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## **The role of brand identification in alumni support to their alma mater**

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## **ABSTRACT**

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Universities around the world are facing global competition and challenges to finance their main functions - research and education. This study focused on the role of graduates, alumni, in the success of a university. The purpose of this study was to examine the role of brand identification in alumni willingness to support their alma mater. The research concentrated on finding out what is the relationship between brand identification and its antecedents (prestige, satisfaction, interpretation of brand) to alumni willingness to promote university, participate in university activities and support financially by donating money to university's research. The research method was quantitative and the data was collected via online survey from 569 alumni of a Finnish university.

The findings suggest that there is a strong relationship between brand identification and alumni support. The stronger brand identification is, the more willing alumni were to promote university, participate in university activities and support financially. Based on the research, it is beneficial for universities to invest in brand development in order to get alumni to act as ambassadors of the university after their graduation.

## TIIVISTELMÄ

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Yliopistot ympäri maailman kohtaavat globaalia kilpailua sekä haasteita rahoittaa päätehtäviään – tutkimusta ja koulutusta. Tämä tutkielma keskittyi tutkimaan yliopistosta valmistuneiden alumnien roolia yliopiston menestyksessä. Tutkielman tarkoituksena oli selvittää, millainen suhde brändiin samaistumisella (brand identification) ja sen osatekijöillä maineella (prestige), tyytyväisyydellä (satisfaction) ja brändin tulkinnalla (brand interpretation) on alumnin halukkuuteen suositella yliopistoa, osallistua mukaan yliopiston toimintaan ja tukea taloudellisesti lahjoittamalla rahaa yliopiston tutkimukseen. Tutkielman empiirinen osa toteutettiin kvantitatiivisena kyselytutkimuksena 569:lle suomalaisen yliopiston alumnille.

Tutkimuksen tulokset osoittivat, että brändiin samaistumisella ja halukkuudella tukea kotiyliopistoon on selvä yhteys. Mitä korkeammalla tasolla samaistuminen oli, sitä todennäköisemmin alumni oli halukas suosittelemaan kotiyliopistoon, osallistumaan mukaan sen toimintaan sekä lahjoittamaan rahaa. Tutkimuksen perusteella voidaan olettaa, että yliopistojen kannattaa panostaa brändin kehittämiseen, jotta alumnit ovat halukkaampia toimimaan yliopiston lähettiläinä valmistumisen jälkeen.

## **PREFACE**

Finally it's done.

I would like to thank my professor Sanna-Katriina Asikainen for her professional support, kind words and patience in this long process of thesis writing. It was surprising to me that the most challenging study courses are the ones that stay in your mind and teach you the most – I will try to remember that also in the future life.

My years as a student at LUT were full of friends, new experiences, unforgettable parties and sometimes even intensive studying. The spirit of Skinnarila is something we all should cherish for the rest of our lives.

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Erityiskiitos elämäni parhaat miehet Jussi ja Noel.

Lappeenranta 28.5.2015

Elina Reponen

LUT Alumna

## Table of Contents

1	Introduction.....	1
1.1	Background of the research.....	1
1.2	Research questions and objectives .....	4
1.3	Literature review .....	5
1.4	Theoretical framework .....	6
1.5	Hypotheses .....	7
1.6	Key concepts .....	8
1.7	Delimitations .....	9
1.8	Research methods.....	10
1.9	Structure of the research .....	11
2	Brand identification.....	12
2.1	Antecedents of identification .....	15
2.1.1	Prestige .....	16
2.1.2	Satisfaction .....	17
2.1.3	Interpretation of brand.....	18
2.2	Supportive outcomes of brand identification .....	19
2.2.1	Promotion.....	20
2.2.2	Participation .....	20
2.2.3	Financial support.....	21
2.3	University as a brand .....	23
3	Methodology.....	25
3.1	Measures .....	25
3.1.1	Brand identification .....	26

3.1.2	Prestige .....	26
3.1.3	Satisfaction .....	27
3.1.4	Interpretation of brand.....	28
3.1.5	Promotion.....	28
3.1.6	Participation .....	29
3.1.7	Financial support.....	30
3.1.8	Background questions .....	30
3.2	Sampling and response rate .....	31
3.3	Data collection and coding.....	32
4	Findings.....	33
4.1	Lappeenranta University of Technology .....	33
4.2	Description of the respondents .....	34
4.2.1	The respondents .....	34
4.3	The measurement scales.....	37
4.3.1	Factor analyses.....	37
4.3.2	Final summated scales .....	41
4.4	Hypotheses testing .....	43
4.4.1	Regression analyses.....	43
4.4.2	Summary of the results .....	50
5	Conclusions.....	52
5.1	Reliability and validity of the research.....	52
5.2	Theoretical implications .....	54
5.3	Managerial implications .....	57
5.4	Limitations and suggestions for future research .....	58
	References.....	60

## **List of figures**

Figure 1. Theoretical framework.	7
Figure 2. Genders of the respondents.	34
Figure 3. Nationalities of the respondents.	35
Figure 4. The highest degrees of respondents.	36
Figure 5. Study fields of the respondents.	36
Figure 6. Yearly income of respondents.	37
Figure 7. Final theoretical framework	57

## List of tables

Table 1. Hypotheses of the research.	7
Table 2. Brand identification items and statements.	26
Table 3. Prestige items and statements.	27
Table 4. Satisfaction items and statements.	27
Table 5. Interpretation of brand items and statements.	28
Table 6. Promotion items and statements.	29
Table 7. Participation items and statements.	29
Table 8. Participation items and statements.	30
Table 9. Background questions and possible answers.	31
Table 10. Rotated final factor analysis of prestige and satisfaction.	38
Table 11. Rotated final factor analysis of interpretation of brand and brand identification.	39
Table 12. Rotated final factor analysis of promotion, participation and financial support.	40
Table 13. Final scale reliability analyses.	42
Table 14. Correlations between promotion, prestige, interpretation of brand and brand identification.	44
Table 15. Correlations between participation, prestige, satisfaction, interpretation of brand and brand identification.	45
Table 16. Correlations between financial support, prestige, satisfaction, interpretation of brand and brand identification.	45
Table 17. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to promotion.	46
Table 18. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to participation.	47
Table 19. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to financial support.	49

Table 20. Regression results of antecedents of brand identification in relation to brand identification.	50
Table 21. Summary of the hypotheses and results.	51

# 1 INTRODUCTION

This first chapter acts as an introduction to the thesis. It consists of background of the study, research questions and objectives, literature review, theoretical framework, key concepts and delimitations. In the end of the chapter also research methods and the structure of the study are presented.

## 1.1 Background of the research

Universities around the world are facing global competition and challenges to finance their main tasks - research and education. This study focuses on the role of graduates, alumni, in the success of a university and if there is something that universities can actively do to get their former students to act as brand ambassadors and support their alma mater. In Finland, active management of alumni relations in universities is still quite new phenomenon and most of the earlier literature of the topic is based on research made in the context of more established alumni culture countries like the United States.

In year 2009, a new Universities Act (Finlex 2015) was introduced in Finland. It defined the mission statement of Finnish universities as follows:

*“The mission of the universities is to promote free research and academic and artistic education, to provide higher education based on research, and to educate students to serve their country and humanity. In carrying out their mission, the universities must promote lifelong learning, interact with the surrounding society and promote the impact of research findings and artistic activities on society.”*

The latter part of the mission statement is called the “third mission” which is supposed to support the other two: research and education. Lifelong learning, interacting with the society and promotion of research findings to companies and organizations can all be seen from the point of view of university’s alumni relations. Universities are responsible for offering their alumni possibilities to continue studies also after graduation. Alumni also often

form a connection between universities and organizations as a part of the science community outside of the campus. In this role they can contribute to universities' mission for example cooperating in research projects in order find new solutions that benefit their organization and the society as a whole.

From universities' point of view, good relationships to their graduates can be very beneficial. In order to build the relationship further, it must give something for both parties. Typically universities offer their alumni possibilities to network with other alumni, university's faculty and current students and keep them updated with the latest news on findings of university's research. Depending on university, alumni can also be offered for example career guidance, mentoring, additional education, alumni travels and sporting events. In countries with strong alumni culture (for example the United States), alumni are often willing to give back to their alma mater as a thank you for their time at the university. Their circumstances are though different than here in the Nordic countries: public universities get only partial funding from the government, students might pay high tuition fees and alumni are expected to participate in university's fundraising. (Atkinson & Stewart 2011)

In Finland universities have started to pay attention to their alumni relations for the first time in the late 1980's. Not until the late 1990's, the importance of alumni relations was identified in majority of Finnish universities. Usually alumni activities were organized as own separate alumni associations working closely with university. Recently there has been a trend to move from associations to more centralised model to manage university alumni relations because of their importance to university's success. (Järvi 2014; Armila 2015; Tampereen yliopisto 2015)

The new Universities Act made Finnish universities as independent legal persons and gave them autonomy in internal administration and to pursue business activities (Finlex 2015). At the same time started the first national fundraising campaign in all Finnish universities with government fund matching (Opetus- ja kulttuuriministeriö 2015). Universities with already tight relationships with alumni were able to ask for their support, as others

contacted their alumni for the first time in larger scale to ask for donations, with not so successful results. (Armila 2015)

The current environment for Finnish universities has been quite turbulent. Some decision makers have suggested that the number of universities should cut down from 14 to a half or even less. (Elinkeinoelämän keskusliitto 2015; Valtanen 2015). Also Finnish government have presented new cuts for the funding of universities (Valtioneuvosto 2015). Universities themselves have emphasized the need for specialization and collaboration in order to reduce overlap between the universities. (Honka 2015)

In search for differentiation, universities have turned to practices typically associated with business and for-profit sector, like branding. Possibly one of the most important benefit for branding in universities is the ability to offer alumni and students a sense of belonging through "life-long membership" (Curtis et al. 2009). In this study, branding and especially brand identification are researched and their relationship with alumni support is investigated. Usually universities benefit the most when alumni want tell others about their positive study experiences and when they are willing to use their time for example to give a lecture or mentor a student.

Also financial support through fundraising is again topical since the second national fundraising campaign of Finnish universities started in the end of year 2014 and lasts until 2017. The charitable giving culture in Finland is still developing, since it is still considered widely that by paying taxes you already finance a broad selection of functions in the society. Finnish people do still donate money and a very good example of that is the crowdfunding campaign for the new children's hospital, which has raised already over 34 million euros from private donors. (Riikonen 2015; Uusi Lastensairaala 2015)

## **1.2 Research questions and objectives**

The objective of this research is to examine the relationships between brand identification, its antecedents and three dimensions of alumni support (promotion, participation and financial support) in the context of universities.

The main research question is:

**What is the relationship between brand identification and alumni support (promotion, participation, financial support) to their alma mater?**

The supportive sub questions are:

**What is the role of prestige on alumni support to their alma mater?**

**What is the role of satisfaction on alumni support to their alma mater?**

**What is the role of interpretation of brand on alumni support to their alma mater?**

This research emphasizes the role of brand identification in the relationship between university and its alumni, by investigating the effect on brand identification to different supportive outcomes: promotion, participation and financial support.

In order to explain the antecedents' role of the supportive outcomes, the supportive research questions are formed. Every antecedent of brand identification is examined in relation to every supportive outcome to gain more understanding of the matter.

Previous literature have not studied the relationship between antecedents of brand identification directly to the supportive outcomes of brand identification in higher education context. This study tries to fill this research gap in the literature.

### **1.3 Literature review**

Theoretical part of the study is based on the current literature, which has been collected from scientific articles and other publications, books and web-based information. The empirical part of the thesis will be discussed extensively later in chapter 3.

Identification to an organization was firstly introduced in the late 1950's when Foote (1951, cited in Edwards 2005) and Argyris (1957, cited in Brown 1969) brought the concept of organizational involvement to the discussion. The impact of the organizational identification on the well-being of the organization and its members have been recognized already in the late 1960's (Brown 1969). The topic has been in the interest of many researchers till recent years (for example Mael and Ashforth 1992; Dutton et al. 1994; Bhattacharya et al. 1995; Kim et al. 2001, Ahearne et al. 2005; Curtis et al. 2009; Porter et al. 2011; Boenigk and Helmig 2013; Stephenson & Yerger 2014).

