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DEVELOPING IDEAS FOR CURRICULUM IN FACILITY MANAGEMENT

Competences and Future Prospects

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Bachelor's Thesis
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Degree Programme in Facility Management
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Abstract
The aim of the Bachelor's Thesis was to research the Degree Programme in Facility Management instructed in English in the School of Business and Services Management at JAMK University of Applied Sciences. The School of Business and Services Management finished creating a new curriculum in facility management in 2009, but the coming educational changes in the national level force the Universities of Applied Sciences to go through changes in the degree programmes in the near future. The objective of the survey was to find out where the new curriculum in facility management stands, and develop new ideas for the curriculum. This was done by comparing the curriculums and competences of JAMK University of Applied Sciences and Hanze University of Groningen, and reflecting them on the future prospects of facility management.

The research method used was qualitative method. The research data was obtained through an interview study. The research was targeted to Finnish and Dutch facility management professionals. As a result, three facility management professionals were interviewed.

The results of the interviews showed that the facility management professionals were rather critical when evaluating the Degree Programme in Facility Management. The most considerable observations were that the curriculum in facility management does not have a balance, lacks practicality, and requires specializing possibilities. However, the majority of the competences needed in the working life are found in the curriculum, although they need to be revised to meet the requirements of international, competence based studies and the future prospects of facility management.

The results suggest that the new curriculum in facility management still needs to be modified, more practicality should be brought to the studies, and the collaboration with Finnish facility management organizations needs to be developed in order to provide a successful degree programme.

Keywords

Facility Management, curriculum development, competences, future prospects

Miscellaneous

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Tiivistelmä
Opinnäytetyö käsittelee Jyväskylän Ammattikorkeakoulun, Liiketoiminta ja Palvelut- yksikön englanninkielistä Facility Management-koulutusohjelmaa. Koulutusohjelma on uudistettu ja otetaan käyttöön syyslukukaudella 2010. Lähivuosina on tulossa valtakunnallisia, ammattikorkeakouluja koskevia muutoksia, joten myös Facility Management-koulutusohjelmaa tulee muokata niiden mukaiseksi. Työn tavoitteena oli selvittää Facility Management-koulutusohjelman tämänhetkinen tilanne, ja antaa kehitysehdotuksia koulutuksen suunnitteluun tulevaisuutta ajatellen. Työ toteutettiin vertailemalla Jyväskylän Ammattikorkeakoulun sekä Hanze University of Groningenin käyttämiä kompetensseja sekä koulutusohjelmia, ja vertailemalla niitä toimitilapalveluiden tulevaisuuden näkymiin ja muutoksiin.

Tutkimusmenetelmänä käytettiin kvalitatiivista tutkimusmenetelmää. Aineisto kerättiin haastattelemalla toimitilapalveluiden parissa työskenteleviä ammattilaisia Suomesta ja Alankomaista. Haastateltavina oli yhteensä kolme alan ammattilaista.

Tutkimuksen tuloksista ilmeni varsin kriittinen näkökanta koulutusohjelmaa kohtaan. Yleinen mielipide oli, ettei Facility Management- koulutusohjelman sisältö ole tasapainossa ja koulutusohjelma kaipaa käytännönläheisempää opetusta sekä erikoistumisvaihtoehtoja. Myönteistä oli, että koulutusohjelma tarjoaa työelämässä tarvittavia kompetensseja. Jotta kompetenssit yltäisivät kansainväliselle tasolle, tarvitsevat ne kuitenkin vielä muokkausta.

Tutkimuksen perusteella koulutusohjelmaa täytyy kehittää, opetuksen on tarjottava käytännönläheisempää osaamista. Myös yhteistyötä toimitilapalveluihin keskittyneiden yritysten kanssa on lisättävä, jotta koulutusohjelmasta saataisiin mahdollisimman monipuolinen.

Avainsanat (asiasanat)
Facility Management, toimitilapalvelut, opetussuunnitelman kehittäminen, kompetenssit, tulevaisuuden näkymät

Muut tiedot

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1 INTRODUCTION

1.1 Background information

The world of business is rapidly changing, which causes a growing pressure on the surroundings. As technology develops, the working methods and employees also have to accommodate to the changing conditions. These changes force the educational field to be modified to meet the needs of working life.

Jyväskylä University of Applied Sciences has offered the Degree Programme in Facility Management since 1993. In 16 years, the degree programme has gone through multiple adjustments, leading Jyväskylä University of Applied Sciences to evolve the Degree Programme of Facility Management to a new level.

The new, enhanced degree programme was introduced in autumn semester 2008. After that, a new curriculum has been developed to be introduced in autumn semester 2010. Despite that, there is still a need to develop the Degree Programme in Facility Management to meet the competence needs of the working life. Also the coming educational changes in the national level force the Universities of Applied Sciences to make adjustments in the degree programmes in the near future.

The structure of the Dutch Degree Programme in Facility Management was used as the source of inspiration, and the long-term collaboration partner Hanze University Groningen offered the resources to do so. In the Netherlands the concept of facility management has been known far before it arrived to Scandinavia. Therefore, it has led the way of changing the concept of facility management.

1.2 Basis of the Bachelor's Thesis

The basis of the Bachelor's Thesis will be the degree programmes with their competences of Hanze University of Groningen and Jyväskylä University of Applied Sciences. Two former theses written in Jyväskylä University of Applied Sciences, 'Working life correspondence of the curriculum in the Degree Programme in Facility Management' (Ala-Jääski, M. Kurki, H. May 2008) and 'Toimitilajohtaminen – kokemuksia koulutuksesta ja työelämästä' (Aalto, A. Haapaniemi, S. June 2007), will also be used as the basis of the thesis.

1.3 Object of the Bachelor's Thesis

The aim of the Bachelor's Thesis was to find out what could be developed in the Degree Programme in Facility Management by taking into account future trends and changes, and comparing the competences used in Jyväskylä University of Applied Sciences to those of Hanze University of Groningen.

This thesis concentrates on the degree programmes, competences and future prospects of Facility Management. Therefore, the Facility Management in general, such as its concept and history will not be dealt with.

This thesis was conducted in order to invent new ideas for developing the Degree Programme of Facility Management in the near future. Another purpose was to find out if the new curriculum introduced in autumn semester 2010 meets the competences needed, or if there still is something that needs to be changed. This was done by studying the process of curriculum planning and finding out future changes and trends in the field of facility management. Professional opinions were asked by interviewing Finnish and Dutch facility management professionals. The authors also wanted to give their opinion as

former facility management students, and find where the current curriculum in facility management stands in order to make improvement suggestions so that the future facility managers in Finland could range with other European facility managers.

2 CURRICULUM PLANNING PROCESS

Curriculum planning is a long process including many steps. “A ‘curriculum framework’ can be defined as a group of related subjects or themes which fit together according to a predetermined set of criteria to appropriately cover an area of study” (Key concepts for understanding curriculum: planning, management and ideology,1997, 27).

In Finland the higher education consists of two complementary sectors, universities and universities of applied sciences. In general universities of applied sciences are multi-field regional institutions and teaching concentrates more on working life and regional development. Curriculum planning process in universities of applied sciences is done independently in every unit. By using this kind of method all universities of applied sciences can have a different curriculum. This differs from other curriculum planning processes held in Finland. Elementary studies have their own curriculum for example but it is nationally planned and all the elementary schools have the same curriculum around Finland. (Ministry of Education, Polytechnic Education in Finland.)

In the beginning of the process it is important to think why that kind of education is needed and who benefits of it. What kinds of needs are fulfilled has to be taken into consideration as well. A successful evaluation of the education need gives the basic frames for planning the curriculum. Process includes also steps like competence defining and target defining, as well as defining the curriculum model. Process of curriculum planning defines not only the contents, but also the working methods. At the end of the process

evaluation and developing of curriculum need to be defined as well (Opetuksen ja oppimisen suunnittelu). Developing education and teaching continuously requires universities to change into open organizations to be capable to change. A lot of information is needed to develop curriculum but also a lot of time is needed. Curriculum planning takes months, sometimes even years to be finished. (Hätönen, 2001. 27, 31.)

When the whole process of curriculum planning starts is the working life needed to be taken into account. In curriculums of universities of applied sciences working life plays a big role and curriculums are planned by using working life requirements. Working life also determines final competences included in the curriculum and from competences based on working life the whole structure of studies is built. Separate study modules taught are evaluated after completing them. Feedback is collected from the students after every study module. These curriculum planning steps are gone through continuously around the year.

The Accreditation Council for Graduate Medical Education, ACGME, has published six steps to developing a competence-based curriculum. First step in this development process is to conduct needs assessment. In this step it is determined what students need to learn and what the requirements for the program are. In Universities of Applied Sciences, important components of studies are based on working life requirements and professions. In the second step competencies are identified deeply. Writing goals and objectives is the third step. The purpose of that step is to provide clarity about the educational program to students and teachers by defining clear targets of the curriculum. By writing down the goals and objectives students are informed what they will gain from the instruction. In this step it is important to define what are the studies that students need to study in order to fulfill the requirements of the competence-based qualifications (Kyrölä 2008). The fourth and the fifth steps are to determine teaching and assessment methods used in curriculum. The last, sixth step determines improvement methods for the program. It is important not to forget future plans and already think about the next development point in the future (Joyce, Developing a Competency-based Curriculum).

2.1 Working life in curriculum planning

In the curriculum development process working life and its requirements are needed to take into consideration. Education and working life are linked together meaning that education needs to be developed due changes in working life. Traditionally, on-the-job training is the major component in facility management education and training (Rondeau, Brown & Lapides 2006, 540). The relationship between education and working life seems to be one of the main development objects in many European countries because of the changed labor markets and working life duties.

According to Tynjälä, Välimaa and Murtonen (2000, 188.), society and people are changing all the time, meaning that there is also a need for education to change. The vocational education system has significantly changed since 1990's. These factors cause closer solutions between working life and education.

To get a close view of working life, curriculums include projects implemented in cooperation with corporations and inspired by working life. These projects give a realistic idea of the skills and tasks needed in working life but also develops students' social communication skills and cooperation skills. These skills are transferred to working life after graduation. In the transfer process the students apply the skills learned from the projects implemented to working life and bring them into the practice. As confirmed by many researches, it is not easy to transfer that information and take it into use as easily as it is said to be done (Konkola 2003, 14).

2.2 Definition of competence

Marco van den Ende defines competence as:

> *A cluster of related knowledge, skills and attitudes that influences to a large extent anybody's task (role or responsibility), together with the performance that can be measured and assessed on the basis of accepted standards and which can be improved by means of training and development. (Facility Management 2006, European Facility Management Conference 2006, 258.)*

John Burke (1995, 80) describes competence as follows:

> *Competence pertains to the ability to perform the activities within a function or an occupational area to the levels of performance expected in employment. It is a broad concept which embodies the ability to transfer skills and knowledge to new situations within the occupational are. It encompasses organization and planning of work, innovation and coping with non-routine activities. It includes those qualities of personal effectiveness that are required in the workplace to deal with co-workers, managers and customers.*

In a survey made by IFMA (Exploring the Current Trends and Future Outlook for Facility Management Professionals, 2007.) it is stated that in order to provide career essentials for facility management professionals, competences should be developed in the following key areas: Operations and Management, Facility Function; Real Estate, Finance, Human and Environmental Factors, Quality Assessment and Innovation, Planning and Project Management, Communication, and Technology.

2.3 Differentiation of competence and qualification

In many cases the terms qualification and competence are mixed up. Figure 2 gives a clearer picture of what each of them means (Helakorpi, S. Ammattitaito ja sen analysointi.)

