ANTON DE KOM UNIVERSITEIT VAN SURINAME

Institute for Graduate Studies & Research (IGSR)

Competence-Based Education (CBE): Link between the Education Sector and the Labor Market

The use of an alumni survey to measure the link between competencies received and their professional performance in the labor market

Paper submitted in fulfillment of the requirements for the degree of
Master in Research Methods

Presella Maria Young-A-Fat
November 2014

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Preface

It was a challenge and an honor being able to do the masters course in Research Methods. Doing this course was in my personal development plan (POP) for several years because this should be one of the most important parts of any scientific study at the university. I have studied economics, which was lacking in-depth focus on this course back then.

This thesis discusses the effect of Competence-Based Education (CBE) on the workplace performances of the institutes' graduates as implemented by the Hogeschool Inholland Suriname (HIS), using an online survey among these graduates. The objective of this research is to evaluate the relevance of the curriculum of higher education regarding the competencies developed during their study in relation to their current position in the labor market and to evaluate whether the instrument, the online survey, used is a reliable and valid measurement for future alumni assessments.

My interest for conducting this study arose during my college years at the Anton de Kom University of Suriname (AdeKuS) where I was mostly interested in understanding the link between the courses (the education sector) and the labor market. As I got more engaged in research methods, my curiosity grew to find out whether research instruments measuring the effect of a business program on the performances of their graduates in their workplace was valid and reliable for the study.

I have conducted this study with much gratitude to the Institute for the knowledge gained and also much gratitude to my peers, my counselors and most of all my family and friends for their support.

Presella M. Young-A-Fat

Paramaribo, 31 Augustus 2014

"Never regard study as a duty but as an enviable opportunity to learn to know the liberating influence of beauty in the realm of the spirit for your own personal joy and to the profit of the community to which your later works belong"

Albert Einstein

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Abstract

This thesis outlines the perceptions of graduates on the link between their curriculum (CBE) and their professional performance in the labor market. In order to conduct the research among the alumni, an online questionnaire was used for the evaluation. This questionnaire is a predefined assessment instrument derived from the institutes' educational partner Hogeschool Inholland Nederland, who uses this instrument for their alumni and employers evaluations.

There are three important factors within this research; the student (personal interest), the institute (education sector) and the labor market (demand of the working field). There are 287 alumni between 2005 and the first quarter of 2013. A number of 98 or 34% of the alumni have responded to the survey request.

The research findings show that the alumni are rather content in terms of acquired competencies, employment opportunities, career development and professional performance. A few relevant recommendations were given by the alumni regarding the link of the degree programs with the labor market. According to the alumni the focus should be on more practical (vocational) development of the theory and on more project assignments. Most of the alumni (82%) work in the sector which they studied for, but they think that there are still some competencies (subjects) that the institute could focus on for a more professional performance in the labor market. Some of these competencies are: project management and communication skills. Nevertheless they believe that there is indeed a link between the competence-based education concept as provided by the institute and their professional performance in the labor market.

The evaluation of the alumni survey, with the assistance of Factor analysis and Cronbach's Alpha, showed that there is no consistency between the formulation of the competencies defined by the institute (section 4) and needed for professional performance (section 5). It is recommended for follow-up study, to formulate comparable competencies. The current alumni survey instrument of the institute is a useful tool and could be completely valid and reliable if there exists consistency between the statements for both sections. The evaluation of the instrument showed that it needs to be adapted.

Keywords: alumni, career development, competencies, CBE, education sector, employment, labor market, perceptions, professional performance

Introduction

Competence-Based Education (CBE) is becoming a dominant trend in vocational and professional education worldwide (Sturing, Biemans, Mulder, & de Bruijn, 2010). Workplace competencies are used as bench-marks for designing curricula and instructional methods. The most important characteristic of Competence-Based Education is that it measures student learning rather than time (Mendenhall, 2012). Students' progress are measured by demonstrating their competence, which means they prove that they have mastered the knowledge, skills and attitudes required for a particular course, regardless of how long it takes (Mendenhall, 2012). However, little research has been carried out which measures the effect of CBE on the workplace performances of the graduates.

Mulder, Gulikers, Biemans, and Wesselink (2009) announced that the concept of competence is focused on an integrated approach of interrelated clusters of knowledge, skills and attitudes that are relevant for a particular field of study, employment or career development. This study focuses on investigating whether an adequate link exists between the education sector and the labor market. Van Kralingen (2003) mentioned that in order to have an adequate link between the education sector and the labor market, there should be continuum learning-teaching tools in place. He stressed that, between some educational institutions and the working field committee there seems to be a lack of continuum learning-teaching tools. Organizations should invest in the area of competencies of students, which should result in an adequate link between what they have learned and the actual situation in the labor market.

This thesis aims to find out whether there is a relationship between the degree programs offered in Suriname, in this regard of the Hogeschool Inholland Suriname, and the labor market, as this is the goal of the CBE approach. In order to execute this assignment, an assessment instrument will be needed to measure the link between the education sector and the labor market. Worldwide, institutes on higher education use assessment instruments to measure the perceptions of the graduates regarding the influence the education received has on their professional performance in the labor market. This institute used a predefined assessment instrument from Hogeschool Inholland Nederland to execute the assignment in Suriname. Where needed, the assessment instrument is adapted according to the Surinamese situation (labor market situation).

Suriname is also taking part in this international education reform connecting the education sector with the labor market and societal demands. As a member of the CARICOM, this country has committed itself to the implementation of the Competence Based Education and Training – system (CBET). Even though up until now, only a few institutes have attempted to implement the CBE concept, this will change the coming years with the implementation of a National Training Authority (NTA). The Permanent Secretary of the Ministry of Education and Community Development (Minov) mentioned in his speech during the Pre-kick-off meeting on the Establishment of a National Training Authority on 6th of September 2013 that,

"In order to increase the production in the private sector, we need skilled workers on every level thus with the right competencies (knowledge, skills and attitude). The educational institutes have to be a reflection of the needs of society, making sure that graduates are immediately employed" (Translated from Dutch).

He also emphasized that,

"The curriculum of vocational education institutes should be linked with the needs of the private sector, the curriculum must therefore be flexible and stimulate entrepreneurial and innovative thinking, in short the curriculum must be demand-driven" (Translated from Dutch).

With these statements, it is clear that Suriname will eventually implement a structured CBE approach, with clearly defined competencies and securing an adequate link between the education sector and the labor market. It is therefore important to secure effective assessment instruments that determine whether CBE can help students develop those competencies that are actually needed in the labor market. This study will also investigate whether the instrument that Hogeschool Inholland Suriname (HIS) uses in their evaluation is an adequate instrument for such an important assessment.

Purpose of this study

The main purpose of this thesis is to examine the perceptions of the graduates of higher education regarding competencies developed during their study, in order to find out if there is a link between competencies developed in the education sector and the performances in the labor market. The instrument that is used to carry out this analysis will also be analyzed to determine whether it is a valid and reliable measurement to continue assessing the perception of the alumni.

This thesis is part of a larger study being conducted by the FHR institute. While the focus of this thesis is on the perspective of the alumni, the follow up study will be on the perspective (demand) of the labor market (working field committee). The name of the institute has

changed in October 2012 to FHR School of Business. When necessary, the current name will be mentioned.

The **main research question** is,

> ***To what extent does the alumni survey of the Hogeschool Inholland Suriname measure the link between the perceptions of the alumni regarding, competencies that they developed during their study and their professional performance in the labor market?***

The **sub questions** are,

a. To what extent does the survey measure the perceptions of the alumni on the competencies developed during their study?

b. To what extent does the survey measure the perceptions of the alumni on the competencies related to their professional performance in the labor market?

c. To what extent is this instrument useful and reliable to measure the link between the education sector and the labor market in Suriname?

Relevant definitions:

- Alumnus: in this study an alumnus (graduate) is a former student of Hogeschool Inholland Suriname (HIS).
- Competence-Based Education: is concerned with the meaningful objectives and content of learning that will engender the personal development of students and position them within the domains of knowledge that can best prepare them to function effectively in society (Mulder, Weigel et al., 2006, as cited in Nederstigt, 2011).

Relevance of this study

In the governments' Development plan 2012-2016 (OP; 2012) a lot of emphasis is being placed on making sure that the education system minimizes the gap between the existing education approach and the demand of the labor market. In this regard it is important to understand that students should be able to make their own choices regarding their educational development (career choices) and their contribution to society. That is why various institutes for higher education are implementing CBE. My interest in this subject stems from the role of the education sector in offering educational opportunities for all.

The focus of this thesis will be on the implementation of the CBE approach by the HIS.

Mulder (2009) and van Kralingen (2003) both stated that, in order to provide adequate curriculum improvements, evaluations need to be carried out on regular basis to make sure that there is an efficient and consistent link between the education sector and the labor market. The institute wants to prepare its graduates to enter the labor market without any obstacles. These evaluations are mostly done with the assistance of an instrument. As aforementioned, this is also the case here but since it is the first time that the institute will use this predefined instrument, it will be measured to find out whether it is a useful, valid and reliable measurement to continue assessing the perception of the alumni.

Research model

Theory on CBE concept

Alumni surveys (Inholland Nederland and related surveys)

Background information InHolland Suriname

Preliminary research: inquiry and interviews

CBE approach according to Wesselink et al.

CBE approach of the Institute

Key priority characteristics

Alumni perception

Qualitative results

Quantitative results

Output: Measuring of an efficient and consistent link between the education sector (CBE concept of HIS/FHR) and the labor market (professional performance) with the assistance of an alumni survey instrument

This study focuses on (1) examining literature regarding the theory of Competence-Based Education, (2) studying of previous alumni surveys of Hogeschool Inholland Nederland and other related alumni surveys, (3) looking into secondary data of the Hogeschool InHolland Suriname (HIS) as well as (4) conducting informative preliminary interviews with key informants of the Institute. These points will provide an overview of key priority characteristics. These key priorities will lead to the analysis of (1) the qualitative part and (2) the quantitative part of this study. The qualitative part consists of existing theories and basic principles of experts on the CBE concept linked to the policy of the HIS/FHR institute. The quantitative part consists of conducting an alumni survey among all alumni of the institute. The results of this study will lead to concluding remarks and recommendations based on the perceptions of the alumni on the education received and their perception on professional

performance in the labor market as well as conclusions on the usefulness, reliability and validity of the instrument.

Methodological approach

This study is descriptive and explanatory, using a mix-method (triangulation) approach of quantitative and qualitative strategy (de Vaus, 2001). The focus is on describing basic information of the alumni such as competence development, employment status, working within field of study, professional performance and career development (lifelong learning). The study is explanatory because it encompasses the link between the education sector (competence-based education) and the labor market (professional performance of the alumni).

The choice to use a mix-method approach of quantitative and qualitative strategy stems from the data needed to answer the research question effectively. The quantitative data acquired is from an epistemological point of view needed to measure phenomena on the development of competencies (perceptions of the alumni). The qualitative data acquired is needed to further interpret the quantitative data.

A **survey design** is chosen to reach the target group of alumni of the HIS Institute, using a structured online questionnaire. Survey design is needed to describe the perceptions of the alumni regarding the development of competencies and to explain the link between the education sector (competence-based education of the institute) and the labor market (professional performance of the alumni). The survey took place between June – December 2013 with an extension of one month due to the low response rate.

The **research population** is "all 287 alumni who graduated between 2005 and the first quarter of 2013 from the Hogeschool InHolland Suriname".

In general the target group was approached by,

1. Inventory / FHR database: through e-mail and phone calls; and

2. Using social media: FHR Facebook page.

A **theoretical review** on the concept of CBE was carried out; studying of theoretical approaches in order to understand the CBE concept and to be able to answer the research question.

The **data collection** focused on conducting interviews and most importantly conducting an online survey. I choose to use an online survey because the institute already consisted of a standard online questionnaire which needed to be adapted and also because given the time span, conducting an online survey was at that time an effective approach to reach the alumni. In chapter 3 you will find more on the justification, and also see appendix 2 for a complete overview of the questionnaire.

Also two interviews were held with the previous as well as the current provost of Hogeschool Inholland Suriname on the curriculum (education policy) developed and to gain more knowledge on the educational approach.

Data analysis and **reporting** is conducted by using the statistical program SPSS, MS Excel and for the relevant open questions the data were analyzed manually.

Limitations to execute this research
- No recent available contact information on the alumni. After graduation there was no further communication with them;
- Willingness of the alumni; getting in touch with the alumni and their willingness to participate was a challenge; and
- Being able to reach a relevant sample size which will have an effect on the validity and representativeness (de Vaus, p.184) of the findings, was another pressing matter. More on this matter in chapter 3.

Structure of the paper
In chapter one a literature review on Competence-Based Education (CBE) is presented to provide a clear perspective and characteristics on the concept as well as the discussion of relevant competence models.

Chapter two provides a brief overview of the institute and the implementation of the CBE concept.

The third chapter focuses on the research results: data collection, the analysis, the reliability test and reporting of the findings.

At the end of this thesis, the concluding remarks and recommendations are provided as well as relevant appendices.

