Core Processes Roadmap to Deploy the Higher Education Institution's Internationalization Strategy

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Abstract **– Technological development, competition and globalisation are radically changing the landscape of higher education which maintains its crucial role in individual and societal advancement. Many higher education institutions are competing on increasing their attractiveness by providing innovative curricula, excellence in teaching and research opportunities.**

The paper attempts to tackle the push for stronger international presence which brings favourable conditions for internationalisation strategy at institutional level. Based on useful methods from quality management and business process reengineering, the author proposed a coherent organizational model for a higher education institution strategy, mainstreaming key areas as international mobility for students and staff, internationalization and improvement of curricula and new e-learning methods, and strategic cooperation, partnerships and capacity building with international stakeholders.

The findings stress the benefits of a holistic approach in assuring the governance of internationalization strategy composed of three core processes groups - academic, research, and wider business relationships – so as to provide that process architecture is able to deliver a value added internationalised higher education offer.

Keywords **– Sustainable education, Quality management in higher education, Process reengineering, Process improvement.**

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1. Introduction

The Europe 2020 strategy establishes ambitious targets for a smart, sustainable and inclusive growth with the aims to improve the economic competitiveness. These aims were built around five interrelated headline targets with significant impact on employment levels, productivity, and social cohesion as follows: employment rate, research and development, climate change and energy sustainability, education, and fighting poverty and social exclusion [1].

Education, in particular higher education, maintains its pivotal role in this process of innovation and growth since it has the mission to prepare students to become socially responsible citizens in an intercultural and international environment.

The Europe 2020 priority of inclusive growth requires higher education institutions to refine their agenda by embracing new organizational models able to respond to the changing social and economic needs of our society.

In this context, the new priorities for European cooperation in education and training call for an internationalization approach in higher education based on making learning mobility for learners and educators a reality. In the higher education sector, the headline benchmark aims to raise the rate of graduates having spent a studying or training period abroad up to 20% by 2020 [2].

The remaining challenges are embedded in the capability of higher education institutions to design coherent and comprehensive mechanisms acting as incubators for international cooperation and knowledge exchanges with a view to improve adaptability and employability within and across national borders [3].

This calls for action to build the capability of higher education institutions to deal with pressures of

globalization by designing, implementing, monitoring, and improving those organizational mechanisms which effectively incorporate key changes forces from the international environment.

The paper attempts to conceptualize the scope of internationalization strategy useful for higher education institutions, which are eager to assume the responsibility to compete in an intercultural and international education environment. The methodology commences with an in-depth analysis of Romanian labor market and higher education bottlenecks and proposes a practical model which may help national decisional factors to effectively deploy the internationalization strategy within the institution.

Based on valuable tools from total quality management and business process reengineering, the model proposed by author captures core processes of internationalization strategy and mainstreams three relevant pillars: education, research, and business and society relationships.

2. Research framework

The 2015 European Semester country-specific recommendation on education and training revealed the increasing rate of Romania's tertiary education attainment at 25% in 2014, being on track to reach the Europe 2020 national target of 26.7% [4]. But the decreasing trends point to a negative prognosis which may jeopardize the achievement of the national target since the enrolment rate in higher education was 53.3% in 2007 dropping down to 28.4% in 2012 and to 26.6% in 2014 [5].

Moreover, the employment rate of recent tertiary graduates has decreased from 70.8% in 2011 to 66.2% in 2014, whilst the EU average employment target is at least 82% [6]. This situation suggests that Romanian higher education institutions are lagging behind in offering an aligned education system with the needs of employers and labor market demands.

Another factor hindering the relevance of Romanian higher education offer consists of limited cooperation with business and social partners or local, national and international stakeholders. This situation reflects both the slowly process of internationalization of Romanian universities and the low rate of Romanian companies facing difficulties in recruiting staff for skilled jobs 30%, as compared with 36% at European Union level [6].

The study on Romanian higher education enablers for modernization pointed relevant initiatives adopted by national policy framework in the field of reducing early school leaving, increasing tertiary education attainment, quality and efficiency, lifelong learning, and the quality and efficiency of vocational educational and training VET systems [7].

Looking at these national strategic policy frameworks, it is suggested the endeavors in addressing the ex-ante conditionality in the area of higher education as progressive steps in reducing the skills mismatches in the labor market.

However, based on the past work cycle, the ET 2020 strategic framework for cooperation in education and training defined remaining challenges and established priority areas for the next cycle. As far as Romania is concerned, within the priority area entitled is making lifelong learning and mobility a reality, and one of the remaining challenges is referring to the low rate of international mobility for learners and teaching staff [3].