In the earlier literature, the antecedents of brand identification are recognized as prestige (Ahearne et al. 2005; Porter et al. 2011; Kim et al. 2010; Arnett et al. 2003; Mael and Ashforth 1992), satisfaction (Boenigk and Helmig 2013; Porter et al. 2011; Kuenzel and Halliday 2008; Ahearne et al. 2005; Bhattacharya et al. 1995; Mael and Ashforth 1992) and interpretation of brand (Stephenson & Yerger 2014). These are accepted as antecedents of brand identification in this study.

Previously in the literature researchers have found identification to be positively related to word-of-mouth support (Kuenzel and Halliday 2008; Ahearne et al. 2005; Bhattacharya and Sen 2003; Kim et al. 2001; Dutton et al. 1994). Also the relationship between identification and organizational contact activities (like attending events) have been researched and tested (Mael and Ashforth 1992). Some scholars have also proved the link between

identification and college donations (Porter et al. 2011; Kim et al. 2010; Arnett et al. 2003; Mael and Ashforth 1992). These are accepted as supportive outcomes of brand identification in this study.

When examining earlier literature related to university alumni, it is clear that it is mostly focused on alumni giving back to their alma maters, and much of this work focused solely on charitable giving (Connolly and Blanchette 1986; Clotfelter 2003; Okunade et al. 1994; Wunnava and Lauze 2001; Baade and Sundberg 1996b). University sports and their connection to donations have also been examined in many studies (Sigelman and Carte 1979; Baade and Sundberg 1996a; Tucker 2004; Turner et al. 2001; Brooker and Klastorin 1981). Some researchers (Weerts and Ronca 2007; Farrow and Yuan 2011) have also studied other ways to support, like alumni volunteering and advocacy. Also, careers and achievements of alumni after graduation (Dellow and Romano 2002; Pike 1994) have been studied by researchers.

#### **1.4 Theoretical framework**

Theoretical framework describes the structure of the research and illustrates the theory on which the research is built on. The framework consists of the overall topic of brand identification, including antecedents of brand identification (prestige, satisfaction, interpretation of brand) and the three dimensions of supportive outcomes of identification: promotion, participation and financial support. The arrows illustrate the relationships between the different components and outcomes. The bold arrows are emphasized to relate to the main research question "*What is the relationship between brand identification and alumni support (promotion, participation, financial support) to their alma mater?*" and the other arrows are related to the three supportive sub questions: "*What is the role of prestige on alumni support to their alma mater? What is the role of satisfaction on alumni support to their alma mater? What is the role of interpretation of brand on alumni support to their alma mater?*". Dashed lines are the relationships which are already proven in the previous literature: the positive relationships between prestige, satisfaction, interpretation of brand and brand iden-

tification. These are not hypothesized in this study, but the relationships are tested for validation. Figure 1 presents the theoretical framework of the study.

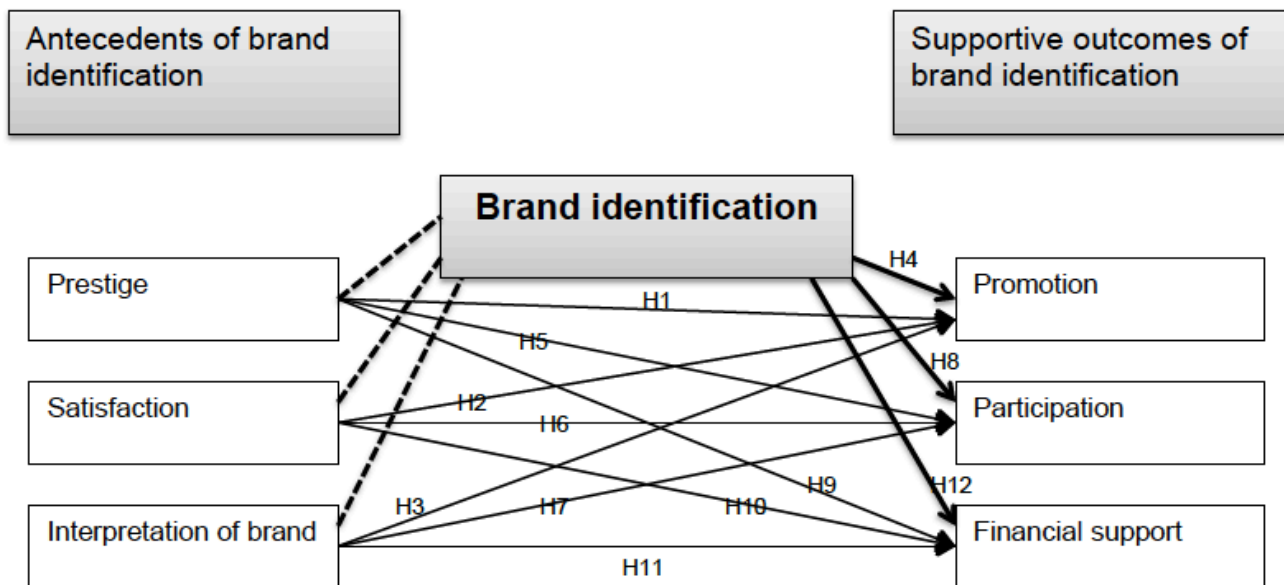


Figure 1. Theoretical framework (modified from the model of Stephenson & Yerger 2014)

## 1.5 Hypotheses

Based on the theoretical framework (Figure 1), 12 hypotheses are formed and tested later in the empirical part of the study (on chapter 4). Table 1 presents the hypotheses of the research.

Table 1. Hypotheses of the research.

H1	Prestige will be positively associated with promotion.
H2	Satisfaction will be positively associated with promotion.

H3	Interpretation of brand will be positively associated with promotion.
H4	Brand identification will be positively associated with promotion.
H5	Prestige will be positively associated with participation.
H6	Satisfaction will be positively associated with participation.
H7	Interpretation of brand will be positively associated with participation.
H8	Brand identification will be positively associated with participation.
H9	Prestige will be positively associated with financial support.
H10	Satisfaction of will be positively associated with financial support.
H11	Interpretation of brand will be positively associated with financial support.
H12	Brand identification will be positively associated with financial support.

## 1.6 Key concepts

In this chapter, the definitions of the key concepts of the research are presented.

**“Identification”** is defined as the defining of the self in terms of an association with brand or an organization. Brand identification is defined further as oneness with a brand. A person with strong brand identification experiences success and failures of a group as their own. (Jiménez-Castillo et al. 2013; Mael and Ashforth 1992; Dutton et al. 1994)

**“University brand”** is defined by Bennett and Ali-Choudhury (2009) as “a manifestation of the institution’s features that distinguish it from others, reflect its capacity to satisfy students’ needs, engender trust in its ability to deliver a certain type and level of higher edu-

cation, and help potential recruits to make wise enrolment decisions". In this study, university brand is considered from the alumni point of view.

**"Prestige"** is explained as the perception of the brand held by relevant outsiders and from the individual's point of view it's about beliefs about the perception of the brand held by others. (Ahearne et al. 2005)

**"Satisfaction"** is defined as the fulfillment of one's expectations. In this study it is explored in the context of study experience. (Stephenson and Yerger 2014)

**"Interpretation of brand"** is the interpretation of the brand in the mind of the consumer. In this study, interpretation of brand is defined with indicators of attractiveness and self-expressive value. (Stephenson and Yerger 2014)

**"Alumni"** is the plural form of alumnus, which means a person who has attended or has graduated from a particular school, college or university. Word originates from Latin and the original meaning is foster son, pupil. In this study, alumni refers to all graduated students of the case university. (Merriam-Webster 2015)

**"Alumni support"** refers in this study to word-of-mouth promotion about case university as study place or as research partner, participation in university activities (giving time to university) and financial support given as an individual or as a representative of an organisation (donating money to university).

## 1.7 Delimitations

In this chapter, the delimitations of the research are presented.

The literature has established several antecedents of brand identification. This research is limited to focus mainly on prestige, satisfaction and interpretation of brand as brand identification antecedents. Also there are several different supportive outcomes explored in the

literature, but only promotion, participation and financial support were chosen for this research.

The empirical part covers alumni of only one Finnish university. The respondents of the survey have already expressed their interest to keep a relationship with the case university, since they have updated their contact information after graduation. Thus, the research is limited to relate to whole alumni population of the case university. The survey was sent out only in English, even though the majority of respondents were Finnish. There might be some translation misunderstandings which can effect the results.

Also, there was no pretesting done for the survey, which might have resulted in some moderations for the survey questions. Respondents which were both alumni and staff of the case university, had trouble answering to some statements because the questions were originally intended for alumni working outside of the case university.

When the results of supportive outcomes of brand identification and its antecedents are examined in the empirical part of the research, it is good to consider that the measures measured only intended behaviour, willingness to support, and not the actual behaviour. Typically people estimate their behaviour to be more positive than the actual behaviour is.

## **1.8 Research methods**

In this chapter, the methods of the research are discussed. A wide literature review of academic articles was conducted as the basis for theoretical part of the research. Hypotheses were formed upon theory and prior research.

Quantitative research method are used to test the hypotheses later on. A survey with questionnaire was formed in order to find out what are the relationships between brand identification, its antecedents (prestige, satisfaction and interpretation of brand) and supportive outcomes (promotion, participation and financial support).

The survey was sent to all alumni of the case university in their customer relationship management system with a valid email address. Factor analyses were used to form measures and hypotheses were tested with regression analyses.

## **1.9 Structure of the research**

This thesis is organized as follows. In the first chapter, the background of the research is described and the objections as well as the main research question and the supportive questions are presented. Next, the literature review is presented and based on that the theoretical framework is built. In the end of first chapter definitions of the key concepts, delimitations of the study, used research methods and the structure of the research are presented.

The introduction chapter is followed by a theory chapter, in which the concepts of brand identification, prestige, satisfaction, interpretation of brand, promotion, participation and financial support are discussed. Hypotheses are formed and presented upon the information provided by prior literature.

After theory chapter follows methodology chapter, in which the measures are developed and discussed. All the items used in the survey are presented. In the end of the methodology chapter sampling, response rate, data collection and coding are discussed.

The findings of the study are presented in the chapter 4. First, the case university Lappeenranta University of Technology (LUT), is briefly introduced. After this the respondents of the survey are described. In the end of the chapter, measurement scales are presented and hypotheses are tested.

In the last chapter, the conclusion are made. Reliability and validity of the research are discussed first. Next, the most important findings of the study are presented with theoretical and managerial implications. Finally, limitations of the research are described and future research recommendations are presented.

## 2 BRAND IDENTIFICATION

Brand identification is defined as the defining of the self in terms of an association with brand or an organization. A person with strong brand identification experiences success and failures of a group as their own. (Jiménez-Castillo et al. 2013; Mael and Ashforth 1992; Dutton et al. 1994)

In the field of organizational identification, there have been inconsistent definitions of the construct. Researchers (for example Brown and Williams 1984; Mael and Ashforth 1992) have proposed to base the concept of organizational identification on social identity theory. According to social identity theory, the self-concept is comprised of a personal identity, encompassing abilities and interests, and a social identity, encompassing salient group classifications. Individuals tend to classify themselves and others into various social groups such as organizational membership, gender and age cohort. Social identification is the perception of belongingness to a group classification. Social identity theory proposes that individuals wish to belong to groups that compare favourably with them and which differentiate from other groups, because this leads to positive evaluations of themselves. (Mael & Ashforth 1992; Tajfel and Turner 1985).

However, social identification does not rule out belonging to other groups (Hogg and Abrams, 1988). Arnett et (2003) have researched the concept of identity salience, which means that people have several identities, meaning self-conceptions or self-definitions, in their lives. They also argued that in the context of organization-individual relationships, identity salience may be an important construct to relationship-inducing factors, such as satisfaction and positive interaction.

The concept of social identification relates to a person's sense of belonging to a certain group or organization. Therefore, a person's identification with a certain brand or a certain company makes that person differentiate the brand from others. Social identification theory is widely used in social psychology. (Bhattacharya et al. 1995; Mael & Ashforth 1992).