1. Literature review on Competence-Based Education (CBE)

The main topics for this chapter are, the relevance of Competence-Based Education (CBE), gaining a uniform understanding on the concept of CBE, discussing the link between the education sector and the labor market as well as important competence models to be considered for the CBE concept of the Hogeschool Inholland Suriname.

The CBE reform started in the USA and made its way to Europe, where the focus is placed on the use of a more holistic approach for competence, and to the rest of the world (Wesselink, Dekker-Groen, Biemans, & Mulder, 2010). A holistic approach means that a competence is always seen in the context in which it's used, including a functional component, a personal or behavioural component, a cognitive component and an ethical component (Cheetham & Chivers, 1996, as cited in Wesselink et al., 2010). Competencies can be formulated both at a general level (common across a degree program) and at a specific level (course-specific). An integrated combination of both levels is needed to achieve the broader competencies (Council on Education for Public Health, 2006).

1.1. Theoretical background on Competence-Based Education

There are three main factors within the theoretical framework of CBE: the *student*, the *education sector* and the *labor market*; all within the realm of the wider society (community).
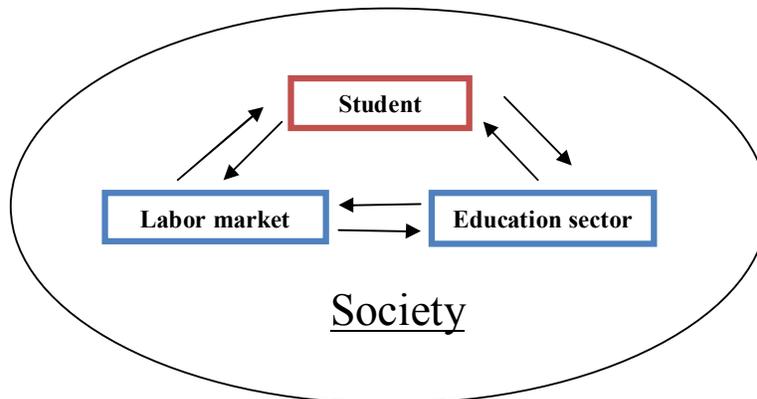

Figure 1.1: Three main factors of the CBE approach (P.Young-A-Fat, 2013)

The role and relation between these three factors are important for the CBE concept. As mentioned in the introduction, the focus is on the perspective of the students. It is important to evaluate their perception on the education sector and to reflect on the link of their professional performance in the labor market.

Definition and characteristics of Competence-Based Education (CBE)

Discussing CBE is not an easy task, making it harder to investigate this complex topic. Over the years attempts were made by various experts (Mulder, 2009) to define a clear definition for CBE but it is a very complex term. Because of its multitude in interpretation, the focus of the study will not be on its definition but on its characteristics in order to investigate the concept.

In addition to the above statement, the following supports narrowing down of the concept. ETA (2012), the Council on Education for Public Health (2006) as well as van Kralingen (2003) clearly states that Competence-Based Education (CBE) is a process, not a product. Mulder, Weigel et al. (as cited in Nederstigt, 2011) clearly states that *CBE is concerned with the meaningful objectives and content of learning that will engender the personal development of students and position them within the domains of knowledge that can best prepare them to function effectively in society.* This clearly captures the essence of the holistic approach.

The **characteristics** of Competence-Based Education are formulated by Kouwenhoven (as cited in Konwar et al., n.a.) as follow:

- CBE is oriented to the professional practice;
- CBE is learner-centered and the learning process is central;
- CBE has a constructivist approach;
- In CBE the role of the teacher is that of a 'cognitive guide';
- CBE has learning environments focused on the development of competencies;
- CBE includes the development of generic competencies;
- In CBE assessment focused on competencies; and
- In CBE curriculum development is based on the elaboration of profiles and identification of competencies.

The above shows a summary of the core characteristics of CBE in order to understand this concept.

Philosophy on the concept of competence

The concept of competence is not new but one that has been placing its mark in the last decades. Mulder, Gulikers, Biemans, & Wesselink (2009) have made an historical overview of the concept of competence. According to them this concept dates back to Persian (in the code of Hamurabbi), Greek (in Lydia of Plato) and Roman times (in general language). Scholars were also focusing on the relevance of competencies back then.

There exist a variety of philosophical views on the concept and implementation of competencies within the education sector. Ramírez Naranjo (2009) presents in her paper various philosophers who have studied the concept of competence. Some of these views are,

a) Norris (1991) provides three different theories or constructs of competence: (1) **behaviorists** construct: competence is treated as something a person is or should be able to do. It is a description of action, behavior or outcome capable of demonstration and assessment. (2) A **cognitive construct**: a competence as what a person knows and can do under ideal circumstances. (3) A **generic construct**: this competence approach favors the elicitation, through behavioral event or critical incident interviewing, of those general abilities associated with expert performers.

b) Gonczi's approach is almost similar to the view of Norris. Gonczi (1997) distinguishes between three basic conceptions of the nature of competency: (1) the **behaviorist:** competence is conceived in terms of the discrete and observable behaviors associated with the completion of specific task; (2) the **generic conception:** includes underlying attributes such as knowledge or critical thinking capability, and provides the basis for transferable or more specific attributes. Gonczi argues that these generic competencies are somewhat disconnected from future professional performance and thus are not task-specific. The combination of the two approaches creates (3) a more **holistic**, integrated, and relational approach.

c) Preston &Walker (1993) emphasize that, the **holistic approach** supports the view that there are strong connections between structures of competence and education and training programs, generally having overall coherence. Programs can, however, be diverse in their structure and curriculum, be flexible, and involve experimentation and research. The holistic approach considers the impact of group processes and culture in the development and performance of competencies.

This holistic approach captures the focus of this research and it covers all aspects of the CBE concept since it has a more integrated approach as such is relevant for the CBE concept of the institute.

Another view on the concept of competence is from the U.S. Department of Labor, Employment and Training Administration (ETA; 2012). The goal of ETA is to provide everybody (working force) with good jobs. They want to accomplish this goal by implementing industry and occupational **competence models** which they see as a key resource for success.

A competence model is a collection of competencies that together define successful performance in a particular work setting. These models can be developed for specific jobs, job groups, organizations, occupations or industries. Competence modeling experts reviewed the literature as well as past competence models developed, and they identified the competencies most commonly referenced as contributing to success in the workplace, and incorporated the findings in a single reference source that can be used to guide efforts to construct competence models. This reference consists of a set of "building blocks" for competence model development, which is referred to as the **Building Blocks Model** (**BBM**). In the following paragraph an explanation will be provided of the core competencies of this model.

To conclude, the value of competence models is that a whole-person assessment or holistic approach can be developed to examine the competencies that an individual possesses and may still need to acquire as required by a given industry or occupation (Ennis, 2008).

Critical remarks on the concept of CBE

In a study done by Mulder et al. (2009) there were some critical remarks placed by university professors and lecturers on the implementation of a competence approach in academic education. They believe that by implementing competence-based education there may exist a shift of attention from knowledge development and scientific creativity towards skills development. Even so, students who have also participated in this study, mentioned that their program lacked educational programs and especially feedback on more generic academic competencies such as communicating, giving and providing feedback, networking and collaborating in a team. In their experience they get confronted with the importance of these generic competencies in the work field. According to them the university should make them aware of the importance of these competencies.

The expert team consisting of Biemans, Nieuwenhuis, Poell, Mulder, and Wesselink (2004), have placed some general remarks on the link between school and workplace learning. According to them students should be made aware of their competencies and ways of learning, but they also emphasis that the way of learning requires different approaches in the workplace than in school settings. This issue should be taken into consideration when implementing the competence-based approach.

Another remark is the role of the teachers in the competence-based approach. The teacher is supposed to switch from the role of an expert, transferring knowledge to a coaching role, guiding students' processes. In this approach students should take responsibility for their own learning. This should create a paradigm shift meaning that a totally different attitude from both parties is required. An important role is placed for policy-makers, who are responsible for ensuring the implementation of competence-based education which in some cases seems to be lacking in the actual implementation. Also emphasis is placed on competence-based management of teachers and the school management. The competence-based approach requires special management. It is a supporting strategy to develop both the school organization and the individual. Every part should be coordinated accordingly.

Every approach has its benefits and limitations, nevertheless the competence-based approach has continue to develop itself through the years and gained more ground worldwide.

1.2. The link between the education sector and the labor market

Mulder et al. (2009) have mentioned that Competence-Based Education should be aimed at the development of a balanced, useful and ethical contribution of alumni towards society. As mentioned in the introduction, there seems to be a lack of continuum learning-teaching tools between some educational institutions and the working field committee. In order to have an effective link between the education sector and the labor market, there should be continuum learning-teaching tools in place (van Kralingen, 2003). Organizations should invest in the area of competence of students, which shall result in an adequate link between what they have learned and the actual situation in the labor market.

As aforementioned in the study done by Mulder et al. (2009) regarding the concept of competence in higher education, university students have pleaded for a stronger involvement

of the labor market in their educational trajectories. They believe that it is necessary to implement activities which relate learning and working.

Many educational policy makers (Biemans, Nieuwenhuis, Poell, Mulder, and Wesselink, 2004 as cited in Ramirez & Saskatchewan, 2012) argue that the gap between theoretical knowledge acquired in the educational system and experience in labor markets would be reduced by the implementation of CBE models in curricula design for various disciplines (James & Tranter, 2003 as cited in Ramirez & Saskatchewan, 2012). Various studies have been conducted and many experts have been trying to describe CBE and create clarity about the concept.

In addition to these endeavors, a group of Dutch researchers constructed a CBE model (Sturing et al., 2010). The CBE model developed by Wesselink, Mulder, van den Elsen, and Biemans (2006) outlines eight (8) principles of Competence-Based Education. The relevance of these eight principles is that it should result in a comprehensive (holistic) approach of Competence-Based Education. In appendix 3 a complete overview of the CBE model is presented. The CBE model outlines 8 design principles of CBE with 4 implementation levels. These levels specify to which extent the degree programs and institutions are competence-based but do not focus specifically on the competencies being provided. In this study the focus is on assessing the position of the FHR Institute regarding the CBE process through the perception of the alumni. In the appendix you will notice that the highlighted blocks in grey are the measured levels of the HIS/ FHR Institute. The discussion of these measured levels of the CBE model will follow in chapter 2 paragraph 2.3.

The second CBE model is the Building Blocks Competence Model (ETA, 2012). This model will be compared with the CBE program of the institute. Both models focus on three levels of competencies which need to be acquired in order to advance and to enter the labor market. In chapter 2, I will highlight the structure of the institutes' CBE approach in correlation to the BBM.
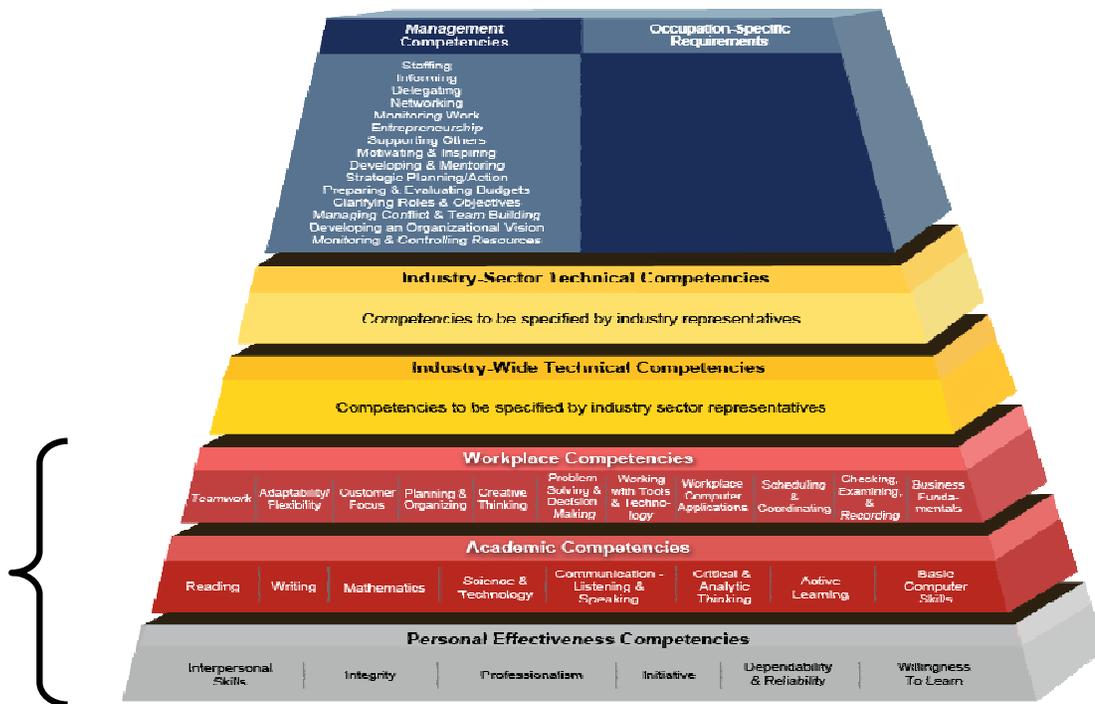
Figure 1.2: Building Blocks Competence Model (Employment and Training Administration, 2012)

This CBE model is called the Building Blocks Model because it consists of a set of "building blocks" for competence model development. Each of these building blocks is a competence area defined by key behaviors. The building blocks are grouped by type and are arranged in tiers. For this study, the first three tiers from bottom-up are focused on. See the three tiers in brackets (figure 1.2) which are important for this study. These three tiers form the foundation competencies generally needed for entry and success for most jobs in the workplace.

