

**Developing an evidence-based management approach for
creating high performing higher education institutions**

André de Waal

HPO Center, Hilversum, The Netherlands

Maastricht School of Management, Maastricht, The Netherlands

Leo Kerklaan

Franeker Management Academie, Franeker, The Netherlands

ABSTRACT

Effective higher education institutions (HEIs) are seen as an important building block in the development of a country. Unfortunately HEIs have come under increased pressure because of the worldwide trend of massification of higher education when at the same time students look for better quality education, while concurrently educational budgets are under pressure because of the economic crisis. This puts a great strain on HEIs who are forced to do more, of higher quality, in different ways, and with less resources. HEIs who manage to thrive in these challenging circumstances, by paying equal attention to increasing quality of both teaching and the internal organization, are known as high performing HEIs (HPHEIs). In this article an evidence-based management approach is applied for creating HPHEIs. Thus HEIs can, based on facts, make well-founded decisions in regard to the way forward when transforming themselves into HPHEIS.

Developing an evidence-based management approach for creating high performing higher education institutions

INTRODUCTION

Traditionally, much research in the field of education has been done into increasing the quality of the teaching at higher education institutions (HEIs) (see f.i. Kennedy, 2011; Almayali and Bin Ahmad, 2012; Díaz-Méndez and Gummesson, 2012; Al-Khasawneh and Moh'd Futa, 2013) and, to a lesser degree, the quantity and quality of research output (Abdulsalam and Mawoli, 2012; Aydin, 2012; Nisei and Nisei, 2013). This is in itself no wonder, as effective HEIs are generally seen as an important building block in the development of a country (Wang, 2001, Salmi, 2009; Ramaprasad, 2011). At the same time, the quality of HEI teaching has come under increased pressure because of the worldwide trend of massification and internalization of higher education in which there are more and more (international) students looking for better and better education, while concurrently educational budgets are under pressure because of the economic crisis (Auguste et al., 2010; Parker, 2013). This puts a great strain on HEIs who are forced to do more, of higher quality, in different ways, and with less resources. More specifically, HEIs have to deal with the concurrent challenges of managing expansion of the student body, with the accompanying required increases in facilities, staff, lectures, and courses; maintaining and improving the quality of teaching, facilities, and curriculum; obtaining sustainable funding; improving labor market attractiveness of students; increasing managerial and staff capacities, and innovation in both teaching and managing the organization (Harrison-Walker, 2009; Păcuraru, 2012). Some scholars even predict “an avalanche that is coming” which is going to change the education sector fundamentally, because three fundamental challenges need to be addressed all round the world: 1. universities and new providers need to ensure education for employability; 2. the link between cost of education and quality of education (and research) need to be broken; and 3. the entire learning ecosystem needs to change in order to support alternative providers and the future of work (Barber et al., 2013, p. 5-6).

HEIs who manage to thrive in these changing environment and achieve sustainable high results will be known as high performing HEIs (HPHEIs). Going a step further, after creating HPHEIs a country needs to create a system of HPHEIs, such as a world-class university system which is defined as “an ecology of institutions with highly differentiated but tightly integrated visions. These universities are differentiated by their emphasis on research, teaching and service; their global,

regional, national and local scope; their aspiration to be a premier, leading or a generic institution; their specialization in the arts, humanities, sciences and professions. Yet they have to act in concert for the development of the society. They have to form a coherent, coordinated, albeit complex network to generate knowledge, store it, propagate it and apply it to the development of society (Ramaprasad, 2011, p. 45). Starting point thus has to be to create HPHEIs. However, to paraphrase Altbach (2004), the paradox of an HPHEIs is that “everyone wants one, no one knows what it is, and no one knows how to get one.” Fortunately, in the literature several characteristics of HPHEIs can be found. Auguste et al. (2010) described the strategies of highly productive HEIs, in which productivity is seen as the percentage of students that graduate within: systematically enabling students to reach graduation, reducing nonproductive credits, redesigning the delivery of instruction, redesigning core support services, and optimizing non-core services and other operations. Looking at the same productivity at Brazilian universities, Zoghbi et al. (2013) make the case that students social-economical characteristics, ratio professor to students, and capital input (also) play a role. Altbach and Salmi (2011), in their review of world-class research universities, found the following key success factors: attracting, recruiting, and retaining leading academics; abundant funding for setting up first-rate facilities and physical infrastructures and for attracting and retaining the high-level academics; and having an appropriate regulatory framework with strong and inspiring leadership. They also identified five “accelerating factors” that can play a positive role in creating these world-class research universities: (1) convincing large numbers of overseas scholars to come back to their country of origin when establishing the new institution; (2) using English as the main language in the institution; (3) concentrating on a limited number of disciplines; (4) using benchmarking to compare oneself with other excellent institutions and to learn from that comparison; and (5) introducing significant curriculum and pedagogical innovations. Mok and Cheung (2011) described the major policies introduced by Hong Kong to create world-class HEIs: creating ‘politics of competition’ among institutions for both state and non-state resources, recruiting and retaining global talent, and internationalizing curricula in order to achieve global aspirations. Waal and Chachage (2011) list the characteristics of a world-class university: an excellent research institution that is recognized by peers, enjoying academic freedom and an atmosphere of intellectual excitement, a place where the best academics want to be, enrolling only the best undergraduates, having a low student/faculty ratio, excelling in a large number of disciplines but not necessarily in all, having excellent research and teaching facilities, having an international outlook, enjoying substantial funding to support its research and teaching activities, making effective use of international networks and alliances, producing well-qualified graduates

who are in high demand on the labor market, having a clear governance structure that ensures good control, and being well-managed while pursuing excellence in its management systems.

One thing which can be noticed in these HPHEIs is that they pay attention to both teaching as well as organizational and managerial aspects, which in their view have to be of an equally high quality level in order for the institution to become world-class. This means that academic research in the field of education should not limit itself to ways to increase quality of teaching but should also look into ways to increase the organizational and managerial capacities of HEIs. The current literature in the field of capacity development has yielded quite a few insights and viewpoints on how HEIs can move forward in this respect, but this discourse has not yet led to one generally accepted way of working. To deal with this situation and to – hopefully – start working on consensus on a development approach toward HPHEIs, in this article we are using an evidence-based management approach for creating HPHEIs. As the need for well-founded decision-making, based on facts, has increased in this increasingly complex world, the topic of evidence-based management has received progressively more attention (Baba and HakemZadeh, 2012). Evidence-based management is defined as the “the systematic application of the best available evidence to the evaluation of managerial strategies” (Kovner and Rundell, 2006, p.6). Although the field of evidence-based management is relatively young, quite a few frameworks have been proposed (see for instance Marr, 2009, and Del Junco et al., 2010). One such framework is that of Rousseau and Barends (2011) which consists of four steps: (1) using the best available scientific evidence from peer-reviewed sources, this entails conducting a review of the academic literature thus using the result of published scientific research; (2) systematic gathering of organizational facts, indicators and metrics, to obtain evidence from practice, this entails conducting field research; (3) evaluation assisted by procedures, practices and frameworks that reduce bias and improve the quality of the decision-making; and (4) ethical considerations weighing the short- and long-term impacts of decisions on stakeholders. Our research objective can be stated as follows: *To develop an evidence-based management approach for creating high performing higher education institutions*. In this respect we see evidence-based management twofold: only using techniques validated in previous research to build our approach for creating HPHEIs, and validating our own approach in practice in a scientific manner. To achieve the research objective, we have systematically applied Rousseau and Barends’ four steps.

