribute this research to the Steering Committee for their review. 	7
Vision <ul style="list-style-type: none"> • Purpose • Principles • Mission 	<ol style="list-style-type: none"> 1. In a one day workshop, Steering Committee members develop a draft Vision Statement. 2. The draft Vision Statement is distributed to Department Heads and other Key Stakeholders for their review and comment. 3. In a one day follow-up workshop the Steering Committee discusses feedback from Department Heads and finalizes the Vision Statement. 4. The final version of the Vision Statement is disseminated to the University community. 	6
Strategy	<ol style="list-style-type: none"> 1. In a two day workshop, Steering Committee members develop a statement of the University's core competencies and value proposition. They also identify a small number of strategic priorities and draft objectives for each priority. 2. The draft strategic priorities and objectives are distributed to Department Heads and key stakeholders for their review and comment. 3. In a one day follow-up workshop, Steering Committee members finalize the value proposition, statement of strategic priorities, and SMART objectives. They also discuss and reach agreement on the set of expertise needed to develop tactics for each SMART objective. 	10

Element	Steps to Create	Page
Tactics	<ol style="list-style-type: none"> 1. Task Forces are formed to create tactics for each SMART objective. 2. In a series of meetings, task forces draft tactics for each objective. 3. The Steering Committee reviews, revises, and approves the draft tactics during a one-day workshop. 	14
Metrics	<ol style="list-style-type: none"> 1. The Steering Committee identifies key areas to measure, based on a balanced score card approach. 2. Task Forces draft metrics for each key perspective. 3. The Steering Committee reviews, revises, and approves draft metrics submitted by the Task Forces. 4. Institutional Research and Planning staff assemble the final version of the Strategic Plan, including metrics, and distribute it to the Steering Committee for their review and approval. 5. The final strategic plan, including metrics, is compiled and disseminated to the university community for implementation. 	16

VISION

To engage in meaningful strategic planning, it is recommended that NJIT begin by identifying its vision of success. A Vision Statement answers the fundamental questions: Why do we exist? What values do we hold? Where are we headed? Once the university has clearly articulated what it wants to be and where it wants to go, it can then begin to develop its plans for getting there, i.e., its strategies.



A Vision Statement contains the following core elements:

<p>Purpose</p>	<p>The fundamental reason the university exists. Purpose is a succinct (e.g., one sentence) statement that addresses the questions:</p> <ul style="list-style-type: none"> • Why do we exist? • What is the ideal state we want to achieve? • What impact will we have on the world? <p>Purpose is something the university continually works toward, but never actually achieves. It is broad and inspiring enough to endure for many decades.</p> <p><i>Example: “Georgia Tech ... will set the pace in defining, expanding, and communicating the frontiers of knowledge in engineering and technology to help create an enriched, more prosperous, and sustainable society.” (Georgia Institute of Technology, College of Engineering)</i></p>
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<p>Principles</p>	<p>The university’s “guiding philosophy”. No more than four to six descriptors or phrases that address the questions:</p> <ul style="list-style-type: none"> • How will we do our work? • What values guide the way we work? <p>Principles reflect the core values and beliefs the university holds, as reflected in its decisions, policies, and actions. Even as the university and the environment change, principles endure.</p> <p><i>Example: “ethics, equitable access to all, diversity, teamwork and collegiality” (adapted from the Vision Statement for Pennsylvania State University University Libraries)</i></p>
<p>Mission</p>	<p>The overall goal that serves to focus the effort of all constituents in the university. A succinct (e.g., one sentence) statement that addresses the questions:</p> <ul style="list-style-type: none"> • What will we do? • What must we accomplish to ensure we achieve our purpose? <p>Mission serves as a finish line that motivates performance. As such, it specifies a challenging and compelling goal that will be achieved within a specific time frame. Once achieved, a new mission is set.</p> <p><i>Example: “By the year 2007, to be recognized as one of the top 5% science and technology research institutions in the world, as measured by our ranking in ...” (possible mission statement for NJIT)</i></p>

To ensure that the university’s Vision addresses real market needs and its Mission is truly achievable, NJIT needs an understanding of its own strengths and weaknesses, market trends, and its competitive position within the marketplace. As such, when the Vision Statement is created, it is important to have access to the following information:

Internal Assessment	
<p>Strengths and Weaknesses</p>	<ul style="list-style-type: none"> • What are the unique capabilities that provide NJIT with competitive advantage? Where doesn’t NJIT do as well? • In which areas of teaching and research has NJIT achieved national and international prominence? In which areas are we weak? • How do NJIT programs rate when they are evaluated by various external parties (e.g., accreditation boards, etc.)? • Why do students choose NJIT, compared to other options that are available to them? Why do students choose other schools, as opposed to NJIT? • When does NJIT succeed with securing private and public funding? When does it fail?

Resources	<ul style="list-style-type: none"> • Intellectual Assets – For example, faculty and researcher quality, library quality, or technological capabilities • Financial Resources – For example, cash flow or size of endowment • Facilities – For example, physical condition of classrooms, laboratories and dormitories or the capacity to expand • Operating Systems and Structures – For example, processes for hiring and evaluating faculty or the effectiveness and efficiency of management and governance systems
External Assessment	
Market Trends	<ul style="list-style-type: none"> • What are the customer groups that NJIT serves, what needs do they have, and how are these needs changing? Note that a key challenge for most universities is to identify its various customer groups and to understand the role it plays in satisfying their varying needs. Customer groups served by NJIT may include undergraduate and graduate students, alumni, businesses, government agencies, local communities, etc. • How is the market segmented (e.g., by academic discipline/subject matter, geography, by price, by demographic categories, by focus on teaching vs. research, etc.) and where does NJIT compete? • How large are these market segments and are they growing, stable, or shrinking?
Competitive Analysis	<ul style="list-style-type: none"> • Against which institutions does NJIT currently compete? Against which institutions could it potentially compete? Note that potential competitors include any organizations or institutions that could potentially provide the same value as NJIT, e.g., research laboratories and training departments in private businesses. • What are the visions and strategies of these competitors? • How does NJIT’s strengths, weaknesses, and offerings compare to those of its competition?
Macro-environmental Trends	<ul style="list-style-type: none"> • What long-term trends does NJIT anticipate in the economic, political/legal, technological, demographic, and social environment that could create opportunities or pose threats?