Tier 1 – Personal Effectiveness Competencies are often referred to as "soft skills or behavioral competencies".

Tier 2 – Academic Competencies include cognitive functions and thinking styles.

Tier 3 – Workplace Competencies represent motives and traits, as well as interpersonal and self-management styles.

The more you move up the tiers of the model, the more the competencies become specific. The other tiers, 4 and 5, deal with more cross-cutting industry-wide technical competencies needed for career development within specific industries, to move easily across industry sub-sectors. And the upper tier, describes the knowledge, skills and abilities specific to an occupation within an industry. Since the focus is not on the job-specific competencies of all four studies of the institute, I will not go further into these three upper tiers.

The pyramid-shaped graphic (figure 1.2) describes how competencies become more specific as you travel up the tiers of the pyramid. The tiers of the model are divided into blocks representing the core competencies; knowledge, skills and abilities essential for successful performance in the industry or occupation represented by the model. These core competencies are required of all workers (Rothwell, 2002, as cited in Ennis, 2008). There is a difference in the core competence named "attitude" as formulated by the CBE approach of Mulder et al. (2009) and the ETA (2012) model which talks about "abilities". In this study when necessary, references will be made to attitude since this relates better to the competencies as defined by the institute and because ability is a cross-cutting component of the competence process of the students.

2. The CBE Approach of the Institute

This chapter provides a brief overview of the Hogeschool Inholland Suriname (HIS) and the FHR School of Business, on the competence-based curriculum concept which is being applied by the institute and correlated to the Building Blocks Competence Model (BBM) as well as on the assessment of their CBE approach according to the 8 principles developed by Wesselink et al. (2006).

2.1. Background information

The Hogeschool Inholland Suriname (HIS) which provides education on higher level (bachelor) has been set up due to the urgent need for introducing economic courses by demand of the labor market (working field committee). The institute started in 2001 as Hogeschool Inholland Suriname (HIS). It has made some changes through the years since their establishment, namely in providing more studies on bachelor level and a reform in the education policy as well as a change in the members of the Board of Governors. All this has happened throughout the twelve (12) years of its existence. This paper refers to the education policy (business plan) of previous institute since the focus was on evaluating the alumni period 2005 and first quarter of 2013.

On 11 May 2012 the institute signed a cooperation agreement with the FHR Lim A Po Institute. This agreement has made it possible for graduates to enroll smoothly in the master programs of the Lim A Po Institute. The institute will now operate as the FHR School of Business.

The mission of this institute is
"*FHR School of Business provides undergraduate education in management, finance, marketing and law at international standards in a stable and orderly learning environment, ensuring that students can develop their talents to their full potential and become highly competent and ambitious professionals. Students are challenged and supported to discover, to use, to develop and to cash their talents.*"

Cooperation with working field committee

The institute works together with the working field committee in order to create an adequate link from the learning processes provided by the education sector, to the labor market. An important factor will always be the demand of the labor market. Van Kralingen (2003) emphasized that, there should be an adequate link between what students have learned and the actual situation in the labor market, if organizations want to efficiently use the task-specific competencies of students.

As aforementioned, the institute has a close collaboration with the working field committee in order to guarantee an adequate link between the education sector and the labor market. Frequently meetings are held to evaluate and propose reforms on the curriculum. In this regard there is a working field research planned for 2013-2014.

2.2. *Competence-Based Education of the HIS*

Degree programs of the institute

The institute started with four degree programs in 2001 and continued with these programs until the reform in 2006. Now there are six degree programs being offered by FHR School of Business. Since the focus of this paper is on the four degree programs provided at the beginning of the institute, these will be briefly outlined for this paper.

The four degree programs, which were all part-time programs, offered for four years, are Management, Economics and Law (MER), Human Resource Management also known as Personnel & Labor (HRM/ PA), Accountancy (AC) and Business Economics (BE).

Competence-Based Education at the HIS

The institute introduced Competence-Based Education (CBE) to not only prepare their graduates for task-specific competencies but also for the development of general competencies. The institute wants students to be aware of the development of competencies for future job references and also to take responsibility for their own personal development. They believe that CBE supports optimal development of the students' talent, therefore the curriculum is competence based. The institute concentrates on delivering graduates who are equipped with the necessary competencies for contributing to the labor market and to society, at a regional level and at a more international working level.

Table 2.1 provides the definition of Competence-Based Education concept being applied by the institute.

Table 2.1: Definition of the Competence-Based Education (CBE) concept of the Institute

Competence is a cluster of skills, knowledge, insight and attitudes with regard to relevant job-specific situations.
CBE:
- is an interactive system where students are being guided, going from a teacher-centered to a student-centered approach; - challenges a flexible educational approach from institutes and flexible (individual) learning ways; - is a mix of face-to-face (classroom) education and blackboard 'blended learning' and - is an integrated curriculum with competence profiles where HBO (Higher Professional Education) competencies are divided in major and minor education.

Source: Hogeschool InHolland Nederland

This relates to the CBE approach as discussed in the previous chapter and more closely related to the characteristics as defined by Kouwenhoven (as cited in Konwar et al., n.a.) on page 12. It all comes down to the integrated set of interrelated clusters of competencies that are used to measure the students' ability, namely: knowledge, skills and attitude, in an environment related to actual job-specific situations. These competencies are defined in a competence profile. In appendix 4 you will find a summary of the structure of the competence profile of the four degree programs of the institute.

Every institute responsible for higher education strives for excellence and provides the necessary tools to prepare their graduates to enter the labor market without difficulty. The institute provides, with reference to their competence profile, student counseling courses in order to assist the students in obtaining their required competencies. As stated by the provost of the institute during a personal interview on the 27th of June 2013, student counseling (in Dutch, *Studie Loopbaan Begeleiding*) is one of the courses that identify the talent students have. It also focuses on the competencies which students still need to improve in order to advance to the next level. This is one of the advantages of the CBE approach.

Furthermore competencies are also being evaluated from time to time by the curriculum and the working field committee. The Suriname working field committee has a very important role in contributing to the quality of the degree programs in terms of development of the content in relation to the demand of the labor market. If we reflect back on what we have said on page 15 regarding the link between the education sector and the labor market, we can

continue by emphasizing this link. Focusing on their demand and the gaps which they notice that graduates have when performing tasks on a professional level, the working field committee can help to minimize the existing gaps.

The Competence-Based Education approach being applied by the institute is defined in table 2.2.

Table 2.2: Competence-Based structure of the institute

Level of Competence	Area of Competence	Relevant competencies
Client – related (Werken aan de klant)	1.Clients	Giving advise
		Formulate a plan
		Managing of relationships
		Customer service
		Supervising
Organization – related (Werken aan de organisatie)	2.Internal processes	Policy and development of the organization
		Project management
		Quality and control
	3.People	Collaborations (cooperation)
		Leadership skills
		Communication
		Conflict management
	4.Environment	Doing research (to investigate)
		To represent
		Innovative thinking
Personal development (Werken aan jezelf)	5.Professional	Self-management
		Employability
		Empowerment

Source: adapted from Competentiekaart studierichtingen HIS/FHR Institute, 2012-2013

Table 2.2 outlines the three core levels of competence with their corresponding area of competence and the relevant competencies needed for advancement. This CBE structure of the institute is more or less embedded in the Building Blocks Model, which consists of the following three core levels of competence namely, (1) client-related (*werken aan de klant*); (2) organization-related (*werken aan de organisatie*); and (3) personal development (*werken aan jezelf*). The first competence, client-related, focuses on customer service; how to communicate effectively with clients. The second competence, organization-related, focuses on all competencies related to the internal organization. The third competence, personal development, deals with professional performance of the alumni.

In the competence process of the institute there is also a distinction between three important phases that outline the students' advancement chances. These three phases are, (1) qualified for the profession (*beroepsgeschikt*); (2) professional competent (*professionaliserings-bekwaam*); and (3) competent to enter the labor market (*start bekwaam*) [HIS/FHR Institute,

2013]. The relevant competencies will be measured throughout the whole study period and especially during the period of practical training.

In their competence-based curriculum, the institute has defined for each degree program a set of competencies (general and task-specific), which need to be obtained, in order to graduate. The set of competencies needed for each degree program to measure the students' ability throughout their study period are defined in a competence profile which describes; the five Dublin descriptors[1], the ten Higher Professional Education (HBO) core qualifications and the competencies (general and task-specific). As aforementioned, in appendix 4 you can find a summary of the structure of the competence profile of the four degree programs.

2.3. CBE model analysis for FHR Institute

This paragraph focuses on the eight principles and the assessment of the position of the FHR Institute regarding the CBE model developed by Wesselink et al. (2006).

The eight principles of the CBE model
The CBE model by Wesselink et al. (2006) is a tool to assess the competitiveness of programs in vocational education in The Netherlands. An attempt has been made to assess the existing CBE concept of the institute by using this model. The decision to use this model stems from the link between the institute and the Hogeschool InHolland in The Netherlands. The institutes' concept has been developed from the perspective of aforementioned institute in The Netherlands since FHR has a partnership with them. The following CBE assessment for the institute has been formulated after thoroughly studying existing data such as degree programs, business plan '09-'12 and '12-'16 and interviews with the previous and current provost of the HIS/FHR Institute on the curriculum developed.

Referring to paragraph 1.2, the CBE model outlines 8 design principles with 4 implementation levels. These levels specify to which extent a degree program and an institution are competence-based.

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[1] Dublin descriptors give an international orientation of the minimum competencies that bachelor graduates should obtain in order to be able to graduate. *Source: domeincommerce.nl/wordpress/wp-content/uploads/2013/01/Dublin-descriptoren*

Referring to appendix 3 for a complete overview of the CBE model and the CBE level of the institute, the following can be reported for the institute:

Principle 1: The competencies that are the basis for the study program are defined

Level 4 – Completely competence-based: The institute has developed job competence profiles for every study as well as an overview of the three advancement phases needed to complete the study. To iterate these advancement phases: qualified for the profession, professional competent and competent to enter the labor market. There is also cooperation with the working field committee in order to create an adequate link with the labor market. There are frequent meetings, mostly monthly to discuss the link and to evaluate the curriculum.

Principle 2: Vocational core problems are the organizing unit for (re)designing the curriculum (learning and assessment)

Level 3 – Partially competence-based: Even though the institute focuses on the core vocational problems, these need to be the sole purpose for redesigning of the curriculum of the institute. For now it is partially done this way.

Principle 3: Competence development of students is assessed before, during and after the learning process

Level 3 – Partially competence-based: There are indeed assessment processes that the institute applies through the counseling body which is being provided through the course career development. Each student is being followed and has to make their career development plan. What is lacking in the structure of the institute is the involvement of the students in determining the moment and format of assessment. Also lacking is a visible structure of the assessment process.

Principle 4: Learning activities take place in different authentic situations

Level 4 – Completely competence-based: There are indeed various learning activities being proposed and implemented. In accordance with the specified courses, the learning activities are being implemented and linked with the learning activities in practice. Almost all courses have a practical link.

Principle 5: In learning and assessment processes, knowledge, skills and attitudes are integrated

Level 4 – Completely competence-based: Knowledge, skills and attitudes are integrated in the learning and in the assessment processes of the institute. They are being applied at the same time.

Principle 6: Self-responsibility and (self-) reflection of students are stimulated

Level 3 – Partially competence-based: The institute allows the students to determine the way of learning and the time and place of learning which is based on their reflection on the learning process and functioning in vocational settings. Still, the institute needs to focus more on the students' responsibility.

Principle 7: Teachers, both at school and practice, fulfill their roles as coaches and experts in balance

Level 3 – Partially competence-based: Students determine their own ways of learning while teachers assist when needed. What the institute wants is to create a system where teachers are also taking up their role as coaches and experts and not only assist when needed but also stimulate students to formulate learning needs.

Principle 8: A basis is established for a lifelong learning attitude for students

Level 4 – Completely competence-based: The institute focuses on the learning development process of the students. During learning trajectories competencies related to learning and (labour) identity development are integrated on the future careers of students.

The institute measured for half of the principles very high, meaning completely competence-based. The principles 2, 3, 6 and 7 are measured for the institute to be partially competence-based. This means that the institute has some interventions to undertake in order to have a complete competence-based concept. In the next chapter, I will reflect on this assessment from the perspective of the alumni.