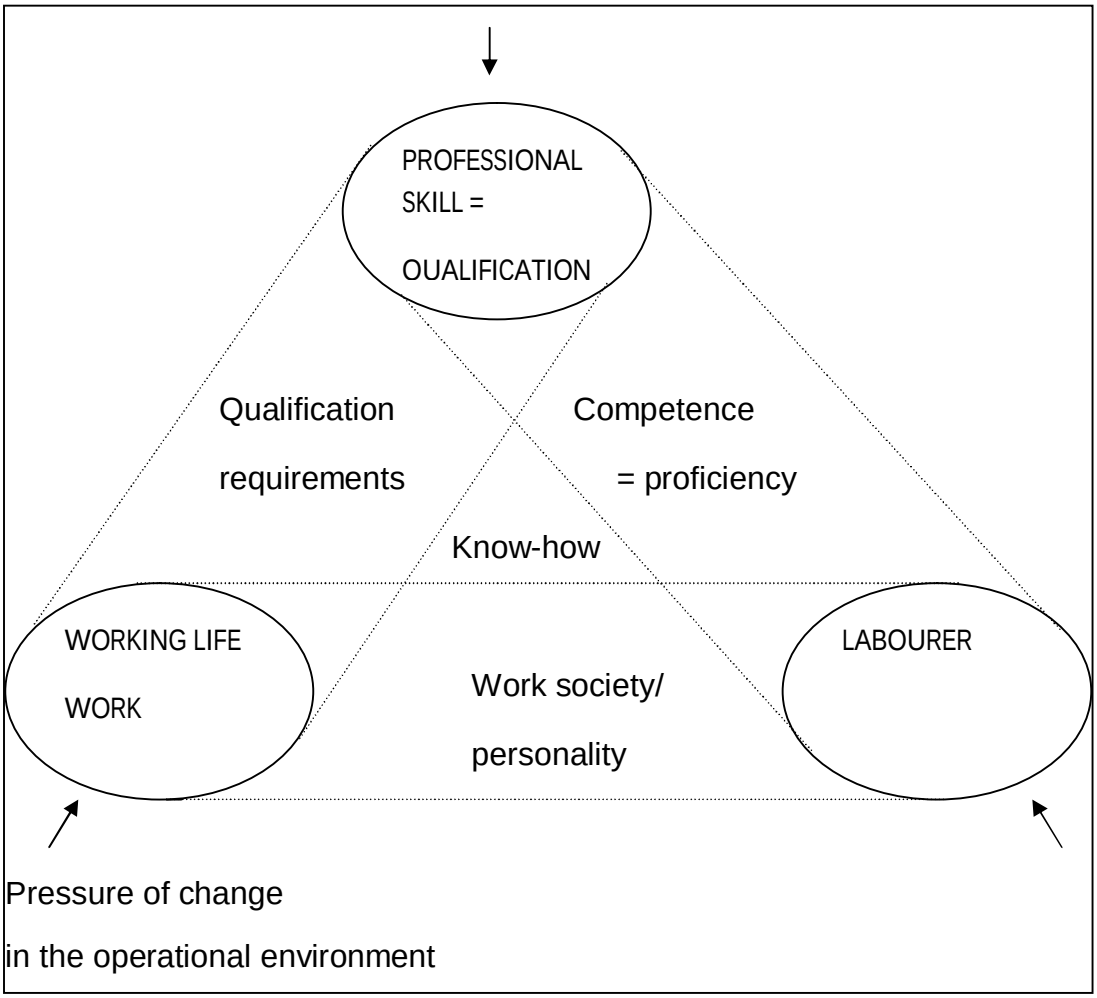

Figure 1 – Qualification and competence

The figure shows how the demands of qualifications rise from working life, whereas competences are made up of the proficiencies and preparednesses that the labourer possesses. Each labourer can have a proficiency for many duties, or they can partly meet the demands of the qualifications. (Helakorpi 2001.) The purpose of the curriculum is to provide the competences needed in working life. The competences provided affect the labourer as well as the qualifications accomplished, which are reflected on the qualification requirements.

2.4 Definition of qualification

The term qualification was first used in Finland in the 1970's when the secondary school system went through big changes. Takala (1983, 10), presented in the work of Väärälä (1995, 37) defines qualification as a completion to work in the society in a certain way – in both relations, between people and between people – object. Helakorpi (2001) describes qualification as follow; qualification indicates whether the wide group (whole profession) or the brief group (particular tasks) of the professional skills. Sometimes qualification is understood as a skill, sometimes as an ability or tendency. Järvelä-Hartikainen (1978, 106 - 126), presented in the work of Väärälä (1995, 38) defines qualification as a potential related to labour force, that is made necessary by the special nature of the job.

2.5 Qualification model

Qualifications have many different determinations and divisions. The most known determination might be model originally designed in the International Labour Organization ILO that is shown in Figure 3. (Helakorpi 2001)

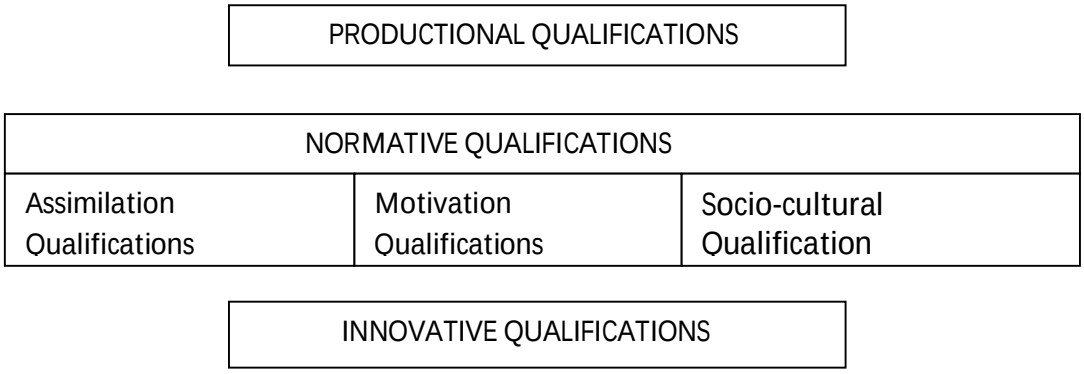

Figure 2 – Qualification model

1) Productional Qualifications mean the personal (with technical emphasis) skills, knowledge and proficiency that are essential when performing the job. Profession is understood as a group of defined duties, and vocational proficiency the sum of features that are necessary when performing the duties. (Väärälä 1995, 44)
2) Normative Qualifications divide into assimilation-, motivation- and socio-cultural qualifications. Assimilation qualifications define the adaptation to work and work community (working hours, habits etc.). Motivation qualifications are personal features, such as initiative, adaptation in / of working community, helpfulness, cooperativeness etc. The importance of these features has increased their value when the group organizations and customer-oriented operation modes have become more common. The socio-cultural features are defined as interaction inside the work organization as well as outward from the work organization, and indentifying with one's own profession. (Helakorpi. Taidot ja Osaaminen)
3) Innovative Qualifications enable developing the work process, and the right procedure in unpredictable crisis situations. These features become more frequent when the working life and work processes change in a rapid phase, and when more complicated structures are taken into usage. Also the ability of constant learning is a part of innovative qualifications. (Op. cit.)

3 FUTURE PROSPECTS IN FACILITY MANAGEMENT

3.1 Changes in working life

The working life is undergoing many types of changes. The actual work has changed; physical work has been replaced with mental work. Knowledge in IT

and language skills are crucial. The changes in working life can be seen in working methods, organizations, vocational structures, and the skills needed. Constant changes in the working life demand good change management skills. (Hakkarainen & Korpivaara 2006.)

Productivity and effectiveness are emphasized in the work. Different functional knowledge and skills are becoming more essential. Staff reduction has increased the workload which causes more rush and stress. More physical problems occur at workplaces than earlier. (Op.cit.)

Industries have changed with the development of technology so that the number of staff has decreased in the primary- and manufacturing production, and increased in service production. Temporary workforce is used more which causes the feeling of insecurity and problems with motivation when performing the job. Major age groups are getting closer to their retirement age and when reaching it, a shortage in labour force raises and a lot of silent know-how and experience will disappear. Moving these changes to a positive direction demands versatile and comprehensive knowhow, skill and willpower. Developing the work community, fitting the needs of work and the resources of employees, vocational development and education are the key words. (Op.cit.)

3.2 Changes in workplace

The traditional workplace consists of large office, large staff, a private or semiprivate space separated by enclosed walls and supported by systems furniture. Studies show that these traditional methods of space utilization represent ineffective space management for today's business environment. As a result, several concepts have been designed to achieve better results. Here are presented some of them:

'Hoteling' is a space-sharing concept in which work space is made available on advance notice from the employee. The hoteling system operates like a

hotel, where a room is provided on request. This arrangement can be useful for companies with employees who spend the most of their time outside their traditional offices. *'Nonterritorial'* offices have been designed for projects involving short-term teamwork. In this environment no one has an assigned workstation but shares space, resources, files, and quiet areas with other members of their team. This concept works well for creative and development activities. The *'caves and commons'* concept emphasizes group work with shared resources. It is similar to the Nonterritorial concept, expect that employees are assigned a very small private work spaces. *'Free addresses'* is a term for a concept in office planning based on groups of people who need to be together to perform a specific type of task. This work environment includes specially designed computer, telephone, and meeting rooms. Reservations are not made very far in advance, and the work spaces can be used by any group in the company. *'Telecommuting'* is a concept that does not emphasize the workplace, but the work environment. Nowadays many types of work can be performed in any location that has access to information, i.e. computer, modem, fax, telephone. As long as the information link is maintained, the employee can be located anywhere. (Rondeau, Brown & Lapides 2006, 385-386.)

3.3 Changes in the field of facility management

Based on Rondeau and co-workers (op.cit. 543.) some of the international changes are: the globalization of markets; pressure on cost of service and competition; acquisitions, mega-mergers and takeovers; common products; and profit margins. Coming ways of doing business in private-sector industry are for example: being customer and business focused; being an ongoing internal program to reduce assets, costs, and head count; looking at business infrastructure, services, and costs from an integrated/portfolio perspective.

In the future the staff sizes are being reduced, but the workload remains the same or even grows. This means that facility professionals have to use the help of outside consultants or vendors to meet their goals. Also technology

plays a big part in the changing ways of working. The development of user-friendly, economical mainframe computer and personal computer-aided facility management (CAFM) software integrated with associated low-cost computer-aided design and drafting (CADD) systems has opened many management opportunities for facility professionals. The use of laptops, video conferencing, networks, e-mails, mobile phones and wireless communication have changed the ways of working by moving outside from the traditional office and, speeded up communication and the flow of information. (Op. cit. 377, 559.)

Based on Rondeau and co-workers (op.cit. 3, 560-561) all the changes mentioned result the facility professionals having:

More authority with responsibility; more workable and appropriate policies and procedures, but less bureaucracy; greater management and strategic leadership role within the corporation; increased requirements for quality service; less in-house staff and more outsourcing vendors and consultants; increased awareness and expertise in strategic business planning, asset management, safety, acoustics, air quality, ergonomics, and productivity; more automation tools for reviewing alternatives and making quicker informed decisions; strategic business and facility planning and policy. New ways of doing business include also globalization of real estate portfolios, total energy management, performance based contracts, and working for an international firm from headquarters in another country.

All in all, the development of the whole society creates new challenges to the lifestyle. The changes of lifestyle are associated with the changes of the operation model in the labour market. Technical development of the work processes, automation and development of the socio-technical work structure create a new environment to the qualification and competence challenges and the usage of them. (Väärälä 1995, 48.)