Feeling of belonging instills a sense of identification. Dutton et al. (1994) suggested the strength of identification refers to the extent that which the self-concept is tied to the organization. Identification triggers an individual to psychologically perceive a bond with the group such that their fate is intertwined with the faith of the group. An individual who identifies with the organization is assumed to work instinctively to benefit the organization (Stephenson & Yerger 2014; Ouchi 1980).

There is a clear difference between brand identification, loyalty and commitment. Loyalty is the degree to which an individual feels devoted to the brand object. (Wymer 2003). Commitment focuses on the attitudes one holds in regards to the organization. (Ashforth et al. 2008). The individual and the organization remain separate entities when talked about loyalty and commitment, where as identification is perceived as oneness with the organization. (Stephenson & Yerger 2014)

According to Kim et al. (2001) the development of brand identification affects the building of a relationship between brand and individual. When brand seems attractive to an individual, brand identification is created. Brown (1969) suggests that identification depends on satisfactions and anticipated goal achievement derived from activities which are membership-bound, ego-involving and intrinsically motivating. A psychological bonding is thought to occur when organizational members take the defining characteristics of the organization as defining characteristics of themselves (Brown 1969; Dutton et al. 1994).

Becerra and Badrinarayanan (2013) suggest that brand trust influences brand identification. Brand trust refers to the willingness of an individual to rely on the ability of the brand to provide its stated function. Trusting a brand goes beyond expectations about the product attributes or performance and includes emotional evaluations as well. When trust is formed in a brand, the relationship with the brand becomes highly valued and individuals attempt to maintain the relationship by becoming psychologically and emotionally committed to the brand. Through brand identification individuals can demonstrate their belongingness with a trusted brand. (Chaudhuri and Holbrook 2002)

Reade (2001) suggests that organizational identification is often measured in terms of shared values and goals between the individual and the organization. When organizational identification is strong, individuals start to see organization as part of themselves (Dutton et al. 1994) and in doing so they start to feel oneness with the organization (Ashforth and Mael 1989). According to Oakes and Turner (1986) identification is related to the perceived distinctiveness of the organization's values and practices compared to other organizations.

Underwood et al. (2001) argues that purchase and consumption of brands enable individuals to build their identities. When individuals perceive that brands have characteristics that they consider as central to their own identities, they include the brand's characteristics into their self-identity and self-definition and communicate such self-definition also to others. As a result, when consumers identify with specific brands, they form a psychological relationship with the brand, favour the brand over other brands and work instinctively to the benefit of the brand (Kuenzel and Halliday 2008).

Wilkins et al. (2015) have studied the effects of social identification and organizational identification in higher education. They examined the relationship between social identification and student's commitment to study, academic performance, and satisfaction with his/her programme and institution. Their results indicate that student-organizational identification perceptions are strongly linked with student commitment and satisfaction.

Hong and Yang (2009) have shown how student-organizational identification can lead to other benefits for institutions, such as positive word of mouth. Organizational identification develops and grows over time, so Einwiller et al. (2006) suggest universities should actively attempt to build student-university identification as soon as students start their studies. Di Battista et al. (2014) have found that student identification with a university moderates the relationship between sense of justice and extra-role behaviours.

Previous literature has found many ways strategies to create identification in an organization. Bhattacharya et al. (1995) suggest that organizations should (1) dedicate to the customer and surpass customer expectations, (2) form customer support groups with membership, (3) provide their customers with opportunities to display their attachment or association towards the organization, (4) actively align with and support social causes and (5) offer distinctive human resources policies for their employees. According to Drumwright (1994) identification can be created also with socially responsible procurement policies and employee-customer involvement in new product development.

Mael and Ashforth (1992) studied the relationship between organizational identification and organizational consequences like support for the organization in the context of college alumni. The measure for brand identification in this study is based on the questions used by them. Previous studies (Porter, et al 2011; Kuenzel and Halliday 2008; Bhattacharya et al 1995; Stephenson and Yerger 2014) have also used Mael and Ashforth (1992) scale.

Based on the literature on brand identification, the following hypotheses are formed:

- Brand identification will be positively associated with promotion. (H4)
- Brand identification will be positively associated with participation. (H8)
- Brand identification will be positively associated with financial support. (H12)

## **2.1 Antecedents of identification**

Antecedents of identification have been examined in literature and for example the degree of competition with other organizations (Mael & Ashforth 1992), organizational prestige (Bhattacharya et al. 1995; Ahearne et al. 2005), satisfaction (Porter et al. 2011; Kuenzel and Halliday 2008) and interpretation of brand (Stephenson & Yerger 2014) have been identified and statistically proved. Prestige, satisfaction and interpretation of brand are chosen to be analyzed further in this study.

### 2.1.1 Prestige

Prestige is explained as the perception of the brand held by relevant outsiders. From the individual's point of view it's about beliefs about the perception of the brand held by others.

According to Ahearne et al. (2005) individuals are motivated to enhance their self-concept. Individuals look to prestigious organizations as vehicles to express the self-concept and enhance their self-esteem. Many researchers have included prestige in their models as an antecedent of brand identification and found it to be significant (Porter et al. 2011; Kim et al. 2010; Arnett et al. 2003; Mael and Ashforth 1992). Prestige is one of the most commonly researched antecedent of identification.

Arnett et al. (2003) have stated that a university should find ways to promote supportive behaviours among its alumni. They have also argued that prestige is one of the four major relationship-inducing factors that are needed for non-profit success. The other three factors are participation, reciprocity and satisfaction. Pickett (1986) suggested that continued affiliation of alumni with the alma mater often provides prestige as well as intellectual stimulation, identity stability, possibilities to donate money.

March and Simon (1958, cited in Mael and Ashforth 1992) were among the first to prove that the perceived prestige is an antecedent for identification. Individual identifies with a group partly to enhance own self-esteem. The more prestigious the organization, the greater the potential boost to self-esteem through identification. Mael and Ashfort (1992) tested and found the relationship between organizational prestige and organizational identification in the context of college alumni. The measure for prestige in this study is based on the statements used by them. Previous studies (Porter et al. 2011; Kuenzel and Halliday 2008; Arnett et al. 2003; Stephenson and Yerger 2014) also modified the perceived prestige measure from Mael and Ashforth (1992). Researchers have not studied in this context the direct relationship between prestige and promotion, participation and financial support. Prestige has been connected to brand identification strongly, so it is interesting to examine if it is also directly related to supportive outcomes.

Based on the previous findings and investigation of new relationships, the following hypotheses are formed:

- Prestige will be positively associated with promotion. (H1)
- Prestige will be positively associated with participation. (H5)
- Prestige will be positively associated with financial support. (H9)

### **2.1.2 Satisfaction**

Satisfaction is defined as the fulfillment of one's expectations. (Stephenson and Yerger 2014). Satisfaction, like prestige, is a widely tested antecedent of identification and it has been proved to correlate with identification. (Porter et al. 2011; Kuenzel and Halliday 2008; Ahearne et al. 2005; Bhattacharya et al. 1995; Mael and Ashforth 1992).

Degree of satisfaction with consumption experience has been regarded as the key antecedent of product related word-of-mouth. (Reichheld and Sasser 1990; Westbrook 1987). Anderson (1998) argues that many services have experience qualities that possibly make word-of-mouth more valuable and therefore satisfaction may have larger impact on word-of-mouth in service industries. "Willingness to recommend" and "recommendations to others" measures are widely used in practice to evaluate the impact of satisfaction (Anderson 1998). According to Grube and Piliavin (2000) the more satisfied one is with an organization, the more likely he is to volunteer on its behalf.

Studies (Cronin and Taylor 1992; Garbarino and Johnson 1999) have examined satisfaction and its effects on intentions. According to Oliver and Swan (1989) satisfaction is considered crucial for organizations that strive for long-term relationships with customers. Clotfelter (2003) has argued that alumni donations to their alma mater are highly correlated to their expressed satisfaction with their own college experiences and other measures of satisfaction with the institution.

Universities are increasingly recognizing that they operate in a service industry and are focusing more on meeting the expectations and needs of their “customers”, students. This is especially important in universities with high tuition fees. It is argued that the students who have positive university experiences will be more satisfied than those students who do not have a positive university experience. (Kotler and Fox 1995; DeShields et al. 2005)

Arnett et al (2003) has recognized satisfaction as one of the four major relationship-inducing factors that are needed for non-profit success. Their study about identity salience model in relationship marketing success was made in the context of university and its alumni. To find out the level of satisfaction, alumni were asked questions about their university experiences like satisfaction with the education received and the facilities at the university. These same questions were used in this study to examine the level of satisfaction. Researchers have not studied in this context the direct relationship between satisfaction and promotion, participation and financial support. Satisfaction has been connected to brand identification strongly, so it is interesting to examine if it is also directly related to supportive outcomes.

Based on the previous findings and investigation of new relationships, the following hypotheses are formed:

- Satisfaction will be positively associated with promotion. (H2)
- Satisfaction will be positively associated with participation. (H6)
- Satisfaction will be positively associated with financial support. (H10)

### **2.1.3 Interpretation of brand**

Interpretation of brand is the interpretation of the brand in the mind of the consumer. (Stephenson and Yerger 2014)

Stephenson and Yerger (2014) were first to explore interpretation of brand as a antecedent for brand identification. They used Sirgy's (1982) work on self-congruity theory. They suggest that interpretation of the brand in the mind of individual is what determines if concepts of maintaining self-consistency, expressing self-distinctiveness and enhancing self-esteem are met.

Stephenson and Yerger (2014) defined interpretation of brand with indicators of attractiveness, distinctiveness and self-expressive value. Distinctiveness can be explained as the uniqueness of the organization, attractiveness describes how drawn a person is to the entity and self-expressive value tells how much the organization acts as a vehicle for self-expression. The measure for interpretation of brand in this study is based on the statements developed by Stephenson and Yerger (2014). They have found the connection between interpretation of brand and brand identification, but direct relationship between interpretation of brand and promotion, participation and financial support.

Based on the literature on interpretation of brand and investigation of new relationships, the following hypotheses are formed:

- Interpretation of brand will be positively associated with promotion. (H1)
- Interpretation of brand will be positively associated with participation. (H5)
- Interpretation of brand will be positively associated with financial support. (H9)

## **2.2 Supportive outcomes of brand identification**

Identification outcomes have been researched in earlier literature. For example, Mael and Ashforth (1992) found a positive relationship between identification and alumni contribution (participation) to their alma mater. Dutton et al. (1994) argued that there is a positive relationship between identification and group cooperation. Porter et al (2011), Bhattacharya and Sen (2003) and Arnett et al. (2003) have found connection between identification and financial support for a college.

An intention to remain a member of the organization (Lee 1971; O'Reilly and Chatman 1986) was found to be outcome of organizational identification. Also promotional outcomes such word-of-mouth (WOM) recommendation have proven to have positive relationship with identification (Kuenzel and Halliday 2008; Kim et al. 2001).

### **2.2.1 Promotion**

Morhart et al. (2009) explained that brand building behaviors include those contributions made to an organization that provide advocacy for the good of the organization. Thus, alumni can promote the university as a credible form of advertising for future students. Identification scholars have explored promotional outcomes such as word-of-mouth (WOM) support (Porter et al. 2011; Kuenzel and Halliday 2008; Bhattacharya and Sen 2003; Kim et al. 2001). Word-of-mouth (WOM) refers to informal communications between private parties concerning evaluations of goods and services and it can be positive, neutral or negative. Positive word-of-mouth include for example sharing positive experiences and recommendations to others. (Anderson 1998)

According to Stephenson and Yerger (2014) alumni promotion can be positive word-of-mouth, recruitment efforts towards possible new students and wearing school-related clothing. Alumni gain better self-esteem provided by displaying membership to a group perceived to have a positive overall evaluation. In this study, promotion is considered as alumni recommendations of the university as a study place or as a research partner.

### **2.2.2 Participation**

Volunteerism is described as long-term, non-obligatory, planned pro-social behaviors that benefit strangers and usually occur in an organizational setting (Penner 2002). According to Clary and Snyder (1999) volunteer service satisfies the need to learn more about the world, grow and develop psychologically, strengthen social relationships, and develop contacts to enhance professional opportunities. According to Weerts and Ronca (2007) uni-

iversity alumni are increasingly approached to support their alma maters in many ways: political advocacy, volunteerism and charitable giving.