3. Research methods and results

The importance of this chapter lies in the process of data collection and analysis. First I will briefly discuss and clarify the methodological choices how the data was collected and present the findings on the Cronbach's Alpha reliability test. Most importantly for this chapter, is the analysis of the data.

3.1. Research design

The choice is made to use a mix-method (triangulation) approach of quantitative and qualitative strategy because both strategies are needed to answer the research question effectively (de Vaus, 2001). A structured online questionnaire was developed in order to carry out statistical analysis such as bivariate and factor analysis. The quantitative data is needed to measure the link between the developed competencies (perceptions of the alumni) and the professional performance in the labor market. The quantitative data will be supported with qualitative data to further interpret the answers given by the alumni. A few important open questions were included in the questionnaire, in order to further interpret answers given by them.

A survey design is chosen to reach the target group of alumni of the HIS Institute. This survey design is needed to describe what competencies have been developed at the institute that has been useful in their professional work. Data from the survey will help explain the link between the education sector (competence-based education of the institute) and the labor market (professional performance of the alumni).

The research population is "all 287 alumni who graduated between 2005 and the first quarter of 2013 from the Hogeschool InHolland Suriname". The alumni were approached by the institute through either telephone calls and/or personal e-mails. Also the use of social media (FHR Facebook page) was used to reach them. Attempts were made to reach the alumni through their peers by asking them to communicate the alumni research and to provide the institute with their contact information. Most of the alumni were reached through personal e-mails.

Even though the institute has a sampling frame with the information of all 287 alumni, the administration showed some hiatus. The hiatus existed because the institute had no recent contact information of some of the alumni. This happened because some alumni have changed their telephone number and email address or they have a private number/ email address and some have moved from their previous home address. This situation made it difficult to reach these alumni. That is why the institute used the aforementioned tools to reach them.

3.2. *Data collection*

The first 8 weeks were focused on literature study, discussing and revising the standard questionnaire, the reliability test and evaluating the database with personal information on the graduates. Before the questionnaire was shared with the respondents, the institute tried to personally call all 287 alumni and an introduction email was send.

The survey took place between June – December 2013 with an extension of one month due to the low response rate. The decision was made to extent the data collection because by the end of the implementation period, the relevant response had not been reached. In the first weeks of the data collection the response rate was 2%. Frequent reminders were sent but the response rate was not more than 1% per week after September. According to the database of FHR, there are 287 graduates between 2005 and April 2013; the goal was to reach all alumni or at least a proportional sample of each degree program but a total of 98 alumni have responded which equals to 34% of the total population size.

Non – response

The data will be interpreted for the 98 alumni but no generalization will be made to the total population of 287 alumni. For a good representation of the population, this study should have reached 165 alumni. The sampling size of 165 alumni is calculated according to a 95% confidence interval with a 5% level of error. See appendix 6 for an overview of the total number of graduates over the period 2005 – 2013 and a specification on the number of alumni reached for this study.

In order to have a relevant sample size to represent the total population and to make sure that all degree programs are well represented in the sample, I decided to work with a stratified

proportional sample. This means that alumni of all four degree programs should be proportionally represented in this study. Table 3.1 outlines the needed stratified proportional sample for this study as well as the attained sample for each degree program.

Table 3.1: Stratified proportional sample

	Degree programs	N	% of total population	Proportional sample	Attained sample
1	MER	128	44.6%	74	51
2	HRM/PA	13	4.5%	7	7
3	BE	105	36.9%	61	28
4	ACC	41	14.3%	23	12
		287		165	98

The needed sample has only been reached for the HRM/PA degree program which also explains the aforementioned remark regarding the interpretation of the data.

Table 3.2 gives an overview of the alumni response and non-response received during the preparation and the implementation phase.

Table 3.2: Overview Alumni Response – Non-response (NR)

		N	Not reached	Expected response	Attained sample	Refusal	No response	Total NR	Total response rate
1	MER	128	28	100	51	4	45	77	40%
2	HRM/PA	13	5	8	7	0	1	6	54%
3	BE	105	64	41	28	1	12	77	27%
4	ACC	41	21	20	12	1	7	29	29%
		287	118 (41%)	169 (59%)	98 (34%)	6 (2%)	65 (23%)	189 (66%)	34%

As mentioned, not all 287 alumni were available for participation in this research. A group of 118 (41%) alumni could not be reached because the institute had no recent contact information which means that 169 (59%) alumni were reached by the institute. From the 169 alumni reached, 6 (2%) alumni refused to participate. This means that 163 (57%) alumni were expected to respond to the survey but 98 (34%) have responded. According to Kooiker, Broekhoff, and Stumpel (2011) the response rate for an online survey is usually between 10-30%. The response rate for this study is 34%.

The total non-response is 189 alumni which equals to 66% of the 287 alumni. Table 3.3 represents the total non-response.

Table 3.3: Non-response

		Not reached	Refusal	No response	Total NR
1	MER	28	4	45	77
2	HRM/ PA	5	0	1	6
3	BE	64	1	12	77
4	ACC	21	1	7	29
		118	6	65	189

The non-response of 189 alumni led to a systematic error based on the following findings,

- The size of the questionnaire (too many questions) which apparently corresponded with a low response rate. The questionnaire is divided in 7 sections each with a set of approximately 20 questions;
- It may be that the ones who have participated are alumni who are interested in this specific topic and would like to share their opinion in order to contribute to the educational reform;
- The ones who did not respond to the online request, excluding the ones who could not be reached, are either not interested, had an unpleasant experience with the institute or had no time during the implementation of the survey to fill in a questionnaire and
- Conducting an online survey has its limitations, meaning that relying only on receiving emails from the respondents could lead to a low response. This reflects back on the two previous conclusions.

Online survey – Electric Paper Evaluation System (Evasys)

This study was implemented by using an online survey, EvaSys[2], which the institute uses regularly to conduct all their surveys. The formulated questionnaire is partially derived from a standard format of the Inholland Institute in the Netherlands. The standard format is used for conducting similar evaluations among alumni in the Netherlands. The only difference is that the evaluations are being conducted separately for all studies. Because this is the first of its kind for the Inholland Institute Suriname, the institute decided that one research should be carried out for all four (4) degree programs among all alumni. The institute made this decision after reflecting on the population size for each study and came up with the conclusion that the population size is too small to implement separate evaluations. This

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[2] Electric Paper Evaluationssystem – EvaSys Education supports the survey process within education. It is a sophisticated internet based survey management system with which the evaluation of academic programs can be carried out quickly and efficiently. See: www.evasys.co.uk/education/overview.html

means that the focus will be on general competencies for all four (4) courses and less on course specific competencies. The focus on the course specific competencies will be in the follow-up research which shall be conducted among the working field committee. For an overview of the competencies used for this study, see appendix 2 the questionnaire section 4 and 5.

Just like any survey, this online survey has its benefits and limitations in terms of the data collection process and information received. The reason for conducting an online survey as a data collection method has to do with reaching the alumni easier through the internet instead of trying to find them personally and conducting face-to-face interviews which is more time consuming and accompanied by a lot of costs. It is also easy to export all data to SPSS for the analysis. Very important limitations are the influence of the size of a questionnaire and as we have concluded earlier, the limited number of responses which leads to a high non-response rate.

Structure of the questionnaire
The questionnaire is divided into seven (7) sections each with a set of approximately 20 questions:

1. General information on the alumni such as year of enrolment, graduation and job status;
2. Background information on profession (status);
3. Job specific activities and career development;
4. Competencies defined by the institute;
5. Necessary competencies in relation to professional performance;
6. Perception on the processes of the institute; and
7. General information on follow-up contribution as an alumnus[3].

It is a structured questionnaire which consists of a few open questions. The questionnaire consists of 4-point and 6-point likert-scale items. The likert-scale items were used in most of the perception (competence related) questions, mostly for the parts 3, 4, 5 and 6. See appendix 2 for a complete overview of the questionnaire. Since the questionnaire consists of a lot of information that is not relevant for the focus of this study, only the needed sections

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[3] Section seven will not be analyzed. The information gathered for this part is not relevant for this paper but for the institute, in order to create an alumni platform.

and questions will be analyzed.

3.3. Data analysis

For the analysis the quantitative program SPSS and MS Excel were used and where necessary hands-on (qualitative) collecting and analyzing of the findings were formulated. The open questions provided valuable data on career development, professional performance (relevant competencies), specifications of the alumni position and their recommendations for improvement of the link between the educational process of the institute and the labor market.

The online survey program made it easy to export all data to SPSS for conducting descriptive and explanatory statistics for the analysis.

The following <u>data analysis techniques</u> were used to analyze and report the data:

- Descriptive statistics. This is a discipline of quantitatively describing the main features of a collection of information. Descriptive statistics provides simple summaries about the sample. These summaries may either form the basis of the initial description of the data as part of a more extensive statistical analysis (Slotboom, 2012). The following descriptive scores were studied for the competencies: mean, median and mode.

- Bivariate analysis: cross-tabulation. Bivariate analysis is a statistical method designed to detect and describe the relationship between two variables (Frankfort-Nachmias, 1997).

- Correlation analysis. Correlation analysis is used to describe the strength and direction of the linear relationship between two variables. We will focus on bivariate correlation because we will explore the relationship between the competencies defined by the institute and the competencies relevant for the professional performance of the alumni in the labor market. The Pearson correlation coefficients (r) can take on values from -1 and +1 (Field, 2009).

- Factor analysis. Factor analysis is a method of data reduction. It is used to find factors among observed variables and it will group these variables with similar characteristics together (Reşatoğlu, 2011). The principal component analysis will be used to measure the validity of the statements of section 4 and 5.

- Cronbach's Alpha. Cronbach's Alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when you have multiple likert questions in a survey that form a scale, and you wish to determine if the scale is reliable[4]. Cronbach's Alpha is expressed as a number between 0 and 1. This technique is used twice: (1) to test whether the statements in the sections are reliable measurements and (2) to test whether the factors identified in the survey findings are reliable factors.

3.4.   Reliability of the data

In order to conduct statistical analysis it is necessary to measure the reliability of the data. As mentioned in paragraph 3.2 a questionnaire was used to carry out this research. The main point of reliability is, every time a respondent fills in the questionnaire, he or she should get the same score if the test is being done at two different points in time. The reliability was measured by using the Cronbach's Alpha for sections 3, 4, 5 and 6.

The Cronbach's Alpha coefficient was measured over four sections of the questionnaire. All questions consisting of the 4- and 6-point likert scale items. In order to view the four sections for the test questionnaire go to appendix 5, this part is derived from the questionnaire. The reliability test was conducted among 4 alumni who took the time to fill-in the test questionnaire for this research.

Section 3 deals with job specific activities divided in 6-point likert scale items. There were 6 job related activities which were brought to 5 after the test was done. The Cronbach's coefficient showed the following,

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[4] See: Statistics.leard.com/spss-tutorials/cronbachs-alpha-using-spss-statistics.php

Table 3.4: Reliability for Job specific activities

Cronbach's Alpha	N of items
.700	6

Categories	Cronbach's Alpha if Item Deleted
1: Informing	.658
2: Advising	.418
3: Counseling	.673
4: Coordination	.501
5: Supporting of Policy	.775
6: Formulation of Policy	.724

There is a strong homogeneity of 0.7 for the set of questions but looking at each job specific activity separately, we notice that "supporting of policy" and "formulation of policy" are lowering the reliability. See the separate coefficients which presents the value that Cronbach's Alpha would be if those items were deleted from the scale. It was decided to combine these two job specific activities.

Section 4 deals with the set of competencies that the alumni have developed during their educational process, and it is divided in 4-point likert scale items. The Cronbach's coefficient showed the following,

Table 3.5: Reliability for acquired competencies

Cronbach's Alpha	N of items
.898	20

For this set of questions there is a high level of internal consistency because the Cronbach's Alpha is 0.898.

Section 5 describes the competencies that the alumni believe to be relevant in their professional experience. This section is also divided in 4-point likert scale items. The Cronbach's coefficient for the set of questions also shows a high level of internal consistency; 0.979. This means that there exists a strong correlation between the items.

Table 3.6: Reliability for competencies students' ability

Cronbach's Alpha	N of items
.979	17

Section 6 describes the rating of the alumni on the processes of the institute. This section is also divided in a 4-point likert scale items. The Cronbach's coefficient showed the following,

Table 3.7: Reliability for perception of the institute

Cronbach's Alpha	N of items
.829	17

There is also a strong homogeneity of 0.8 for these set of questions.

Overall, all four sections have a Cronbach's Alpha coefficient between 0 and 1 ranging from 0.7 to 0.9. This means that they are reliable items and thus can be used to carry out this survey.

3.5. Research findings

The highest response (see below figure) for this study was from the MER alumni, followed by BE, ACC and HRM/ PA alumni. See appendix 6 table 6.1 for an overview of the total number of graduates over the period 2005 – 2013 and a specification on the number of alumni reached for this study.