STEP 1: LITERATURE REVIEW

The first step in achieving the research objective is to study the relevant literature. Because we were looking for an approach for creating HPHEIs we first turned to the strategic literature, as the start of every transition is a phase in which the strategy position of the future organization is chosen.

Strategy Setting phase

As Harrison-Walker (2009, p.103) puts it, “The positioning decision is often the crucial strategic decision for a company or a brand because the position can be central to customers’ perception and choice decisions.” Strategic positioning is the aim of strategy setting. It is all the more important for HEIs because Kotler and Fox (1994, p.229) already noted: “Many schools and institutions of higher education are fundamentally good and worthy, but they have done little to forge strong, individual identities for themselves. The institutions should strive to have a clear, positive image and a distinctive memorable identity.” A HEI that has chosen a clear and unambiguous strategic position is able to convey to prospective students what it is and what, and can maintain a coherence in its activities and processes (Lowry and Owens, 2001). A strategic position comes from the choices the HEI makes regarding the 4Ps: product, which for a HEI are the educational programs offered; price, which is the tuition and possible financial aid offered; promotion, which is the program with which the programs are communicated to potential students; and place, which is the delivery system for the academic programs (Lowry and Owens, 2001).

Aaker and Shansby (1982) offer a six-step process for developing a strategic position, which was applied by Harrison-Walker (2009) on the education sector:

1. Identify the competitors, which in the case of an HEI is anything or anybody that might receive the attention of (potential) students as alternatives to the offerings of the HEI.
2. Determine how each of the competitors is perceived and evaluated by (potential) students.
3. Determine the positions currently held by all competing HEIs.
4. Analyze the (potential) student base, as subgroups within the (potential) student population may have different perceptions of the HEI and its competitors.
5. Decide on the strategic position, entailing choosing for only a limited number of segments (i.e. student groups, academic offerings) with enough financial potential for the foreseeable future, making sure the organization can actually successfully fulfill on its strategic position, and establishing the goals to be achieved.
6. Monitor the organization’s strategic position over time and make adjustments to choices made if necessary.

On the basis of the strategic analysis done during the first four steps as described by Aaker and Shansby (1982), in step 5 the HEI will conclude for whom they will offer which educational programs. This decision is then taken forward to the Educational Strength phase, in which the manner in which students will be serviced and the nature of educational programs which will be offered (i.e. the curriculum) are further detailed. In addition, the goals agreed upon during step 5 are further detailed and broken down into targets during the Goal Setting phase. Finally in step 5 it is also decided whether the organization is actually strong enough to achieve its targets successfully, therefore in the Organizational Strength phase the organization needs to be analyzed on its capabilities. From the Educational Strength phase, the Organizational Strength phase and the Goal-setting phase activities to be executed in order to become an HPHEI are derived. This execution is done in step 6 and detailed in the Implementation and the Monitoring phases. Figure 1 gives a schematic overview of the phases which an educational institution has to follow in order to become an HPHEI. These phases are discussed in the next section, with exception of the Educational strength phase. The scope of this article is limited to the organizational and managerial aspects of becoming an HPHEI. As there is an abundance of literature on the aspects of importance for the Educational Strength phase, and this field is generally the domain of educational specialists, we decided to limit ourselves to detailing phases 3, 4, 5 and 6.