Social exchange theory suggests that the costs of supporting alma mater (volunteer time, political advocacy) are weighed against the benefits the alumni have received from the university in the past or present (for example quality of education, career gains, social connections and prestige). Alumni will make a decision about whether to “give back” to an institution based on an analysis of this exchange. (Weerts et al. 2009)

Political advocacy behaviors can include contacting legislators or local politicians, while volunteer behaviors can include mentoring new alumni, recruiting students, and participating in special events (Weerts et al. 2008) Ransdell (1986, cited in Mael and Ashforth 1992) has also identified various types of non-monetary support that alumni can provide: recruitment, career advice or job placement for graduates, participation in alumni events, and volunteer support for raising funds and hosting organizational events. Alumni can lend their experiences and expertise university advisory boards, helping higher education leaders formulate strategic directions for their institutions. The diversity of alumni support roles is critical for universities in the increasingly competitive higher education market. (Weerts et al. 2009)

Alumni participation is considered in this study as participation in alumni events, mentoring students, helping students to find jobs, giving guest lectures and using their power by making decisions that benefit the university.

### **2.2.3 Financial support**

Charitable giving for higher education is increasingly important as the share of state support for public colleges and universities continues to decline (Weerts et al 2008). According to Andreasen (2001, cited in Arnett et al. 2003) “majority of nonprofits raise funds through charitable donations or foundation grants. These might be called quasi-economic transac-

tions in that there is money exchanged but the "other side" of the transaction does not involve goods or services. This is not to say that there are not important returns to donors or funders in psychic and social satisfaction."

Cermak, File, and Prince (1994) have identified four different categories of persons donating money: (1) affiliators: people who are motivated to donate by a combination of social ties and humanitarian factors, (2) pragmatists: people who are motivated by tax advantages, (3) dynasts: people who donate out of a sense of family tradition, and (4) repayers: people who are motivated by having benefited personally from the charity or know someone who has. McAlexander, Schouten and Koenig (2002) have found that alumni perceptions of their bond with other students and the character of their study experience is positively related to behavioral intentions like future donations and making recommendations.

Study by Okunade and Berl (1997) showed that the amount of money contributed tend to rise with an individual's income, so does the probability of making any donation at all. Also, the level of alumni donations tends to rise with age, or years since graduation. Previous studies have suggested that alumni giving is associated with mentoring in during studies (Clotfelter, 2003), favorable faculty/student ratio and strong academic reputation (Cunningham and Cochi-Ficano 2001).

According to Bingham et al. (2002) indicate that donation thanking programs that include personalized messages are most effective in increasing alumni donations. In return for their donation to alma mater they receive recognition, distinguishing them from their peers. Harbaugh (1998) suggests that revealing names of donors and the amount of their donation satisfies their prestige need.

Also, fundraising programs that directly link the need for funds to specific programs or departments are more effective in generating alumni donations (Okunade and Berl 1997). Keating et al. (1981) have argued that donors give in response to social pressure.

According to Weerts and Ronca (2008) supportive alumni are most likely active in many non-profit organizations and hold that believe that alumni have a responsibility to volunteer at the institution. Clotfelter (2001) found that those survey respondents reporting high levels of satisfaction with their college experience also financially contributed to their alma mater more actively than those individuals reporting lower levels.

### **2.3 University as a brand**

Various interpretations of brand are discussed both in the literature (Strizhakova et al. 2008) and among managers (de Chernatony and Dall'Olmo Riley 1999). American Marketing Association (AMA) defines brand and branding as customer experience represented by a collection of images, ideas, values and even personality. It can refer to a symbol such as a name, logo, slogan and design scheme. Accumulation of experiences with the specific product or service will create brand recognition, both directly relating to its use and through the influence of marketing communication and media commentary (AMA 2015). Goodyear (1996) among others have identified that brands evolve over time. When the values of individual resonate with the company's brand values communicated to customers, customers will trust the company more. Customers feel more confident selecting brands that reflect their self-identity (Escalas and Bettman 2005).

University offers a variety of services and products that bear its brand, and serves a variety of customers and other stakeholders for whom the brand is meaningful. Universities can be seen as brand communities, which consists of all people for whom particular brand is relevant and the relationship they form in the context of using the brand. University brand community consists of a wide assortment of entities and the relationships among them. The members of the university brand community form relationships not only with each other, but also with the university as a marketing organization and as the owner of the brand. (McAlexander, Schouten and Koenig 2002; 2004).

Wilkins and Huisman (2013) suggest that institutions would benefit from articulating and communicating their identities clearly, coherently and in a persuasive manner, emphasize-

ing those aspects of the university's identity that students will perceive as prestigious and similar to their own identities.

According to McAlexander and Koenig (2001) the quality of university graduates' perceived relationships with their alma mater have significant impact on their long-term loyalty to and support of the institution. Judson et al. (2009) have stated that universities are facing an increasingly competitive environment in which they must find ways to differentiate their institution and tell their story. According to Sargeant et al. (2008) branding conveys values to potential donors highlighting important reasons why the organization is a worthy recipient of financial support.

### **3 METHODOLOGY**

In this chapter, the measures, sampling and data collection processes are described. The data was gathered during two weeks in the beginning of May 2015. The survey contained four sections: background information section, statements concerning the concepts, statements concerning the willingness to support and questions provided by the case university. The results of the last part of the survey with questions provided by the case university are not analysed in this thesis, they are later analysed further for practical use of developing university's alumni relations. In the end of this chapter, data analysis process is explained as well as validity and reliability of this research is pondered.

#### **3.1 Measures**

The survey was developed for this research mainly on the basis of available previous literature. Reliability and validity were already examined in measures of brand identification and antecedents of brand identification; prestige, satisfaction and interpretation of brand. Measures for supportive outcomes (promotion, participation, financial support) were newly created from the information needs of the case university. All the measures used for this thesis consisted of multiple item scales.

The respondents were asked to evaluate their opinions on case university's prestige, their satisfaction on their time at the university, their interpretation of the university brand and their willingness to promote university to others, participate in university activities and support university financially. The survey contained detailed instructions how to answer it. All the questions of the survey, related to formed hypotheses, were statements with given response scale. A five-point Likert-scales were used in order to examine whether respondents disagree or agree with the statements (1= strongly disagree, 5= strongly agree). The background information were gathered by multiple choice questions. The survey was conducted in English for all respondents. The questionnaire used in the survey is reported in appendix 1.

### 3.1.1 Brand identification

The measure for brand identification was adopted from the work of Mael and Ashforth (1992) and it consisted of six statements related to the case university. The statements were slightly adapted for the purpose of the study, by changing the wording from “this school” to the name of the case university. The respondents were asked to indicate the degree of their disagreement and agreement with all the items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Brand identification items are presented in table 2.

Table 2. Brand identification items and statements. (Mael and Ashforth 1992)

Item	Statement
IDENTIF1	When someone criticizes LUT it feels like a personal insult.
IDENTIF2	I am very interested in what others think about LUT.
IDENTIF3	When I talk about LUT, I usually say “we” rather than “they”.
IDENTIF4	LUT’s successes are my successes.
IDENTIF5	When someone praises LUT, it feels like a personal compliment.
IDENTIF6	If a story in the media criticized LUT, I would feel embarrassed.

### 3.1.2 Prestige

The measure for prestige was adopted from the work of Stephenson and Yerger (2014) and it consists of three statements. They had adapted the model from Mael and Ashforth (1992). The statements were modified slightly, by changing the word “school” for the name of the case university and adding the word alumna to the second statement. The respondents were asked to indicate the degree of their disagreement and agreement with all the

items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Prestige items are presented in table 3.

Table 3. Prestige items and statements. (Stephenson and Yerger 2014)

Item	Statement
PRESTI1	People think highly of LUT.
PRESTI2	It is considered prestigious to be an alumnus/alumna of LUT.
PRESTI3	LUT maintains a high standard of academic excellence.

### 3.1.3 Satisfaction

The measure for satisfaction was modified from the work of Arnett et al. (2003) and is consists of four statements. They had modified the model from Westbrook & Oliver (1981). The respondents were asked to indicate the degree of their disagreement and agreement with all the items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Satisfaction items are presented in table 4.

Table 4. Satisfaction items and statements. (Arnett et al. 2003)

Item	Statement
SATISF1	I am satisfied with the education I received while at LUT.
SATISF2	I am satisfied with the facilities at LUT when I was a student.
SATISF3	I am satisfied with the manner in which I was treated as a student at LUT.
SATISF4	I am satisfied with how LUT prepared me for a career.

### 3.1.4 Interpretation of brand

The measure for interpretation of brand was adopted from the work of Stephenson and Yerger (2014). Four of their eight original statements were selected for this research. The original model included distinctiveness, attractiveness and self-expressive value of the university brand. In this study distinctiveness was left out, attractiveness and self-express value were used. The statements were modified slightly, by changing the word "school" for the name of the case university. The respondents were asked to indicate the degree of their disagreement and agreement with all the items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Interpretation of brand items are presented in table 5.

Table 5. Interpretation of brand items and statements. (Stephenson and Yerger 2014)

Item	Statement
BRAND1	I have a positive image of LUT.
BRAND2	LUT is an appealing university.
BRAND3	I like for people to know that I am an LUT alumnus/alumna.
BRAND4	My experience at LUT is an important part of who I am.

### 3.1.5 Promotion

The measure for promotion was newly developed for this study. The respondents were asked about their intended behaviour (willingness), not actual behaviour. These statements were based on the information needed by the case university. The respondents were asked to indicate the degree of their disagreement and agreement with all the items,

using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Promotion items are presented in table 6.

Table 6. Promotion items and statements.

<b>Item</b>	<b>Statement</b>
PROMO1	I would like to recommend LUT as a study place.
PROMO2	I would like to recommend LUT as a research partner.

### 3.1.6 Participation

The measure for participation was newly developed for this study. The respondents were asked about their intended behaviour (willingness), not actual behaviour. These statements were based on the information needed by the case university. The respondents were asked to indicate the degree of their disagreement and agreement with all the items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Participation items are presented in table 7.

Table 7. Participation items and statements.

<b>Item</b>	<b>Statement</b>
PART11	I would like to attend alumni events organised by LUT.
PART12	I would like to act as a mentor for a LUT student.
PART13	I would like to help LUT students to get employed (by offering thesis topics, internships or jobs).
PART14	I would like to give a guest lecture to LUT students.

PARTI5	I would like to make decisions that benefit LUT.
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### 3.1.7 Financial support

The measure for financial support was newly developed for this study. The respondents were asked about their intended behaviour (willingness), not actual behaviour. These statements were based on the information needed by the case university. The respondents were asked to indicate the degree of their disagreement and agreement with all the items, using a five-point Likert-type scale (1= strongly disagree, 5= strongly agree). Financial support items are presented in table 8.

Table 8. Financial support items and statements.

Item	Statement
FINASUP1	I would like to donate money to LUT's research as an individual.
FINASUP2	I would like to donate money to LUT's research as a representative of an organization.

### 3.1.8 Background questions

The respondents were asked to specify their gender, nationality, their highest degree from the case university, field of study and yearly income. These multiple choice questions are presented in table 9.

Table 9. Background questions and possible answers.

Question	Possible answers
What is your gender?	Male; Female
What is your nationality?	Finnish; Other than Finnish (please specify)
What is your highest degree from LUT?	Bachelor's degree (B.Sc., KTK, TKK); Master's degree (M.Sc., KTM, DI); Doctoral degree; MBA; Other (please specify)
What was your field of study? (If multiple degrees, choose the latest.)	Business (KATI); Chemical Technology (KETE); Electrical Engineering (SÄTE); Energy Technology (ENTE); Environmental Engineering (YMTE); Industrial Management (TUTA); Information Technology (TI-TE); Mathematics & Physics (MAFY); Mechanical Engineering (KOTE); Other (please specify)
Please estimate your yearly income:	Under 30 000 €; 30 000 - 45 000 €; 45 000 - 60 000 €; Over 60 000 €; I prefer not to say.

### 3.2 Sampling and response rate

The sample of the study consisted of alumni graduated from Lappeenranta University of Technology (LUT). Survey was sent to all alumni who had an active email address in their contact information at university's customer relationship management system. Alumni

themselves have opted in for communication from university either during graduation or later by updating their contact information via web form found in university's webpage.