As revealed by the ERASMUS + statistics Romanian country sheet for 2014 year, the flow of inbound students was only at 0.2% of the total number of country students compared to the EU average represented by 1.2% [8].

Moreover, the 2014 ERASMUS impact study demonstrated the internationalization and mobility as key drivers of increased relevance in higher education. The learning mobility has significant individual impact on acquisition of transversal skills, including communication, cultural awareness and entrepreneurship. At the EU level, more than 70% of the staff gained in new ideas and innovative teaching methods, while almost 92% have seen beneficial effects from multi-disciplinarily and international cooperation. The effects on the use of ITC were reported by 64% of respondents and knowledge transfer between higher education institutions and companies were mentioned by only 62% [9].

Interestingly, staff mobility was seen as fruitful way to achieve major objectives for more than 90% of higher education institutions questioned, in respect to the promotion of new pedagogical teaching methods, improved motivation of students to learn abroad, the enrichment of the courses offerings. With utmost importance, the mobility of the staff was perceived as key support for internationalization at home [9].

Also, the concern of the relevance of higher education to the new marketplace requirements has drawn attention to the European strategic decisional bodies. Through an ongoing monitoring and improvement endeavors, the new skills agenda for

Europe released in 2016 pointed out the right skills will be factors determining competitiveness and the capacity to drive innovation. In this regard, it is defined and it set out three key strands as follows: improve the quality and relevance of skills formation, improve the visibility and interchangeability of skills and qualifications, and raise skills intelligence and information for better career choices [10].

As consequences, current fast-changing global trends and the high pressure for innovation and competitiveness require higher education institutions to ensure that they equip graduates with relevant and up-to-date skills. This implies an integrated internationalization approach, documented through the internationalization strategy, mainstreaming the relationships between academic, research, and business and society levels.

3. Research methodology

The scope of the research methodology was composed of defining and modeling the key endeavors embedded in the internationalization strategy which may be adopted by a higher education institution.

To further investigate the internationalization potential, the author took advantage of the tools offered by business process reengineering, a well-known domain within the total quality management.

Applying the process modeling principles for conceptualizing the core processes embedded in the internationalization strategy calls for a thoroughly understanding of process thinking.

As scholars defined, the process is the core of systemizing business practices, being understood as a set of inter-related activities performed to achieve specific objectives. The aggregation of activities into a sequential relationship of sub processes creates process model that shows the order in which they are performed. These process models bring to light visible illustrations which may reveal the way in which the organization operates to produce services and/or products [11, 12].

The scientific literature is enriched with research attempts aiming at capturing, modeling, and developing business processes with different levels of detail, in various sectors such as constructions, ITC, education, cosmetics etc., and covering numerous organizational sizes – small, medium, and corporate level. For example, in higher education sector, the swimlane diagrams were used to improve the process of course development by integrating both specific and transversal competencies for students [13]. Other scholars took advantages of business analysis and modeled the core processes needed to coherently manage the activities from the business value chain for wholesale and retail cosmetic products industry [14, 15].

The modern trends in process engineering call for establishing process organizations that structure, organize, manage, and measure their activities around core processes with the aid of business process management approach. As literature argued, business process management helps practitioners, business analysts and process architectures to put the business and organization's requirements into the driver seat, ensuring clarity of thoughts across all stakeholders [16].

As an emerging management discipline, business process management enables new levels of collaboration between business and different industries and sectors based on understanding the ordered sequence of activities and supporting information. Although, there are numerous tools, techniques, and modeling standards for different process models, the foundation relies on BPMN (Business Process Modeling Notation) standard that creates models to illustrate the flow of work and related activities needed to achieve the overarching business objectives. BPMN standard uses different models for process operations, as follows [16, 17, 18]. :

- process roadmaps diagram, as simple high-level flow-charts of sub-processes or activities;
- process descriptions, as more detailed diagram providing extensive information on the process, such as the people involved in performing the process, the data, information, etc.;
- process models, as high detailed flow-charts with exhaustive information needed for analysis and simulation.

Regardless of detail level, the process approach consists of grouping one or more activities based on measurable units of work which produce something valuable for customers, users or stakeholders.

As literature stated, the business process approach provides the opportunity to analyze activities based on their relationships, costs, and contribution to the output of the organizations, enabling the extension of the model outside the working environment by including interactions with all stakeholders participating in the value chain. Also, the process

approach brings together strategies, cultures, organizational structures and ITC tools in an integrated approach for analyzing resource utilization and distribution, cycle time of processes, local process variations in order to continually improve end-to-end processes so as to establish a well process governance [19, 20].