Degree Programs of the Institute

- 12% Accountancy
- 29% Bedrijfseconomie
- 7% Human Resource Management (Personeel & Arbeid)
- 52% Management Economie en Recht (MER)
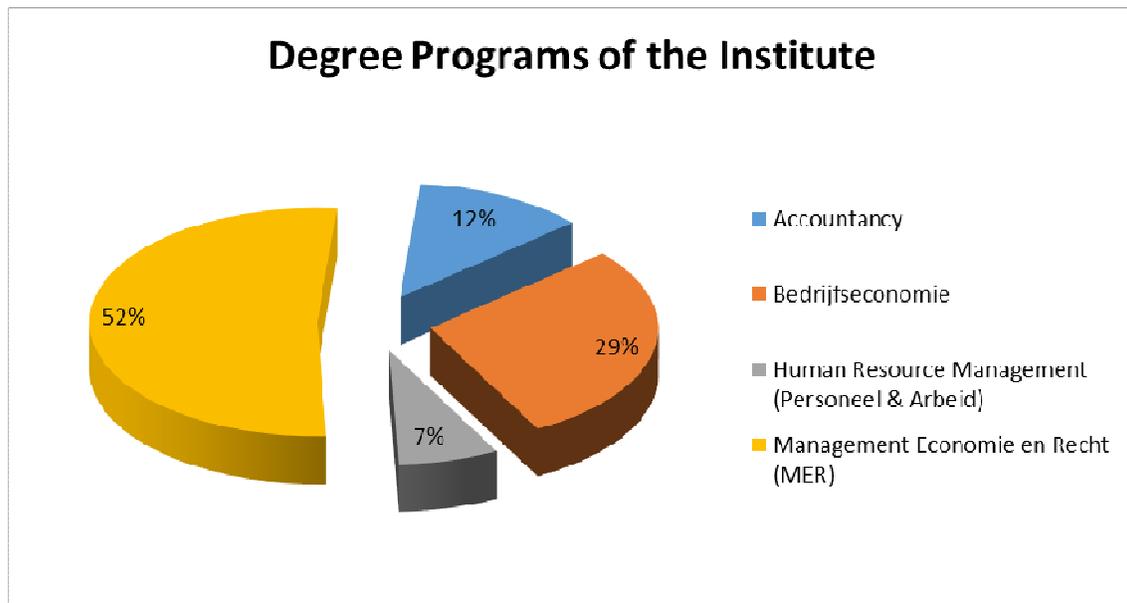
Figure 3.1: Number of response per degree program

Key characteristics

In order to conduct the analysis and reporting of the data, the following key characteristics were defined:

1. Employment: employment within field of study and professional performance job

specific activities, position and degree of education.

2. Career development (lifelong learning): in-service training and personal development.

3. Relevant competencies; competencies as defined by the institute and competencies related to professional performance.

The following is also defined as a key element;

4. Perception on curriculum in relation to professional experience.

3.5.1. Employment

One of the important characteristics to consider when reflecting on the reasons for students to take up a study has to do with their interest in either wanting to earn a degree, finding a suitable job or most importantly having a steady income. In this study employment is defined as a regular full-time paid job (Hussmanns, n.a.).

Employment within field of study

One of the objectives of the education sector is to prepare students for their future profession. That is why this is one of the important characteristics within this study. The following table outlines for this institute if the alumni are working and within their field of study.

Table 3.8: Cross-tabulation between employment status and working within field of study

			Working within field of study		Total
			Yes	No	
Employment status (currently working)	Yes	Count	75	15	90
		% of Total	82.4%	16.5%	98.9%
	No	Count	0	1	1
		% of Total	0.0%	1.1%	1.1%
Total		Count	75	16	91
		% of Total	82.4%	17.6%	100.0%

Most of the alumni are working, 93% of the alumni, while 7 alumni are not working at the moment. After a close look at the data, it is shown that this small number of alumni have decided to continue their educational process on a higher level. The above table clarifies that more than half of the alumni who are currently employed, have mentioned to work within their field of study, 82% of the alumni, while 18% have announced to work outside their field of study. A group of 7 alumni have not answered this question. Among the latter group are 6 of them who were at the time of the study unemployed and 1 missing value among the employed alumni.

Professional performance: Job specific activities

This indicator deals with the professional performance of the alumni, more specifically the main job activities which they carry out daily. The categories 1 to 6, measure the importance of the proposed job activities for each alumnus. Number 1 represents most important/ most applied and number 6 represents the least applied job activity for the profession of the alumnus. The most important job activities for a graduate on higher education as defined by the institute are,

1. Informing of relevant stakeholders: informing of management, clients and other stakeholders.
2. Counseling of employees: counseling of individuals and teams of employees for effective exercising of their responsibilities.
3. Coordination responsibility: coordinate organizational activities and responsible for a good cooperation between the employees.
4. Formulation of policy: responsible for/ or support with the formulation of policy.
5. Advising of clients: advising of clients about personnel, organizational and social issues.
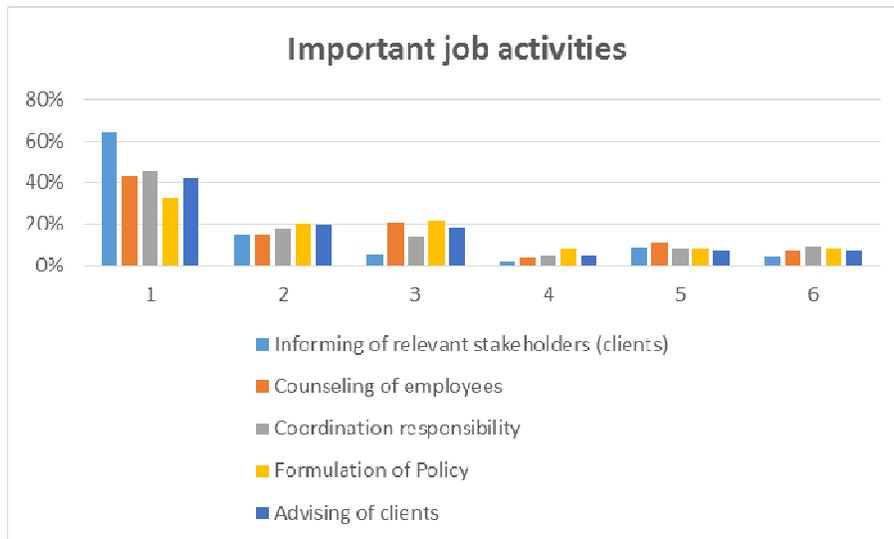
*Figure 3.2: Important job activities of the alumni*

The essence of these findings is to present an overview of the relevance of the job activities as evaluated by the alumni. All five job activities are important for the alumni within their field of work. All job activities have a high score between 1 and 3. This can be concluded from the above figure. As aforementioned these five specified job activities are relevant

competencies for students on higher education to be able to work independently, which the institute focuses on during their study period.

The following are <u>other job activities</u> mentioned by the alumni that are also part of their responsibility,

- administrative activities;
- finance coordination;
- audit of processes;
- control, monitoring and reporting (such as finance and audit);
- coordinate and present training sessions;
- communication with international clients;
- writing of project plans and
- ambassadors role (representative) for the organization.

These are also competencies which the institute focuses on.

Position and degree of education

We will focus on the position of the alumni within the labor market, which job title (function) applies to their position and are they part of the management team. Also important to know, which level of education their employers specify their position such as higher degree (University or HBO) or lower degree (MBO).
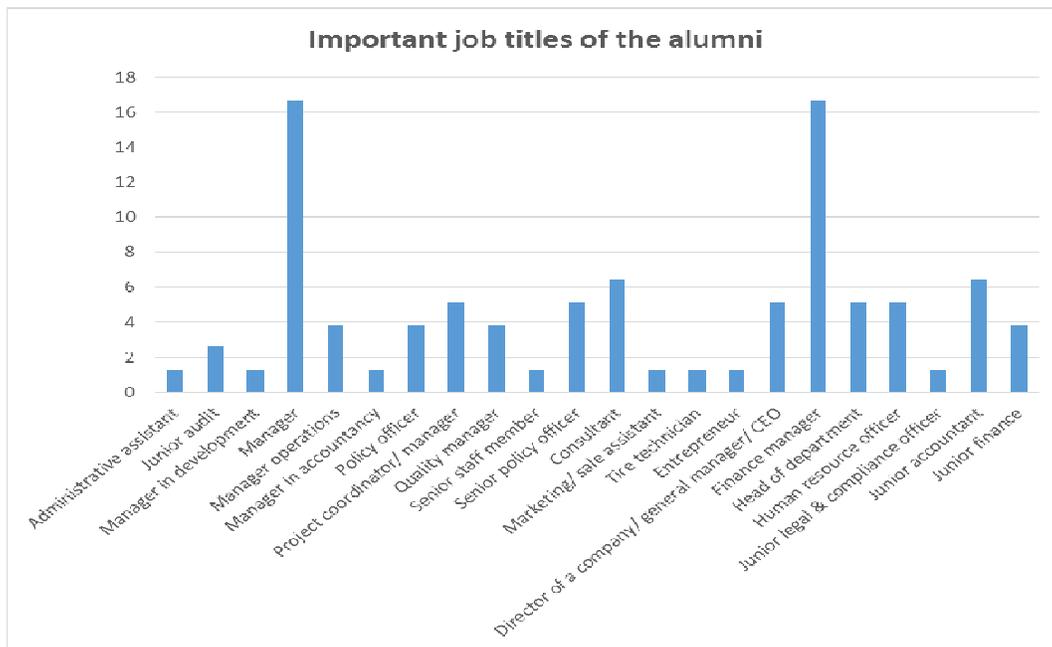

Figure 3.3: Important job titles of the alumni

The alumni are holding various job titles within their field of study. Figure 3.3 summarizes the job titles which they occupy. After thoroughly studying the data, the data showed that all job titles are in line with their field of study.

Reflecting on the following table 3.9, I can conclude that alumni seem to possess positions within their level of education; HBO 71% and some of the alumni even higher on University level 16%. The statistics summarizes the level of education as defined by their employers. In some cases employers appoint employees a position which is below or above their level of education. This was asked to the alumni to know on what level they operate and to measure their responsibility level.

Table 3.9: Cross-tabulation between being part of the management team and appointed level of education

			Appointed level of education				Total
			MBO	HBO	University/WO	Other	
Part of management team	Yes	Count	2	27	6	1	36
		% of Total	2.2%	30.3%	6.7%	1.1%	40.4%
	No	Count	3	21	5	4	33
		% of Total	3.4%	23.6%	5.6%	4.5%	37.1%
	Partially	Count	2	15	3	0	20
		% of Total	2.2%	16.9%	3.4%	.0%	22.5%
Total		Count	7	63	14	5	89
		% of Total	7.9%	70.8%	15.7%	5.6%	100.0%

Only a small number of 8% occupy a position on MBO (Intermediate Vocational Education) level and a small amount of 6% have pointed out to possess a different kind of educational position which is not further defined. It can also be concluded that 40% are part of the management team within their organization and 23% are partially involved in management decisions. This also relates to the important job activities of the alumni. Most of them have pointed out that the job activities as defined by the institute are very important activities within their field of work. These job activities are part of their management position.

3.5.2. Career development

The UNESCO Institute for Education (2001) announced that lifelong learning is recognized as an indispensable tool to enable education to face its multiple current and emerging challenges. Every aspect of life, at both the individual and social level, offers opportunities for both learning and doing. The learning process can occur in education or training institutions, the workplace (on or off the job), the family, or cultural and community settings. Schuller and Watson (2009) have defined a broad definition for this concept: *Lifelong learning includes people of all ages learning in a variety of contexts – in educational*

institutions, at work, at home and through leisure activities. It focuses mainly on adults returning to organized learning rather than on the initial period of education or on incidental learning.

This study shows that half of the alumni have not stopped to invest in their knowledge building process after their bachelor degree. Figure 3.4 gives an overview of the alumni who continued to invest in their development process after graduating from the institute. The figure also shows the alumni who are not involved in any kind of development process at the time of the survey. This is almost half of the alumni, 47%.
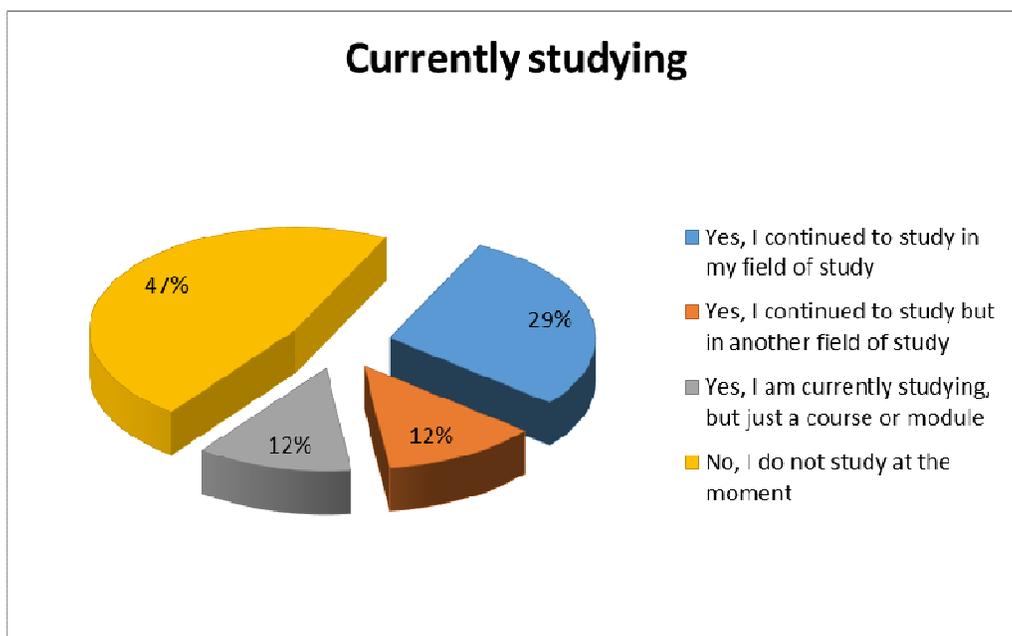
Figure 3.4: Currently studying (lifelong learning)

The alumni who are investing in their development process, most of them, continue their education on master, premaster, bachelor or post HBO level, in their respective field of study, something similar or in their field of interest. Some also mentioned to do a course or a training as part of their work. The alumni are investing in their development process especially in their field of study; they seem to further deepen their interest.