The survey was available online in the internet and it was sent to alumni on 5<sup>th</sup> of May 2015. One week later the first mailing, reminding emails were sent to those alumni who had not yet answered. Overall, 2789 emails were sent, 18 of them bounced, 662 surveys started and 565 alumni responded to all questions. Overall 569 usable responses were returned and also these four partial answers were used when possible. The response rate for the survey was 20,3%.

### **3.3 Data collection and coding**

The web-based survey for the research was implemented through Qualtrics Online Survey Software. It was carried out during May 2015. Survey was not pretested but it could have been useful (described further in limitations at chapter 5).

The collected data was coded in and analyzed with SPSS (Statistical Package for Social Sciences) software. The answers were coded in the software and the variables were named.

## 4 FINDINGS

In this chapter, results of the statistical analyses are presented. First the case university Lappeenranta University of Technology (later referred as LUT) is introduced. Next the descriptive analysis of the respondents is presented. After that, all factor analyses, formation of summated scales and reliability assessments are discussed. Finally, regression analyses are applied to examine the hypothesized relations between the researched topics.

### 4.1 Lappeenranta University of Technology

Lappeenranta University of Technology (LUT) is was founded in 1969. From the beginning they have combined business and technology in research and education. There are about 5500 students, 1000 faculty and staff members and about 12 000 alumni. LUT has three schools: School of Energy Systems, School of Engineering Science and School of Business and Management. University is focused in five themes in its Strategy 2020: Trailblazer – energy solutions that favour renewables, waste-free world, clean water for all, sustainable and smart business models and the promotion of entrepreneurship to boost growth in Europe. (LUT 2015)

LUT has been developing their alumni relations since the late 1990's. LUT Alumni Association was established in year 2002 and it worked closely with the university. In year 2011 LUT wanted to focus more on alumni themselves and hired Alumni Coordinator to develop the relations between university and alumni. (Armila 2015) There has been another study made of LUT alumni in year 2004. Alumni were questioned for example about if they thought developing alumni relations between LUT and its alumni was important (94% thought it was important) and if they were interested in receiving information about university's research (95% were interested). (Saksa et al. 2004)

## 4.2 Description of the respondents

In this subchapter, the respondents of the survey are described. First, the respondents are presented in terms of their gender and nationality, which is followed by the information about the starting level of studies, the highest degree from LUT and their field of study. Finally their yearly income is presented.

### 4.2.1 The respondents

This analysis of the survey consisted of 569 valid responses. 565 of them were completed fully. Other four responses were used when they were possible to apply. Males formed the majority of the respondents 61,7%, while 38,3% were female. Based on the statistics available, the gender ratio of graduates in the years 2011-2014 have been 62,3% male and 37,6% female. These results are in line with the overall gender ratio of alumni population. (Armila 2015) Genders of the respondents are presented in figure 2.

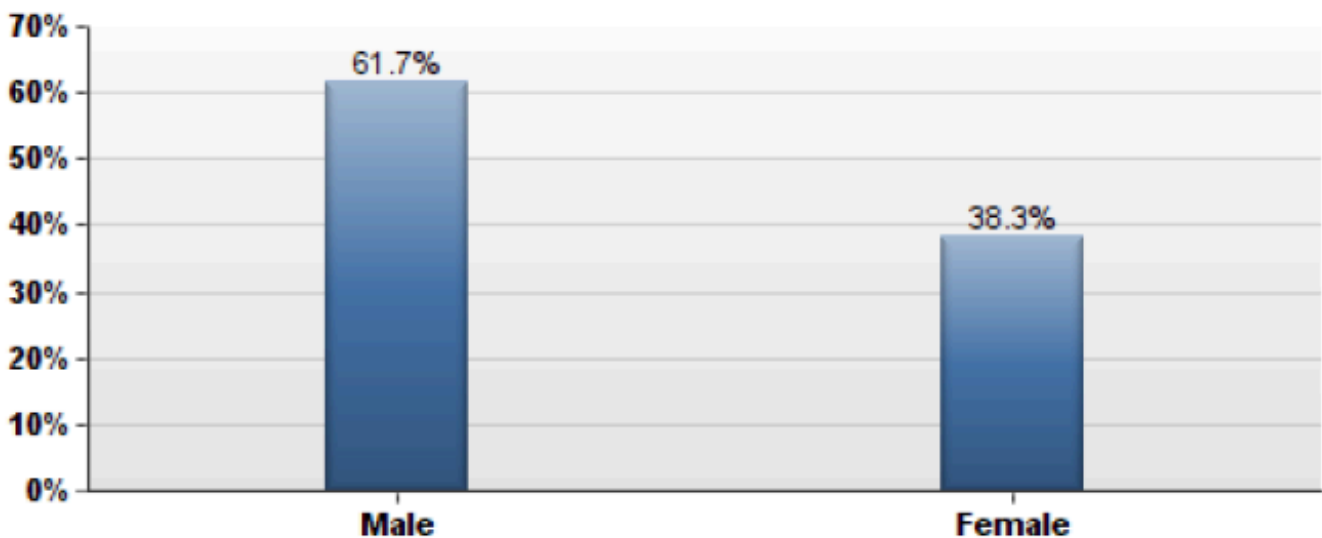


Figure 2. Genders of the respondents.

The respondents were asked to tell their nationality, 91,3% were Finnish and 8,7% were other than Finnish. Other nationalities were specified as alumni from Russia, Pakistan, Iran, Ecuador, Ghana, Greece, India, Czech Republic, Nepal, Latvia, China and Rwanda. Based on the statistics available, the nationality ratio of graduates in the years 2011-2014 have been 78,9% Finnish and 21,1% other than Finnish. This difference might be explained with the years after university was established when there were mostly Finnish students. (Armila 2015) Nationalities of the respondents are presented in figure 3.

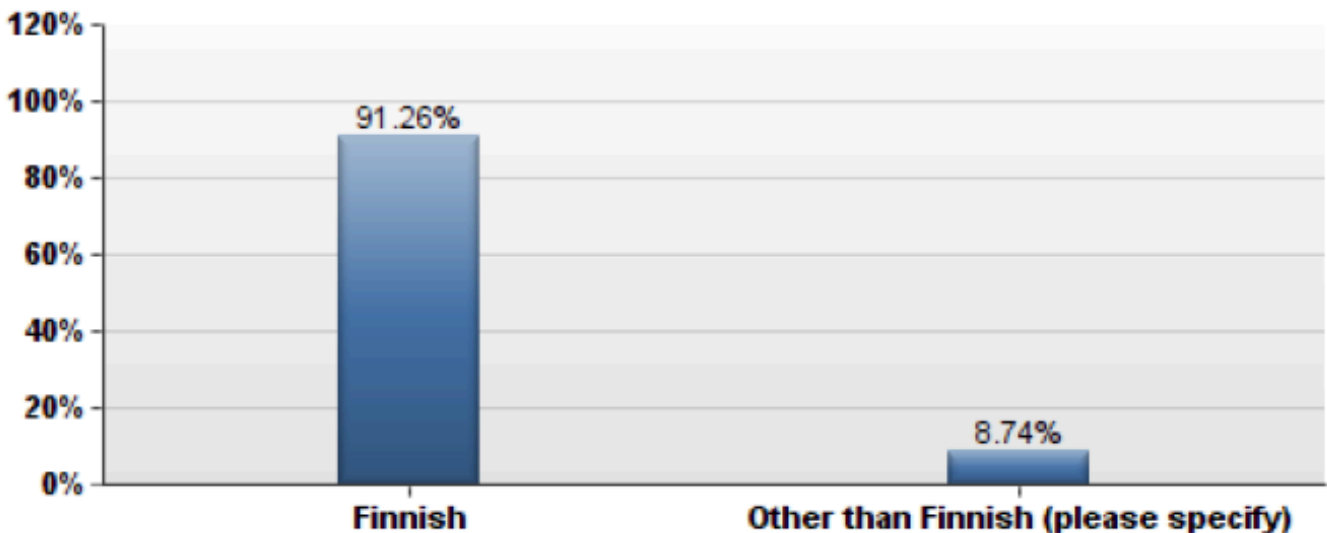


Figure 3. Nationalities of the respondents.

The respondents' highest degree from LUT was 91,9% Master's degree, 5,2% Doctoral degree and the rest had either Bachelor's degree (0,6%), MBA degree (1,1%) or had selected the option "Other" (1,1%). The highest degrees of the respondents are presented in figure 4.

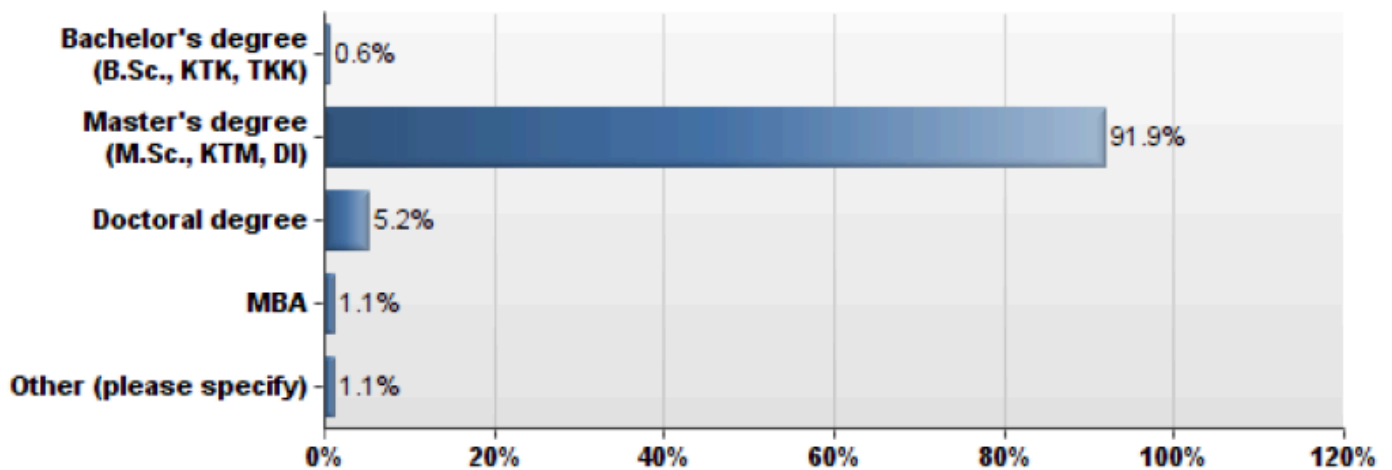


Figure 4. The highest degrees of respondents.

Most of the respondents had studied either in the field of Industrial Management (30,2%) or Business (24,6%). The other study fields were Mechanical Engineering (9,5%), Information Technology (9,1%), Chemical Technology (8,1%), Energy Technology (7,9%), Electrical Engineering (4,5%), Environmental Engineering (2,9%) and Mathematics & Physics (1,9%). 1,9% of the respondents had chosen the option "Other". Study fields of the respondents are presented in figure 5.

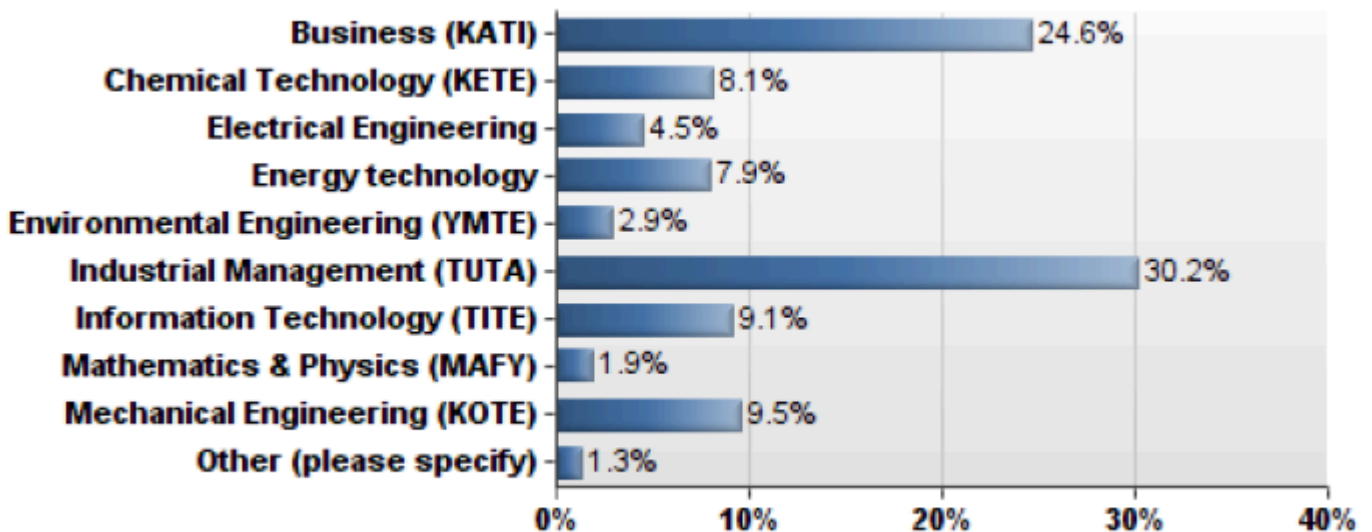


Figure 5. Study fields of the respondents.