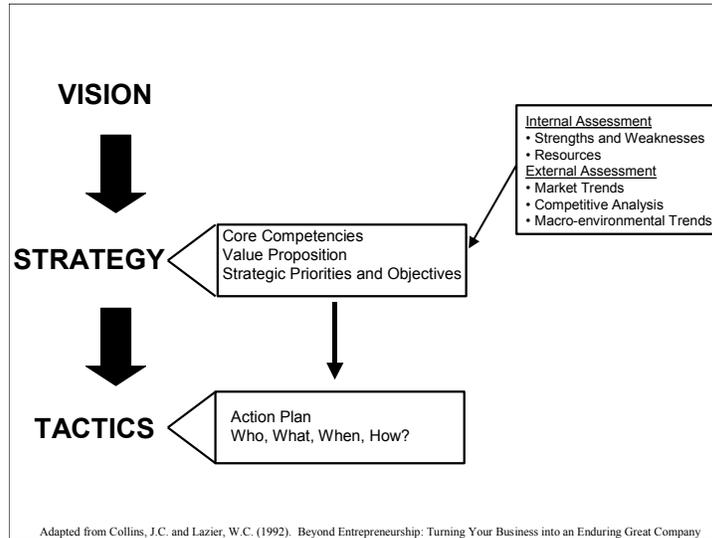
The basis for these assessments are data obtained from a variety of sources, including market research, enrollment statistics, financial reports, labor statistics, demographics, academic ratings and rankings, student evaluations, benchmarking studies, personal observations, etc. NJIT has already completed a significant portion of this analysis as part of the Middle States Association Self-Study. NJIT may base its analysis on this research; however, it is recommended that they supplement it with additional market trend and competitive analysis.

Following is a process NJIT can use to create its Vision Statement.

Key Step	Description
Perform/assemble analysis of internal and external environment and distribute to Steering Committee	Institutional Research and Planning staff perform market and competitive analysis, evaluate university strengths and weaknesses, and identify external opportunities and threats, drawing upon data assembled for the Middle States Review and conducting additional market research where appropriate. They distribute this research to the Steering Team for their review.
Plan and conduct Workshop 1 (Vision – Part 1)	Institutional Research and Planning staff, supported by a professional facilitator/consultant, design and conduct a one day Vision workshop attended by Steering Committee members. During the workshop, the professional facilitator leads Steering Team members through a brainstorming process to elicit their ideas regarding the University’s Vision and through a consensus building process, culminating in the development of a draft Vision Statement.
Stakeholder Review	The draft Vision Statement is distributed to Department Heads and other Key Stakeholders for their review and comment. Note that Department Heads and Key Stakeholders may distribute the document to their own constituents for input and may consolidate this input before submitting it to Institutional Research and Planning. Comments across departments are consolidated by Institutional Research and Planning and provided to the Steering Committee for their review.
Plan and conduct Workshop 2 (Vision – Part 2)	Institutional Research and Planning staff, supported by a professional facilitator/consultant, design and conduct a one day follow-up workshop with Steering Committee members. During this workshop, the Steering Committee discusses feedback from Department Heads and finalizes the Vision Statement.
Communicate Results	The final version of the Vision Statement is disseminated to the University community.

Strategies

Once NJIT has assessed its internal and external environment and has articulated what it wants to be and where it wants to go, the University can begin to develop its plan for accomplishing these goals, i.e., its strategies.



Developing strategies involves the following core activities:

- Identifying the university's core competencies and unique value proposition
- Determining the strategic priorities and associated objectives on which the university will focus

Core Competencies and Value Proposition

The university's core competencies and value proposition define the basis from which the university will achieve competitive advantage. Its core competencies and value proposition are driven by the Vision the university has established for itself, its evaluation of internal strengths and weaknesses, and its assessment of market trends, competitive position, and macro-environmental opportunities and threats. The university develops, protects, and capitalizes on its core competencies and value proposition through the various strategies it pursues.

Core competencies are the unique, hard to imitate, capabilities NJIT possesses that it can leverage to create value for its customers and competitive advantage for itself. Core competencies may derive from a variety of sources, such as the people, facilities and procedures present within the university. Examples of possible core competencies for NJIT include:

Source of Competency	Example
Research/teaching expertise	<ul style="list-style-type: none"> • Information technology • Pharmaceuticals/bio-engineering • Advanced materials • Transportation • Sustainability
Internal processes	<ul style="list-style-type: none"> • Ease of establishing partnerships with businesses • Patent registration process
Delivery vehicles	<ul style="list-style-type: none"> • Distance learning • Customized program delivery at business locations

The university's **value proposition** defines the value it strives to provide to its customers. It is the combination of products, service, pricing, and delivery the university provides that differentiates it in the marketplace. An example of a possible value proposition for NJIT is:

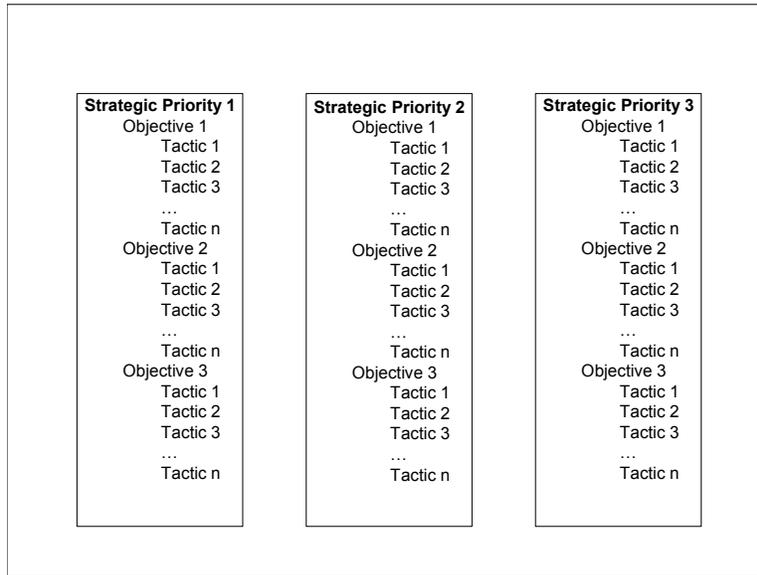
“NJIT provides a first tier technology education to a diverse study body, including the disadvantaged, at a 10% discount to the second tier average cost”

Strategies

With a clear understanding of its vision, its internal and external environment, and its core competencies and value proposition, NJIT can begin to develop strategies. These strategies communicate where the university has chosen to focus its investment of resources for the next five years. They communicate, in broad terms, what the university will do – and importantly, what it won't do.

Strategy involves making choices about how to allocate limited resources. Although staff and funds may be allocated to many programs throughout the university, strategy assigns resource priority to a limited set of high return initiatives. For example, although the University may have strength in numerous academic disciplines, the strategic planning process helps the University allocate limited resources by selecting only a few disciplines on which it will focus its investment. By focusing resources on only a few critical areas, the University ensures that it achieves prominence, excellence and competitive advantage.

In developing its strategies, it is recommended that NJIT identify no more than four key issues – or strategic priorities – it will focus its attention on to ensure that it delivers on its value proposition and achieve its mission. To focus the attention of its constituents and motivate performance, it is recommended that the university also establish a small number of specific, measurable objectives for each priority.



A **strategic priority** is a fundamental issue an organization addresses to deliver on its value proposition and achieve its mission. Examples of possible strategic priorities for NJIT are:

“Develop international reputation for academic excellence in the fields of bio-engineering and sustainability.” (Note that, given limited resources, a choice was made to focus on only two of the five academic areas in which the university excels.)

“By 2007, increase NJIT’s endowment to \$500,000,000.”

Strategic **objectives** specify the milestones the organization will work toward to address its strategic priorities. To ensure financial, people, and other organizational resources remain focused, it is recommended that the university establish only a small number of objectives (e.g., two or three) for each strategic priority. To ensure that people clearly understand the objective and are able to monitor progress toward it, writing objectives in the **SMART** format is proposed:

S	Specific	Describes exactly what is expected
M	Measurable	Quantifies the result that is expected
A	Actionable	Describes the actions the university will take
R	Realistic	Is highly challenging yet achievable
T	Time-based	Has a completion deadline

An example of a SMART strategic objective for NJIT could be:

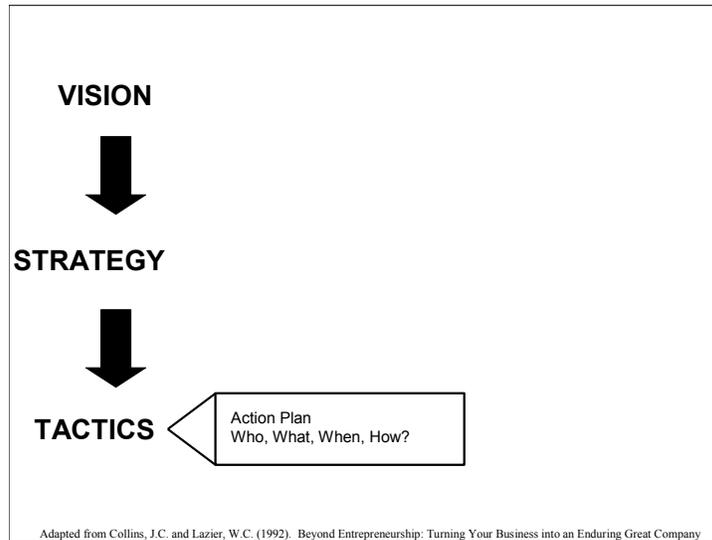
“Obtain and develop world-class faculty in the area of bio-engineering, so that by 2007, at least 75% of bio-engineering faculty are recognized to be leaders in their field, as measured by ...”

Following is a recommended process the University can use to identify its core competencies, create its value proposition, and develop strategies:

Key Step	Description
Plan and conduct Workshop 3 (Strategy – Part 1)	Institutional Research and Planning staff, supported by a professional facilitator/consultant, plans and conducts a two day Strategy workshop attended by Steering Committee members. During the workshop, the professional facilitator leads Steering Committee members through a process in which they develop a statement of the University’s core competencies and value proposition. During the workshop, the Steering Committee also identifies a small number of strategic priorities and draft SMART objectives for each priority.
Stakeholder Input	The draft strategic priorities and objectives are compiled and distributed to Department Heads and key stakeholders for their review and comment. Stakeholder input is consolidated and synthesized by Institutional Research and Planning and forwarded to the Steering Committee for their review.
Plan and conduct Workshop 4 (Strategy – Part 2)	<p>Institutional Research and Planning staff, supported by a professional facilitator/consultant, conduct a one day follow-up workshop with Steering Committee members, during which time they discuss the Stakeholder input and finalize the value proposition, statement of strategic priorities, and SMART objectives.</p> <p>During this workshop, the Steering Committee also discusses and reaches agreement on the set of expertise needed to develop tactics for each SMART objective. For example, if a SMART objective involves obtaining bio-engineering talent ranked in the top 10% internationally, then expertise in recruiting and/or bio-engineering and/or developing a world-class talent pool in another area is needed to develop tactics. With guidance from Institutional Research and Planning, the Steering Committee identifies a potential pool of task force members with the appropriate expertise (no more than 6 to 8 per task force) to develop tactics for each SMART objective. One Steering Committee member is also assigned to each Task Force.</p>

TACTICS

The final stage of the strategic planning process involves creating tactics for each strategic objective. Tactics describe the actual actions the university will take to achieve its objectives. They specify who will do what, when, and how.