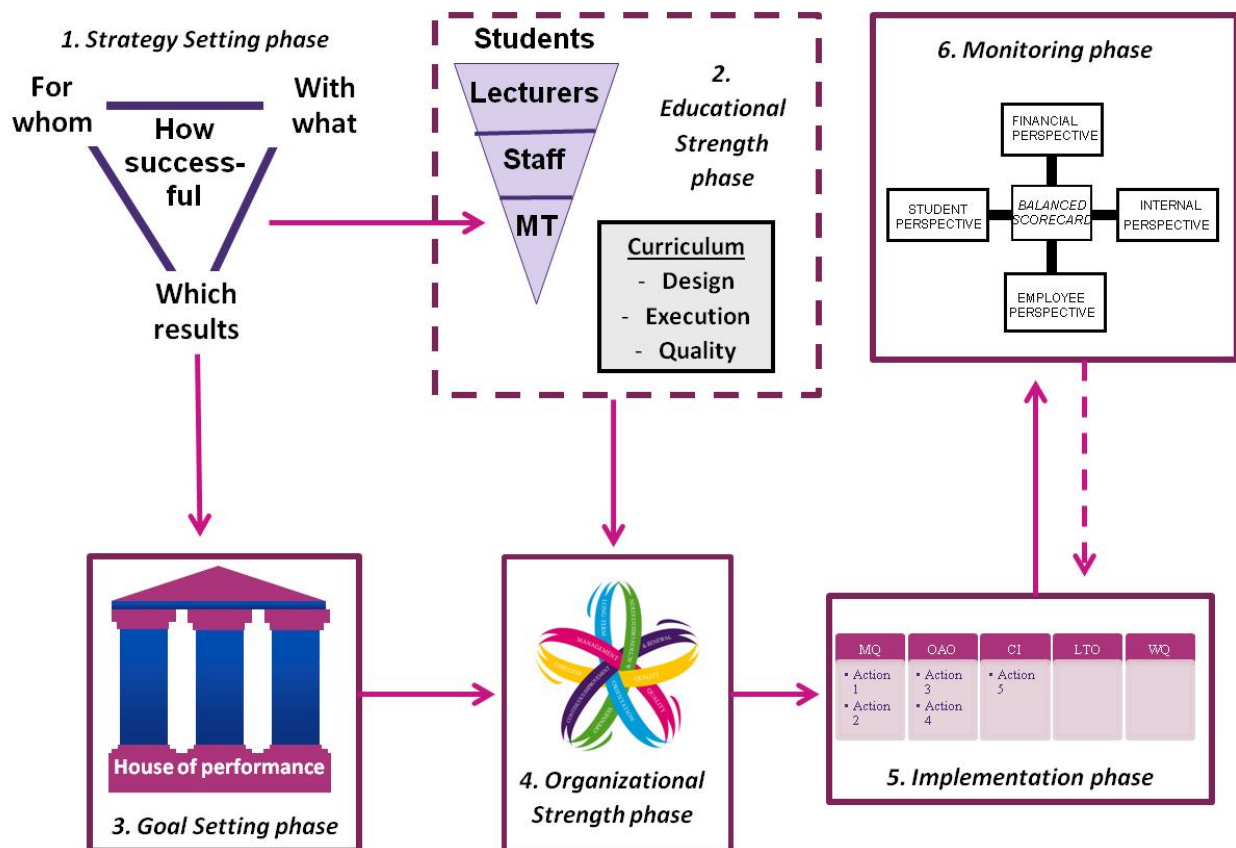


Figure 1: The phases in the HPHEI development framework

Goal Setting phase

The strategic position of the HEI, as developed during the Strategy Setting phase, needs to be transferred to tangible objectives, activities and metrics for implementation and monitoring purposes. To do this efficiently, the HEI can make use of a generic framework which is generally accepted – such as the Balanced Scorecard (Umashankar and Dutta, 2007), the EFQM model (f.i. Hides et al., 2004) or the Malcolm Baldrige Award model (Ruben et al., 2007) – or frameworks dedicated developed for the educational sector – such as the U-map (Vught et al., 2005). A commonly used framework to make the strategy tangible and cascade it in the organization, is the Performance Measurement Pyramid (Waal, 2013) in which the strategy is translated into objectives, critical success factors and key performance indicators for every level in the organization. As this framework has been applied numerous times worldwide, including in the educational sector (Waal, 2013), it is used as the basis for the goal setting process at HEIs (see Figure 2).



Figure 2: The Performance Measurement Pyramid

The Performance Measurement Pyramid has five building blocks:

- *Mission and strategy.* First, an organization has to formulate its mission by answering the question: “What do we, as organization, want to accomplish: what is our mission?” To formulate a strategy, an organization has to answer the questions: “How are we, as organization, going to achieve our mission?” and “How can we accomplish what we want?”
- *Strategic objectives, critical success factors (CSFs) and key performance indicators (KPIs).* In order to make the organizational strategy tangible, strategic objectives need to be formulated. A strategy is often expressed in abstract terms. By formulating one or more strategic objectives, it becomes clear to the organization which activities it has to perform to implement its strategy. Whether strategic objectives are being achieved or not, they can be monitored with strategic CSFs and KPIs. These “strategic indicators” are included in the management reports that are used by the board of directors or senior management team.
- *Unit objectives, CSFs and KPIs.* Organizational units such as divisions, business units, and departments can support an organization’s mission and strategy by translating the strategic objectives into objectives for their own unit. The extent to which these unit objectives are achieved is monitored with unit CSFs and KPIs. These “unit indicators” are used by unit managers to measure progress. Because each organizational unit contributes in its own way to achieving the strategic objectives, units should determine their objectives independently of each other. It is management’s responsibility to make sure that the unit objectives are aligned with the strategic objectives. If this is not, or is no longer, the case, the unit objectives need to be reformulated. This is an effective way for the organization to secure alignment.
- *Key processes, CSFs and KPIs.* In order to achieve the objectives, every organization has key processes. There are two types of key processes. The first type of key process is one that directly influences the achievement and results of an objective, and can therefore be directly linked to that objective. The second type is one “that makes the business tick” and that must always be executed well in order for the business to survive, regardless of the chosen strategic objectives. The execution of key processes is monitored by means of key process CSFs and KPIs. These operational indicators are used by managers who are directly involved in the execution of the key processes.
- *Environmental parameters.* If an organization wants to know how it is influenced by its environment, it needs to identify indicators that provide information on the environment in which it operates, and on developments that affect the organization. These are usually factors over which the organization has little or no control and that, at the same time, may have considerable effect on the results of the organization. This is why, especially during the target-

setting process for KPIs, managers have to take into account the influence of environmental factors.

Organizational strength phase

In order to evaluate the strength of an organization an evaluation tool is needed. In addition, as we are striving for an HPHEI, this tool should also be a development tool. In the management literature an abundance of models and frameworks are provided which may provide this tool, but many of these are not scientifically validated and therefore do not meet the requirements of the evidence-based management approach. One framework which is scientifically sound as it has been validated in a scientific way multiple times is the HPO Framework (Waal, 2012a+b). In addition, this HPO Framework has previously been applied in the education sector before (Waal and Chachange, 2011; Waal and Sultan, 2012).

The HPO Framework was developed based on a descriptive review of 290 academic and practitioner publications on high performance and a questionnaire which was completed by 3,200 respondents worldwide (Waal, 2006 rev. 2010). In this respect, an HPO was defined as “*an organization that achieves financial and non-financial results that are exceedingly better than those of its peer group over a period of time of five years or more, by focusing in a disciplined way on that what really matters to the organization.*” The HPO Framework consists of five HPO factors and 35 underlying characteristics (see in Appendix 1). The five HPO factors are:

1. *Management Quality.* Belief and trust in others and fair treatment are encouraged in an HPO. Managers are trustworthy, live with integrity, show commitment, enthusiasm, and respect, and have a decisive, action-focused decision-making style. Management holds people accountable for their results by maintaining clear accountability for performance. Values and strategy are communicated throughout the organization, so everyone knows and embraces these.
2. *Openness and Action-Orientation.* An HPO has an open culture, which means that management values the opinions of employees and involves them in important organizational processes. Making mistakes is allowed and is regarded as an opportunity to learn. Employees spend a lot of time on dialogue, knowledge exchange, and learning, to develop new ideas aimed at increasing their performance and make the organization performance-driven. Managers are personally involved in experimenting thereby fostering an environment of change in the organization.

3. *Long-term Orientation*. An HPO grows through partnerships with suppliers and customers, so long-term commitment is extended to all stakeholders. Vacancies are filled by high-potential internal candidates first, and people are encouraged to become leaders. An HPO creates a safe and secure workplace (both physical and mental), and dismisses employees only as a last resort.
4. *Continuous Improvement and Renewal*. An HPO compensates for dying strategies by renewing them and making them unique. The organization continuously improves, simplifies and aligns its processes and innovates its products and services, creating new sources of competitive advantage to respond to market developments. Furthermore, the HPO manages its core competences efficiently, and sources out non-core competences.
5. *Workforce Quality*. An HPO assembles and recruits a diverse and complementary management team and workforce with maximum work flexibility. The workforce is trained to be resilient and flexible. They are encouraged to develop their skills to accomplish extraordinary results and are held responsible for their performance, as a result of which creativity is increased, leading to better results.

The HPO research shows that there is a direct and positive relationship between the five HPO factors and competitive performance: the higher the scores on the HPO factors (HPO scores), the better the results of the organization, and the lower the HPO scores the lower the competitive performance. The research also shows that all HPO factors need to have equal scores. An organization can evaluate its HPO status by having its management and employees fill in an HPO questionnaire, consisting of questions based on the 35 HPO characteristics with possible answers on an absolute scale of 1 (very poor at this characteristic) to 10 (excellent on this characteristic), and then calculating the average scores on the HPO factors. These average scores indicate where the organization has to take action to improve in order to become an HPO.