From the respondents, 11% had yearly income under 30 000€, 22% between 30 000€ and 45 000€, 26% between 45 000 € and 60 000€ and 35% over 60 000€. 7% of the respondents chose the option "I prefer not to say". Yearly income of respondents is presented in figure 6.

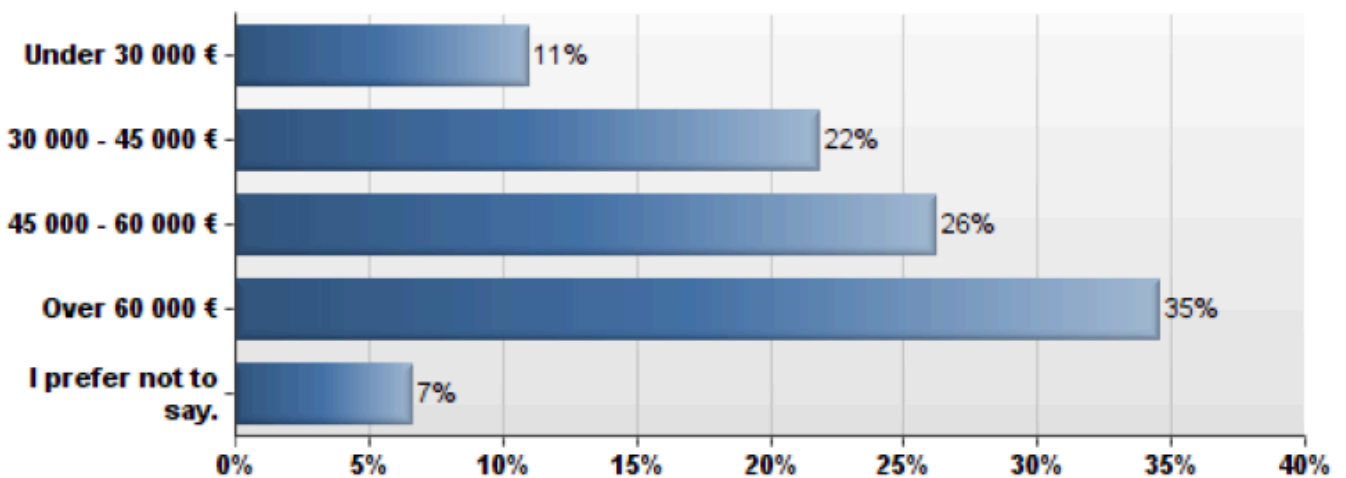


Figure 6. Yearly income of respondents.

### 4.3 The measurement scales

Summated scales were formed from the statements in the survey. Reliability and factor analyses were applied to confirm the scales of the study. Factor analyses were conducted for the scales in order to be sure, that the scales measured what they were supposed to measure. Then summated scales were formed and reliabilities were analyzed.

#### 4.3.1 Factor analyses

In order to create summated scales, firstly factor analyses were conducted. Factor analysis is a statistical approach which is used to analyze interrelationships among variables

and also explain these variables in terms of their common underlying dimensions. (Valli 2001; Hair et al. 1998)

Maximum likelihood factor analysis (MLFA) was conducted and VARIMAX rotation method with Kaiser Normalization was applied. The final scores for the scales were averages of all the items included in the scales. The following tables 10-12 present all final factor solutions. Prestige and satisfaction were entered together into factor analysis. All the items loaded strongly to correct factors, thus there was no need to reduce items. Table 10 presents the final factor solutions for prestige and satisfaction.

Table 10. Rotated final factor analysis of prestige and satisfaction.

<b>Item</b>	<b>Variable</b>	<b>Factor 1</b>	<b>Factor 2</b>
PRESTI1	People think highly of LUT.		,614
PRESTI2	It is considered prestigious to be an alumnus/alumna of LUT.		,689
PRESTI3	LUT maintains a high standard of academic excellence.		,604
SATISF1	I am satisfied with the education I received while at LUT.	,647	
SATISF2	I am satisfied with the facilities at LUT when I was a student.	,580	
SATISF3	I am satisfied with the manner in which I was treated as a student at LUT.	,670	
SATISF4	I am satisfied with how LUT prepared me for a career.	,536	

Interpretation of brand and brand identification were entered together into factor analysis. All the items loaded strongly to correct factors, thus there was no need to reduce items. Table 11 presents the final factor solutions for interpretation of brand and brand identification.

Table 11. Rotated final factor analysis of interpretation of brand and brand identification.

<b>Item</b>	<b>Variable</b>	<b>Factor 1</b>	<b>Factor 2</b>
BRAND1	I have a positive image of LUT.		,730
BRAND2	LUT is an appealing university.		,716
BRAND3	I like for people to know that I am an LUT alum- nus/alumna.		,557
BRAND4	My experience at LUT is an important part of who I am.		,486
IDENTIF1	When someone criticizes LUT it feels like a personal in- sult.	,687	
IDENTIF2	I am very interested in what others think about LUT.	,586	
IDENTIF3	When I talk about LUT, I usually say “we” rather than “they”.	,564	
IDENTIF4	LUT’s successes are my successes.	,684	
IDENTIF5	When someone praises LUT, it feels like a personal com- pliment.	,804	
IDENTIF6	If a story in the media criticized LUT, I would feel embar- rassed.	,667	

Promotion, participation and financial support were entered together into factor analysis. All the items loaded strongly to correct factors, thus there was no need to reduce items. Table 12 presents the final factor solutions for promotion, participation and financial support.

Table 12. Rotated final factor analysis of promotion, participation and financial support.

Item	Variable	Factor 1	Factor 2	Factor 3
PROMO1	I would like to recommend LUT as a study place.			,791
PROMO2	I would like to recommend LUT as a research partner.			,651
PART11	I would like to attend alumni events organised by LUT.	,484		
PART12	I would like to act as a mentor for a LUT student.	,754		
PART13	I would like to help LUT students to get employed (by offering thesis topics, internships or jobs).	,502		
PART14	I would like to give a guest lecture to LUT students.	,701		
PART15	I would like to make decisions that benefit LUT.	,400		
FINASUP1	I would like to donate money to LUT's research as an individual.		,521	
FINASUP2	I would like to donate money to LUT's research as a representative of an organization.		,866	

### 4.3.2 Final summated scales

A summated scale is formed by combining multiple individual variables into a one composite measure. All the variables, which load highly on a factor, are combined and the average or total score of the variables is used as a new combined variable. (Hair et al. 1998)

Series of diagnostic measures can be used to assess internal consistency, since no single item is a perfect measure of a concept. The most widely used reliability coefficient measure is Cronbach's alpha, which assesses the consistency of the entire scale. The generally agreed minimum level for Cronbach's alpha is ,70. In this study also levels under ,70 are accepted for newly developed measures (promotion, financial support) which had only two variables. (Hair et al. 1998)

Seven summated scales were developed after factor analyses in order to test the hypotheses related to brand identification, its antecedents and willingness to support. Before testing the hypotheses, reliabilities of the scales were tested by using Cronbach's alphas. Cronbach's alphas of the final scales, with other relevant information, are presented in table 13.

Table 13. Final scale reliability analyses.

<b>Scale</b>	<b>Cronbach's alpha</b>	<b>Number of items</b>	<b>Number of cases</b>	<b>Mean score</b>	<b>Std. dev.</b>
Prestige	,712	3	569	3,6075	,57379
Satisfaction	,735	4	569	3,9442	,61993
Interpretation of brand	,743	4	569	3,9767	,60986
Brand identificati- on	,854	6	569	3,2165	,74526
Promotion	,693	2	565	4,1319	,63849
Participation	,776	5	565	3,5777	,61043
Financial support	,676	2	565	2,8080	,78541

All the scales were analyzed for their reliability and five of them exceeded the .70 minimum reliability levels. Two of the scales were accepted for this study as reliable even though they were under .70. Cronbach's alphas range from about .68 to about .85. Prestige scored .71, satisfaction .74, interpretation of brand .74, brand identification .85, promotion .69, participation 0.78 and financial support .68. The values of standard deviation and mean score are quite close to each others. Prestige measure has the lowest standard deviation (.574) and promotion measure has the highest mean scores (4,13). On the other hand, financial support measure has the highest standard deviation (.785) and the lowest mean scores (2,81).

## 4.4 Hypotheses testing

In this subchapter, hypotheses are tested and the results are discussed. First, the methods and their theoretical background is discussed. Then Pearson correlation matrix is presented and hypotheses are tested in regression analyses. Finally, in the end of the chapter the results are discussed and summary of the hypotheses is presented.

### 4.4.1 Regression analyses

Multiple regression is the appropriate method of analysis when research problem includes a single dependent variable, which is expected to be related to two or more metric independent variables. The aim is to predict the changes in the dependent variable ( $y$ ) in response to changes in the independent variables ( $x$ ). (Hair et al. 1998)

Hypotheses in this study were tested using regression analyses. Hypotheses were tested with three different dependent variables (promotion, participation and financial support) in relation to four independent variables (brand identification, prestige, satisfaction and interpretation of brand). Also, antecedents of brand identification hypothesized in earlier literature (prestige, satisfaction and interpretation of brand) are tested in relation to brand identification in order to

The shape of data distribution refers to normality and in this study, normality was evaluated by developing histograms of summated scale measures. After the data was confirmed to be normally distributed, the collinearity and multicollinearity were examined. Collinearity is present when two independent variables correlate strongly with each other and multicollinearity is present when a single independent variable strongly correlates with a set of other independent variables. (Hair et al. 2008; Metsämuuronen 2005)

Tolerance describes the amount of variability of the independent variable, which is not explained by the other variables. Tolerance range is between 0 and 1. Collinearity or multicol-

linery is present when values are closer to zero. The general cut-off level is .10. (Metsämuuronen 2005)

Correlation indicates connectedness between two variables and it varies from -1 to +1. The closer the value is to zero, the weaker the correlation. Positive correlation means that when value of another variable grows, also value of other variable rises. Negative correlation means that there is a negative direction in the relationship. Sample size and correlation itself can affect to the significance of the correlation coefficient. The square of coefficient indicates how much the variables have in common. (Metsämuuronen 2005)

The Pearson correlation matrix of promotion, prestige, satisfaction, interpretation of brand and brand identification is presented in table 14.

Table 14. Correlations between promotion, prestige, interpretation of brand and brand identification.

	1	2	3	4	5
Promotion	1				
Prestige	,541	1			
Satisfaction	,536	,462	1		
Interpretation of brand	,649	,574	,597	1	
Brand identification	,418	,345	,330	,530	1

As can it be seen from the correlation matrix, all the variables correlate positively. Correlations range between ,330 and ,649. This finding supports the earlier assumption that these variables are positively connected. These correlations are significant with ,000 significance level.

The Pearson correlation matrix of participation, prestige, satisfaction, interpretation of brand and brand identification is presented in table 15.

Table 15. Correlations between participation, prestige, satisfaction, interpretation of brand and brand identification.

	1	2	3	4	5
Participation	1				
Prestige	,205	1			
Satisfaction	,208	,462	1		
Interpretation of brand	,388	,574	,597	1	
Brand identification	,405	,345	,330	,530	1

As can it be seen from the correlation matrix, all the variables correlate positively. Correlations range between ,205 and ,597. This finding supports the earlier assumption that these variables are positively connected. These correlations are significant with ,000 significance level.