3.4 Future trends in facility management

A trend can be defined as having a “general direction and tendency” that is not a fad (IFMA foundation Trends Survey 2004). As the environment changes there is a consistent need to follow the changes and modify the skills and the knowledge needed from the employees. In the future there will be greater demand to follow up with the changes because of the more and more rapid business development of the world.

Trustees of the IFMA Foundation have conducted a survey concerning future trends. The survey was issued on the 23rd of February 2004, sent to 16 379 recipients, and by the closing date March 5th 2004. 1 464 responses were collected. Based on the IFMA Foundation Trends Survey 2004, tools such as educational programs, research thrusts, white papers and other activities could be developed to assist FM professionals in carrying out their duties and, overall, in better preparing for their future in the industry. One of IFMA’s stated objectives is to provide career essentials for facility management professionals. This includes developing competencies in key areas such as: operations and management, facility function, real estate, finance, human and environmental factors, quality assessment and innovation, planning and project management, communication, and technology (IFMA foundation Trends Survey 2004).

The future trends were also discussed in the two-day conference which was held in Houston, Texas on February 16th-17th 2007. A panel of industry experts was invited by IFMA to represent various industry sectors and constituencies of the facility management profession. During the conference the following issues were considered as the most important affecters on the future facility management profession: rapid pace of change, changing technology, building automation, security issues, and sustainability. Environmental factors, like rapid population growth and continued limitation of energy resources, indicate that facility management professionals will continue to be challenged to do more with less in the coming years (Exploring

the Current Trends and Future Outlook for Facility Management Professionals 2007)

3.5 IFMA Facility Management Forecast

In this chapter we are going to go through more of the coming trends and competences that facility management professionals should assess. These trends are: linking facility management to strategy, emergency preparedness, change management, sustainability, emerging technology, globalization, broadening diversity in the workforce, and aging buildings (Exploring the Current Trends and Future Outlook for Facility Management Professionals 2007). The full list of the coming trends is to be found in Appendix 1.

Linking facility management to strategy means that physical activities will have a large role in determining productivity, supporting innovations, efficiency, employee satisfaction and public perception of an organization. Skills needed are understanding the complexities associated with strategic planning, and proving and communicating the value of facilities in the business strategy. *Emergency preparedness* is being prepared to crisis that might happen, i.e. natural disasters. One has to be able to analyze vulnerabilities, develop and implement protection strategies, and develop response plans in advance. *Change management* includes quick changes in operations that have added complexity in working life. This has happened i.e. with digital and technological revolutions, and they require heavy and rapid facility responses. Skills needed vary between many areas such as security, strategic planning, energy maintenance, negotiation strategies, project team building, innovation, motivational training, cultural diversity, entrepreneurial value, and adaptability. *Sustainability* includes issues such as environmental responsibility, and energy management. Facility management professionals should learn about Leed and other energy-performance building rating systems and initiative in order to reduce, reuse and recycle. *Emerging technology* means that more technologically smart building operations are needed, as more complex building systems are gaining its importance in the markets. One needs to keep

up-to-date with hanging technology (BIM, IWMS), and to work closely with tenants and users to be able to act in advance of changes. *Globalization* brings the need to bridge larger physical operating distances, and to address differences in mobility, culture, languages, educations, etc. Facility management professionals have to utilize the resources of FIFMA, evaluate and understand who the competitors are in the global markets, and to use facilities to differentiate their organization. *Broadening diversity in the workforce* is getting closer when the big age groups reach retirement age. This means more minorities will enter the workforce. Facility management professionals must be able to promote leadership development, maintain the variety of workers and work styles, and create flexibility between different working cultures. *Aging buildings* include decisions of repair, reuse, or replace, as well as the introduction of new materials and removal of materials now known to be hazardous. This demands facility management professionals to determine facility return on investment (ROI), analyze the condition of aging buildings, and develop strategies of how to deal with them.

4 CURRICULUM IN FACILITY MANAGEMENT

4.1 Facility Management Studies in Jyväskylä University of Applied Sciences

The Degree Programme in Facility Management is developed in co-ordination with the Dutch Hanze University Groningen. The co-operation between Jyväskylä University of Applied Sciences (JUA) and Hanze University Groningen started in 1993. The concept of Facility Management was introduced in Finland after that. In 1997, the Degree Programme of Facility Management was constituted as independent degree programme in Jyväskylä University of Applied Sciences. The scope of the degree programme is 240 credits. Since 2004 the degree programme has been Degree Programme in Facility Management by name. The aim of the degree was to allow students to

manage facilities and services. By 2010 approximately 1300 Bachelors of Hospitality Management had graduated from Jyväskylä University of Applied Sciences (Hartikainen, 2010). In 2007, 72% of the graduates had got a job right after graduation. The annual intake used to be 20 students, which changed to 40 students in 2009. The studies include student exchange and practical training done abroad (Jyväskylän ammattikorkeakoulu, 2008, 18-19).

In general, Jyväskylä University of Applied Sciences has adopted competence and learning based curricula in its degree programmes. The development of competence is closely supported by study guidance and the assessment of competence development. When developing education, a closer integration of teaching and R&D projects, the development of entrepreneurship, and internationalization are the focal areas to concentrate on. As guidelines for education, JUA take into consideration the principles of pedagogical strategy, the principles of regional development and development of working life, and the operations based on the quality assurance system (Degree programme of Facility Management, Instruction in English, 2008, 4).

Now, in 2010, Jyväskylä University of Applied Sciences has a new organization structure. JUA is divided into four different units. The degree programme in Facility Management is taught in the Business and Services Management unit, under the Global Business Management sector. The other three units are Technology, Welfare and Vocational Teacher Education (Jyväskylän ammattikorkeakoulu 2010 organisaatiorakenne, 2009).

The School of Business and Services Management has defined their mission and vision. The mission is to innovate “service, wellness and business competence related to development and management in the field of tourism and hospitality” while the vision of the international School of Business and Services Management is to be known as a “significant, innovative provider of competence in its fields, and as a development partner of service SME´s” (Small and Medium Enterprises) (Degree programme of Facility Management, Instruction in English, 2008, 5).

When the working life requirements change, there is a need for the degree programmes to change as well. Annual amendments have been made to the

programme along with changes in the business environment, but the current degree programme has been completely reformed to meet the challenges of the business environment (op. cit. 5).

The curriculum work in the Degree Programme in Facility Management is based on the information provided by working life. The continuous evaluation of the degree programmes is an important part of the development process. The planning process has been mainly based on the pedagogical strategy of the School of Business and Services Management, cross-evaluation, international evaluation, generic competences of graduates, and the programme-specific competences (Degree Programme of Facility Management, Instruction in English 2008, 5). In the beginning of 2008, graduates from the Degree Programme in Facility Management evaluated the competences in their bachelor's thesis (op.cit. 5).

International evaluation was implemented in 2005 by using international networks and by collecting international foresight information.

The whole planning of the Degree Programme of Facility Management has been a continuous process. The basic planning was indicated by the core group including the head of degree programme, principal lecturers, the tutor coordinator, experts in business administration and research studies, and a coordinator. The core group was regularly informed by teachers and other staff. Totally, there were four development days with about 500 hours of development resources used for the curriculum work (op.cit. 6).

In 2008, a new curriculum was taken into use in Jyväskylä University of Applied Sciences to be modified again during 2009. The new curriculum modified in 2009 will be taken into use in autumn 2010.

Future needs are carefully taken into consideration. Central future trends will be a growing demand for services and expectations for higher and more individual quality. The present service structure cannot respond to the future demand for services. In Finland, the proportion of the service sector in total employment is currently under the average of the OECD (Convention on the Organization for Economic Co-operation and Development) countries. The

private sector is also among the smallest in developed countries. New business opportunities are expected in the future because the public and private cooperation will expand and diversify.

When the working life changes, there is also a need for developing the competences used in degree programmes. The degree programme started in autumn 2008 consists as follow: In year 1 the students build a foundation for their learning by familiarizing themselves with the basics of business activity in service SMEs, business environment and branches of facility management. Factors influencing consumer and customer behavior are also important. In the second year, stage 2, the core and support processes of service SMEs from the perspective of the production and management of facility service processes are taught. The third stage focuses on the process development and planning of facility service enterprises, on their strategic level development, and on the deepening of one's special competence. Practical training will deepen the students' knowledge and skills. In every stage of the programme, learning includes familiarization with phenomena of the field through real-life assignments in the industry. The curriculum is to be found in Appendix 2.

The Degree Programme in Facility Management to be started in autumn 2010 is similar in many ways to its predecessor. The first and second years include basic facility management studies. The first year contains issues such as expertise in working life, communication skills, service environment, basics in business in service company and facility services. In the second year, the student is introduced to the strategic and operational management of a service company, environmental aspects in facility management, R&D process, space management, sustainable facility management and design and control of facility management. The third year is what makes the difference and gives every student the chance to personalize their studies. The third year is characterized by a personal development plan enabling the students to choose the courses they want (offered by the degree program in facility management or other degree programs), company projects, minor research projects and exchange studies abroad. The fourth year consists of

elective studies, practical training and thesis. The curriculum is to be found in Appendix 3.

4.2 Facility Management Studies in Hanze University of Groningen

The starting point of facility management education in The Netherlands goes back to the beginning of the 1980's, when the Dutch universities of applied sciences, united in the Body of Institutions of Higher Professional FM-Education (LOOFD), decided to begin offering facility management programmes at an undergraduate level. Developments in the fields of education and in the environment affecting both education and profession underlie the decision taken by the LOOFD, in December 2004, to review and revise the competence profile dating from 1999 (Facility Management 2006, European Facility Management Conference, 257.).

Dr. A. G. Reitsma describes the development of International Facility Management studies in Hanze University as follow: In Groningen the International Facility Management education started approximately in 1995 as a small part of the FM education. At the beginning the International FM-education was not really international, but a Dutch Programme taught in English. Around 2000 the Programme of International Facility Management moved to the International Business School (IBS) of the Hanze University, becoming a major within IBS. This secured the international character better, but caused a failure of not dealing with FM any longer. In 2004 the unit of International Facility Management was taken back, more lecturers were involved and more international literature was used.

Still, until 2007 the International Facility Management programme was not complete; lecturers translated too much directly from the Dutch stream and cases were not really international. In 2007 a project started for upgrading IFM, in which Dr. A.G. Reitsma was the project leader. As a result of the project, a new curriculum was created, real international literature was taken into usage, and cases derived from international organizations were taken into

the teaching process. This was to attract more students from abroad, having more prospective students in general and expanding the exchange partnerships all over the world. Also training the staff in English and cultural skills were part of the project. Since 2008/2009 the Hanze University has had own IFM team. Before that is was a small part of attention of the various team leaders and very often IFM came on the last place. What is to mention, in the near future the Degree Programme in International Facility Management will again go through changes.

Nowadays the structure of international facility management curriculum forms as follow: First year the concentration of studies, and the role of the facility manager (on the brackets) is in issues such as policy-making (policy maker), product development (innovator), and process control (facilitator, process controller). During the second year the emphasis is on product development (director), enterprising (entrepreneur), policy-making (advisor), and process control (quality manager). On the third year the emphasis is on the placement abroad (manager). On the fourth year the studies concentrate in strategic policy (strategic manager) and change management (change manager). The curriculum include courses such as: What is facility management; The workplace; Aim to process; Services; Purchase and tender; Developing new services; Sustainable housing; Quality management; Corporate FM policy; Commercial strategy; Management of change: corporate; and Management of change: commercial. All the students have same basic courses in year one, afterwards their courses can vary from each other, based on if they choose the corporate or commercial emphasis of the facility management studies. The emphases are seen in Table 1. (Programme Profile Corporate or Commercial International Facility Management 2009.) Full curriculum description is to be found in Appendix 4.