Implementation phase

As mentioned before, from the Educational Strength phase, the Organizational Strength phase and the Goal Setting phase strategic actions to be executed in order to become an HPHEI are derived. These activities have to be collected, categorized and prioritized. For the categorization, firstly we look at the HPO factors these actions have to address. After all, all strategic actions have to at least improve one – and preferably more - of the HPO factors. Secondly, we look at the nature of the actions. For this, we use the classification scheme of Warren (2008, p. 95) who distinguishes three types of organizational attributes which can be influenced by the action-taking: (1) tangible resources, defined as resources which can be seen and touched, such as customers, products,

employees and cash; (2) intangible resources, defined as ‘soft’ resources which cannot be touched, such as employee morale, trust, customer satisfaction, and knowledge; and (3) capabilities (or competences), defined as those activities that an organization is able to do well. Putting these two categorization methods together yields a format, as shown in Figure 3, for collecting the defined actions.

	Management Quality	Openness & Action Orient.	Long-Term Orientation	Continuous Improvement	Workforce Quality
Tangible resources actions	<ul style="list-style-type: none"> • TR1 • TR2 	<ul style="list-style-type: none"> • TR3 		<ul style="list-style-type: none"> • TR4 • TR5 	
Intangible resources actions		<ul style="list-style-type: none"> • ITR1 	<ul style="list-style-type: none"> • ITR2 • ITR3 	<ul style="list-style-type: none"> • ITR4 • ITR5 	<ul style="list-style-type: none"> • ITR6
Capabilities actions			<ul style="list-style-type: none"> • C1 • C2 	<ul style="list-style-type: none"> • C3 	<ul style="list-style-type: none"> • C4 • C5

Figure 3: The classification format for strategic actions

Monitoring phase

Both the goals, as established during phase 3, and the activities, identified during phases 2 and 4 and categorized during phase 5, have to be monitored. This is done in phase 6, using a monitoring tool. There have been many tools developed to support the performance management of organizations. A frequently encountered tool in the education sector is the Balanced Scorecard which we shall also use as the monitoring mechanism in our approach (Umayal and Suganthi, 2010; Philbin, 2011a; Al-Zwyalif, 2012; Taylor and Baines, 2012).

STEP 2: SYSTEMATIC GATHERING OF FACTS

In this section the research approach is described. The research can be characterized as exploratory, as there is no literature on the systematic development of HPHEIs. In this section we first describe the case organization, after which we discuss the research approach.

Hue University Of Agriculture And Forestry

Hue University of Agriculture and Forestry (HUAF), based in Hue City in Vietnam, was one of the four biggest agricultural universities for life sciences in the country. HUAF provided undergraduate and graduate training programs in agriculture, forestry, fisheries and rural development. Furthermore the university carried out research and transfers technology in its aforementioned

specializations in the central region of Vietnam. By the year 2015 HUAF aimed to have bachelor programs (25 specializations), MSc programs (12 specializations), and PhD programs (5 specializations). Annual enrolment was about 1700 FT-students and 500-700 in-service students, 150 MSc students and 10 PhD students. HUAF was cooperating on a large scale with development actors in the Vietnamese society, such as Ministries, Bureaus and Institutions of agricultural and rural development, and with labor market representatives. Funding for the variety of research projects that the university undertook, was provided by the state, ministries, provinces, the university itself and by international organizations and donors.

At the time of the research, the university was in the process of improving its internal organization. It was recognized that present monitoring and evaluation systems are no longer adequate to support the university in its ambition to grow. Therefore HUAF was setting up formal systems for organizational learning, internal monitoring and evaluation. While drafting a new strategic plan resulted a key weakness of HUAF was identified, being the lack of adequate planning of the use of university resources and the inadequate development of human resources (both on the short term as well as the long term). In addition, while one of the most important aims of the university was producing graduates that could find their way to the labor market, the investigation and evaluation process of labor market demands was not of an adequate level and needed to be improved on short notice. This was all the more relevant now the Vietnamese government had just allowed a substantial number of new universities to be established in the country. This created increasingly more competition among universities in regard to attracting students and already affected the enrollment figures at HUAF.

Research approach

Within a larger, Nuffic funded project called ACCCU - dealing with supporting the integration in Agricultural Curricula of Climate Change concerns at Universities of Agriculture in Northern Vietnam and executed by Wageningen University, the Netherlands - the Maastricht School of Management (MSM) was charged with strengthening the institutional and leadership components of HUAF in such a way that the university could eventually become an HPHEI. One of the authors was directly involved in this part. As a first step a series of three workshops for the leaders of the university and its faculties was planned. These workshops fitted in a larger framework of making the university more strategy focused while enhancing its strategic capabilities. The workshops dealt with the topics: developing a strategy; operationalizing a strategy in activities and key metrics; and implementing and monitoring the strategy. The first workshop took place In the Fall of 2012 and

was aimed at creating awareness and knowledge about the strategic propositioning process for the university. This was badly needed as the planning and formulation process at HUAF was deeply rooted in traditions and was operational rather than strategic. An important part of this first workshop was to draw up a ‘house of performance’ (see the Goal-setting phase). The second workshop, in March 2013, was focusing on the implementation of HUAF’s Strategic Plan, especially the development of HUAF’s key performance indicators. During this workshop also the data needed for establishing the HPO Framework was collected. The 3rd workshop was scheduled in December 2013 and would be dealing with the implementation and monitoring activities, needed to be executed in order for HUAF to become an HPHEI.

STEP 3: EVALUATION

In this section the research results are described and discussed, by filling in the phases (except phase 2) from the HPHEI development framework (given in Figure 1) for our case organization, HUEF.

Strategy Setting phase

During the first workshop at HUAF, the university’s strategy team (consisting of the rector and the department managers) and senior-level representatives of several staff departments of HUAF (15 persons in total) first reviewed the documentation on the current strategy of HUAF. This review yielded an overview of HUAF’s vision, mission, strategic objectives, strategic activities already carried out by the university, and the completeness of strategy related documentation. HUAF’s vision was described in the ‘Vision to 2020 (‘How and where will HUAF be in 2020?’) positioning paper. However, the review showed that HUAF’s process of strategy formulation and dissemination of the strategy to the departments were not that strong. Most ‘strategic’ plans were dominated by operational issues and thus another approach for strategy setting was needed. This new approach consisted of two activities. Firstly a SWOT analysis of the present strategy was carried out. Secondly an assessment of HUAF against other universities and HEIs was conducted. These two activities provided the input the participants needed to reach consensus on the new strategic position and strategic themes of HUAF. It was decided that HUAF had to develop into a leading North Vietnamese university educating young people for both national and international jobs in the agricultural field. For this, HUAF’s strategy would be based on three themes: (1) adaption to developments in the agricultural labor market, (2) introduction of labor market needs by redesign of the current curricula, and (3) quality assurance and improvement in teaching and knowledge transfer.

Goal Setting phase

Based on the strategic choices made during the Strategy Setting phase, in the Goal Setting phase strategic objectives for each strategic theme were developed. To do this efficiently, the Performance Measurement Pyramid (Waal, 2013) was used to develop a so-called House of Performance (HoP, see Figure 4).