The Pearson correlation matrix of financial support, prestige, satisfaction, interpretation of brand and brand identification is presented in table 16.

Table 16. Correlations between financial support, prestige, satisfaction, interpretation of brand and brand identification.

	1	2	3	4	5
Financial support	1				
Prestige	,172	1			
Satisfaction	,132	,462	1		
Interpretation of brand	,244	,574	,597	1	
Brand identification	,310	,345	,330	,530	1

As can be seen from the correlation matrix, all the variables correlate positively. Correlations range between ,132 and ,597. This finding supports the earlier assumption that these variables are positively connected. Correlation between financial support and satisfaction had ,001 significance level and is still considered quite significant. All other correlations are significant with ,000 significance level.

### Regression results - promotion

Results of regression analyses are discussed next. Regression results concerning prestige, satisfaction, interpretation of brand and brand identification related to promotion are presented in table 17. Model is significant, when sig is smaller than ,05.

Table 17. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to promotion.

Independent variable	R Sq.	B	Beta	t	Sig.	Tol.	VIF	Hypot.
Prestige	,492	,237	,213	5,676	,000	,647	1,546	H1
Satisfaction	,492	,196	,189	4,957	,000	,622	1,608	H2
Interpretation of brand	,492	,387	,368	8,200	,000	,450	2,221	H3
Brand identification	,492	,074	,087	2,432	,015	,716	1,396	H4

When analysed independent variables in relation to promotion, 49,2% of the results can be explained with these variables.

Hypothesis 1 suggested prestige to be positively associated with promotion. Positive correlation also supported this proposition. This result was positive (beta= .213) and strongly significant (sig= ,000). Prestige, with large t-statistic value, is positively associated with promotion. Thus, hypothesis 1 was accepted.

Hypothesis 2 suggested satisfaction to be positively associated with promotion. Positive correlation also supported this proposition. This result was positive (beta= ,189) and strongly significant (sig= ,000). Satisfaction, with large t-statistic value, is positively associated with promotion. Thus, hypothesis 2 was accepted.

Hypothesis 3 suggested interpretation of brand to be positively associated with promotion. Positive correlation also supported this proposition. This result was positive (beta= ,368) and strongly significant (sig= ,000). Interpretation of brand, with large t-statistic value, is positively associated with promotion. Thus, hypothesis 3 was accepted.

Hypothesis 4 suggested brand identification to be positively associated with promotion. Positive correlation also supported this proposition. This result was positive (beta= ,087) and significant (sig= ,015). Brand identification, with large t-statistic value, is positively associated with promotion. Thus, hypothesis 4 was accepted.

### Regression results - participation

Regression results concerning prestige, satisfaction, interpretation of brand and brand identification related to participation are presented in table 18. Model is significant, when sig is smaller than ,05.

Table 18. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to participation.

Independent variable	R Sq.	B	Beta	t	Sig.	Tol.	VIF	Hypot.
Prestige	,208	-,039	-,036	-,775	,439	,647	1,546	H5
Satisfaction	,208	-,036	-,037	-,768	,443	,622	1,608	H6
Interpretation of brand	,208	,284	,282	5,031	,000	,450	2,221	H7
Brand identification	,208	,230	,280	6,310	,000	,716	1,396	H8

When analysed independent variables in relation to participation, 20,8% of the results can be explained with these variables.

Hypothesis 5 suggested prestige to be positively associated with participation. Positive correlation also supported this proposition. However, this relation was not supported, and because of the statistically insignificant coefficients (sig= ,439) and low t-statistic value, hypothesis 5 had to be rejected.

Hypothesis 6 suggested satisfaction to be positively associated with participation. Positive correlation also supported this proposition. However, this relation was not supported, and because of the statistically insignificant coefficients (sig= ,443) and low t-statistic value, hypothesis 6 had to be rejected.

Hypothesis 7 suggested interpretation of brand to be positively associated with participation. Positive correlation also supported this proposition. This result was positive (beta= ,284) and strongly significant (sig= ,000). Interpretation of brand, with large t-statistic value, is positively associated with participation. Thus, hypothesis 7 was accepted.

Hypothesis 8 suggested brand identification to be positively associated with participation. Positive correlation also supported this proposition. This result was positive (beta= ,280) and strongly significant (sig= ,000). Interpretation of brand, with large t-statistic value, is positively associated with participation. Thus, hypothesis 8 was accepted.

### **Regression results - financial support**

Regression results concerning prestige, satisfaction, interpretation of brand and brand identification related to financial support are presented in table 19. Model is significant, when sig is smaller than ,05.

Table 19. Regression results of prestige, satisfaction, interpretation of brand and brand identification related to financial support.

<b>Independent variable</b>	<b>R Sq.</b>	<b>B</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>	<b>Tol.</b>	<b>VIF</b>	<b>Hypot.</b>
Prestige	,106	,053	,039	,778	,437	,647	1,546	H9
Satisfaction	,106	-,042	-,033	-,657	,511	,622	1,608	H10
Interpretation of brand	,106	,143	,110	1,853	,064	,450	2,221	H11
Brand identification	,106	,263	,249	5,270	,000	,716	1,396	H12

When analysed independent variables in relation to financial support, only 10,6% of the results can be explained with these variables.

Hypothesis 9 suggested prestige to be positively associated with financial support. Positive correlation also supported this proposition. However, this relation was not supported, and because of the statistically insignificant coefficients (sig= ,437) and low t-statistic value, hypothesis 9 had to be rejected.

Hypothesis 10 suggested satisfaction to be positively associated with financial support. Positive correlation also supported this proposition. However, this relation was not supported, and because of the statistically insignificant coefficients (sig= ,511) and low t-statistic value, hypothesis 10 had to be rejected.

Hypothesis 11 suggested interpretation of brand to be positively associated with financial support. Positive correlation also supported this proposition. This result was positive (beta= ,110). However, hypothesis 11 had to be rejected because of the statistically insignificant coefficients larger than ,05 (sig= ,064) and t-statistic value under 2.

Hypothesis 12 suggested brand identification to be positively associated with financial support. Positive correlation also supported this proposition. This result was positive (be-

ta= ,249) and strongly significant (sig= ,000). Brand identification, with large t-statistic value, is positively associated with financial support. Thus, hypothesis 12 was accepted.

### **Regression results – antecedents of brand identification in relation to brand identification**

Regression results concerning antecedents of brand identification (prestige, satisfaction and interpretation of brand) related to brand identification are presented in table 20. Model is significant, when sig is smaller than ,05. These relationships are not hypothesized in this study, but they are tested that are they in line with the earlier literature.

Table 20. Summary of the hypotheses and results.

<b>Independent variable</b>	<b>R Sq.</b>	<b>B</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>	<b>Tol.</b>	<b>VIF</b>
Prestige	,288	,076	,058	2,408	,189	,645	1,551
Satisfaction	,288	,013	,011	1,316	,809	,615	1,624
Interpretation of brand	,288	,604	,494	1,853	,000	,524	1,910

Previous literature had found positive relationship between all the antecedents of brand identification and brand identification. However, in this study only interpretation of brand was statistically significant (sig= ,000) in relation to brand identification. Prestige (sig= ,189) and satisfaction (sig= ,809) are not positively associated with brand identification according to this study.

#### **4.4.2 Summary of the results**

Table 21 summarizes the hypothesized relations and the regression results, which are discussed earlier in this chapter.

Table 21. Summary of the hypotheses and results.

H1	Prestige will be positively associated with promotion.	Accepted.
H2	Satisfaction will be positively associated with promotion.	Accepted.
H3	Interpretation of brand will be positively associated with promotion.	Accepted.
H4	Brand identification will be positively associated with promotion.	Accepted.
H5	Prestige will be positively associated with participation.	Rejected.
H6	Satisfaction will be positively associated with participation.	Rejected.
H7	Interpretation of brand will be positively associated with participation.	Accepted.
H8	Brand identification will be positively associated with participation.	Accepted.
H9	Prestige will be positively associated with financial support.	Rejected.
H10	Satisfaction of will be positively associated with financial support.	Rejected.
H11	Interpretation of brand will be positively associated with financial support.	Rejected.
H12	Brand identification will be positively associated with financial support.	Accepted.

## 5 CONCLUSIONS

This study has provided insights of relationships between brand identification, its antecedents and supportive outcomes of brand identification. The main objective of the research was to examine the relationship between brand identification and three dimensions of alumni support to their alma mater: promotion, participation and financial support. Secondly, the three antecedents of brand identification (prestige, satisfaction and interpretation of brand) were researched separately in relation to the three dimensions of alumni support to their alma mater.

The study involved an empirical survey. The data was collected with web-based Qualtrics survey in May 2015. The case university was Lappeenranta University of Technology (LUT). The sample (N=2789) consisted of alumni of LUT and produced in total 569 valid responses (which 565 were completed fully). Thus, the final response rate of the study was 20,3%. The data was analyzed by using statistical analysis programme, SPSS.

Previous literature had examined these relationships earlier, thus it was important to examine the relations in Finnish university context. The current study contributes to previous knowledge by offering the results attained in Finnish university environment.

Next, reliability and validity of the study are discussed. After this discussion, theoretical and managerial implications are presented. Finally, the limitations of the study are pondered and future research proposals are suggested.

### 5.1 Reliability and validity of the research

According to Hair et al. (1998) validity is the extent to which a scale or a measure set accurately represents the concept examined. Reliability refers to the possibility to repeat the study and is consequently related to the consistency of the measures. If phenomenon is measured several times with the same measures, the results should be alike.

The validity of the survey can be regarded as acceptable. Four out of seven measures were validated several times in earlier research before and three measures were newly developed for this study. Factor analyses were conducted to all measures in order to verify their validity.

Cronbach's alphas were used to test the reliabilities of the scales. Five out of seven scales had good or excellent alphas, and the other two were in acceptable level. This indicates satisfactory scale reliabilities. However, the scales of promotion, participation and financial support were newly developed and not proven to be reliable in the earlier literature. These measures need to be revalidated in the future research.

The use of a survey as a research method can also have an influence on the reliability. There is no possibility to clarify the questions or statements because researcher is not present. It is also possible that answers are not truthful. In this study, all the questions related to researched concepts were mandatory, so it reduced the risk of respondents not answering all the questions. (Wilson 2003) The truthfulness of the answers is unable to know. If respondents care about their relationship with the case university, it can be assumed that they would answer truthfully and the relationship can be developed further based on these results.

The statements of the survey were presented in English and there is a possibility that it made answering more difficult to respondents from which majority were Finnish. Also, because of the missing pretesting, some of the wording of the questions and statements could have been modified to ensure better understanding. There was one negative feedback about the length of the survey and three respondents commented that they had difficulties to answer the questions correctly because they were also working at the case university.

Overall, the validity and reliability is in acceptable level, even though this research had many weaknesses related to reliability.

## 5.2 Theoretical implications

The most significant contribution of this study was the examination of the relations between brand identification and alumni support (promotion, participation, financial support) to their alma mater. Additionally, the three different antecedents of brand identification (prestige, satisfaction, interpretation of a brand) were examined separately in relation to alumni support. Also, the relationships between brand identification and its antecedents found in previous literature were tested for revalidation.

The overall results of the study, concerning the relations between brand identification, prestige, satisfaction, interpretation of brand, promotion, participation and financial support, were only partly in line with previous findings. The used interrelations in this study have been investigated in some extent by previous researchers and there has not been many contrary results. However, Finnish university context has brought totally new point of view to the research. Also, the measure of identification of brand was used the first time by Stephenson & Yerger (2014) and it was revalidated as modified model in this study.

In the beginning of this study, the main research question was created as follows:

**What is the relationship between brand identification and alumni support (promotion, participation, financial support) to their alma mater?**

Based on the literature, three brand identification hypotheses were formed:

- Brand identification will be positively associated with promotion. (H4)
- Brand identification will be positively associated with participation. (H8)
- Brand identification will be positively associated with financial support. (H12)

According to the survey, brand identification was positively associated to all these three supportive outcomes, financial support being the most strongly affected: if brand identification rises by 1, financial support rises by ,263. However, only 10,6% of the results can be

explained with these variables. In comparison, if brand identification rises by 1, promotion rises only ,074 and participation rises ,230. These results were in line with the previous findings (Mael and Ashforth 1992; Porter et al. 2011; Kim et al. 2010; Arnett et al. 2003; Ahearne et al. 2005). Thus, hypotheses 4, 8 and 12 were accepted.