Commercial FM	Corporate FM
Part of primary process	Part of secondary process
Focus on process	Focus on location (building)
Risk management	Organisational sensitive
Focus on external	Focus on internal
Sales/trade	Technique & strategic
Customer- supplier relationship	Real estate knowledge
Profit/revenue focus	Costs know-how

Table 1 - Commercial and Corporate FM (Programme Profile Corporate or Commercial International Facility Management)

4.3 Competences in Jyväskylä University of Applied Sciences

In a new, in fall 2008 introduced curriculum there are 12 different competences in use. Five of them are competences for JUA's Bachelors of Hospitality Managers including FM related studies, the rest seven of them are basic studies for all students in the School of Business and Services Management. The list of competences is to be found in Appendix 5.

4.4 Competences in Hanze University of Groningen

The Dutch curriculum used in Hanze University of Groningen is formed of nine competences. The nine competences are headed by LOOFD, The Netherlands' consultative body for facility management programmes that forms of representatives from each university of The Netherlands. Six competences belong to the competence area of Business Administration; two competences are generic for all competence areas; and one specific competence is characteristic for the facility manager and which is covered insufficiently in the other competences or competence areas (Facility Management 2006, European Facility Management Conference, 258; Competence Profile Loofd). These nine competences show what a facility

manager must be able to do, know and be to make a successful contribution. All competences with the divisions are listed in Appendix 6.

4.5 Competences used in Jyväskylä University of Applied Sciences and Hanze University of Groningen

Table 2 below shows the competences used in Jyväskylä University of Applied Sciences and in Hanze University Groningen.

JUA	Hanze University
Service System Competence	Initiating and creating facility products and services, autonomous and entrepreneurial, on behalf of the organization
Competence in Responsible Service Business	Developing views on changes and trends in the external environment and developing relations, network group and chains
Wellbeing Management Competence	Analyzing strategic problem areas, translating into objectives and alternative options, and preparing for decision-making
Service-Sector-Related Technological Competence	Applying human resources management in the light of the strategy of the organization
Foresight, Innovation and Network Competence	Organizing, controlling and improving business- or organization processes
Learning Competence	Analyzing financial and juridical aspects, internal processes and the business- or organizational environment to enhance the relationship and interaction
Ethical Competence	Developing, implementing and evaluating a change process

Communicative and Social Competence	Social and communicative competence
Development Competence	Self-controlling competence
Organizational and Societal Competence	
International Competence	
Business know-how and inner entrepreneurial spirit	

Table 2 – Competences used in JUA and Hanze University

5 THE RESEARCH

This chapter focuses on the research that was made in order to get a wider perspective on the issue. This was done by interviewing some FM specialists from Finland and The Netherlands. The first chapter focuses on the research question. In the second chapter the research methods are introduced, and in the third chapter the execution will be explained.

5.1 Research question

The aim of this research is to invent development suggestions for the Degree Programme in Facility Management. The main reason of this research is to find differences between FM-degrees in Jyväskylä University of Applied Sciences and Hanze University of Groningen. This research is assigned by the School of Business and Services Management. It is done to help the

administration of the School of Business and Services Management find the new tendency on the curriculum of Facility Management that they want to modify. The research is targeted also to the students who will benefit from the new up-to-date curriculum which will give them better preparedness to meet the future needs of facility management in both national and international level.

There is one research conducted earlier that discuss the Degree Programme in Facility Management. The thesis is by Maiju Ala-Jääski and Hanne Kurki from the Degree Programme in Facility Management and Consumer Communication. The topic is Working life correspondence of the curriculum in the Degree Programme in Facility Management, and it is conducted in spring 2008.

5.2 Research method

Research can be divided into theoretic or empiric depending on their nature. Theoretic research is often used in the field of mathematics; the research is done with the purpose to understand an issue from the theoretical point of view without adding any practicality in the results. On the other hand, empiric research is done to bring practicality in the area studied. It includes steps such as planning the information seeking, finding information, analyzing the material, and presenting the results. (Mauranen & Puntila.1995)

There are two kinds of methods in empiric research; qualitative and quantitative. Qualitative research and quantitative research differs from each other when it is about the interview. In qualitative research the interview means that open questions are presented for a closely chosen individual or a group. In quantitative research the interview is normally in a survey form and the structured questions are presented for a random sample chosen accidentally. (Metsämuuronen 2001, 15.) According to Metsämuuronen (2001, 39) interviews can be made in a many different way like a group interview or as an individual interview. Metsämuuronen (2001, 41) also states that

interviews can be divided into a structured, half-structured and open interviews.

5.3 Execution

The method of research that was used in this thesis was interviewing, in which we used qualitative research method. We decided not to interview a lot of people, but rather just a few facility management professionals from each country, Finland and The Netherlands. The questions were derived based on the current curriculum (taken into use in fall 2008) and personal experiences.

The three people that were interviewed we found with the help of our tutor Kirsti Hintikka-Mäkinen. Hintikka- Mäkinen helped us to arrange a meeting with two Facility Management professionals Matti Puromäki and Reijo Rauhala, who also are post-graduated from the Degree Programme of Facility Management. The face-to-face meeting was hold on the 2nd of December 2009 in the JUA main campus at Rajakatu. The questions are to be found in Appendix 7.

After the first interview was done we realized that some changes had to be done. Some of the questions had to be jointed and modified in order to get them more specific and personalized in order to meet the professional knowledge and to get more specific information to use as results.

From The Netherlands we interviewed Marco van den Ende. We were supposed to have a face-to-face interview with Van den Ende whilst his visit at JUA in February 2010. Nevertheless, the unfavorable and busy time schedule forced us to change the plans and do the interview by e-mail on 22nd of February. The questions are to be found in Appendix 8.

6 THE RESULTS

To get a perspective of what a facilities manager really needs to know in working life, and to get an opinion of how these needs are implemented in the curriculum in facility management education, three facility management professionals, both Finnish and Dutch, were interviewed. The two Finnish facility professionals interviewed were Matti Puromäki and Reijo Rauhala. Mr. Puromäki works as Real Estate Manager in SOK Real Estate Operations. He began his facility management studies in JUA in 1995 and graduated in 2000. By now, Puromäki has been working as a facility manager for nine years. Mr. Rauhala also works as Real Estate Manager, in Fortum Corporate Support Services. He finished his studies in 2001. Mr. Rauhala started his career in the world of banking in 1986, moved to the world of facilities management in 1997, and started his full-time career in facility management in 2002. The third interviewee was Marco van den Ende, a Dutch Consultant Facility Manager. Van den Ende worked as a facility manager in health care (hospital) for 20 years, and for 17 years he worked as a Principal lecturer in the Degree Programme in Facility Management at Hanze University Groningen. Nowadays Mr. van den Ende is officially retired, but is still working as a Consultant of Facility and Hospitality Management for example in India. His study curriculum includes hotel management, organizational management and facility management.

Puromäki and Rauhala are both strongly involved in the activities of Finnish International Facility Management Association, FIFMA. At the moment, Mr. Puromäki is the vice-chairman of FIFMA, five to six years in the organization. Mr. Rauhala is the treasurer of FIFMA; he has been involved in the organization for 2 years. Mr. Van den Ende used to be a member of IFMA Holland, representing Hanze University at EuroFM meetings and conferences.

The main emphasis in both interviews was in orientation alternatives, stress on curriculum, professional skills, working life correspondence, changes in working life, trends, and differences between the Dutch and Finnish facility

management studies. In the following chapters, subjects mentioned will be discussed in detail.

6.1 Orientation alternatives, stress on curriculum

In all three interviews there came up a clear vision of a need for orientation alternatives. As former students we also feel that there is a need for an opportunity to choose an orientation alternative. The Dutch model gives the opportunity when students can choose from commercial or corporate facilities management. In the Degree Programme in Facility Management all the important studies are covered. The whole curriculum in Jyväskylä University of Applied Sciences is focused partly on services management but Marco van den Ende states that Facility Management is more than that. Curriculum framework is defined as a group of related subjects fitting together and covering an area of study, in JUA all the targets are not fulfilled when the interviewees end up being disaffected with the curriculum. All three interviewees have been in a working life many years and they know the needs of working life. All the needs have to be taken into account when planning a curriculum.

Quite a few ideas for orientation alternatives came up during the interviews. Basic facility management and production of services are essential for the students to learn. Basic FM could concentrate on buying procurements of services as well as leasing. These aspects are already found in the JUA curriculum in facility management. To add this alternative more value, it could contain the actual making of contracts and familiarize oneself with juridical aspects on contract making, whilst nowadays the new curriculum does teach the students the cooperation and follow-up systems during a contract. Acquisition but also economical planning, investment, expenditure estimate, cost estimate and cost efficiency came up with Puromäki and Rauhala when talking about the basic FM orientation. These aspects also are found in the curriculum and even if the common idea is that they need to be gone through more deeply, the truth is that it is very hard to know what their level of

teaching is at this point when the current curriculum programme has not been studied through yet.

By green office Puromäki and Rauhala meant issues such as sustainable development and life span thinking. Nowadays environment is more and more on view and facility managers need to take environment into consideration as well. Green thinking would be an interesting orientation alternative for future facility management students. Once again these aspects can be found in the curriculum, but much from the service point of view. Real estate techniques including streamlining, contracting, real estate maintenance and leasing can be seen as a part of the green thinking comprising a one big entirety to be taught in Jyväskylä University.

From van den Ende's point of view in Jyväskylä the curriculum is not in balance. Van den Ende uses words Hard FM and Soft FM to describe the depth of the studies. Compared to The Netherlands in Finland there are less hard side FM studies than in The Netherlands. There should be a balance between hard FM and soft FM to make the curriculum be valid around the world. According to van den Ende the degree programme taught in Jyväskylä is extensive enough if one is willing to work in a hotel and stay in Finland. If one wants to work abroad then the Degree Programme in Facility Management is not sufficient. Marco van den Ende states also that it is important to see and experience how facility management works in practice in hospitals for example. Quest lecturers from practice would give a different view for the students than lecturers from the University give. This has been done in JUA with courses that have to do with building project and real estate management, and from the student's point of view they are extremely helpful and the quantity of information received is much more practical than just theoretical. Also real-life case material is needed more in Jyväskylä University of Applied Sciences.

One main thing when planning a curriculum is to define the contents of courses but also working methods. That is one main problem in Jyväskylä at the moment. Contents of courses as well as a possibility to have more orientation alternatives to make curriculum more valid are needed to be

settled again. In the curriculum used at the moment there is third year meant for orientation studies but in practice there is no possibility to deepen the knowledge as much as the working life requires.

The co-operation with Universities would be a great way to develop the curriculum used in Jyväskylä. Hanze University of Groningen has an IFMA recognized Degree Programme in Facility Management and that would be an objective for Jyväskylä University of Applied Sciences as well.

6.2 Professional skills (qualifications)

The qualifications, or skills, that changes in working life create should be taken into consideration in the curriculum. Puromäki describes it as follow: ‘Thinking of how we can respond to the challenge with the curriculum, could one possibility be developing the skill of leading and strategic thinking? One has to receive the basics of needed skills when studying, and when entering the working life the skills can be deepened. After all, facility manager is the person who organizes everything.’ When looking the curriculum from this point of view, Puromäki sees that learning the skills mentioned could be more important for the student, than learning every detail in real estate techniques.

Skills that Rauhala mentions, are, that a facility manager should be responsive, active, and pro-active. Facility manager should be always ready and prepared, foresee the coming changes, and have the responses already thought beforehand.

Van den Ende from his part refers to people management, process management and change management as very important aspects for the future facility manager. These factors create needs to act at a strategic (long term, visionary) and conceptual level. This implies the skill of thorough research and analysis methods.