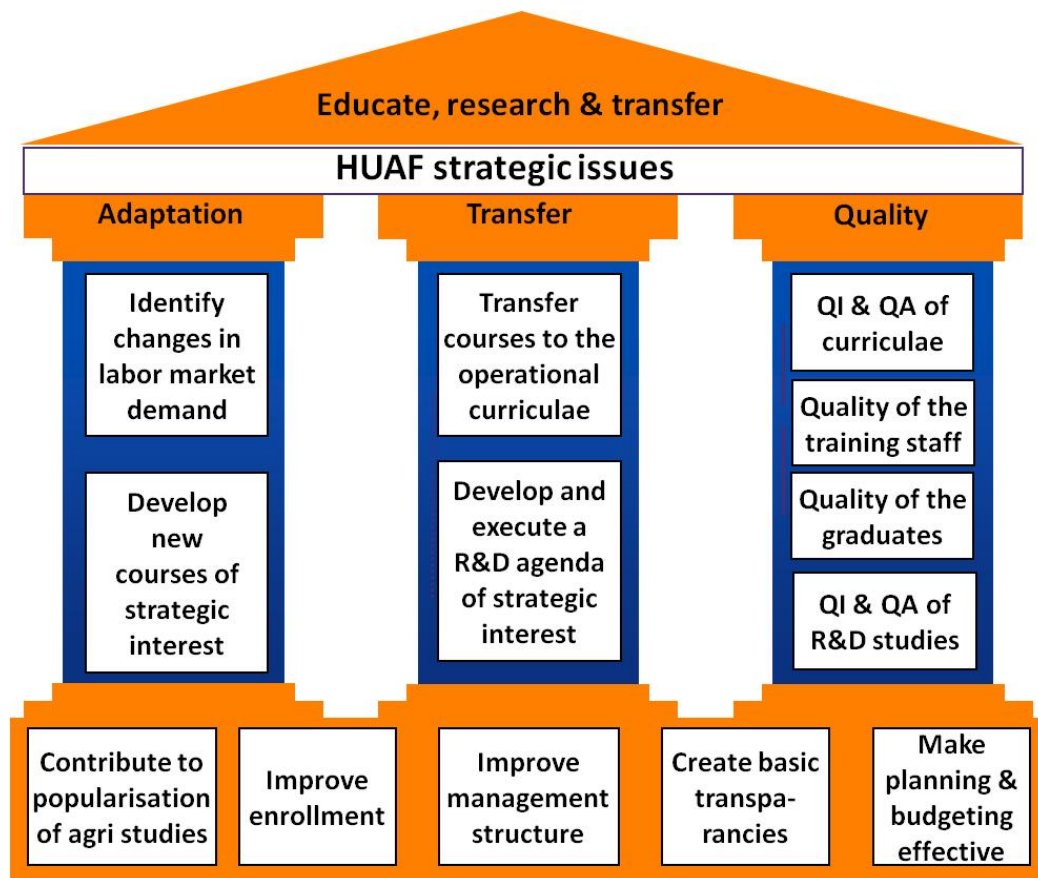


Figure 4: HUAF's House of Performance

The roof of the HoP was dealing with *vision* and *mission*. As stated before, HUAF's vision was laid down in 'Vision to 2020' and during the workshop the participants decided that the content and intention of 'Vision to 2020' were still valid. As the mission of HUAF it was formulated that the university should be a highly qualified center concerned with teaching, researching and transferring new technology to the central region of Vietnam.

The pillars of the HoP supported the roof, i.e. HUAF's mission, and thus could be considered as encompassing HUAF's strategic themes. During the Strategy Setting phase three strategic themes were identified which were now made more specific.

- *Adaptation.* Developments in the outside world could lead to different demands on the labor market for agri graduates. This in turn would mean that students needed different skills and knowledge. Therefore these developments had to be incorporated in new courses which thus would remain of strategic interest.
- *Transfer.* After developing the new courses these had to be transferred in the operational curricula so that teachers, material, classrooms and promotional material could be developed for these, needed to attract and then cater for students interested in the new courses. The developments in the outside world could also lead to changes in the R&D agenda of HUAF, as new research programs had to be developed to deal with these developments. The output of these programs could, in turn, be incorporated in the new courses.
- *Quality.* Finally quality control was needed on all the previous strategic activities, to make sure that quality assurance and improvement in teaching and knowledge transfer were guaranteed. In addition, the quality of the graduates (fulfilling academic and other requirements) could also be safeguarded.

The foundation of the HoP can be interpreted as the enabling conditions. It relates to the fundamental structures and core capabilities HUAF's organization needs to have in order to be able to achieve its strategic objectives. The participants agreed that HUAF had to be particularly good at the following capabilities: contributing to the popularization of agri studies, as business and technical studies were rapidly becoming more popular to the detriment of more traditional studies; improving enrollment, since competition of other HEIs was increasing while Government was supporting the opening of new universities; and effective planning and budgeting, as current processes were complex and thus time consuming. In regard to structures, the current management structure had to be strengthened, as the current one was considered by the participants to be rather weak; and 'basic transparencies' (indicators needed for managing and monitoring) had to be made available.

The HoP was finished in two steps. In the first step, brainstorming in small groups took place in order to fill each pillar with its strategic objectives; this resulted in the first draft of HUAF's HoP. In the second step, a lengthy discussion on each pillar was held in order for the participants to gain a better understanding of the pillars. Thereafter the second and final draft of the HoP was made.

Organizational Strength phase

During the second workshop the management of HUAF was asked to fill in the HPO Questionnaire. Subsequently the average HPO scores were calculated and depicted in a graph (see Figure 5). With an average HPO score of 6.8 HUAF does not qualify yet as an HPHEI, as this requires an average score of 8.5 (Waal, 2012). Compared to the average scores of universities worldwide (6.4), collected in the database of the HPO Center, HUAF scores slightly higher. The graphs for both

HUAF and the worldwide universities are almost the same shape, indicating these universities are dealing with the same issues.