Good strategy is all about making choices – specifically, choices about resource allocation. Tactics identify where and how the University will allocate its resources. Each tactic must be fully aligned with a strategic objective, to ensure that the University’s scarce resources are appropriately invested. As each tactic is proposed, it is wise to ask, “To what extent does completing x task move the University closer to achieving y SMART objective?” If performing the task does not help the University make significant process toward achieving its objective, then the tactic should be discarded in favor of a higher return activity.

Following is a recommended process the University can use to develop tactics for each strategy and finalize the strategic plan:

Key Step	Description
Create Tactics Task Forces	The University President contacts the lead member of the appropriate departments/areas from which Task Force members are sought and solicits their nomination of task force members. Institutional Research and Planning finalizes the composition of each Task Force and schedules an initial meeting with each.
Conduct task force meetings	Institutional Research and Planning staff plan and conduct a series of meetings as follows: Purpose: To identify and agree on tactics which support the University’s strategic objectives. Attendees: Task Force members and Steering Committee members as identified above.

	<p>Process: Prior to each Task Force meeting, Institutional Research and Planning distributes to each task force member an overview of the strategic planning process and their role in it, information about the structure of effective objectives and tactics, and information about the SMART objective to which they have been assigned. During the Task Force meeting, Institutional Research and Planning leads a brainstorming process to help members identify potential tactics associated with their assigned SMART objective. Institutional Research and Planning also leads members through a consensus building process to help them select the highest priority, highest value tactics. Note that task forces may decide that they need to adjourn to collect additional information. Thus, each task force may meet several times before they create a final draft of recommended tactics.</p>
<p>Plan and conduct Workshop 5 (Tactics)</p>	<p>The Steering Committee reviews, revises, and approves the draft tactics during a one-day workshop facilitated by Institutional Research and Planning staff.</p>

Framework for Measuring Performance Against the Strategic Plan

Once NJIT has established its strategic plan, the next challenge is to identify the metrics the university will use to assess its performance. Effective metrics help the university community focus their actions on strategic priorities and objectives and evaluate the progress they are making toward achieving these objectives.

One approach to measurement that has proven to be particularly effective in terms of focusing organizational efforts is Kaplan and Norton's (1993) balanced scorecard. Kaplan and Norton developed the balanced scorecard to help organizations assess the value they create by investing in areas such as customers, suppliers, employees, processes, technology, and innovation – investments that generate value for an organization that may not be reflected in short-term financial measures. While the balanced scorecard has been adopted successfully by numerous for-profit organizations, a growing number of non-profit and educational institutions have also implemented the approach to measurement and management. The attached article "Balanced Scorecard for Universities" provides an overview of the process and its use in a university setting.

The balanced scorecard approach suggests that an organization measure its performance from four different perspectives, all of which support the organization's vision and strategy. Different perspectives may be selected, based on the strategic priorities developed as part of the strategic planning process.

<u>Perspective</u>	<u>Answers the Question</u>	<u>Example</u>
Financial	To succeed financially, how should we appear to our stakeholders?	<ul style="list-style-type: none"> • Size of endowment • Value of research grants
Customer	To achieve our vision, how should we appear to our customers?	<ul style="list-style-type: none"> • Market share • Satisfaction survey scores from employers of recent graduates
Learning and Growth	To achieve our vision, how will we sustain our ability to change and improve?	<ul style="list-style-type: none"> • Number of patents obtained by faculty • Number of faculty in key targeted areas
Internal Business Process	To satisfy our shareholders and customers, what processes must we excel at?	<ul style="list-style-type: none"> • Quality of grants administration process • Speed of admissions process

To ensure that it focuses effort on its strategic priorities, an organization selects no more than three to five measures within each of the four perspectives.

Following is a recommended process the University can use to develop metrics using the balanced scorecard approach.

Key Step	Description	Time
Plan and conduct Workshop 6 (Balanced Scorecard – Part 1)	The Steering Committee identifies key areas to measure, based on a balanced score card approach.	04/03-05/03
Stakeholder Input	Task Forces draft metrics for each key perspective.	05/03
Plan and conduct Workshop 7 (Balanced Scorecard – Part 2)	The Steering Committee reviews, revises, and approves draft metrics submitted by the Task Forces.	05/03
Review and approval	Institutional Research and Planning staff assemble the final version of the Strategic Plan, including metrics, and distribute it to the Steering Committee for their review and approval.	05/03
Communication	The final strategic plan, including metrics, is compiled and disseminated to the university community for implementation.	05/03

Summary

This document recommends a process NJIT can follow to create its strategic plan. This process will help NJIT identify its Vision for the future and make choices about how it will allocate scarce resources as it attempts to achieve that Vision. The following summarizes the key recommendations set forth in the document:

- Establish a top down, bottom up approach to strategic planning, ensuring that university decision-makers determine the strategic priorities on which NJIT will focus its resources while providing opportunities for the broader university community to provide input.
- Begin the strategic planning process by establishing a succinct, forward-looking Vision for the university. This Vision should answer the fundamental questions: Why do we exist? What values do we hold? Where are we headed? This Vision will drive the choices made during subsequent steps in the strategic planning process.
- Determine NJIT’s value proposition, using its Vision as a guide and armed with knowledge about the needs and characteristics of the markets it serves as well as information about the university’s strengths, weaknesses, opportunities and threats. The value proposition should specify how NJIT will differentiate itself from its competitors and obtain competitive advantage through the unique combination of products, service, pricing, and delivery it offers to its customers.
- Identify a few (no more than four) strategic priorities on which the University will focus to deliver on its value proposition and achieve its Vision. Develop a limited number of specific, measurable, actionable, realistic, and time-based (SMART) objectives and tactics that are aligned with these strategic priorities, indicating how resources will be allocated to achieve the university’s strategic objectives.