As productional qualifications refer to the basic skills needed when performing work tasks, normative qualifications refer to adaptation, personal features, and

interaction, we are left with innovative qualifications that refer to developing the work process and handling crisis situations. All the skills mentioned by Rauhala, Puromäki and Van den Ende can be all categorized to the innovative qualifications. Therefore these skills should be taken into consideration and make sure they are included in the study curriculum as competences taught to alumni. We also think that even if the basic skills are essential when preparing oneself to working life, the innovative skills are the skills that make a difference between a worker and a professional.

When comparing the skills and competences covered in the new curriculum in facility management, can be seen that it more or less covers all the career essentials mentioned in the IFMA report (Exploring the Current Trends and Future Outlook for Facility Management Professionals 2007); Operations and Management; Facility Function; Real Estate; Finance; Human and Environmental Factors; Quality Assessment and Innovation; Planning and Project Management; Communication and; Technology. This gives a good basis for the new curriculum, and a good direction of what are the main issues that should be improved and involved stronger to the curriculum.

6.3 Changes in working life

Rauhala and Puromäki were both innovative when thinking of possible changes in working life. Facility management professionals have to be able of buying and tendering. They will have to lead the vendors and control the whole field with its contract jurisprudence. Economical planning, investing, calculation of costs and cost efficiency are important features to understand already when studying, as well as energy follow-up and reporting. Also managing contract jobs, tenancy (gross / net / buy the real estate), price levels and quality levels should be understood. Rauhala and Puromäki both state that these duties will increase in the future, but also refer to the fact that a facility manager does not have to have a full knowledge of everything that happens: there are always the services of specialists and consultants who have the best know-how in their area of business. A facility management

professional just has to have an idea of what is the right price and quality levels that can be expected. Change management, strategic leadership, the usage of computer added tools, safety, productivity, and globalization all seem to be included in the course objectives in the new curriculum. The question is, if they are brought up strong enough in the curriculum. In the Dutch model it is clearly seen how the first two years concentrate in policy-making, product development, process control, and enterprising. Third year is for studying and working abroad, and the last issues to concentrate in are change management and strategic policy.

Rauhala and Puromäki bring in the outlook of the future way of using office premises. The efficient use of premises, energy and cost will be causing changes in how the workstations are formed. This means that the private workstations will be reduced, and open, not-named, and shared semi-private workstations become more popular. Puromäki refers to the new way of working mobility. There already is a small group in Helsinki that in the morning go to a cafeteria-restaurant Karuselli in Eira, Helsinki. They order a cup of coffee and start working online with their pc, eat lunch and continue working just like they would do in the traditional office. Meetings with clients can be arranged in the cafeteria as well. Rauhala continues the idea with hotel-offices that can be used on demand. Firms can order office premises for a couple of days when needed. Auditoriums, lunch, café can all be reserved. Individual workers can buy a ticket to entry the offices and pay for the time they have used. This would be ideal for a team of salesmen who only need one day at office per week; they buy one day at office, do the teamwork, have meetings and so on. And then return to own work that happens on the field. Even though this still works in an ideal level, Puromäki knows that these ‘hoteling offices’ are to be built in Helsinki in the near future.

6.4 Trends

There are some big trends that have changed the ways of working, and one of them is outsourcing. Before outsourcing everything was produced in each organization, but the idea of outsourcing and specialization started growing in the 1990's. Even though it is a young trend in Finland, more or less every big organization has outsourced even some of their support services (i.e. accounting, cleaning, security and human resource management) concentrating in their core business. For example IT-supplier services can nowadays be bough on demand. This reduced the costs and the capacity was better handled in the organization. One big sector that yet has not outsourced their services is the public sector. Also internet played a great part in the evolution, making working and communicating outside offices and from long distances possible. Beside of outsourcing and internet, Van den Ende mentions also cost reduction (how to stay in business, competitiveness), and increasing employee expectations i.e. in the quality of the work environment.

Puromäki and Rauhala mentioned both the importance of green thinking that increases its importance constantly. This brings on issues such as waste management, green office, and how to maintain a long life cycle of a real estate. Rauhala emphasizes the green office, mentioning how facility management professionals should observe which things cause big energy consumption in real estates and offices, and how to think about the usage of real estate automation, air conditioning, and the necessity of cooling. Puromäki confirms the idea of green offices, telling how nowadays all the processes and innovations have to go through green thinking, for example when thinking how to buy and product low-emission services.

Mobility and IT are also rising up from what they are. The globalization does not tie the employees up in the traditional offices, but they can work in remote offices, or at their own home. Nowadays one can work with their pc at their home, or when travelling in car, train, or airport. This type of evolution raises up a question: If all the traditional offices are left behind and everyone starts working mobile, what will be the role of the facility managers? Rauhala

mentions a project with WWF, called Screen Office. The goal of Screen Office is to innovate reporting of issues with energy consumption, waste management, and the knowledge in the information canal Intra. Internet also forces organizations move online, i.e. networking can be done online, and the organizations can adapt to the markets more rapid. Organizational changes get faster all the time, staff can be reduced but the workload stays the same, and facility managers have to be reactive in how the changes shape their duties and the business strategy of the organization.

Globalization also changes the organization when talking about success in the market. This forces also facility management professionals to concentrate on sustainability in order to improve the core business. ‘Concentrating more on the core business does not reduce the workload of the facility managers, on the contrary’, says Rauhala.

In short, the future trends that should affect on how to emphasis the curriculum in facility management could be described with the words of Marco van den Ende: the trends of the future could be ‘the interrelationship between IT and FM, interrelationship between Real Estate and FM, Social Responsibility, and Sustainable Development, to mention just a few’. All the trends mentioned by our three facility management professionals are mentioned in the report made by IFMA, which makes the visions credible.

6.5 Comparing competences

In both of the Universities there are different types of competences included in the degree programmes. Jyväskylä University of Applied Sciences use 12 competences in the Degree Programme in Facility Management when Hanze University Groningen has nine competences in the same degree programme. Even so competences in both degrees include same kind of features and contents.

In Hanze University’s Facility Management degree programme they have a competence called ‘Initiating and creating facility products and services,

autonomous and entrepreneurial, on behalf of the organization'. Jyväskylä University of Applied Sciences has a competence called 'Competence in Responsible service business' including equal studies than in Hanze University. Both of the competences concentrate on economic aspects of Facility Management. One of the main issues is profitability and sales techniques. Students are also trained to understand the need for developing and maintaining services in the field as well as to understand pricing, marketing and sales methods.

'Social and Communicative competence' taught in Hanze University and 'Communicative and Social competence' taught in JUA are similar by name but the contents have some differences. The purpose of both competences is to develop communication skills. In Jyväskylä, in Degree Programme in Facility Management different communication styles are taught. The meaning of this competence is to make a student to be able to function in the communicative and interactive situations in the field. This competence also trains a student to work with others in a group. Hanze University concentrates more on interpersonal and organizational skills needed in the field of Facility Management. In Hanze University teaching considers more collegiality and leadership skills when JUA considers more the ability to co-operate and function in different situations.

There is still congruence between competencies in Degree Programmes in Facility Management in both countries. 'Self-controlling competence' in Hanze University concentrates on the same issues than competences called 'Learning competence' and 'Ethical competence' in Jyväskylä University of Applied Sciences. Both Universities have critical self-evaluation and self-assessment including responsibility of one's own actions. Also responsible and dedicated attitude is included in this competence. Ethical principles are taught in both degree programmes informing the importance of taking other people into account in a working life. By these competences student is wanted to take a professional stance with respect for others in both of the Universities.

Jyväskylä University of Applied Sciences has more competencies than Hanze University Groningen. Even though Hanze University seems to have fewer

competencies their contents of Facility Management studies are wider than in Jyväskylä University. In JUA's 'Service System Competence' student masters the concepts related to service activities, know R&D methods and can anticipate changes in customer needs. Student also knows up-to-date technology and is able to use it and other effective tools for development work. Cost-effectively and innovatively built service systems and target-oriented working are also taught in this competence in JUA. In Hanze there is no competence like the one in JUA.

In both Universities working conditions and wellbeing has been taken into consideration. In Jyväskylä University of Applied Sciences 'Wellbeing Management Competence' includes devices how to make the entire working community, interest groups, supervisors and management to feel taken into account. Student is also able to promote the wellbeing of customers, consumers, employees, and organizations within the services sector. Otherwise in Hanze University Groningen a competence called 'Analyzing strategic problem areas, translating into objectives and alternative options, and preparing for decision-making' concentrates on wellbeing. In Hanze student learns about space management, working conditions, cleaning, catering, purchasing, quality systems, feasibility analysis, budgets and costs. All in all, these two competences in JUA and Hanze are not completely same in contents but there are same types of features taught in both.

'Applying human resources management in the light of the strategy of the organization'- competence executed in Hanze University is something Jyväskylä University of Applied Sciences does not have. In this competence Hanze University concentrates on human resources management (HRM), its policies, leadership and coaching as well as techniques used in HRM.

'Service-Sector-Related Technological Competence' is taught in JUA. Competence concentrates on technology so student can assess the opportunities provided by future technologies from the perspective of development in their field. Student is also expected to be a fluent user of common computer systems and the main professional systems in their field

but can also identify, choose and develop optimal systems for the companies in the field.

In Hanze University information collection methods and techniques of trend surveys are taught in a competence called ‘Developing views in changes and trends in the external environment and developing relations, network group and chains’. In this competence student adopts the establishment and upkeep if a network and theories of organizational sciences. In Jyväskylä University of Applied Sciences a competence called ‘Foresight, Innovation and Network Competence’ in which student utilizes the opportunities networks offer for business activity. Both of the Universities seem to feel networking important to teach. In Jyväskylä University this competence teaches student to be future-oriented and able to create an innovation system and culture. Student also masters the tools needed in the innovation process and has the ability to use policies and technologies promoting network.

Internationality is more on view in Jyväskylä University of Applied Sciences than in Hanze University Groningen. Jyväskylä University has an own competence for internationality, competence called ‘International Competence’. This competence covers written and spoken communication in one or two foreign languages necessary for one’s work and for professional development. Also cultural differences are taught and students are expected to be able to operate in diverse international environments. Applying international knowledge and competences in one’s own field is one of the sectors taught in the competence called ‘International Competence’.

‘Business know-how and inner entrepreneurial spirit’ is one of the competencies in Degree Programme in Facility Management taught in Jyväskylä University of Applied Sciences. In this competence business knowledge base essential for entrepreneurship is gone through. Business planning, legislation, economics, marketing, sales and customer service are in important role when engaged in entrepreneur. In Hanze University there are two competencies going through these things needed to know when entrepreneur. Competencies ‘Organizing, controlling and improving business- or organization processes’ and ‘Analyzing financial and juridical aspects,

internal processes and the business- or organizational environment to enhance the relationship and interaction' both concentrates on same types of issues than JUA's competence. In Hanze, legislation and contracting are in a bigger role than in Jyväskylä University.

'Developing, implementing and evaluating a change process' competence is one of the Dutch competencies taught in Hanze University. In this competence efficiency and effectiveness in the changing environment is in a big role. Student initiates processes of change, maintains their prerequisites and directs processes and projects of change. After completing this competence student has the knowledge of change management, project management and performance management. 'Development Competence' in Jyväskylä University of Applied Sciences concentrates on developing as well. Student knows the basic principles and methods of research and development work, is able to work in projects and knows the basics of project work. Problem solving and decision making skills are also taught in this competence in JUA.

Jyväskylä University has a competence 'Organizational and Societal Competence' concentrating on socio-economic interdependence of the organizations in one's subject field. Student knows and is able to utilize the possibilities of societal influencing. Student also knows how to evaluate the operations of a relationship as well as to operate in demanding situations requiring versatile competences even when there are constraints of information.