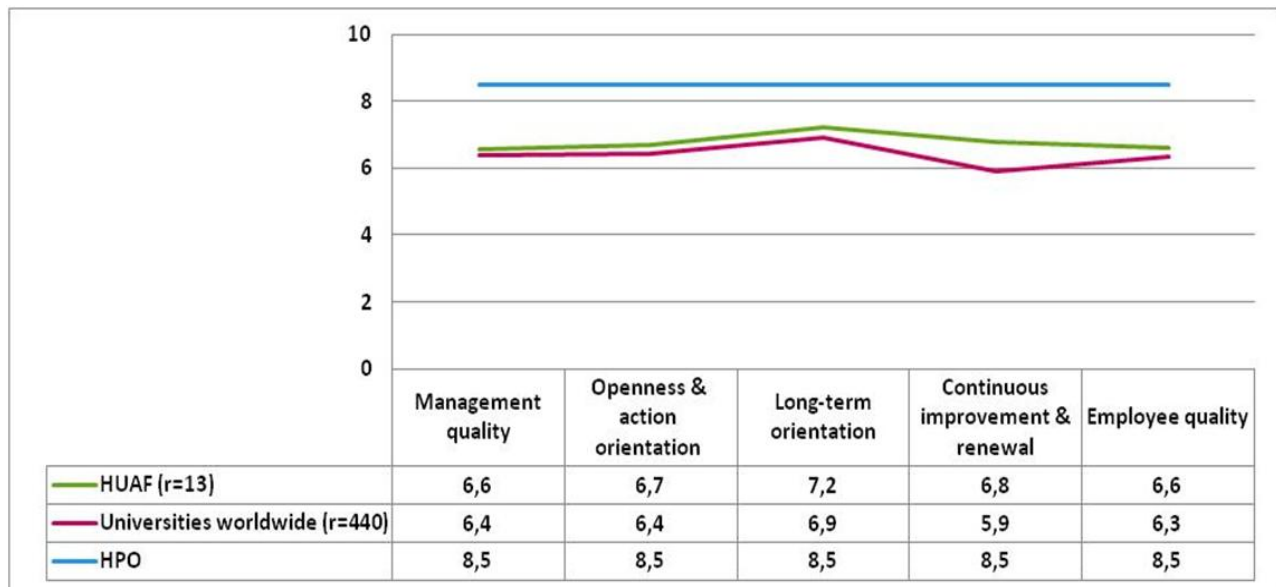


Figure 5: The HPO scores and graphs for HUAF and universities worldwide

Analysis of the detailed scores on the HPO characteristics (see Appendix 1) revealed that HUAF had to pay specific attention to the following issue, in order to become an HPHEI:

- *Strengthening the improvement process of the processes* (HPO-characteristics 2, 3, 4). Although there were enough ideas for improving the processes of HUAF, the university was not very effective in this area as processes were not enough simplified and just adequately aligned. Therefore the process of improving HUAF's processes had to be strengthened. A complication in achieving this was the decision procedure for the adaptation and improvement of existing processes and procedures, which had to be simplified first because it was too complicated, cumbersome and time consuming.
- *Improving the performance management process* (5, 6, 9). The respondents felt that just the minimum of HUAF's critical success factors and key performance indicators were identified, and that the reports that contained information on these were not adequately enough distributed in the university. Thus, a critical look had to be casted on HUAF's performance management process, in order to improve both content and distribution of HUAF's performance information. This corresponded with the need the participants expressed for HUAF to develop 'basic transparencies' on performance information.

- *Increasing the effectiveness of management* (characteristics 18, 19, 22). HUAF's was seen as slow decision makers and slow action takers, resulting in a pace of change that was too low for the university and in management considered to be not as effective as it should be. Therefore management had to look at the obstacles that prevented them for increasing their speed of decision-making and action-taking and dealing with these swiftly. Here the local situation played an important role: because of the party system in Vietnam the universities were obliged to follow complex approval procedures for their major decisions, such as concerning managerial appointments.
- *Increasing the firmness of management* (characteristics 25, 26). HUAF's management was seen to be too lenient with staff that did not perform up to standards, by not holding people in general accountable for their results and not specifically not dealing with non-performers in a quick and decisive way. Thus, management had to look at ways to strengthen its attitude toward in a professional way holding people (and themselves) accountable, and to dealing – while taking the cultural contexts of Vietnam and the university into consideration – with people who were not performing in the desired way.
- *Increasing the quality of the staff* (characteristics 28, 29). HUAF's management and HR department had to look at ways in which HUAF's staff could develop itself in a way that would make them ready for the transition to HPHEI.
- *Strengthening the performance-drive of HUAF* (characteristics 12, 14, 20, 27). HUAF had started a process to increase its organizational and managerial capabilities and to eventually become an HPHEI. However, the results on the HPO Questionnaire indicated a lack of ambition among its people. Thus, HUAF's management first had to address this issue with its staff and discuss the desirability of becoming an HPHEI. A complication in this respect was that a majority of managers was of the opinion that the quality of the lecturers should drastically be improved before HUAF was able to make any progress on whatever topic. However, this could take years thus creating delays in much needed improvement areas.

For each of the issues one or more actions were formulated, after which the priorities of these actions was discussed and established. The prioritized actions were subsequently transferred to the classification format (as given in Figure 3).

Implementation phase

In the HPHEI development framework the implementation phase is not so much dealing with the execution of the strategy itself but rather with the execution readiness of the organization. In this

regard, the main issues to be dealt with are: (1) developing and planning the relevant activities for realizing the strategic objectives; and (2) installing a management dashboard that enables monitoring of execution of the strategic activities. The implementation phase at HUAF was estimated to take about one year. This might be considered as lengthy, however decisions made by university management in the Vietnamese context normally took quite some time, and in addition the development of a dashboard with critical success factors (CSFs) and key performance indicators (KPIs) was a relatively unknown phenomenon in the Vietnamese educational sector. On top of this, HUAF was participating in a large project aiming at integrating climate change studies in its agricultural curricula, thus dealing with the managerial issues described above became just one of many subprojects.

During the second workshop the Implementation phase was started, with the goals to establish: (1) how to operationalize strategic objectives into short term activities; and (2) how to measure progress on the execution of strategic and operational objectives. Achievement of the first goal had to result in a planning of operational activities, i.e. a filled-in classification format for strategic actions; the second in a dashboard showing the CSFs and KPIs which would enable HUAF's management to monitor progress against the strategic objectives (see Figure 4).