- Using a balanced scorecard approach, establish metrics that communicate the progress the university is making toward achieving its Vision.

The University has many resources from which it can draw to create its strategic plan, and much work has already started. These resources should be fully utilized to ensure the university creates an effective strategic plan.

References

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Lerner, A.L. (1999). A Strategic Planning Primer for Higher Education.

Unique Aspects of Strategic Planning in Higher Education

Extract from A Strategic Planning Primer for Higher Education, Alexandra L. Lerner, College of Business Administration and Economics, California State University, Northridge, July 1999.

The following section discusses unique aspects of strategic planning at universities.

DIFFERENCES BETWEEN A BUSINESS MODEL AND A UNIVERSITY MODEL

To ensure success of the strategic planning effort, universities need to adjust the "business strategy model" to higher education. As discussed below, university-based strategic planning differs from the business model in several specific ways. By recognizing these differences and changing the traditional model accordingly, universities can increase understanding of, and participation in the strategy process throughout its constituencies.

Time frame

In the "business world," strategic planning model timeframe is 2 to 3 years; at universities, it usually takes 5 or more years.

Consensus

The business model is generally top down, although it is still necessary to get the support and involvement of people in the company. Because of the importance of shared governance in university management, faculty's involvement is key, and building consensus right from the beginning becomes essential for university – based strategic planning. University faculty can't be "directed" (i.e., command authority) in the same way as employees in a company, because "centralized power" at universities is not very strong.

Value system

Universities' guiding principle - long-term investment in educating people - is different from business' bottom line approach. Differences in the value system require a different approach to strategic planning at universities.

Customers

Universities do not have a clearly defined customer; students, employers, and the community may all be considered "customers." As a result, defining goals and measuring effectiveness consistently with the university's mission is problematic.

Context

Change is especially difficult to accept at the universities, because by nature universities are about preservation.

THE *PROCESS* OF STRATEGIC PLANNING

The process itself is important to opening the lines of communications, and engaging faculty and staff in the dialogue. The fact that we engage in "strategic thinking" is more important than the final product – the plan. The decision-makers can make choices in the context of their understanding of the faculty's dialogue, different vantage points, and university's overall mission. It is similar to the empowerment in the corporate model. If participants understand the thinking around issues, then management can empower them to make decisions, because employees' decisions will reflect the overall context.

According to Barry Munitz, former CSU chancellor, universities need to establish where their strategic competitive advantage is. "As you begin your own strategic planning effort, be thoughtful and concise and specific about where you want to make this campus's mark. What do you do well, what do you do differently, what do you do better than most others. Those things that you care less about and you do less well should disappear" (Munitz, speech at CSUN, 1995).

Reward system

University's faculty are rewarded mainly based on research and teaching. For strategic planning to succeed, faculty should be rewarded for a broader range of things (i.e. initiatives related to strategic planning), while the essence of the university - teaching and research - is preserved. People participate in activities that get rewarded, so universities have to be willing to shift resources and allocate funds for strategic priorities. In essence, strategic planning goals and objectives should be linked to the reward system.

Commitment at the top

Commitment at the top is essential for success. The university president has to be willing to push and support strategic planning activities, and never loose focus on that. Similarly, high-level executives must be truly committed to and involved in it.

"Loosely coupled system"

The university is "a loosely coupled system of units that need to work together for a mutually beneficial future, but understand that their differences would often create tension. These units simultaneously seek autonomous distinctiveness and interdependence. The continued attention to the balancing of these two dimensions became the glue that held the strategic planning process together and provided the context for implementation" (Glassman & Rossy, n.d.). Designing a loosely coupled process recognizes uniqueness of each part of the university.

Participatory planning

The need for participatory planning stems from the universities' "shared governance" model. "Within colleges and universities, the major means of production (teaching and research) are ... the exclusive rights of the faculty, and ...top-level strategic decision making cannot be adequately accomplished without the advice and consent of professoriate... The faculty ... can exercise significant veto power over the options available to university administrative leadership" (Rowley, Lujan, & Dolence, 1997).

Finding a mechanism to get faculty involvement at every stage, and particularly at the implementation stage, becomes essential to success; faculty can't be "commanded," but have to be willing to voluntarily participate.

Alignment

While allowing for flexibility, alignment means that universities within the system support strategic goals of the larger system, and that the units within the university support campus goals. Colleges and deans could define their own ways to establish goals, and choose what is important to them within the framework of the university-wide strategic planning process. This fosters a feeling of ownership of the process, and personal contribution to it.

Allow for differences

Design of strategic planning differs between the university level, the college level, and the department level. The process for each college needs to be customized to that college's unique environment, keeping in mind the high degree of heterogeneity of the population within the university. For example, CSUN, is not one homogenous university, but 9 colleges living on the same geographical turf.

Balanced Scorecard for Universities

Niclas Lindgren and Anneli Lappalainen

Elementum Oy and Helsinki University of Technology

In the second half of the 1990's business management philosophy moved on to conquer new territories with the emergence of the Balanced Scorecard-theory. The Balanced Scorecard complements financial measures of past performance with measures of the drivers of future performance. The objectives and measures of the scorecard are derived from an organisation's vision and strategy. This new way of thinking provides a framework for converting strategic targets into operationalised action plans complete with activities and measures on every organisational level. At first the philosophy was implemented in the business environment. As the benefits of the new way of thinking and acting have been perceived, the same ideology has been applied also in public, non-profit organisations.