6.6 Differences between curriculums in Jyväskylä Applied Sciences and Hanze University Groningen

All of our interviewees have even a small point of view from the studies in The Netherlands. Puromäki and Rauhala have done their student exchanges in Hanze University Groningen, and Marco van den Ende has long experience in teaching facility management in Hanze University. In the research there have been used two points of views, students' point of view and lecturers' point of

view in this part of the research. Puromäki and Rauhala were studying in Hanze University at the end of 1990's meaning that the curriculums used in both of the universities have gone through changes during these years. Quite many of the differences between universities have been reached during 10 years of development work. All in all in The Netherlands things were done in more practical way when in Finland lectures were mostly theoretical. In The Netherlands some of the lectures were in laboratory and students were making experiments with different tools. Both Puromäki and Rauhala think that this kind of practical studying would be useful when linked with the theoretical studying. Student needs to understand theoretical part of the practical issues that they do as well.

From the lecturers' point of view, Marco van den Ende sees the biggest difference between Hanze University and JUA to be the depth of the studies. In The Netherlands the hard side of facility management is addressed much more in the curriculum than in Finland. Hard FM includes studies like building management systems, infrastructure, technology and techniques, engineering and IT. In Jyväskylä soft FM is more in use meaning that the curriculum concentrates more on services, hospitality, supplier-customer relationships, quality management and sustainable development. In a nutshell, in Jyväskylä the curriculum has all the important areas covered but by far from it seems that the areas are not gone through deep enough.

When we compared competences used in the two universities, there came up a question about practicality. In The Netherlands students learn how to make contracts, what are the important things to remember to make a contract valid juridical. In Jyväskylä competencies do not include juridical aspects of the contracts.

As a conclusion, Jyväskylä University of Applied Sciences is a little bit trailing behind The Netherlands in a development process of the curriculum but has changed the curriculum during 10 last years towards the more qualified degree programme.

7 CONCLUSION

In this thesis we wanted to study the Degree Programme in Facility Management in Jyväskylä University of Applied Sciences. One of the reasons for conducting this thesis was the notion that Degree Programme in Facility Management should be developed to meet the needs of working life and the field of FM. The present degree programme does not seem to be consistent with the current needs of working life: the students cannot specialize in any specific option. Even though the degree programme is versatile, it can confuse the students as they do not know what types of professions they will be qualified for, as there are no clear career options or profiles.

The interviewees were rather critical when evaluating the curriculum in facility management, mainly when discussing the depth of the studies. This can partly be due to the former curricula lacking in practical know how deep enough. Visiting lecturers from the field of FM, and real life case material were also felt essential when providing a good basis for learning what FM is about. Jyväskylä University of Applied Sciences has already used visiting lecturers especially when studying real estate FM. As students, the authors would recommend this type of hard side FM studies to be already started already in the first and second years, as they give more credibility to the studies. This still raises the question if the new curriculum beginning in autumn 2010 will cover the issue of depth and practicality.

One clear opinion found was that the Degree Programme in Facility Management needs specialization studies. This could be done by offering the choice of choosing from the hard and soft facilities management, as the future prospects show that there is no good facility management without the knowledge of both. Implementing the Dutch model of commercial and corporate facilities management would be ideal and draw more attention to the studies from the students' and professionals' points of view. The degree programme would be seen more 'masculine', have a balance between hard and soft FM, create a more professional image of the future job positions and give the students a clear vision of what they will be studying for.

Even if the formulation of courses in both Jyväskylä University of Applied Sciences and Hanze University of Groningen are competence based, the JUA model is more based on study periods, or programme-specific competences. When developing the new autumn 2010 curriculum on a new level, the developing should start with planning different roles. This includes the roles of a facility manager needed, the skills and competences required by the work (i.e. innovativeness, leading skills, change management), and the actual duties of certain areas. This would lead to the objectives of each course; what should be learnt and how, what are the skills needed, and what are the future prospects. The study periods are planned based on these factors, and finally come the choices of the lecturers and study methods. This would give a clearer content to each course with the job title and future professional duties known. Once again, this type of competence based curriculum arises from the Dutch model.

It should be remembered that Hanze University of Groningen have also faced the same kinds of problems with credibility, and they have also had to go through many difficulties before succeeding to provide a truly professional degree programme. When defining where the degree programme stands with its new curriculum, it could be said that all the right components are included in the curriculum i.e. globalization, production processes, facility services and sustainability. What is needed to change the formulation of the courses is to bring in a more clear vision to each course of what qualifications they offer in the field of facility management. In the latest curriculum, the orientation options are offered as alternative courses, which is an improvement made. However, it is not enough and these alternative courses could be changed into having two different mainstreams that the students could choose from. The periods of studies abroad are good as they are, but in order to get more value of practical training and bachelor’s thesis, JUA should have more connections with organizations that have FM as part of their business (Sodexo, ISS, Fortum, SOK), so that the students would have the possibility to do more hard FM than in tourism oriented practical training, and possibly also do their bachelor’s theses with FM related companies.

The theory base of the thesis was quite extensive. Therefore, it had to be limited with more focus on e.g. curriculum planning, competences, and future prospects. The most relevant issues concerning the curriculum planning process and the factors defining what is needed of the competences taught in the curriculum in facility management were well brought out. The information retrieval turned out challenging as there were plenty of English sources concerning the basics of facility management, but it did not meet our needs. Nevertheless, we managed to seek information online, and literature in Finnish. Although it was time consuming to translate the Finnish literature into the corresponding English form, the information was well compiled into a functional package.

Even if the number of facility management professionals interviewed was small, very relevant information was gathered. This was due to the high level of information received, and the professional view that the interviewees had. it seems that the interviewees had a good conception of the curriculum as they had earlier cooperated with JUA when the changes of the curriculum were current. The Degree Programme in Facility Management is certainly going to the right direction. The Bachelor’s Thesis conducted will also be helpful when processing and developing the curriculum in facility management. Even if the curriculum in facility management has received critical opinions from facility management professionals, the criticism should be taken into careful consideration leading to the changes in the curriculum strongly based on them.

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APPENDICES

Appendix 1.

Trend number 1: Linking facility management to strategy – including workplace culture and branding.

The ability to link the role of facilities to an organization's core business strategies has always had a great importance in a facility manager's profession. This is believed to become even more important in the coming years, meaning that the physical activities will have a large role in determining productivity, supporting innovation, efficiency, employee satisfaction and public perception of an organization. (IFMA Facility Management Forecast 2007)

This trend creates demands on facility management professionals in order to ensure that the facilities support the business culture and brand. This can be made by providing a sufficient and measurable return on investment (ROI), helping to differentiate the organization to recruit and retain the best people and, having a clear vision and understanding of long-term corporate business strategy. The learning challenge for facility management professionals in this trend is to acknowledge the importance of linking facilities with core business strategy. These skills are for example, understanding the complexities associates with strategic facilities planning, proving and communicating the value of facilities, and shifting the belief that facilities are and effective

component of business strategy and more than just the cost of doing business are required. (IFMA Facility Management Forecast 2007)

Trend number 2: Emergency preparedness – including (but not limited to) basic safety and security, acts of terrorism, natural disasters, workplace violence, chemical/biological incidents, pandemic crises, data protection.

Being prepared to emergencies that might happen is much more complex than it first might sound like. The topic of preparedness includes a wide range of issues such as natural disasters, which can affect a business and its employees. Advance planning and preparation are important in minimizing the disruption – and speeding the recovery process – that often follows such an event. (IFMA Facility Management Forecast 2007)

Emergency preparedness demands, for instance, being able to analyze vulnerabilities, develop and implement protection strategies, develop response plans in advance, and implement training and practice drills. The learning challenges are about preparedness, which means that it is difficult to quantify the value of advance planning to the core business in order to be able to justify the expenditures. (IFMA Facility Management Forecast 2007)

Trend number 3: Change management – including changes in operations, construction escalation, continues demand to increase efficiency, regulatory changes (local codes and regulations will vary by region/country).

Businesses have always been forced to change in order to maintain. Nowadays digital and technological revolutions has added a new level of complexity and speeded up the pace of changes. Operational changes in an organization's core business may require heavy and rapid facility responses. For example, in the U.S. the Americans with Disabilities Act (ADA) and relates regulations will play a larger role as the American workforce ages and works longer into the period previously thought of as the traditional retirement years.

This means that the facility management professionals (IFMA Facility Management Forecast 2007)

The skills needed to develop vary between many areas such as security, strategic planning, energy maintenance, negotiation strategies, project team building, innovation, motivational training, cultural diversity, entrepreneurial value, and adaptability. This trend demands the facility management professionals to work closely with tenants and users to foresee changes and search out 'stealth growth'. They have to develop timely and cost effective facility responses and options, provide proactive analysis and strategies for saving time and money in operations and expansions. The facility management professionals should not over-customize, they should recruit, train and maintain a top work force, and try to avoid making decisions in scenario planning based on tradition, emotion and legacy issues. The learning challenges are to keep up with changes by examining the existing stocks in case of tight budgets, and developing prearranged strategies to effect changes quickly. (IFMA Facility Management Forecast 2007)

Trend number 4: Sustainability – including environmental responsibility, energy management, investing in high performance systems, indoor air quality issues.

Sustainability has lately gained more importance – especially in Asia – by moving from an optional nicety to a fundamental requirement and expectation across many industries. It rises up questions about environmental depletion of resources, bringing new, more important methods such as energy conservation as opposed to developing new technologies. (IFMA Facility Management Forecast 2007)

Sustainability creates certain demands on facility management professionals, such as learning about leed, energy star and other high-performance building ratings systems and initiatives. Programs should be created to reduce, reuse and recycle, and, technical skills expertise should be developed and maintained. Learning challenges towards sustainability are becoming more familiar with cultural differences. Also the lack of education about

technological changes and new product development can be problematic for the facility management professionals. (IFMA Facility Management Forecast 2007)

Trend number 5: Emerging technology – changing user / tenant needs, changing building technologies, Building Information Modeling (BIM), Integrated Workplace Management Systems (IWMS), underutilization of current technology, obsolescence.

More technologically smart building operations are needed, as more complex building systems (automate building operation systems) are gaining its importance in the markets. In the future facility management professionals should be able to use these building operation systems, such as Building Information Modeling (BIM) that is used to design buildings, and Integrated Workplace Management Systems (IWMS) which is a potential future tool to channel various information sources through a common portal. The facility management professionals should be able to utilize these systems to their fullest potential, and they will be expected to manage facilities based on, and extending, these models. (IFMA Facility Management Forecast 2007)

Demands that this trend creates on facility management professionals are to keep up-to-date with changing technology (BIM, IWMS), work closely with tenants / users to be able to act in advance of changes, and to use technology as a hook to attract young professionals to the facility management profession. The learning challenges are to do with emerging technology; the fast speed of change creates compatibility, complexity and obsolescence. (IFMA Facility Management Forecast 2007)

Trend number 6: Globalization – increased infrastructure; the need to bridge larger physical operating distances; facilitate productive work across various geographic locales; address differences in mobility, communication tools, culture, languages, laws, regulations, measurements, educations, etc.

Nowadays' multicultural business markets force facility management professionals to be more able to provide a seamless workflow between a wide range of environments. Globalization brings along issues such as, geographic barriers, cultural differences and changing regulatory environments. (IFMA Facility Management Forecast 2007)

What globalization demands on facility management professionals is to utilize the resources of IFMA (which is represented in 65 countries), evaluate and understand who the competitors are in the global markets, and to use the facilities to differentiate your organization. The learning challenges for facility management professionals could be the lack of experience with different cultures, and being aware of different workplace expectations, changing regulatory environments and significant challenges related to demographics. (IFMA Facility Management Forecast 2007)

Trend number 7: Broadening diversity in the workforce – aging workforce, different work styles.