3.5.3. Relevant competencies

This sub-paragraph reflects on the competencies as defined by the institute and relevant for the professional performance of the alumni in the labor market. First, factor analysis and Cronbach's Alpha for section 4 and 5 will be discussed before interpreting the correlation coefficients for these sections.

Factor analysis and Cronbach's Alpha

Factor analysis for *section 4* led to the derivation of three (3) factors. Appendix 6 table 6.4 shows the factor loadings for each item in relation to the various factors. The factor loadings are the weights and correlations between each variable and the factor. In order to be able to extract the factor loadings, the suitability of the data was tested by using the Bartlett's Test of Sphericity ($p < 0.000$) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO = 0.886). The KMO and Bartlett's Test value of this dataset explained the suitability of the implementation of factor analysis.

The table shows that the first factor consists of 11 items with two items overlapping and these items correlate with the organization-related and personal development competencies. This factor explains 29% of the variance. The second factor explains 20% of the variance and it consists of 7 items with two items overlapping. This factor deals with all three competence levels namely client-related, organization-related and personal development competencies. The third factor consists of 4 items dealing with the client-related and organization-related competencies and it explains 18% of the variance. In total the three factors explain 67% of the variability of the data.

The internal consistency of the items making up each factor is high (estimated Cronbach's a = 0.882). See appendix 6 table 6.5 for the internal consistency of each factors.

Factor analysis for *section 5* also led to the derivation of three (3) factors. The KMO (KMO = 0.909) and the Bartlett's Test value ($p < 0.000$) explained the suitability of the implementation of factor analysis for this section. Table 6.6 in appendix 6 shows the factor loadings. The first factor consists of 10 items with two overlapping and overlooking the organization-related and personal development competencies. This factor explains 34% of the variability of the data. The second factor consists of 6 items with two overlapping and overlooking all three competencies. This factor explains 25% of the variance. The third factor consists of 4 items with one overlapping and overlooking the organization-related competencies. This factor

explains 16% of the variance. The overall rate of variation explained by the three factors is 75% of the initial data.

The internal consistency of the items making up each factor is high (estimated Cronbach's a = 0.882). See appendix 6 table 6.7 for the internal consistency of the factors.

Reflecting on the above analysis, I can draw the conclusion that the items (defined competencies) formulated for this survey are not completely reliable and are invalid. Even though there seems to exist a high internal consistency for most factors, there could exist some redundancy among a few of the items. There are three factors with an alpha above 0.9. The reason for the invalid measurements occurred because some of the competencies associated to more than one factor. Factor analysis has proven that the survey (defined competencies) is not a good measure because the factors do not relate to a certain group of competencies namely, client-related, organization-related and personal development competencies. The survey needs to be reformed.

Correlation analysis

The institute has formulated a competence-based structure that consists of a list of necessary competencies for the degree programs (see paragraph 2.2, table 2). For the survey a list of competencies were defined by the institute that are relevant for measurement. Table 3.10 outlines the correlation coefficients between the two sections as well as the scores of the mean for all competencies. Section 4 reflects on the perceptions of the alumni on the competencies that were developed during their study and section 5 reflects on their perception on the competencies defined as being relevant for their current profession.

Table 3.10: Measuring of developed competencies (section 4) and competencies related to professional performance of the alumni (section 5)

Area of Competence	Developed competencies	$\bar{X}$	Competencies related to professional performance	$\bar{X}$	Pearson's correlation coefficient	sig. (2-tailed)
Clients	4.1 How to formulate plans	1.60	5.9 Working according to budgeting and planning guidelines	1.72	.264	.015
Internal processes	4.5 Project management	1.70	5.8 Take up a position as a manager	1.83	.489	.000
People	4.6 Working in a team	1.43	5.13 Collaboration/ Working together	1.33	.563	.000
	4.7 Be a leader	1.85	5.8 Take up a position as a manager	1.83	.646	.000
			5.14 Fulfill an executive (management) function	1.60	.648	.000
	4.11 Effective (verbal) communication	1.64	5.4 Communicate in Dutch	1.38	.436	.000
			5.5 Communicate in English	1.91	.351	.001
	4.13 Applying of research skills	1.93	5.6 Relevant data gathering and	1.68	.554	.000

			data interpretation			
Environment	4.15 Be innovative	2.01	5.12 Be creative in finding new solutions for problems	1.72	.630	.000
			5.15 Applying of other visions and viewpoints	1.59	.568	.000
Professional	4.18 Self-management	1.53	5.1 Work as a professional	1.51	.526	.000
			5.10 Handle stress situations and always keep yourself calm	1.85	.499	.000
			5.16 Self-reflection on own performance	1.44	.395	.000
	4.19 Invest in your career	1.68	5.2 Applying of knowledge and insight	1.56	.463	.000
			5.17 With the relevant learning skills, independently continue with a follow-up study	1.44	.470	.000
	4.16 Contribute to the development of the professional group	2.07	5.3 Be able to find solutions for arguments and problems	1.58	.351	.001
	4.17 Sharing of knowledge and insight with others	1.70	5.7 Sharing of information, ideas and solutions	1.75	.555	.000
	4.20 Social responsibility	1.72	5.11 Take decisions on appointed responsibilities	1.62	.489	.000

Note: This table does not elaborate on all formulated competencies because not all competencies are comparable for both sections. This shows that there is a hiatus in the defined competencies for both sections. The analysis has only been done for the identical competencies.

The output of section 4 shows that the alumni have rated the developed competencies with an estimated score of 2. This implies that the alumni are satisfied with the developed competencies during their study period.

The output of section 5 shows that the alumni have rated the competencies needed for professional performance in the labor market also with an estimated score of 2. This implies that just like previous stated, the alumni believe that the defined competencies by the institute are relevant for their position.

In terms of correlations between variables of both section, the following can be interpreted,

- there are strong correlations for the competencies: teamwork, leadership skills, research skills, innovative thinking, self-management to work as a professional, sharing of knowledge and insight and with a significant level of $p < 0.00$. This means that for these set of variables, the alumni believe that competencies developed during their study contributed to their professional performance. These are more organization-related competencies which the alumni need to maintain for professional appearances at work.

- less strong, moderate correlations we found for the variables: formulation of plans, managing of projects, effective (verbal) communication, self-management for handling stress situations and performing self-reflection on own performance,

investment in own career, contribution to development of the professional group and to be socially responsible. These are more personal development competencies.

The reasons why the correlations are less strong for these variables, has to do with the need that the alumni want the institute to focus on for these competencies. See paragraph 3.5.4, as they have found these gaps to be evident for their professional performance in the labor market.

It can be concluded that the institute has indeed invested in relevant competencies such as personal development, organization-related and client-related in order for the alumni to perform professionally at work. According to the perception of the alumni, these competencies have contributed to their professional performance in the labor market but more emphasis should be placed on certain competencies.

3.5.4. Perception on curriculum in relation to professional experience

This sub-paragraph focuses on the opinion of the alumni regarding the curriculum received, the link between the curriculum and the labor market, whether they were content with the curriculum and if not what recommendations do they propose for revising the curriculum.

Reflecting on the mean scores of this section (see appendix 6 table 6.8), it shows that the alumni are rather satisfied with the curriculum. The average score for this section is 2. The alumni are content with the focus of the institute on the link between their study and their current position in the labor market.

Even though the alumni have mentioned to be rather content with the practical implications (link between theory and practicum), they still believe that the institute should focus on,
- more practical project implementation with a focus on assessing the theoretical knowledge;
- more practical guidance for the law subjects;
- create more tools for students to handle difficult social issues, by offering practical skills for negotiation and counseling; and
- more practical orientation of the demand of the labor market.

The alumni emphasize that the institute should focus on the following competencies that are not sufficiently developed within the studies:

- General competencies: leadership skills, management, analytical ability, communication skills, academic writing skills (reporting), linguistic skills;
- Research competencies: research skills (writing and implementing) and SPSS;
- Job specific competencies: project management and other job specific subjects; and
- More focus on coaching of students by the supervisor for course career development or counseling body (studie loopbaan begeleiding).

To conclude this part, alumni do believe that their curriculum have contributed to their professional performance but have emphasized that there need to be some improvements regarding the link with the practical part of the study. The institute has the opportunity to adapt their current curriculum (education concept) and create an improved link with the labor market. This is one of the characteristics of the CBE concept regarding the professional practice of the studies.

Important qualitative research findings on the link of the studies with the labor market
The alumni have recommended that the institute could do the following, in order to improve the link of the studies with the labor market:
- Organize a course for guest lecturers from time to time. Make students communicate with experts from the labor market and have debates with them. Not only on national level but also experts on international level;
- Improve skills development: create in the first year of study, the possibility to get in contact with actual situations instead of in the last year when students need to graduate;
- Students should be encouraged to start working (preferably as an intern) in their second year of study, instead of waiting until graduation; on one condition that they work in their field of study;
- Create more fieldwork for students, to assess the subjects in reality and also linked to the subjects project implementation and research skills/ market research;
- Linking assignments to actual situations according to the level of working experience of the students; and
- A better communication with the working field committee to find out which competencies are demanded from employees in order to link the curriculum with the labor market and also to guarantee internships for students.

Reflection on CBE process of the institute from the perspective of the alumni

Sub-paragraph 3.5.3 and 3.5.4 are reflecting on the perception of the alumni on the Competence Based-Education (CBE) program of the institute. Comparing this with the CBE process measurement in chapter two, the following can be concluded (for the eight principles)[5]:

- Principle 1: <u>The competencies that are the basis for the study program are defined</u>
  According to the assessment, the institute is completely Competence-based when it comes to this principle. Nevertheless the alumni believe that, improvements are in order. As mentioned earlier, they have proposed the development of some competencies which they believe to be insufficiently focused on by the institute.

- Principle 2: <u>Vocational core problems are the organizing unit for (re)designing the curriculum (learning and assessment)</u>
  The same counts for principle 2 which focuses on the vocational core problems. They believe that there should be an improvement in the link between the institutes' educational program and the actual situations within the labor market. That is why the assessment showed that this principle is partially Competence-based.

- Principle 3: <u>Competence development of students is assessed before, during and after the learning process</u>
  The assessment showed that the institute has partially fulfilled the Competence-based level for this principle. This corresponds with the opinion of the alumni. They believe that there should be more emphasis on individual coaching of the students by the counseling body.

- Principle 4: <u>Learning activities take place in different authentic situations</u>
  The institute has a completely Competence-based assessment for this principle. Still, there are certain aspects which the alumni want to see improved such as, implementing assignments linked with actual situations of the labor market.

- Principle 5: <u>In learning and assessment processes, knowledge, skills and attitudes are integrated</u>
  The institute also has a completely Competence-based assessment for this principle since their educational program reflects on all three basic competencies: knowledge, skills and attitudes. The alumni believe that the institute needs to invest more in specific competencies which they need for their professional performance in the labor

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[5] For a complete overview of the eight principles of the CBE model, see appendix 3.

market and integrate all three of the competencies accordingly.

- Principle 6: <u>Self-responsibility and (self-) reflection of students are stimulated</u>

  The assessment showed that the institutes' educational program is partially Competence-based for this principle. According to the alumni, more focus should be on self-responsibility of students. They propose more practical involvement of the students, starting in the first year of their study and they also propose to stimulate more individual project assignments instead of the usual project team assignments.

- Principle 7: <u>Teachers, both at school and practice, fulfill their roles as coaches and experts in balance</u>

  This principle is also assessed to be partially Competence-based for the institutes' educational program. The alumni believe that more investment is needed in the professional performance of the lecturers so that they can guide the students accordingly. This needs to be improved.

- Principle 8: <u>A basis is established for a lifelong learning attitude for students</u>

  This principle is assessed to be completely Competence-based. Not much can be reported on this principle from the perspective of the alumni since most of them have pointed out to invest in their field of study or interest.