The first supportive sub questions was:

### **What is the role of prestige on alumni support to their alma mater?**

Based on the previous findings and investigation of new relationships, the following hypotheses were formed:

- Prestige will be positively associated with promotion. (H1)
- Prestige will be positively associated with participation. (H5)
- Prestige will be positively associated with financial support. (H9)

Prestige was found to be statistically significant related to promotion, insignificant related to participation and financial support. If prestige rises by 1, promotion rises by ,237. These variables explain 49,2% of the results. This result proposes that not all antecedents of brand identification relate positively to all brand identification outcomes, even though brand identification itself relates positively to all outcomes. Hypothesis 1 was accepted and hypotheses 5 and 9 were rejected.

The second supportive sub questions was:

### **What is the role of satisfaction on alumni support to their alma mater?**

Based on the previous findings and investigation of new relationships, the following hypotheses were formed:

- Satisfaction will be positively associated with promotion. (H2)
- Satisfaction will be positively associated with participation. (H6)
- Satisfaction will be positively associated with financial support. (H10)

Satisfaction was found to be statistically significant related to promotion, insignificant related to participation and financial support. If satisfaction rises by 1, promotion rises by ,196. These variables explain 49,2% of the results. Also this result proposes that not all antecedents of brand identification relate positively to all brand identification outcomes, even though brand identification itself relates positively to all outcomes. Hypothesis 2 was accepted and hypotheses 6 and 10 were rejected.

The third supportive sub questions was:

**What is the role of interpretation of brand on alumni support to their alma mater?**

Based on the literature and investigation of new relationships, the following hypotheses were formed:

- Interpretation of brand will be positively associated with promotion. (H3)
- Interpretation of brand will be positively associated with participation. (H7)
- Interpretation of brand will be positively associated with financial support. (H11)

Interpretation of brand to be statistically significant related to promotion and participation, insignificant related to financial support. If interpretation of brand rises by 1, promotion rises by ,387 (variables explain 49,2% of the results) and participation rises by ,284 (variables explain 20,8% of the results). Also this result proposes that not all antecedents of brand identification relate positively to all brand identification outcomes, even though brand identification itself relates positively to all outcomes. Hypotheses 3 and 7 were accepted and hypothesis 11 was rejected.

Relationship between brand identification and its antecedents (prestige, satisfaction and interpretation of brand) have been studied and proved in previous literature (Ahearne et al. 2005; Porter et al. 2011; Kim et al. 2010; Arnett et al. 2003; Mael and Ashforth 1992; Boenigk and Helmig 2013; Stephenson and Yerger 2014). In this study the relationships were tested and revalidated. The results were somewhat surprising: in this setting and context only interpretation of brand was positively related to brand identification. Prestige and satisfaction were insignificant related to brand identification in this sampling.

Figure 7 presents the final theoretical framework with accepted (+) and rejected hypotheses.

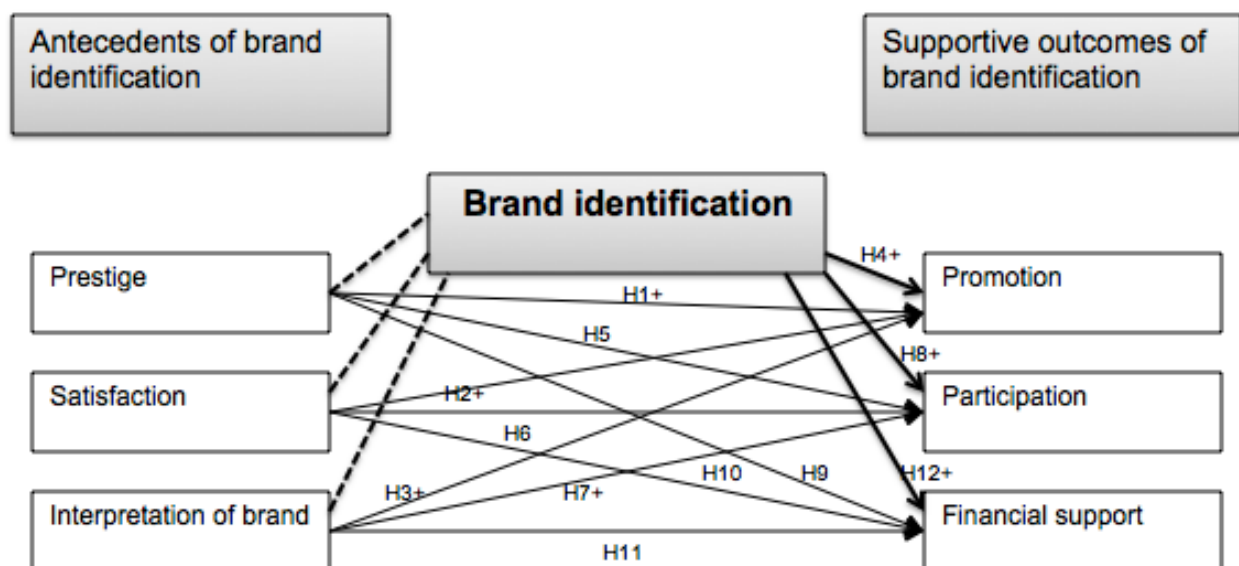


Figure 7. Final theoretical framework with accepted (+) and rejected hypotheses.

### 5.3 Managerial implications

Based on these results, several managerial implications can be suggested. Firstly, the results of the current study show that brand identification influences directly to all three sup-

portive outcomes (promotion, participation and financial support). This implies that when the case university is able to strengthen alumni brand identification, alumni are more willing to recommend university as a study place and as research partner, to participate more to university activities (like alumni events, mentoring, guest lectures) and to donate money as a individual or as a representative of an organisation.

When examined the results of prestige, it can be seen that only promotion is directly influenced. Prestige did not have direct effect to the willingness to participate or willingness to support financially. This implies that if alumni think that the case university is prestigious, they are more willing to recommend university as a study place and as research partner.

Also satisfaction influenced directly only to promotion. Satisfaction did not have direct effect to the willingness to participate or willingness to support financially. This implies that if alumni are satisfied for their study experience, they are more willing to recommend university as a study place and as research partner.

Results also show that interpretation of brand influences directly to promotion and participation. No direct effect to willingness to support was found. This implies that the better and attractive the brand is in the minds of alumni, the more willing they are to recommend university and participate in university activities.

#### **5.4 Limitations and suggestions for future research**

When interpreting the findings of this study, certain limitations should be kept in mind. First, one major limitation is that the data was gathered from only one case university in Finland. Thus external validity of the findings is reduced and possible generalization of the results is restricted. Also, only 20,3% of the sampling answered to the survey. The results of the research, especially about brand identification (oneness with the brand) can be more positive in this sample than in the whole alumni population, since these graduates have

updated their contact information and that inclines per se more positive attitude towards keeping in touch with their alma mater.

Future research should seek to replicate the study in different universities and higher education institutions. Data from other industries should be used in order to assess whether the found linkages are valid in other contexts. Longitudinal observations are required to extend external validity.

In order to understand how the concepts develop over time, more insights are needed. It would make it possible to follow these results and examine if they change over time. The measures for promotion, participation and financial were developed for the purposes of this study and were validated only once. Revalidations for these measures are required in the future.

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### **Interview**

Armila, L. (2015). Alumni Coordinator at Lappeenranta University of Technology. Interview 7.4.2015.

**Appendix 1.**

## LUT Alumni Survey 2015

Lappeenranta University of Technology Alumni Survey 2015 Thank you for your interest in participating in LUT Alumni Survey. The survey will take about 10 minutes. Results will be used to develop our alumni relations in the future. Some of the results are also analyzed further in a Master's thesis about brand identification and alumni support. Your answers are anonymous and can't be identified. If you want to participate in the raffle, leave your contact information in the end of the survey. If you have any questions concerning the survey, please contact [elina.reponen@lut.fi](mailto:elina.reponen@lut.fi).

What is your gender?

- Male (1)
- Female (2)

What is your nationality?

- Finnish (1)
- Other than Finnish (please specify) (2) \_\_\_\_\_

What is your highest degree from LUT?

- Bachelor's degree (B.Sc., KTK, TKK) (1)
- Master's degree (M.Sc., KTM, DI) (2)
- Doctoral degree (3)
- MBA (4)
- Other (please specify) (5) \_\_\_\_\_

What was your field of study? (If multiple degrees, choose the latest.)

- Business (KATI) (1)
- Chemical Technology (KETE) (2)
- Electrical Engineering (3)
- Energy technology (4)
- Environmental Engineering (YMTE) (5)
- Industrial Management (TUTA) (6)
- Information Technology (TITE) (7)
- Mathematics & Physics (MAFY) (8)
- Mechanical Engineering (KOTE) (9)
- Other (please specify) (10) \_\_\_\_\_

When did you start your studies at LUT?

- 1969 (1)
- 1970 (2)
- 1971 (3)
- 1972 (4)
- 1973 (5)
- 1974 (6)
- 1975 (7)
- 1976 (8)
- 1977 (9)
- 1978 (10)
- 1979 (11)
- 1980 (12)
- 1981 (13)
- 1982 (14)
- 1983 (15)
- 1984 (16)
- 1985 (17)
- 1986 (18)

- 1987 (19)
- 1988 (20)
- 1989 (21)
- 1990 (22)
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- 2001 (33)
- 2002 (34)
- 2003 (35)
- 2004 (36)
- 2005 (37)
- 2006 (38)
- 2007 (39)
- 2008 (40)
- 2009 (41)
- 2010 (42)
- 2011 (43)
- 2012 (44)
- 2013 (45)
- 2014 (46)
- 2015 (47)

When did you graduate from LUT? (If multiple degrees, choose the latest.)

- 1971 (1)
- 1972 (2)
- 1973 (3)
- 1974 (4)
- 1975 (5)
- 1976 (6)
- 1977 (7)
- 1978 (8)
- 1979 (9)
- 1980 (10)
- 1981 (11)
- 1982 (12)
- 1983 (13)
- 1984 (14)
- 1985 (15)
- 1986 (16)
- 1987 (17)
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- 2002 (32)
- 2003 (33)
- 2004 (34)
- 2005 (35)
- 2006 (36)
- 2007 (37)
- 2008 (38)
- 2009 (39)
- 2010 (40)
- 2011 (41)
- 2012 (42)
- 2013 (43)
- 2014 (44)
- 2015 (45)

Please estimate your yearly income:

- Under 30 000 € (1)
- 30 000 - 45 000 € (2)
- 45 000 - 60 000 € (3)
- Over 60 000 € (4)
- I prefer not to say. (5)

Please select the most appropriate response for each of the following items:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
People think highly of LUT. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is considered prestigious to be an alumnus/alumna of LUT. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LUT maintains a high standard of academic excellence. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the education I received while at LUT. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the facilities at LUT when I was a student. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the manner in which I was treated as a stu-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

dent at LUT. (6)					
I am satisfied with how LUT prepared me for a career. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a positive image of LUT. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LUT is an appealing university. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like for people to know that I am an LUT alumnus/alumna. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My experience at LUT is an important part of who I am. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone criticizes LUT it feels like a personal insult. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very interested in what others think about LUT. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I talk about LUT, I	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>usually say “we” rather than “they”. (14)</p> <p>LUT’s successes are my successes. (15)</p> <p>When someone praises LUT, it feels like a personal compliment. (16)</p> <p>If a story in the media criticized LUT, I would feel embarrassed. (17)</p>	○	○	○	○	○
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Please select the most appropriate response for each of the following items:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
I would like to recommend LUT as a study place. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to recommend LUT as a research partner. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to attend alumni events organized by LUT. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to act as a mentor for a LUT student. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to help LUT students to get employed (by offering thesis topics, internships or	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

jobs). (5) I would like to give a guest lecture to LUT students. (6) I would like to make decisions that benefit LUT. (7) I would like to donate money to LUT's research as an individual. (8) I would like to donate money to LUT's research as a representative of an organization. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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