The need of greater number of workers and greater range of skills is bigger than ever, thanks to the expanding economies. When the Baby Boomers (those born between 1945-1964) reach retirement age, the markets will face the most diverse workforce ever seen. More minorities will enter the workforce. The large number of mature workers will make ergonomics and accessibility more important issues for facility management professionals. Although the population growth will be huge, facility management professionals are likely to face shortages of skilled labor in certain areas, which forces IFMA to broader approach in order to attracting the next generation of facility management professionals. (IFMA Facility Management Forecast 2007)

Demands that the broadening diversity in the workforce creates are, promoting leadership development, maintain the variety of workers and work styles, creating flexibility between different working cultures, developing training programs in universities and trade schools, and to recruit and train skilled labor in key areas. Learning challenges that facility management professionals might face are to do with retirement. Limited flexibility in pension / retirement rules might bring former employees back to the workforce as contractors, and the lack of transference of skill sets will become more evident. Also, increased expectations of employees that formerly were seemed as amenities in the workplace, such as fitness programs and childcare facilities are becoming standards in some fields. (IFMA Facility Management Forecast 2007)

Trend number 8: Aging buildings – maintenance, replacement issues.

Nowadays organizations are facing the largest number of aging buildings ever encountered. This means that decisions of repair, reuse, or replace, as well as the introduction of new materials and removal of materials now known to be hazardous adds to the complexity of the facility management professional's job. (IFMA Facility Management Forecast 2007)

This trend demands the facility professionals to determine facility return on investment (ROI), develop ability to analyze the condition of aging buildings, develop ability to analyze presence of hazardous materials and create strategies of how to deal with these materials. Learning challenges will be the management of the aging buildings, and the ability of making decisions concerning both financial and emotional sides.

Appendix 2.

Koulutusohjelma / Degree Programme:

Degree Programme in Facility Management (MFA) / Degree Programme in Facility Management

Aloitusvuosi / Starting semester: Syksy / Fall 2008

Suuntautumisvaihtoehto / Specialisation Option: Ei suuntautumista / None

Aste / Degree: Nuorten koulutus (AMK) (N) / Bachelor's Degree, Youth Education

Tutkinnonlaajuus / Scope of Degree: 240op

Osaamistavoite / Learning outcomes: Bachelors of Hospitality Management - master the business processes of service SMEs/organisations as a whole and are able to position a company in its business environment both in Finland and internationally - can build, manage and develop customer-oriented, innovative and cost-effective services, service systems and service chains - can manage and develop responsible service business activities in compliance with a company's strategic goals, as well as being able to build goal-oriented partner networks - in cooperation with the personnel, can create within the company such a business environment which promotes the wellbeing of customers, staff, the graduates themselves, and the company. This also enables the utilisation of the innovativeness and competence of the organisation. - can utilise in their activities research and foresight data and produce new research data - can utilise existing technology and participate in the development of new, viable technology and other tools - act in a business-like manner and see entrepreneurship as an employment alternative - have good communication and interaction skills in the multidisciplinary and multicultural business environments of service companies - can act as leaders for multicultural staff and use multiculturalism as a resource for development - understand the significance of lifelong learning in a work community for the development of knowledge-intensive service sectors. /

ZWP01Z / TRANSFERABLE SKILLS/TRANSFERABLE SKILLS / 15 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
ZWPP0	Growth into Expertise	P	5						X				X		X

100	in Working Life														
ZWPC0 100	Language and Communication Skills in Multicultural Work Environments	P	10								X		X	X	

MMEF1Z / BUSINESS ENVIRONMENT COMPETENCE IN SERVICE COMPANIES/BUSINESS ENVIRONMENT COMPETENCE IN SERVICE COMPANIES / 20 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMEF0 100	Man in the Service Environment	P	10			X			X		X				
MMEF0 200	The Business Environment of Service Companies	P	5		X			X	X						
MMEF0 300	Russian Culture and Language	P	5	X							X		X		

MMBF1Z / MANAGING BUSINESS IN SERVICE COMPANIES/MANAGING BUSINESS IN SERVICE COMPANIES / 50 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMBF0 100	Basics of Business in Service Company	S	10		X										X
MMBF0 200	Operational Management of a Service Company	S	15		X	X	X	X							
MMBF0 300	Strategic Management of a Service Company	S	10		X	X	X	X							

MMFHW 200	Practical Training 2	H	15		X	X		X	X						

MMAF1Z / PROCESS MANAGEMENT IN FACILITY SERVICES/PROCESS MANAGEMENT IN FACILITY SERVICES / 55 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P/O	Op/Cr	Kompetenssit / Competences											
				MFA1	MFA2	MFA3	MFA4	MFA5	YHT1	YHT2	YHT3	YHT4	YHT5	YHT6	YHT7
MMFA1 000	Service and Production Processes	S	5												
MMFA2 000	Facility Services	S	10	X	X				X						
MMFA2 100	Environmental Aspects in Facility Management	S	10	X	X					X					
MMFA2 200	Space Management	S	5	X		X	X								
MMFA2 300	Design and Control of Facility Services	S	10	X		X	X								
MMFA3 000	Sustainable Development	W	5			X				X				X	
MMFA3 100	Real Estate Business	W	5	X	X								X		
MMFA3 200	Building Project Management	W	5				X					X			
MMFA3 300	Safety and Security	W	5	X			X				X				
MMFA3 400	Facility Management Information Systems	W	5	X			X				X				
MMFHW 100	Practical Training 1	H	15	X					X				X		

MMTF1Z / ELECTIVE STUDIES OF OTHER DEGREE PROGRAMMES IN THE SCHOOL OF TOURISM AND SERVICES MANAGEMENT/ELECTIVE STUDIES OF OTHER DEGREE PROGRAMMES IN THE SCHOOL OF TOURISM AND SERVICES MANAGEMENT / 40 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op / Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7

MMDF1Z / MANAGING INNOVATIONS IN A SERVICE COMPANY/MANAGING INNOVATIONS IN A SERVICE COMPANY / 20 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMDF3100	Research and Development of Facility Services	S	10	X			X	X							
MMDF3200	Sustainable Facility Management	S	10			X	X							X	

MMRF1Z / RESEARCH AND DEVELOPMENT COMPETENCE/RESEARCH AND DEVELOPMENT COMPETENCE / 25 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMRF1000	Basics of Research and Development Work	S	5					X				X			
MMRF2000	R&D Process	P	5					X				X		X	X
MMRFZ100	Bachelor´s Thesis	O	15	X	X	X	X	X	X	X	X	X	X	X	X

WAPAAZ / ELECTIVE STUDIES/ELECTIVE STUDIES / 15 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op / Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7

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Koulutusohjelma / Degree Programme:

Degree Programme in Facility Management (MFA) / Degree Programme in Facility Management

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Suuntautumisvaihtoehto / Specialisation Option: Ei suuntautumista / None

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Tutkinnonlaajuus / Scope of Degree: 240op

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understand the significance of lifelong learning in a work community for the development of knowledge-intensive service sectors. /

ZWP01Z / TRANSFERABLE SKILLS/TRANSFERABLE SKILLS / 15 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
ZWPP0300	Learning and Professional Growth	P	3						X				X		
ZWPP0400	ICT Skills	P	3						X	X	X				
ZWPC0500	Swedish for Working Life	P	3								X		X	X	
ZWPC0600	English for Working Life	P	3								X		X	X	
ZWPC0700	Communication Skills for Working Life	P	3						X		X		X		

MMEF1Z / BUSINESS ENVIRONMENT COMPETENCE IN SERVICE COMPANIES/BUSINESS ENVIRONMENT COMPETENCE IN SERVICE COMPANIES / 20 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMEF0100	Man in the Service Environment	P	10			X			X		X				
MMEF0400	The Business Environment of a Service Company	P	10		X		X	X							X

MMBF1Z / MANAGING BUSINESS IN SERVICE COMPANIES/MANAGING BUSINESS IN SERVICE COMPANIES / 45 op/cr

Tunnus/	Osaamisalueen/Opin	P	O	Kompetenssit / Competences

Code	tojakson nimi / Competence Area/Course Title	/ O	p/ Cr	MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMBF0 100	Basics of Business in Service Company	S	10		X										X
MMBF0 200	Operational Management of a Service Company	S	15		X	X	X	X							
MMFHW 200	Practical Training 2	H	15		X	X		X	X						
MMBF0 400	Strategic Management	S	5												

MMAF1Z / PROCESS MANAGEMENT IN FACILITY SERVICES/PROCESS MANAGEMENT IN FACILITY SERVICES / 55 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	O p/ Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMFA1 000	Service and Production Processes	S	5												
MMFA2 000	Facility Services	S	10	X	X				X						
MMFA2 100	Environmental Aspects in Facility Management	S	10	X	X					X					
MMFA2 200	Space Management	S	5	X		X	X								
MMFA2 300	Design and Control of Facility Services	S	10	X		X	X								
MMFHW 100	Practical Training 1	H	15	X					X				X		

MMDF1Z / MANAGING INNOVATIONS IN A SERVICE COMPANY/MANAGING INNOVATIONS IN A SERVICE COMPANY / 15 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P/O	Op/Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMDF3100	Research and Development of Facility Services	S	10	X			X	X							
MMDF3300	Sustainable Facility Management	S	5												

MMXF1Z / PERSONAL DEVELOPMENT PLAN/Personal Development Plan / 50 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P/O	Op/Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7
MMFA2900	Personal Development Project	S	50												
MMFA3000	Sustainable Development	W	5												
MMFA3100	Real Estate Business	W	5												
MMFA3200	Building Project Management	W	5												
MMFA3300	Safety and Security	W	5												
MMFA3400	Facility Management Information Systems	W	5												

MMRF1Z / RESEARCH AND DEVELOPMENT COMPETENCE/RESEARCH AND DEVELOPMENT COMPETENCE / 25 op/cr

Tunnus / Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P/O	Op/Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7

MMRF1000	Basics of Research and Development Work	S	5					X				X			
MMRF2000	R&D Process	P	5					X				X		X	X
MMRFZ100	Bachelor´s Thesis	O	15	X	X	X	X	X	X	X	X	X	X	X	X
MMFRZ300	Maturity Test	O	0												

WAPAAZ / ELECTIVE STUDIES/ELECTIVE STUDIES / 15 op/cr

Tunnus/ Code	Osaamisalueen/Opintojakson nimi / Competence Area/Course Title	P / O	Op / Cr	Kompetenssit / Competences											
				MF A1	MF A2	MF A3	MF A4	MF A5	YH T1	YH T2	YH T3	YH T4	YH T5	YH T6	YH T7

Appendix 4.