The methodology for defining well organizational processes is based on capturing the scope of work through certain process characteristics, as table 1. illustrates. Beside this, the rule for looking at the components of process (inputs, outputs, transformation mechanism, and outcomes) shall be based on the compliance to the process management principles, as follows [18, 20]:

- consistency of purpose: the process shall be designed starting with the customer's needs, expectations and requirements;
- clarity of measures: the process shall be linked to clear measurable targets to enable the assessment of the degree of achievement;
- capability to produce the required results: the human and technical resources assigned on the flow of activities shall be directly proportional with the level of competence and the capability of the equipment;
- conformity to best practices: process performance shall be periodically measured, analyzed and improved to ensure a clear line of sight between objectives, results and targets, and customer's requirements.

Taking the view that process approach has inner connections to adding value to the customer by clearly defining its needs and expectations, the author applied the process approach in the case of internationalization strategy for higher education institution.

In the first step are identified the high level processes components considering the relevance of the internationalization in the European higher education context and, secondly, the author's attempt illustrates the core processes and their interrelated connections needed to ensure a clear line of sight between institution overall objectives and process governance.

Table 1. Basic process components

The component	Description
Input	Every type of demand such as resources, data, people and equipment that invokes the transformation or the process activities.
Output	Direct effect produced by the process, guided by the control mechanism upon the inputs. Typically, they are services, products or information meeting the stakeholders' needs and expectations in terms of quality, time and cost constraints.
Transformation mechanism	It contains the system of people and tools (applications, data, and technology) that performs the actions upon and in response to the inputs, based on the requirements, constraints, guides, and restraints shaping the flow of activities.
Outcome	Indirect effects of the process on the surroundings such as internal participants (employees), external participants (customers and stakeholders), and on the whole organization's community and other stakeholders.

4. Results and discussions

Looking at the policy and non-policy documents in the area of higher education and their recommendations and guidelines, the author applied the process engineering thinking in those educational areas responsible for shaping a comprehensive internationalization strategy. As figure 1. depicts, the trigger events accountable for designing an internationalization strategy of higher education institution are related to globalization and competition in a knowledge-based economy.

The core processes which may deliver value added to the society and to sustainable and inclusive growth are consisted of three groups: academic processes, research processes, and wider business relationships processes. Each of these core processes has certain direct effects in terms of skills development and improved attractiveness of higher education institution at national and international labor market, increased visibility in different research areas, and also, an enhanced capability to compete in a global world.

As far as indirect effects on the environment, the author distinguished two different categories of outcomes: i) the quality and efficiency of the whole learning chain (education, training, and lifelong learning) with respect to equipping people with the right skills for enabling competitiveness and innovation; and ii) improved competences of businesses to innovate through process innovation and/or introducing new marketing or organizational models.

To further capture the scope of work, it is necessary to be aware of the wide diversity of higher education contexts which call for different organizational models for internationalization strategy. In this view, figure 2. proposes an architecture which encapsulates management and core processes necessary to integrate elements such as development of international curricula, strategic partnerships, delivering up-to-date educational content, and ensuring complementarity with broader national policy for internal cooperation and international collaborations.

The well-known Plan-Do-Check-Act cycle from quality management is marked out by three phases such as analyze and plan, execute, and control and improve [18, 21]. During the process lifetime, each of the core groups embraces different specific processes depending on the phase they are in, as follows:

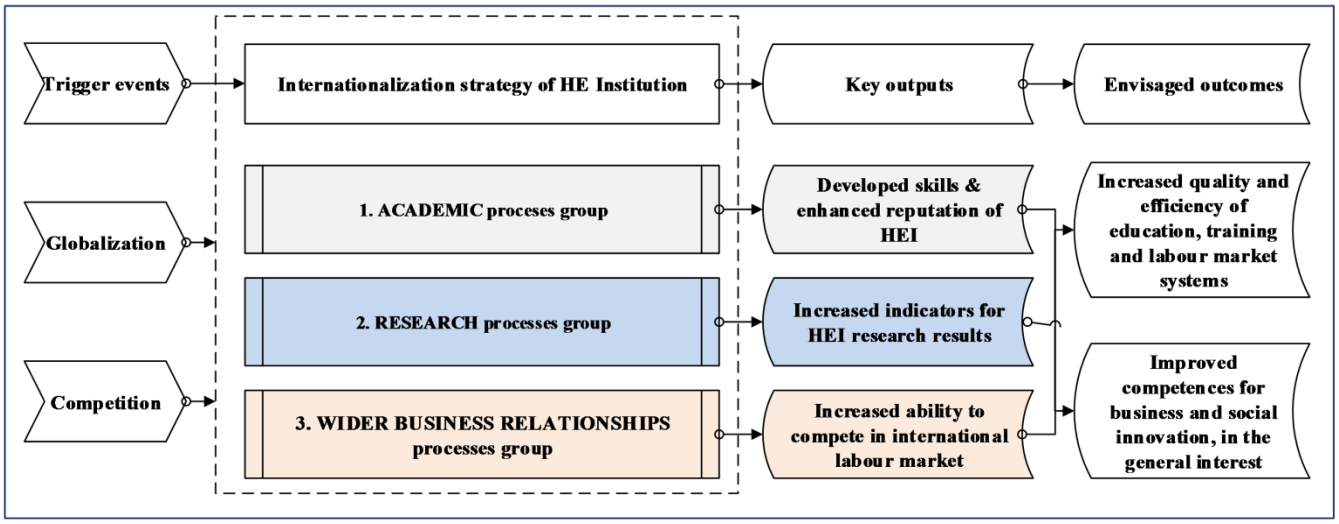

Figure 1. The process approach for higher education internationalization strategy