The adaptation of the system requires transformation and modification of the theory in order to make it converge with the implied host environment. As the implementation of a Balanced Scorecard demands versatile verbal and numerical documentation — both in the path of (hierarchy-wise) delegation and setting of targets as in the path of reporting and measuring the realisation of the implied strategy, it is more than natural to consider the impact of and on information technology in such a context.

The aim of this paper is to describe the transformation process of the general framework into a working and pro-active concept meeting the evolving needs for strategic management in the university environment. This paper will also go on to describe how this change process will be realised with the developed technology platform called University Elements.

Managing universities in Finland

Up to the mid-1980s, the administration of the Finnish higher education system was centralised. The internal organisation and decision-making of universities was regulated by administrative orders and decrees. The university budget determined the allocation of funds in strict detail. Decrees on studies and degrees dictated curricula and the provision of instruction. Teachers' duties were laid down in detail in collective agreements.

In an effort to improve university performance, the Finnish higher education steering system began to be overhauled in the mid-eighties. More decision power was delegated to universities, mechanisms for management by objectives were introduced, and performance evaluation was expanded. In recent years, regulations have been lifted and authority transferred from the Ministry of Education to the universities; within the universities, the rector's position has been strengthened and his or her authority increased, while power has been delegated to the faculty and department levels. At the same time, budgetary and regulatory control has given way to steering of performance, backed up by a shift to budgeting by objectives and the development of evaluation systems.

University budgeting has been reformed to consist of block grants, according to which universities receive salary and other current expenditure coverage as a global amount and have considerable discretion over the use of these funds. Current expenditure consists of core funding, project funding (to ensure funds for projects of national relevance), and performance-based resources.

Currently strategic planning in the universities is still very much dominated by the joint dialogue with the Ministry of Education and still focuses on a three-year performance agreement between the Ministry and the university. In these negotiations the role of the university is defined in perspective of the national strategy and goals are set for universities concerning their performance, cost-effectiveness and overall efficiency. Described by quantitative goals, the targets concern, for instance, Master's degrees, Doctor's degrees, adult education and international student changes for three-year periods for each university. Also the funding frame and the allocation for the next fiscal year are agreed upon in these negotiations. Based on the results of these negotiations and on past performance, universities are then granted a lump sum budget of which they can dispose to the best of their abilities.

The importance of developing strategic management in universities

It shouldn't come as a surprise to anyone that the environment tends to change. The current main driver of change is the availability of and the demand for information. As a result borders and boundaries, both physical and mental, are fading; what previously was national becomes *international* and the array and availability of services increases. With that comes a growing awareness of potential and possibilities. And with a wide palette of possibilities comes increased demands from service- and product-aware interest groups, who will, unless their demands are fully met, turn to other, readily available service providers. And this is a situation which *every* organisation active in any industry and sector faces and needs to act upon.

This is also true for the university sector. In its quest to provide services to the society, it tries to satisfy the needs of an increasingly aware interest group, consisting of *internal* (personnel, students...) and *external customers* (government, regions, companies, new students...). A few examples: companies are only willing to interact and co-operate with universities that provide *relevant, high-quality* and *state-of-the-art* services in teaching and research. This also applies to students who apply to and study at the university. Otherwise they choose not to, which, in turn, would affect operational preconditions of the organisation such as funding. The government wants a university sector which, in an international sense, is considered *high profile* and *competitive*; this is reflected in their budgetary strategies which, in turn, affects the funding of individual universities. The personnel might want a working environment which is high profile, *stimulating* and *supportive*; this affects the quality, inspiration and initiative of the personnel. This requires financial resources, thus affecting the status and qualities of the university. Which affects the attractiveness of the university in the eyes of its interest groups. Which in turn affects funding.

In the university environment such cyclical dependency threads come in a multitude, everyone equally important. Every possibility becomes tightly connected to one or many demands. And in this complex environment it is more and more bestowed upon the university itself to discern its future role and image in the eyes of its different interest groups. This implies potential weighed down by peril, and it means freedom weighed down by demanding responsibilities, responsibilities the management of the university has to identify and react to - before somebody else does.

In the environment set by these changes the university is first and foremost faced with a challenge of developing a method for strategic management and implementation, derived from extensive knowledge of environmental demands and complete with implementable long-range plans for the entire organisation. A process and tool for strategic feedback is needed. More effective models of institutional management and internal processes are to be identified and developed. Organisational units need to become more responsive to internal procedures and more sensitive to respond to other pressures and challenges triggered by the environment. The university is to be managed like and as a product brand. An administrative flexibility has to be achieved, revising the traditional system of setting up permanent posts by redefining work duties, driving on changes in personnel and competence management and force improvements in the legislation on universities and degrees.

The list goes on, but in short it tells the story of a reality in which resources are scarce and demands are many. Hence, in order to be able to focus the (at times) meagre assets on the correct activities the university needs a *realistic view of its current* status and processes, a *proper methodology* to review and plan its actions, *correct and real-time information* to support its internal demands and processes and *strong leadership* to implement the outlined detailed strategies and plans. The environment of and the demands on a university convergence on many levels towards those of a privately owned company. And, as any privately owned company, the university now faces a *competitive future*, a future in which a continuous and pitiless battle over resources and customers is fought according to rules set by the environment and the competition.

University Elements – the tool for Strategic Management

University Elements - the project

With the above described vision in mind three universities, Ministry of Education and a commercial software company formed a project consortium with the purpose of developing an IT-system to support the future processes of strategic planning, management and reporting in the university environment. The project was named University Elements and the functionality and underlying theory is based on the Balanced Scorecard (BSC) management philosophy.