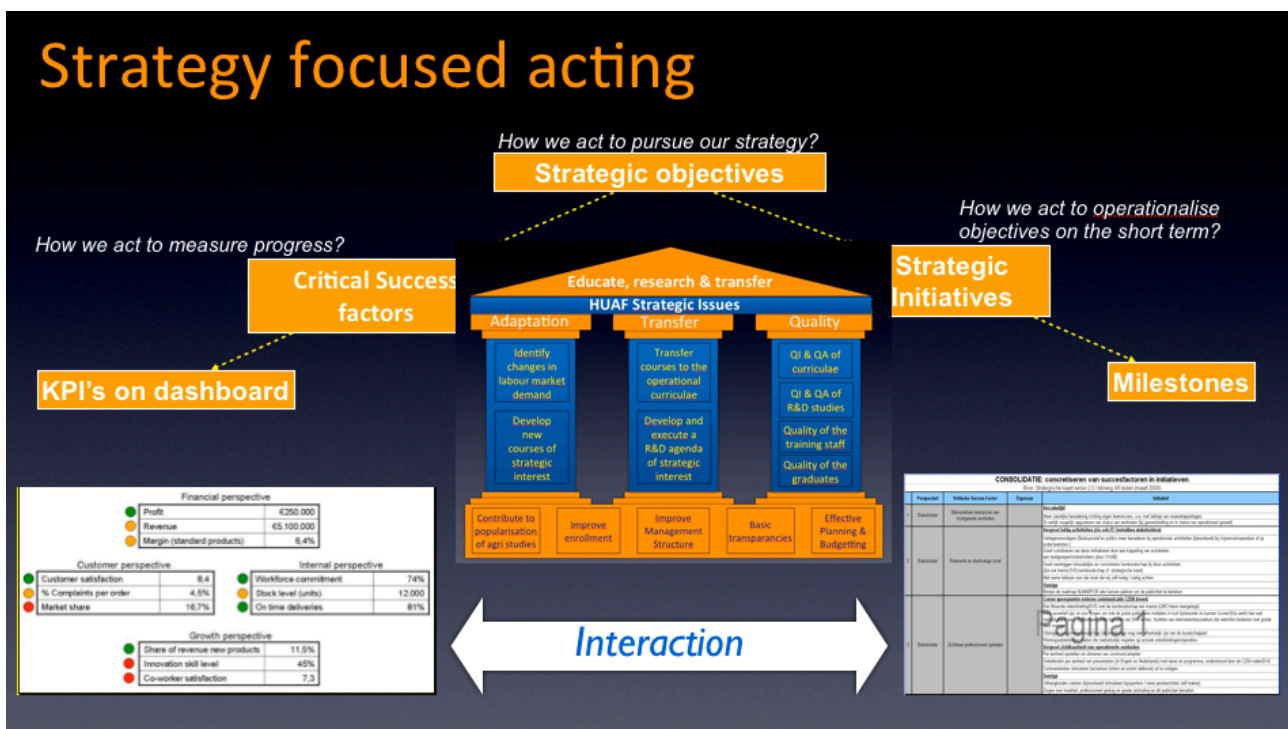


Figure 4: The goals to be achieved during the Implementation phase

Monitoring phase

At the time of writing this article this phase had not started yet, as the Implementation phase was still in progress. The results of this stage will be discussed during the workshop planned to be held in December 2013. Thereafter more information will become available needed for the Monitoring phase.

STEP 4: ETHICAL CONSIDERATIONS

As HUAF is still engaged in the Implementation phase and has not started the Monitoring phase yet, it is too early to definitely state that the HPHEI development framework, as developed in this article, actually is helpful for the creation of high performance higher educational institutions. However, until now the participants of the workshops who have used various parts of the framework have reacted positively and found it helpful in setting the strategy, evaluating the strength of HUAF's organization, and developing CSFs and KPIs. They have unequivocally stated that they will continue using the framework to guide them during the third workshop later this year. In this sense, initial signals about the usefulness of the HPHEI development framework are positive. Therefore, although not fully completed yet, we can state that we are well on our way to achieve our research objective *To develop an evidence-based management approach for creating high performing higher education institutions.*

It is obvious that the limitation of the research is that it has not been completed yet, so that will be the first order of the day. Another limitation is that the HPHEI development framework is being applied at one university in one development country. It should therefore be evaluated at other universities, both in developed and developing countries, and at other types of higher education institutions. Finally longitudinal research should take place, in order to evaluate the actual financial and non-financial results of using the HPHEI development framework, and whether these results are lasting.

REFERENCES

- Aaker, D.A. and Shansby G. (1982), Positioning your product, *Business Horizons*, 25: 56-62
- Abdulsalam, D. and Mawoli, M.A. (2012), Motivation and job performance of academic staff of state universities in Nigeria: the case of Ibrahim Badamasi Babangida University, Lapai, Niger State, *International Journal of Business & Management*, 7, 14: 142-148

- Al-Khasawneh, A.L. and Moh'd Futa, S. (2013), the impact of leadership styles used by the academic staff in the Jordanian public universities on modifying students' behavior: a field study in the northern region of Jordan, *International Journal of Business & Management*, 8, 1: 1-10
- Almayali, H.H. and Bin Ahmad, Z.A. (2012), Leadership behaviours and academic performance in Iraqi public universities: A Review, *Information Management & Business Review*, 4, 12: 596-600
- Altbach, P.G. (2004), The costs and benefits of world-class universities, *Academe* January–February,
http://www.aaup.org/AAUP/CMS_Templates/AcademeTemplates/AcademeArticle.aspx?NRMODE=P/
- Altbach, P.G. and Salmi, J. (Ed.) (2011), *The road to academic excellence: the making of world-class research universities*, Report 64668, The International Bank for Restruction and Development, The World Bank, Washington, DC
- Al-Zwyalif, I.M. (2012), The possibility of implementing balanced scorecard in Jordanian private universities, *International Business Research*, 5, 11: 113-120
- Auguste, B.G., Cota, A., Jayaram, K. and Laboissière, M.C.A. (2010), *Winning by degrees: the strategies of highly productive higher-education institutions*, McKinsey & Company, November: 10 - 15
- Aydin, O.T. (2012), The impact of motivation and hygiene factors on research performance: an empirical study from a Turkish university, *International Review of Management & Marketing*, 2, 2: 106-111
- Baba, V.V. and HakemZadeh, F. (2012), Toward a theory of evidence based decision making, *Management Decision*, 50, 5: 832-867
- Barber, M., Donnelly, K. and Rizvi, S. (2013), *An avalanche is coming, higher education and the revolution ahead*, Institute for Public Policy Research, London
- Beard, D.F. (2009), Successful applications of the balanced scorecard in higher education, *Journal of Education for Business*, 84, 5: 275-282
- Chen, S.H., Yang, C.C. and Shiau, J.Y. (2006), The application of balanced scorecard in the performance evaluation of higher education, *The TQM Magazine*, 18, 2: 190-205
- Del Junco, J.G., De Reyna Zaballa, R. and Álvarez de Perea, J.G. (2010), Evidence-based administration for decision making in the framework of knowledge strategic management, *Learning Organization*, 17, 4: 343-363

- Díaz-Méndez, M. and Gummesson, E. (2012), Value co-creation and university teaching quality, consequences for the European Higher Education Area (EHEA), *Journal of Service Management*, 23, 4: 571-592
- Harrison-Walker, L.J. (2009), Strategic positioning in higher education, *Academy of Educational Leadership Journal*, 13, 1: 103-111
- Hides, M.T., Davies, J. and Jackson, S. (2004), Implementation of EFQM excellence model self-assessment in the UK higher education sector – lessons learned from other sectors, *The TQM Magazine*, 16, 3: 194 - 201
- Kennedy, K.J. (2011), Conceptualising quality improvement in higher education: policy, theory and practice for outcomes based learning in Hong Kong, *Journal of Higher Education Policy & Management*, 33, 3: 205-218
- Kotler, P. and K. Fox (1994), *Strategic marketing for educational institutions*, Prentice Hall, Englewood Cliffs
- Kovner, A.R. and Rundall, T. G. (2006), Evidence-based management reconsidered, *Frontiers of Health Services Management*, 22, 3: 3-22
- Lowry, J.R. and B.D. Owens (2001), Developing a positioning strategy for a university, *Services Marketing Quarterly*, 22, 4: 27-41
- Marr, B. (2009), *Evidence-based decision-making: using business intelligence to drive value*, Management Accounting Guideline, CIMA
- Mok, K.H. and Cheung, A.B.L. (2011), Global aspirations and strategising for world-class status: new form of politics in higher education governance in Hong Kong, *Journal of Higher Education Policy & Management*, 33, 3, 231-251
- Nisei, S. and Nisei, R. (2013), Using VIKOR methodology for ranking universities by academic performance, *Annual International Conference on Operations Research & Statistics*: 25-33
- Păcuraru, R.O. (2012), University consortium, *Economics, Management & Financial Markets*, 7, 4: 688-694
- Parker, L.D. (2013), Contemporary university strategising: the financial imperative, *Financial Accountability & Management*, 29, 1: 1-25
- Philbin, S.P. (2011a), Design and implementation of the balanced scorecard at a university institute, *Measuring Business Excellence*, 15, 3: 34 – 45
- Philbin, S.P. (2011b), An investigation of the development and management of university research institutes, *Journal of Research Administration*, 42, 1: 103-122
- Ramaprasad, A. (2011), Envisioning a world-class university system for India, *International Journal of Technology Management & Sustainable Development*, 10, 1: 45-54