Concluding remarks

This study outlines the perceptions of the alumni on the education received at the Hogeschool Inholland Suriname (HIS) linked to their professional performance in the labor market. The focus was on the Competence-Based Education (CBE) concept used by this institute. In order to report on the perceptions of the alumni, the instrument used is measured to find out if it is valid and reliable. This is needed for further assessment of the institutes' curriculum.

The research findings have only been interpreted for the 98 alumni who have participated in this study. No generalization will be made to the total population of 287 alumni because the sample wasn't randomly selected. In total 82% of the alumni are employed in their field of study and according to these findings, 71% of the alumni possess positions within their level of education and 40% are part of the management team within their organization while 23% are partially involved in management decisions.

The main research question for this report is,

> *To what extent does the alumni survey of the Hogeschool Inholland Suriname measure the link between the perceptions of the alumni regarding, competencies that they developed during their study and their professional performance in the labor market?*

In order to answer this research question, the following sub questions were defined and have been elaborated on:

a. To what extent does the survey measure the perceptions of the alumni on the competencies developed during their study?
b. To what extent does the survey measure the perceptions of the alumni on the competencies related to their professional performance in the labor market?
c. To what extent is this instrument useful and reliable to measure the link between the education sector and the labor market in Suriname?

It can be concluded that the alumni are content with the education obtained during their study period. They are also satisfied with the link between their study and their current position since they believe that their study has contributed to the development of the competencies.

This can be concluded according to the analysis in paragraph 3.5.3 and 3.5.4. Nevertheless the correlation analysis shows that there are strong but also moderate correlations between certain competencies. The alumni want the institute to focus on more general competencies such as communication skills and linguistic skills. Also research and job specific competencies should be focused on such as project management, research skills (writing and implementing) and the use of statistical programs.

The alumni have emphasized that the institute needs to invest in effective ways to link the theory with the labor market and making the studies more practical in terms of real life learning assignments. This is one of the characteristics of the CBE concept. Various experts such as van Kralingen (2003), Wesselink (2006) and Mulder (2009), have emphasized a balanced and effective link by focusing on continuously adapting the relevant learning-teaching tools. The education sector should invest in the development of competencies which will have an effect on the link with the labor market. It all comes down to implementing activities which relate learning and working. That is why these experts have urged the implementation of CBE models in curricula design for various disciplines, to minimize the gap between theoretical knowledge acquired in the educational system and perceptions in labor markets.

Reflecting on the level of competence of the institute, according to the 8 principles of the CBE model, the analysis shows that the institute measured for half of the principles very high, meaning completely competence-based and the other half partially competence-based. The latter means that the institute has some interventions to undertake in order to have a complete competence-based concept. The analysis of the 8 principles of the CBE model, have been defined in paragraph 3.5.4. The Competence-based education concept creates opportunities to improve the link between the education sector and the labor market. The institute has been implementing a CBE approach but more emphasis should be placed on the process and especially the assessment part. The assessment is one of the important factors for contributing to the knowledge building process of the students and to guarantee a professional performance in the labor market.

Interpreting the complete questionnaire for this study has shown that the online questionnaire has its benefits and limitations. One of the benefits is the flexibility to be able to export all data to SPSS for the analysis and a very important limitation is the size of the questionnaire

which possibly led to the limited number of responses (98 alumni) received and this increased a high non-response rate. That is why the conclusion was drawn that the high non-response of 189 alumni led to a systematic error which indicates that the instrument is invalid. The instrument needs to be adapted.

In terms of measuring of the perceptions of the alumni with the assistance of an instrument, the reliability test conducted before the implementation of the study showed that the statements for each section have a high Cronbach's Alpha (between 0.8 and 0.9) which made it reliable to conduct the survey. Nevertheless, after the implementation, comparing of section 4 and section 5 was not possible for all statements since there was no consistency in the formulations of the competencies. For instance most of the client related competencies were not measured because there were no comparable competencies defined for section 5 in relation to section 4. For follow-up study, it is recommended to formulate comparable competencies defined by the institute and relevant for professional performance.

Factor analysis and Cronbach's Alpha were carried out to prove the validity and the reliability of the alumni survey. The current alumni survey instrument of the institute is a useful tool to measure the link between the developed competencies and the professional performance in the labor market and could be completely reliable and valid if there is more consistency between the statements.

The analysis showed that even though there seems to exist a high internal consistency for most factors, there probably exist some redundancy among a few of the items. There are three factors with an alpha above 0.9. The reason for the invalid measurements occurred because some of the competencies associated to more than one factor. Factor analysis has proven that the survey is not a good measure because the factors do not relate to a certain group of competencies namely, client-related, organization-related and personal development competencies. The competencies needed to conduct the survey need to be adapted accordingly. Doing so will result in an instrument which can indeed be used to measure the relevance of the competencies and the link between the developed competencies and the professional performance in the labor market.

Recommendations

Based on the findings of this research, the following recommendations are defined:

The institute should implement an assessment method according to the CBE approach which will guide the students in their educational trajectory. This means that more focus should be placed on the student counseling body. This counseling body makes sure that students have a personal (career) development plan to guide them through their educational trajectory. This recommendation reflects on principle 3 of the CBE model.

The four studies must be evaluated separately. All studies have their own job specific competencies which could be focused on during the survey. A thoroughly assessment can be formulated and used for curriculum improvement for each study. It is also easier to collect, analyze and report on the findings regarding a specific study. This recommendation reflects on principle 1 of the CBE model.

Preferably the institute can implement two assessment periods: (1) during the graduation process or right after the graduation process, measuring of the developed competencies (their perceptions) and (2) two years after graduation, measuring of the developed competencies in relation to their professional performance (their perception). This could be a longitudinal research.

Following on the previous recommendation, it is recommended to formulate a national competence-based qualification framework for all institutes on bachelor level. This is needed to create an integrated CBE approach for Suriname. This framework should be formulated between all relevant stakeholders from the education sector and the working field committee. Not only will this create an integrated CBE approach on bachelor level but also make sure that integration of competence profiles takes place.

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Interviews

Interview with the provost of the FHR School of Business, Mr. D. Abeleven on Thursday 27 June 2013

Interview with the first provost of Hogeschool Inholland Suriname (HIS), Mrs. T. Feurich on Thursday 4 July 2013

Appendices

Appendix 1 List of Abbreviations

AC	: Accountancy
BE	: Business Economics (Bedrijfseconomie)
BBM	: Building Blocks Models
CARICOM	: Caribbean Community and Common Market
CBE	: Competency-Based Education (Competentie Gericht Onderwijs)
CBET	: Competence Based Education and Training – system
ETA	: Employment and Training Administration of the U.S. Department of Labor
EVASYS	: Electric Paper Evaluations system
HBO	: Hoger Beroepsonderwijs
HIS	: Hogeschool Inholland Suriname
HRM/PA	: Human Resource Management also known as Personnel & Labor
MBO	: Middelbaar Beroepsonderwijs
MER	: Management, Economics and Law/ Management, Economie & Recht
MINOV/MOECD	: Ministry of Education and Community Development/ Ministerie van Onderwijs en Volksontwikkeling
NTA	: National Training Authority
SPSS	: Statistical Package for the Social Sciences
UNESCO	: United Nations Educational Scientific and Cultural Organization

Appendix 2   Questionnaire Hogeschool Inholland Suriname (FHR School of Business)

Appendix 3 The eight principles of the CBE model

	Principle	Variables	Not CB	Starting to be CB	Partially CB	Completely CB
1	The **competencies** that are the basis for the study programme are defined.	Putting together and using a job competence profile. Interaction between education and vocational practice.	There is no job competence profile put together.	There is a job competence profile without participation of the vocational practice. This (vocational) competence profile has been used during the (re)design of the curriculum.	There is a job competence profile with participation of the vocational practice and this profile is fixed for a longer period of time. This job comp. profile has been used during the (re)design of the curriculum.	There is a job competence profile with participation of the vocational practice and this profile is tuned frequently with the regional and local vocational practice including the major trends. This job competence profile has been used during the (re)design of the curriculum.
2	**Vocational core problems** are the organizing unit for (re)designing the curriculum (learning and assessment).	To extent to which the vocational core problems determine the curriculum.	There are no vocational core problems specified.	There are vocational core problems specified, which are used as examples in the (re)design of the curriculum.	There are vocational core problems specified. These core problems are the basis for the (re)design of some parts of the curriculum.	There are vocational core problems specified and these lead to the (re)design of the curriculum.
3	Competence development of students is **assessed** before, during and after the learning process.	Recognize earlier developed competencies. Formal assessment. Formulating feedback. Flexibility in format and timing of assessment.	Assessment is the final stage of a learning process and takes place at a fixed moment.	Assessment takes place at several moments. Assessment is used for formal assessment and does not play a role in the learning process of students.	Assessment takes place before, during and after the learning process. Assessment is used for both formal assessment and competence development of students.	Assessment takes place before, during and after the learning process. Assessment is used both for formal assessment and competence development of students. Students determine the moment and format of assessment themselves.
4	Learning activities take place in different **authentic** situations.	Authencity. Diversity. relation with learning at school and learning in practice	Learning in practice is of subordinate importance and there is no relation with learning at school.	Learning at school is in the lead. Sometimes, in some cases a relation is set up with learning in practice or experiences from practice.	Learning activities to a large extent take place in authentic settings, but the relation with learning at school is insufficient.	Learning activities to a large extent take place in diverse authentic settings, and learning activities are clearly related to the learning activities in practice.
5	In learning and assessment processes, knowledge, skills and attitudes are **integrated**.	Integration of knowledge, skills and attitudes.	Knowledge, skills and attitudes are separately developed and acknowledged.	Knowledge, skills and attitudes are sometimes integrated in the learning process. Knowledge, skills and attitudes are assessed separately.	Knowledge, skills and attitudes are integrated in the learning process or in the assessment procedure, not in both processes at the same time.	Integration of knowledge, skills and attitudes is for both the learning and assessment processes, the starting point and therefore applied.
6	**Self-responsibility** and (self-) **reflection** of students are stimulated.	Self-responsibility, self-reflection. Reflection on functioning in the vocational setting. Learning needs of the student.	Learning activities are characterized by external steering: students carry out assignments by means of elaborated instructions. There is no (self-) reflection.	In a limited part of the learning activities, students determined the way of learning themselves. There is hardly any reflection on the learning process and functioning in vocational settings.	Students themselves determined the way of learning, and time and place of learning, based on reflection on the learning process and functioning in vocational settings.	Students are after all responsible for their own learning processes based on their learning needs
7	Teachers, both at school and practice, fulfill their roles as **coaches** and **experts** in balance.	Way of supporting the learning process. Support in the knowledge acquisition process.	There is no question of support. Knowledge transfer is central to the learning process.	To a limited extent responsibility for the learning processes is handed to students. Teachers support through guidance.	Students enjoy a certain level of autonomy in determining their own ways of learning. Teachers observe when students need support and offer it.	Teachers stimulate students to formulate learning needs and based on self-reflection determine their own learning process.
8	A basis is established for a **lifelong learning** attitude for students.	(Labour) identity development. Development of learning competencies. Focus on future career.	There is no attention paid to competencies that are related to learning or (labour) identity development.	In the curriculum there is attention paid to competencies that are related to learning and (labour) identity, but these competencies are not	During learning trajectories competencies related to learning and (labour) identity development are clearly related to	During learning trajectories competencies related to learning and (labour) identity development are integrated on the future careers of students has taken place.

				integrated in the learning process.	vocational core problems and attention is paid to those competencies to a large extent.	

Source: Wesselink, Mulder, van den Elsen, & Biemans (2006)

Appendix 4 Summary of the competence profile of the degree programs of HIS

Dublin– descriptor	Kernkwalificaties	Competenties van de studies			
		MER	HRM/PA	ACC	BE
Kennis + Inzicht	Brede professionalisering; multidisciplinaire integratie.				
Toepassen kennis + Inzicht	Probleemgericht werken; (wetenschappelijk) toepassing; creativiteit en complexiteit in handelen				
Oordeelsvorming	Methodisch en reflectief denken en handelen; besef van maatschappelijke verantwoordelijkheden	Algemene en specifieke competenties			
Communicatie	Sociaal-communicatieve bekwaamheid; basiskwalificering voor managementfuncties				
Leervaardigheden	Transfer en brede inzetbaarheid; brede professionalisering.				

Appendix 5 Test questionnaire for the reliability of the data

Test vragenlijst

Jaar van afschrijving:

Studierichting:

Deel 3 Positie of Functie op de arbeidsmarkt

Wat zijn uw belangrijkste beroepsactiviteiten?