The universities participating in the project are Helsinki University of Technology, Turku School of Economics and Business Administration and Åbo Akademi University (Turku). Because of the wide scope and purpose of the project, universities are represented in the project both by higher management (the rector-level) as well as representatives for different functions, defining the real needs, contents and functionality of the system.

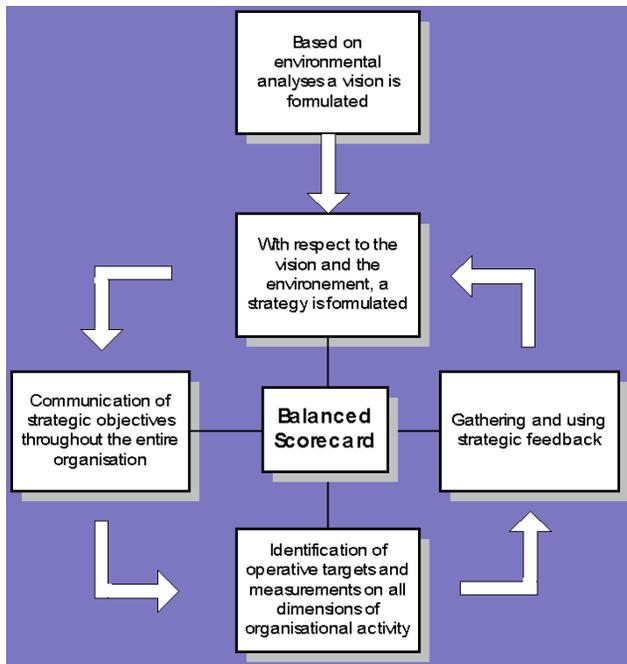
The software application is being developed by Elementum Ltd, a Turku-based software company with long-standing experience in strategic management systems in the corporate world. The functionality of the application rests on Elementum's modular and flexible Elements-technology.

University Elements - an introduction to the product

University Elements is a strategic planning tool planned, implemented and integrated with the aim of streamlining the strategic planning process throughout the entire organisation of the university. The theoretical management framework of the functionality and processes of the application are based on the concept of the Balanced Scorecard-philosophy, which assumes operationalised strategic goals communicated and tracked through all organisational levels. Based on the structured formulation of visions and strategies, University Elements is a versatile tool for goal-setting, communication and tracking on all functional levels of the university.

Support throughout the strategy process

University Elements supports the entire strategy process, from the formulation of a common vision to the follow-up of its strategic and tactical implementations in a Balanced Scorecard-context. By actually linking visions and strategies to operative targets on all levels of the organisation, the strategies are effectively communicated down into the organisational hierarchy and its many activities, streamlining the organisation and aligning its competencies.



Picture 1. Support for the strategy process in a BSC-context

Visions - a common goal

Visions are formed on a conception of the current and future state of reality. This conception is based on an analysis of the current and future development of the operating environment, which is then complemented with an analysis of the current organisation, its strengths and weaknesses and its past performance. The vision statement of the organisation becomes the joint target of several consecutive strategies. It is formulated through cause-effect chains, which, based on the view of the future, sets the pace, ways and targets for the organisational strategies to achieve. When a vision statement is well structured according to set standards it is easily divisible and translatable into relevant and attainable targets for time period-related strategies.

Strategies - the steps to reach the common goal

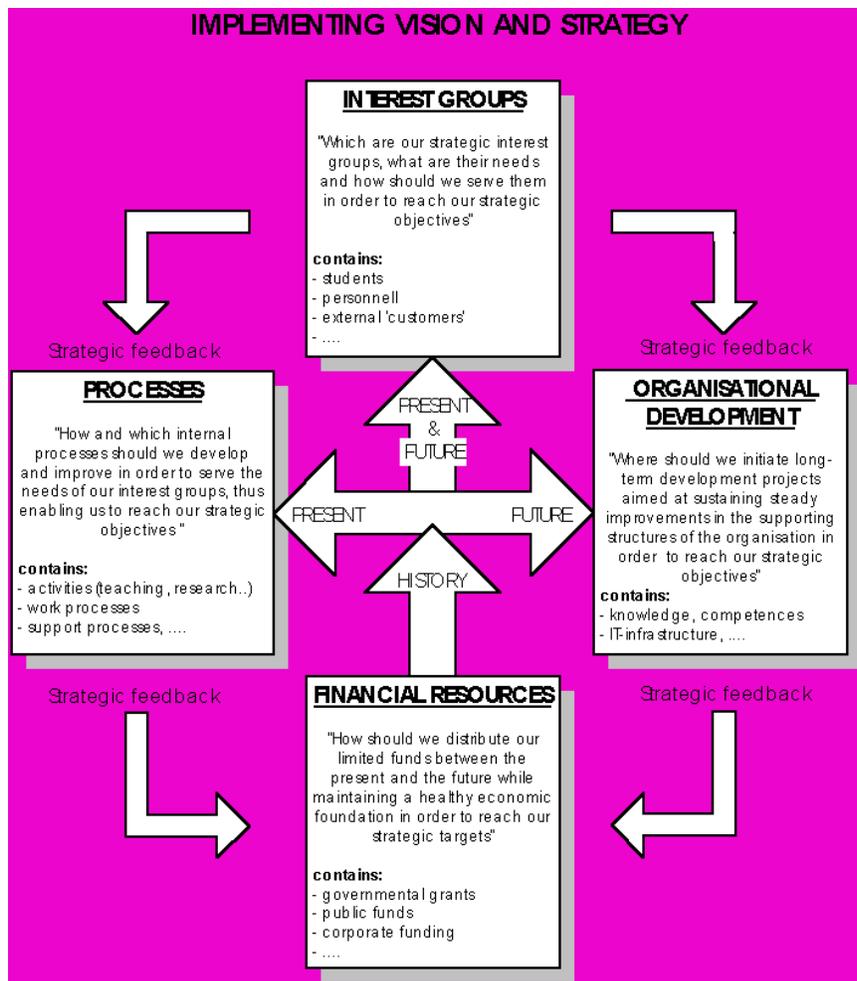
The vision is linked to operative activities through a structured set of operationalised strategies. Therefore, the vision is split into consecutive strategic periods, which together strive to form the high-level cause-effect path towards attaining the vision.