- Rousseau, D.M. and Barends, E.G.R: (2011), Becoming an evidence-based HR practitioner, *Human Resource Management Journal*, 21, 3: 221-235
- Ruben, B.D. (1999), *Toward a balanced scorecard for higher education: rethinking the college and university excellence indicators framework*, Higher Education Forum, QCI, Center for Organizational Development and Leadership, Rutgers University, <http://oqi.wisc.edu/resourcelibrary/uploads/resources/Balanced%20Scorecard%20in%20Higher%20Education.pdf>, retrieved July 1st, 2012
- Ruben, B.D., Russ, T., Smulowitz S.M. and Connaughton, S.L. (2007), Evaluating the impact of organizational self-assessment in higher education: the Malcolm Baldrige/Excellence in Higher Education framework, *Leadership & Organization Development Journal*, 28, 3: 230 - 250
- Salmi, J. (2009), *The challenge of establishing world-class universities*, Report, The International Bank for Restruction and Development, The World Bank, Washington, DC.
- Taylor, J. and Baines, C. (2012), Performance management in UK universities: implementing the balanced scorecard, *Journal of Higher Education Policy and Management*, 34, 2: 111-124
- Umashankar, V. and Dutta, K. (2007), Balanced scorecards in managing higher education institutions: an Indian perspective, *International Journal of Educational Management*, 21, 1: 54 - 67
- Umayal, K.P. L.and Suganthi, L. (2010), A strategic framework for managing higher educational institutions, *Advances in Management*, 3, 10: 15-21
- Vught, F.van, Bartelse, J., Huisman, J. and Wende, M. van der (2005), Institutional profiles, towards a typology of higher education institutions in Europe, CHEPS, Enschede, <http://www.utwente.nl/mb/cheps/research/projects/ceihe/publications/socratesceiheinstitutionalprofiles.pdf>, retrieved July 1st, 2012
- Waal, A.A. de (2006, rev. 2010), *The Characteristics of a High Performance Organization*, Social Science Research Network, <http://ssrn.com/abstract=931873>, accessed June 23, 2013
- Waal, A.A. de (2012a), Characteristics of high performance organizations, *Journal of Management Research*, 4, 4: 39-71
- Waal, A.A. de (2012b), *What makes a high performance organization, five validated factors of competitive advantage that apply worldwide*, Global Professional Publishing, Enfield
- Waal, A.A. de (2013), *Strategic Performance Management, a managerial and behavioural approach*, 2nd edition, Palgrave MacMillan, Basingstoke
- Waal, A. de and Chachage, B. (2011), Applicability of the high-performance organization framework at an East African university: the case of Iringa University College, *International Journal of Emerging Markets*, 6, 2: 148-167

- Waal, A. de and Sultan, S. (2012), Applicability of the high performance organization framework in the Middle East: the case of Palestine Polytechnic University, *Education, Business and Society: Contemporary Middle Eastern Issues*, 5, 3: 213 – 223
- Wang, Y. (2001), Building the world-class university in a developing country: universals, uniqueness, and cooperation, *Asia Pacific Education Review*, 2 , 2: 3-9
- Warren, K. (2008), *Strategic Management Dynamics*, John Wiley & Sons, Chichester
- Zoghbi, A.C., Rocha, F. and Mattos, E. (2013), Education production efficiency: evidence from Brazilian universities, *Economic Modelling*, 31: 94-103v

APPENDIX 1

This appendix lists the 35 characteristics of the five HPO factors, with the scores for the higher educational institutions in the database of the HPO Center. The first column in the Table shows the factor to which the HPO characteristics belong: ci = continuous improvement & renewal, oao = openness & action orientation, mq = management quality, wq = employee quality, lto = long-term orientation.

Factor	No.	HPO characteristic	HEI
ci	1	Our organization has adopted a strategy that sets it clearly apart from other organizations.	7.8
ci	2	In our organization processes are continuously improved.	7.0
ci	3	In our organization processes are continuously simplified.	6.0
ci	4	In our organization processes are continuously aligned.	6.5
ci	5	In our organization everything that matters to the organization's performance is explicitly reported.	6.5
ci	6	In our organization both financial and non-financial information is reported to organizational members.	6.1
ci	7	Our organization continuously innovates its core competencies.	7.2
ci	8	Our organization continuously innovates its products, processes and services.	6.9
oao	9	The management of our organization frequently engages in a dialogue with employees.	6.5
oao	10	Organizational members spend much time on communication, knowledge exchange and learning.	7.0

oao	11	Organizational members are always involved in important processes.	7.3
oao	12	The management of our organization allows making mistakes.	5.9
oao	13	The management of our organization welcomes change.	6.8
oao	14	Our organization is performance driven.	6.5
mq	15	The management of our organization is trusted by organizational members.	7.0
mq	16	The management of our organization has integrity.	6.8
mq	17	The management of our organization is a role model for organizational members.	6.8
mq	18	The management of our organization applies fast decision making.	5.3
mq	19	The management of our organization applies fast action taking.	5.6
mq	20	The management of our organization coaches organizational members to achieve better results.	6.5
mq	21	The management of our organization focuses on achieving results.	7.1
mq	22	The management of our organization is very effective.	6.5
mq	23	The management of our organization applies strong leadership.	7.5
mq	24	The management of our organization is confident.	7.3
mq	25	The management of our organization is decisive with regard to non-performers.	5.9
wq	26	The management of our organization always holds organizational members responsible for their results.	6.8
wq	27	The management of our organization inspires organizational members to accomplish extraordinary results.	6.2
wq	28	Organizational members are trained to be resilient and flexible.	6.2
wq	29	Our organization has a diverse and complementary workforce.	6.8
lto	30	Our organization grows through partnerships with suppliers and/or customers.	7.1
lto	31	Our organization maintains good and long-term relationships with all stakeholders.	7.3
lto	32	Our organization is aimed at servicing the customers as best as possible.	6.9
lto	33	The management of our organization has been with the company for a long time.	7.0

lto	34	New management is promoted from within the organization.	7.5
lto	35	Our organization is a secure workplace for organizational members.	7.3

average HPO score 6.8