Onderstaand overzicht treft u een aantal beroepsactiviteiten aan. Activiteiten die u het meest uitvoert geeft u "1" en activiteiten die u weinig uitvoert een "6". Komen genoemde activiteiten niet voor in uw werk, dan kunt u aangeven "niet van toepassing"

Belangrijkste beroepsactiviteiten							
	1	2	3	4	5	6	niet van toepassing
Informeren (*het geven van informatie aan de leiding, klanten en overige belanghebbenden*)							
Adviseren (*adviseren van klanten over personele, organisatorische en maatschappelijke vraagstukken*)							
Begeleiden (*begeleiden van individuen en groepen medewerkers in de uitoefening van hun taken*)							
Coördineren (*coördineren van organisatorische activiteiten en verantwoordelijk voor een goede samenwerking tussen medewerkers*)							
Beleidsondersteunend (*ondersteunen bij beleidsformulering*)							
Beleidsontwikkeling (*verantwoordelijk voor het samenstellen van beleid*)							

Deel 4 Aangeleerde competenties

Ik heb geleerd om, ...

	Aangeleerde competenties	goed	voldoende	matig	onvoldoende	Niet van toepassing
1.	Plannen op te stellen					
2.	Beleid en ontwerp van een organisatie te analyseren en vaststellen van doelstellingen, structuren en processen van deze organisatie					
3.	Te adviseren op mijn vakgebied					
4.	Te rapporteren over beroepsmatig handelen					
5.	Een project te managen					
6.	Samen te werken in groepsverband					
7.	Leiding te geven					
8.	Klantbehoefte vast te stellen (Customer service)					
9.	Zelfstandig een relatie bestand op te zetten, beheren en evalueren (Relatiemanagement toepassen)					
10.	Kwaliteit & controle toe te passen in een organisatie (m.a.w. houdt rekening met kwaliteitsaspecten en kan processen plannen, controleren en/of bijstellen)					
11.	Effectief mondeling te communiceren met verschillende doelen en doelgroepen					
12.	Hoe om te gaan met conflicten (conflict hantering)					
13.	Gebruik te maken van onderzoeksvaardigheden					
14.	Een organisatie te vertegenwoordigen (ambassadeursrol vervullen)					
15.	Innoverend te zijn (het signaleren van veranderingen in de omgeving en vertalen naar kansen voor de					

	organisatie)					
16.	Een bijdrage te leveren aan de ontwikkeling van de beroepsgroep (Empowerment)					
17.	Een toegevoegde waarde te leveren, door kennis en inzicht te delen en over te dragen aan anderen					
18.	Mezelf te managen (Het verduidelijken en verantwoorden van het eigen handelen)					
19.	Mijn eigen studieloopbaan vorm te geven (Employability)					
20.	Maatschappelijk bewust te handelen					

Deel 5 Aansluiting opleiding – uw werk

Hieronder treft u een aantal competenties (vaardigheden) en beroepshandelingen aan. Geef uw mening omtrent de bijdrage die de opleiding heeft geleverd ter realisering van deze competenties. U kunt dit doen door het volgende aan te kruisen: goed-voldoende-matig-onvoldoende of indien genoemde competenties niet zijn behandeld in uw opleiding, dan kunt u kiezen voor "nvt"

Ik ben instaat om, ...

	Kennis, inzicht en vaardigheden (competenties)	Goed	Voldoende	Matig	Onvoldoende	Niet van toepassing
1.	Als een professional te fungeren op mijn vakgebied					
2.	Kennis en inzicht toe te passen op een manier die de professionele aanpak van mijn werk of beroep aantoont					
3.	Argumenten en probleem oplossingen op mijn vakgebied aan te pakken					
4.	Te communiceren in de Nederlandse taal					
5.	Te communiceren in de Engelse taal					
6.	Relevante data te verzamelen en te interpreteren, met de nadruk op het formuleren van een oordeel dat gedeeltelijk gebaseerd is op opvattingen van relevante sociale, wetenschappelijke en ethische problemen/zaken					
7.	Informatie, ideeën en oplossingen te verstrekken aan een groep van deskundigen en derden (niet-deskundigen).					
8.	Een positie als manager te bekleden					
9.	Te werken conform budget en planningsvoorschriften					
10.	Om te gaan met stress situaties en mezelf rustig weten te houden					
11.	Besluiten te nemen betreffende toegewezen verantwoordelijkheden					
12.	Op een creatieve manier problemen op te lossen					
13.	Samen te werken					
14.	Als een leidinggevende te fungeren					
15.	Andere visies en opvattingen toe te passen					
16.	Zelfreflectie toe te passen op uw eigen functioneren					
17.	Met de nodige leervaardigheden, zelfstandig een vervolg studie op hoger niveau te gaan volgen					

Deel 6. Oordeel over uw gevolgde opleiding

Hieronder treft u een aantal aspecten van uw gevolgde opleiding aan, met het verzoek deze aspecten te beoordelen. U kunt dit doen door het volgende aan te kruisen: Goed-Voldoende-Matig-Onvoldoende of Niet van toepassing

	Oordeel over uw gevolgde opleiding	goed	voldoende	matig	onvoldoende	Niet van toepassing
1.	De opleiding was uitdagend					
2.	De voorgeschreven literatuur was zinvol					
3.	De praktijkgerichtheid van de opleiding					
4.	De aansluiting op actuele ontwikkelingen					
5.	De inhoudelijke samenhang van het programma					
6.	De internationale oriëntatie van het programma					
7.	De studeerbaarheid van de opleiding (*m.a.w. was er*					

	een balans tussen studie, werk en familie)					
8.	De wijze van toetsen en beoordelen					
9.	De moeilijkheidsgraad van de opleiding					
10.	De deskundigheid van docenten					
11.	De studiebegeleiding					
12.	De beschikbaarheid van docenten					
13.	De lesverzorging van docenten					
14.	De organisatie van het onderwijs					
15.	De informatie over het onderwijs					
16.	De breedte van de opleiding (*m.a.w. verspreiding over aantal studiejaren, aantal vakken en de modulen*)					
17.	De diepgang van de opleiding (*m.a.w. aansluiting van studie en modulen inhoudelijk over de jaren heen, de opbouw van de studie, de competenties, link met de arbeidsmarkt*)					
18.	De verhouding theorie – praktijk					
19.	De keuzemogelijkheden (differentiatie minor)					
20.	De voorzieningen van de hogeschool					
21.	De opleiding als basis voor de arbeidsmarkt					
22.	De aansluiting opleiding met huidige functie					

Appendix 6 Statistical tables

Table 6.1: Total number of graduates

Nr.	Degree programs	Number of Graduates									Population size	Attained Sample
		2005	2006	2007	2008	2009	2010	2011	2012	2013		
1	MER		8	48	16	10	23	41	10	6	128	**51**
2	HRM/ PA			7			1	8	3	1	13	**7**
3	BE	18	13	23	6	12	18	18	10	3	105	**28**
4	ACC		2	11	4	10	5	9	6	2	41	**12**
		18	23	24	26	32	47	76	29	12	287	**98**
Total number of graduates											**287**	**98**

Table 6.2: Alumni enrollment period

Categories	Frequency	Percent
2001 - 2002	5	5.1
2002 - 2003	10	10.2
2003 - 2004	14	14.3
2004 - 2005	5	5.1
2005 - 2006	12	12.2
2006 - 2007	25	25.5
2007 - 2008	14	14.3
2008 - 2009	12	12.2
2010 - 2011	1	1.0
Total	98	100.0

Table 6.3: Year of Graduation

Categories	Frequency	Percent
2005	3	3.1
2006	5	5.1
2007	17	17.3
2008	4	4.1
2009	4	4.1
2010	23	23.5
2011	25	25.5
2012	15	15.3
2013	2	2.0
Total	98	100.0

Table 6.4: Factors of section 4, derived from factor analysis

Rotated Component Matrix[a]			
Competencies	**Component**		
	1	**2**	**3**
1. Plannen op te stellen			.728
2. Beleid en ontwerp van een organisatie te analyseren en vaststellen van doelstellingen, structuren en processen van deze organisatie			.627
3. Te adviseren op mijn vakgebied			.771
4. Te rapporteren over beroepsmatig handelen			.770
5. Een project te managen	.733		
6. Samen te werken in groepsverband	.589		
7. Leiding te geven	.542		
8. Klantbehoefte vast te stellen (Customer service)		.709	
9. Zelfstandig een relatie bestand op te zetten, beheren en evalueren (Relatiemanagement toepassen)		.642	
10. Kwaliteit & Controle toe te passen in een organisatie (m.a.w. houdt rekening met kwaliteitsaspecten en kan processen plannen, controleren en/of bijstellen)		.822	
11. Effectief mondeling communiceren met verschillende doelen en doelgroepen	.586		
12. Hoe om te gaan met conflicten (conflict hantering)	.528	.535	
13. Gebruik te maken van onderzoeksvaardigheden		.554	
14. Een organisatie te vertegenwoordigen (ambassadeursrol vervullen)		.553	
15. Innoverend te zijn (het signaleren van veranderingen in de omgeving en vertalen naar kansen voor de organisatie)	.691		
16. Een bijdrage te leveren aan de ontwikkeling van de beroepsgroep (Empowerment)	.547	.622	
17. Een toegevoegde waarde te leveren, door kennis en inzicht te delen en over te dragen aan anderen	.730		
18. Mezelf te managen (het verduidelijken en verantwoorden van het eigen handelen)	.828		
19. Mijn eigen studieloopbaan vorm te geven (Employability)	.759		
20. Maatschappelijk bewust te handelen	.761		
Percentage of variation each factor explains	**28.8**	**20.3**	**17.6**
a. Rotation converged in 11 iterations.			

Table 6.5: Cronbach's Alpha coefficient for section 4

Factors	Number of items	Cronbach's Alpha
Factor 1	11	0.925
Factor 2	7	0.897
Factor 3	4	0.824

Table 6.6: Factors of section 5, derived from factor analysis

Rotated Component Matrix[a]			
Competencies	**Component**		
	1	**2**	**3**
1. Als een professional te fungeren op mijn vakgebied		.804	
2. Kennis en inzicht toe te passen op een manier die de professionele aanpak van mijn werk of beroep aantoont		.836	
3. Argumenten en probleem oplossingen op mijn vakgebied aan te pakken		.833	
4. Te communiceren in de Nederlandse taal			.698
5. Te communiceren in de Engelse taal			.816
6. Relevante data te verzamelen en te interpreteren, met de nadruk op het formuleren van een oordeel dat gedeeltelijk gebaseerd is op opvattingen van relevante sociale, wetenschappelijke en ethische problemen/zaken			.550
7. Informatie, ideeen en oplossingen te verstrekken aan een groep van deskundigen en derden (niet-deskundigen)	.501	.574	
8. Een positie als manager te bekleden	.688	.606	
9. Te werken conform budgettaire en planningsvoorschriften		.664	
10. Om te gaan met stress situaties en mezelf rustig weten te houden	.803		
11. Besluiten te nemen betreffende toegewezen verantwoordelijkheden	.817		
12. Op een creatieve manier problemen op te lossen	.840		

13. Samen te werken	.594		.501
14. Als een leidinggevende te fungeren	.775		
15. Andere visies en opvattingen toe te passen	.714		
16. Zelfreflectie toe te passen op mijn eigen functioneren	.657		
17. Met de nodige leervaardigheden, zelfstandig een vervolg studie op hoger niveau te gaan volgen	.624		
Percentage of variation each factor explains	**33.5**	**24.9**	**16.2**
a. Rotation converged in 7 iterations.			

Table 6.7: Cronbach's Alpha coefficient for section 5

Factors	Number of items	Cronbach's Alpha
Factor 1	10	0.946
Factor 2	6	0.919
Factor 3	4	0.780

Table 6.8: Mean scores of alumni perception on curriculum of the institute

Descriptive Statistics		
	N	**Mean**
1. De opleiding was uitdagend	92	1.71
2. De voorgeschreven literatuur was relevant	93	1.81
3. De praktijkgerichtheid van de opleiding	91	1.87
4. De aansluiting op actuele ontwikkelingen	93	1.90
5. De inhoudelijke samenhang van het programma	93	1.92
6. De internationale orientatie van het programma	92	2.14
7. Studeerbaarheid van de opleiding (m.a.w. was er een balans tussen studie, werk en familie)	91	2.12
8. De wijze van toetsen en beoordelen	92	2.00
9. Moeilijkheidsgraad van de opleiding	92	1.80
10. Deskundigheid van de docenten	93	2.11
11. De studiebegeleiding	93	2.22
12. De beschikbaarheid van docenten	93	2.15
13. De lesverzorging van docenten	93	2.12
14. De organisatie van het onderwijs	93	2.42
15. De informatie over het onderwijs (curriculum)	92	2.08
16. De breedte van de opleiding (m.a.w. verspreiding over aantal studiejaren, aantal vakken en de modulen)	92	1.80
17. Diepgang van de opleiding (m.a.w. aansluiting van studie en modulen inhoudelijk over de jaren heen, de opbouw van de studie, de competenties, link met de arbeidsmarkt)	91	1.93
18. De verhouding theorie - praktijk	93	1.96
19. De keuzemogelijkheden (differentiatie minor)	86	2.30
20. De voorzieningen van de hogeschool	91	2.35
21. De opleiding als basis voor de arbeidsmarkt	90	1.93
22. De aansluiting opleiding met huidige functie	86	1.85
Valid N (listwise)	73	