Resting on an overall environmental analysis, each strategy has to be conveyed down through all layers and functions of the organisation, always keeping in mind the overall strategy of the organisation. To ensure the implementation of the strategy, each functional unit in the organisation is assigned a role according to its position in the hierarchy and in the overall vision and evolution plan. To this role the strategic targets of each unit are defined as sub-tasks to the targets of the hierarchical level above. In this way a vertical chain of connected targets and sub-targets is created throughout the entire organisation, retaining the logical action link to the overall vision.

The Balanced Scorecard - a balanced set of measures

The concept of the Balanced Scorecard rests firmly on the philosophy of turning strategic objectives into tangible and measurable action. An operationalised view on visions and strategies requires that overall objectives are translated into operative targets and action plans on every organisational level. Targets on all levels are described through cause-and-effect relationships and their realisation is tracked through documented measures. Traditionally the performance of the organisation has been viewed against pure financial measures; the BSC-method strives to link the financial performance of past activities with measures of the drivers of future performance by incorporating *all* dimensions of organisational activity. Hence the *financial* aspect is complemented by a *process*-, the *learning and growth*- as well as the *customer* dimension. By identifying, integrating and communicating both financial and non-financial targets and measures, a more complete, *balanced*, view of the activities of the organisation is created.

In the University Elements-environment the Balanced Scorecard-method is implemented to fit the needs of the operating environment of universities. In this environment the whole process from vision and strategy formulation for the entire university to individual strategies and action plans for faculties or even subjects is viewed against one (1) set-up of dimensions. Through this philosophy of a homogenous palette of dimensions, the vertical chain of targets and sub-targets are easily operationalised and communicated, enabling a unified and structured way of planning, managing and tracking long-term operations on all levels of the organisation.



Picture 2. The BSC-dimensions

The dimensions are:

resources; the foundation for future development of the organisation is laid through current financial resources. Such are, for instance, public grant as well as both public and private funds. Lower in the organisation this implies budgetary funding and external sources.

organisational development; investments into IT, infrastructure, organisational structures and knowledge. Of special interest is expansion into new research topics and the balance between research and teaching.

processes; organisational development affects the processes by which the organisation conducts its operations. Such processes are research, teaching and several support processes such as the function of the library.

interest groups; improved processes improves the manner in which the organisation serves its external and internal customers and how these groups receive the services rendered by the organisation. The degree of satisfaction among customers affects the financial foundation for the next strategic period.

When a cause-effect-chain is created by combining all four business dimensions, targets for a specific organisational level are set. Using the above-defined dimensions, one follows (for each target) the thought of "how are we going to allocate our given financial *resources* between *maintaining and developing our organisation* and *improving our internal processes* through which we are in contact with our *interest groups*, who in the future will affect our financial resources which we allocate...". When this chain is defined and documented for each target, the organisation as a whole or any level of it has a set of measurable steps, which all have to be fulfilled both horizontally and vertically (organisation-wise) in order to achieve the target one initially set out to reach.

Reporting

The reporting and tracking structure of the University Elements is based on the organisational hierarchy it is representing. As an organisation is constantly in change, with regards to both structure and function, an IT-solution intending to support the management of such an organisation needs to be at least equally flexible. Therefore University Elements provides necessary options and tools for adjusting the structure and functionality according to physical and philosophical changes made in the organisation it is trying to depict.

Reporting and tracking of the implemented strategy on all levels of the organisation requires two types of reports: standardised routine reports and ad-hoc reports. *Ad-hoc reports* are reports, which are online composed from data in the operating environment of the university; these reports are equally useful in an official context as for internal management and reporting. Hence, the user will be able to easily create and save reports consisting of data from any existing data storage facility connected to University Elements.

The second type of report is a *standardised*, organisation-wide routine-report, used for, for instance, financial follow-ups or external reporting. These standardised reports form the spinal network of activity tracking running through the organisational layers.

This versatile reporting is based on the notion of *real-time data*. University Elements takes its data

through direct data channels from existing operative data sources such as the student and personnel data bases and financial management systems. Therefore the reports within the University Elements always and automatically contain guaranteed up-to-date data straight from its original source.

Summary

University Elements is an IT-solution that supports the planning, implementation as well as the tracking and reporting processes of strategic management in the current and future operating environment of universities. By implementing the philosophy of operationalised strategies, it provides the necessary tools for the formulation, communication and ad-hoc reporting of strategic and operational targets on all levels of the organisation.

With its dynamic structure, University Elements is a management tool that lives and breaths flexibility and adjusts to the changing needs of the organisation. A changing organisation or environment is not a threat, not even a challenge, it is an opportunity. An opportunity to let the user concentrate on managing the process of change and the impact of that on the organisation itself by not having to worry about providing the data for it. Just let the Elements take care of that.

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Contact information

Niclas Lindgren, Project Manager

Lemminkäisenkatu 20 B, FIN-20520 TURKU, Finland

e-mail: niclas.lindgren@elementum.fi

Phone: +358-2-413 0050

Fax: +358-3-413 0020

Anneli Lappalainen, Senior Adviser

Helsinki University of Technology, Finland

P.O.Box 1000, FIN-02015 HUT, Finland

e-mail: anneli.lappalainen@hut.fi

Phone: +358-9-451 2065

Fax: +358-9-451 5010