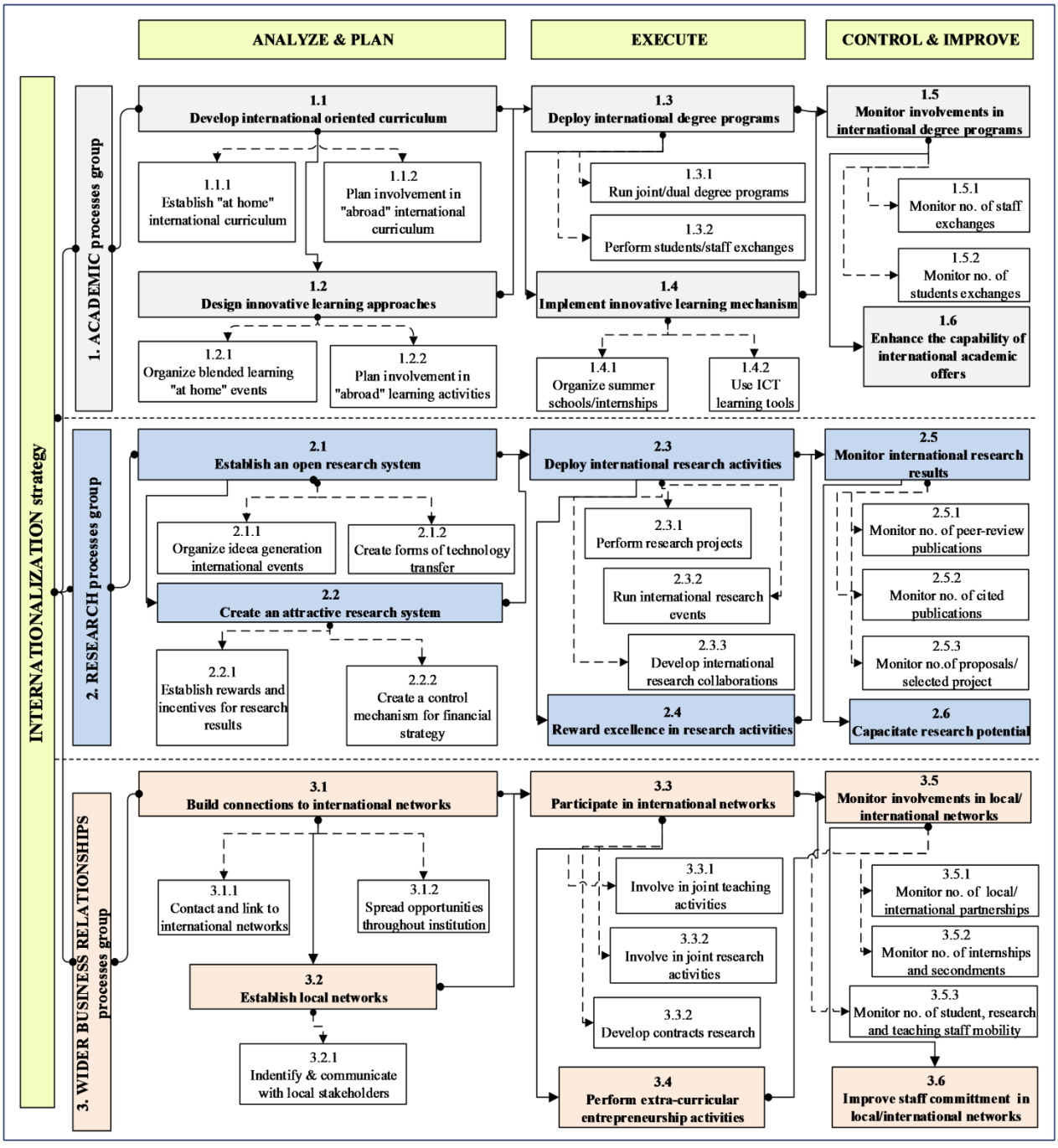

Figure 2. Core processes roadmap for higher education institution's internationalization strategy

- **ANALYZE AND PLAN lifecycle phase.**

Academic processes group starts with high-level processes 1.1 Develop international oriented curriculum, followed by 1.2 Design innovative learning approaches. Each of these high-level processes contains sub-processes targeting the development of international curriculum "at home" and "abroad", seconded by those ones accountable for organizing related learning activities. Each of the processes shall have certain result indicators for measuring the processes performance with respect to the number of international accredited degree programs (join and dual degree diplomas); inbound and outbound student and teacher flows; invited professors, staff and entrepreneurs as guest lectures; local and international internships and summer schools with multicultural and international context; distance and blended learning modules; international peer-learning and exchange events.

Research processes group begins with high-level processes 2.1 Establish an open research system, seconded by 2.2 Create an attractive open system. Each of these high-level processes encapsulates dedicated processes with the purpose of organizing the context necessary for idea generation and for setting out the reward and incentives mechanism. The metrics for measuring the processes performance may rely on the number of idea generation workshops, innovation boot-camps, and international start-up weeks; spin-offs, licensing and prototypes selling; external funding sources identified; international high skilled staff recruited.

Wider business relationships processes group commences with high-level processes 3.1 Build connections to international networks and 3.2 Establish local networks. The next level contains sub-processes performed to connect, communicate, and disseminate knowledge and information with local and international stakeholders. The assigned performance indicators may be linked to the number of opportunities developed and international networks formed; joint research initiatives and contracts research; dissemination events through the institution; meeting fora with local and international stakeholders; additional sources of funding attracted; extra-curricular activities.

- **EXECUTE lifecycle phase.**

The high-level processes from each of the academic, research, and wider business relationships group are fed on appropriate outputs from the previous phase. All the processes 1.3, 1.4, 2.3, 2.4, 3.3 and 3.4 are dealing with implementing specific activities flow as was defined in the related processes from analyze and plan phase, such as: running joint and dual international degree programs; students and staff exchanges; research projects and international events, joint research activities and so on.

- **CONTROL AND IMPROVE lifecycle phase.**

The high-level processes of this phase are nourished with inputs from the execution, being responsible with collection and assessment of process performance indicators. Also, the processes dedicated to monitor the results are in charge with performing integrated change control activities to determine preventive and corrective actions needed to achieve the internationalization objectives assumed by the higher education institution involved.

By performing the processes flows on an on-going base, the phase becomes responsible with communicating and distributing information to internal and external stakeholders.

The process roadmap for internationalization strategy is intended to be a powerful communication tool for interested parties, in an attempt to stress the threats arisen from a poor predictability of current educational models which hinder business creation, innovation and research, and internationalization phenomenon. By understanding, agreeing, and further developing and improving the process roadmap, all stakeholders (students, teachers, academic staff, and business professionals) will benefit from an internationalized higher education offer with significant outcomes in terms of graduates experiences and knowledge, better employability and productivity, and an improved growth and prosperity.

4. Conclusions

In our global world, there is no one-size-fits-all approach and the huge diversity of higher education contexts call for innovative institutional models able to incorporate relevant national influencing factors.

The confluence of these up-to-date models from process engineering and quality management with higher education dimension creates a significant potential for innovation of work ensuring predictable process models with the aims to deliver value added in the whole education lifecycle.

In this context, the processes roadmap aggregates into sequential relationships the core functions of any higher education institutions - the academic, research, and business relations. The model creates visible illustration of the value added flow which ensures favorable conditions for deploying a comprehensive internationalization strategy in a process-centric work higher education institution.

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