4.1 Corporate FM Policy **Main focus: Strategic Policy** Level: 3 - Comp: **2, 3, 5, 6, 8** (1, 7, 9) Role: Strategic manager **CORPORATE** **4.1 Commercial Strategy**	4.2 Management of Change: Corporate **Main focus: Change Management** Level: 3 - Comp: **7, 2, 4, 6, 8** (1, 3, 5, 9) Role: Change manager **CORPORATE** **4.2 Management of Change: Commercial** **Main focus: Change**	4.3 and 4.4 – Graduation Project: COMMERCIAL or CORPORATE Level: 3 - Comp: **2, 3, 5, 7, 8, 9** (1, 4, 6) Role: (External) Consultant CORPORATE / COMMERCIAL Part of primary process / Part of secondary process Focus on process / Focus on location (building) Risk management / Organisational sensitive Focus on external / Focus on internal Sales/trade / Technique & strategic

Main focus: Strategic Policy Level: 3 - Comp: **2, 3, 5, 6, 8** (1, 7, 9) Role: Strategic manager **COMMERCIAL**	**Management** Level: 3 - Comp: **7, 2, 4, 6, 8** (1, 3, 5, 9) Role: Change manager **COMMERCIAL**	Customer- supplier relationship Profit/revenue focus	Real estate knowledge Costs know-how
3.1 and 3.2 Placement Abroad Level: 2 Comp: **1, 5, 8, 9** (2, 3) Role: Manager		3.3 and 3.4 – Study Abroad: **COMMERCIAL** or CORPORATE Level: 2/3	
2.1 Purchase and Tender **Main focus: Product Development** Level: 2 - Comp: **1, 5, 6, 3** (2,8) Role: Director CORPORATE	2.2 Something New! Developing New Services **Main focus: Enterprising** Level 2 - Comp: **1, 2, 6, 8** (5, 9) Role: Entrepreneur **COMMERCIAL**	2.3 Sustainable Housing **Main focus: Policy-making** Level: 2 - Comp: **3, 4, 6, 9** (7, 8) Role: Advisor **CORPORATE**	4. Quality Management Main focus: Process Control Level: 2 - Comp: **5, 2,7,4** (6, 8) Role: Quality manager **COMMERCIAL**
1. What is Facility Management? Main focus: Policy-making Level: 1 - Comp: **3, 2, 1** (4) Role: Policy-maker	2. The Workplace Main focus: Product Development Level: 1 - Comp: **1, 4, 8** (9) Role: Innovator	3. Aim for Processes *Main focus: Process Control* Level: 1 - Comp: **5, 6, 4** (8) Role: Facilitator	4. Services Main focus: Process Control Level: 1 - Comp: **6, 5, 2** (9) Role: Process controller

Competences in short: 1 = FM product development 4 = human resource management 7 = change management

2 = views on change and trends 5 = process management 8 = social aspects + communication

3 = policy making 6 = financial aspects and legislation 9 = self development

Appendix 5.

Service System Competence (FM)

- Consists of competences related to products, production systems, service culture, and quality.

- Student masters the concepts related to service activities, know R&D methods, and can anticipate changes in customer needs.

- Student knows technology and uses effective tools for development work.

- Student has an ability to build cost-effective and innovative service systems

- Student is able to work in target-oriented networks and build unbroken service chains.

Competence in Responsible Service Business (FM)

- Student masters and understands the economic process of service business and the importance of strategic planning and management.

- Student knows the prerequisites for the continuation of business operations.

- Student masters sales, marketing and pricing in the field.

- Student has the knowledge and skills needed for the entrepreneurship in service SMEs.

Wellbeing Management Competence (FM)

- Student is able to promote the wellbeing of customers, consumers, employees, and organizations within the service sector.

- Student is able to develop products and services.

- Student has the ability to understand the significance of wellbeing of supervisors and management, the entire work community, and interest groups.

- Student understands the importance of profitability and ethically sustainable business for the promotion of wellbeing.

Service-Sector-Related Technological Competence (FM)

- Student can assess the opportunities provided by future technologies from the perspective of development in their field.

- Student with the experts in technology can identify, choose and develop optimal systems for the companies in the field.

- Student is a fluent user of common computer systems and the main professional systems in their field.

Foresight, Innovation and Network Competence (FM)

- Student is future-oriented and able to create an innovation system and culture.

- Student masters the tools needed in the innovation process.

- Student has ability to use policies and technologies promoting networking.

- Student utilizes the opportunities networks offer for business activity.

Learning Competence

- Student is able to self-evaluate one´s competences and define his/her development and learning needs.

- Student is able to conduct studies independently and develop one's learning strategies.

- Student is capable of collaborative learning and sharing knowledge in teams and working communities.

- Student is able to operate in changing environments and to recognize and utilize available learning opportunities and scopes for action.

Ethical Competence

- Student is able to apply the value systems and ethical principles of the subject field in one's conduct and tasks.

- Student takes responsibility of one's own actions and works according to the jointly agreed principles and measures.

- Student is able to apply the principles of sustainable development in one's action.

- Student is able to take other people into account in one's actions.

Communicative and Social Competence

- Student is capable of listening to others and communicating in writing, speech and visually using different communicative styles.

- Student is able to function in the communicative and interactive situations typical of field.

- Student understands the principles of group and teamwork and is able to work together with others in multidisciplinary teams.

- Student is able to utilize information and communications technology at one’s work.

Development Competence

- Student is able to retrieve and analyze information of one’s subject field, to critically evaluate it and to perceive entities in a holistic way.

- Student knows the basic principles and methods of research and development work and is able to conduct small-scale research and development projects applying the existing knowledge of the field.

- Student knows the principles of project work and is able to work in projects.

- Student adopts an initiative and proactive approach to work and is capable of problem solving and decision making at one’s work.

- Student understands the principles of profitable and customer-focused operations and possesses entrepreneurial skills.

Organizational and Societal Competence

- Student knows the socio-economic interdependence of the organizations in one’s subject field.

- Student knows and is able to utilize the possibilities of societal influencing.

- Student knows the organizational and work cultures and is able to participate in intra-organizational and inter-organizational coordination, development and management.

- Student is able to evaluate the operations of a relationship as well as to operate in demanding situations requiring versatile competences even when there are constraints of information.

International Competence

- Student possesses the written and spoken communicative competence in one or two foreign languages necessary for one's work and for professional development.

- Student understands cultural differences and is able to operate in diverse international environments.

- Student is able to apply international knowledge and competences in one's own field.

- Student possesses an overview of the position and importance of the profession in the international environment.

Business know-how and inner entrepreneurial spirit

- Student masters the business knowledge base essential for entrepreneurship: business planning, economics, legislation, marketing, sales and customer service, management and personnel administration, production, and the social responsibility of an enterprise.

- Student recognizes the basic competence and experience through which the aforementioned knowledge is applied to practical business operations.

- Student masters the basic interaction and networking skills required for cooperative entrepreneurship.

- Student develops and individual outlook on entrepreneurship and business activity.

- Student develops the core competences needed for entrepreneurial self-management and inner entrepreneurial spirit.

Appendix 6.

Initiating and creating facility products and services, autonomous and entrepreneurial, on behalf of the organization

- Student can see facility products as economic and commercial tools in order to organize and develop them.

- Student is receptive to the needs of internal and external clients. Students learn the importance of proactive reflection and action.

- Creating added value, advice and sales techniques, business economies & marketing.

Developing views on changes and trends in the external environment and developing relations, network group and chains

- Student learns methods of information collection and techniques of trend surveys.

- Student adopts the establishment and upkeep of a network and theories of organizational sciences.

Analyzing strategic problem areas, translating into objectives and alternative options, and preparing for decision-making

- Student can implement, evaluate, adjust and analyze different policy issues and translate them into concrete objectives.

- Student learns about space management, working conditions, cleaning, catering, purchasing, quality systems, feasibility analysis, budgets and costs.

Applying human resources management in the light of the strategy of the organization

- Student has an open attitude towards others, leadership and coaching qualities

- Student knows to develop HRM policy and apply it within the changing organization.

- Student has knowledge of HRM techniques such as application interviews, performance interviews and development interviews.

Organizing, controlling and improving business- or organization processes

- Student organizes and designs processes and products, handles quality and cost management.

- Student has knowledge of logistics processes, risk management.

- Characteristic of accuracy, flexibility, willingness to change, enterprising, team player.

Analyzing financial and juridical aspects, internal processes and the business- or organizational environment to enhance the relationship and interaction

- Student understands contracting and contract management, legislation, private law and public law.

- Student has skills to communicate with company employees, shareholders and clients.

- Student can analyze and interpret qualitative and quantitative data, has the ability to do systematic approach and logical thinking.

Developing, implementing and evaluating a change process

- Student master effectiveness and efficiency in the changing environment.

- Student initiates processes of change, maintains their prerequisites and directs processes and projects of change.

- Student has the knowledge of change management, project management and performance management.

Social and communicative competence

- Interpersonal, organizational.

- Student learns client-orientation, collegiality and leadership skills.

Self-controlling competence

- Intrapersonal, professional attitude.

- Student works on their self development, act independently, are flexible and result-oriented and take initiatives.

- Student needs a responsible and dedicated attitude as well as critical self-assessment, taking a professional stance with respect for others and ethical principles.

Appendix 7.

Taustakysymyksiä

1. Kertoisitko nimesi ja työnimikkeesi.
2. Milloin valmistuit FM-koulutusohjelmasta?
3. Kauanko olet ollut työelämässä?
4. Missä työskentelet nykyisin?
5. Mikä on roolisi FIFMA:ssa?
6. Kauanko olet ollut FIFMA:n toiminnassa mukana?

Koulutusohjelma

1. Pitäisikö koulutusohjelman tarjota suuntautumisvaihtoehtoja?
2. Pitäisikö koulutusohjelman painottaa jotain tiettyä osa-aluetta enemmän?
3. Miten kuvailisit Hollantilaisen ja Suomalaisen FM-koulutusohjelman eroja?
4. Mitkä asiat koet olevan paremmin Suomessa?
5. Mitkä asiat koet olevan paremmin Hollannissa?
6. Minkälainen koulutusohjelman pitäisi mielestäsi olla?

Koulutusohjelma & FIFMA yhteistyö

1. Miten kuvailisit tämänhetkistä JAMK:in sekä FIFMA:n yhteistyötä?
2. Koetko tarpeelliseksi JAMK:in sekä FIFMA:n yhteistyön lisäämisen?
3. Kuinka yhteistyötä voisi lisätä sekä kehittää?
4. Koetko tämän tarpeelliseksi / hyödylliseksi FM-opiskelijoille?

Työelämän vastaavuus

1. Vastaako vuonna 2008 uudistettu koulutusohjelma mielestäsi työelämän tarpeita?
2. Mitkä vuoden 2008 koulutusohjelman kompetensseista koet olevan tärkeimpiä FM-alalle valmistautuessa?
3. Mitä kompetensseja pitäisi kehittää, jotta ne olisivat enemmän työelämän tarpeita vastaavia?

Trendit

1. Mitä FM trendejä tulevaisuudessa voisi olla? Miten ne vaikuttavat FM-alaan?
2. Ovatko jo menneet trendit vaikuttaneet FM-alaan? Miten ne ovat vaikuttaneet FM-alaan?

Tulevaisuus

1. Nostaako FIFMA(Finnish International Facility Management Association) esille mitään tulevaisuuden näkymiä FM-alaan liittyen?
2. Onko mielestäsi tullut esille FM-alan tulevaisuuteen vaikuttavia tekijöitä, jotka tulisi huomioida koulutusohjelman rakennetta muokatessa?

Jäikö jokin mielestäsi tärkeä asia käsittelemättä haastattelussa?

Kiitos ajastasi!

Appendix 8.

Background Information

1. Your name and profession
2. Where do you work nowadays?
3. Could you describe your history in the field of FM (studies, profession, special projects)
4. What is your role in IFMA Holland, for how long time have you been in the organization?

Degree Program

5. What do you think about the new curriculum of Facility Management of Jyväskylä University of Applied Sciences?
6. Should the degree program offer orientation possibilities?
7. Should the degree program of Facility Management emphasize some fields of the study program or does it have a good balance?
8. What are the biggest differences between the FM degree program of Finland and The Netherlands? What is good in each country?
9. What would the ideal structure of the FM degree program? How should it be composed, or is the structure of nowadays good as it is?

Degree Program & IFMA

10. Do the Hanze University of Groningen and IFMA Holland collaborate? In which ways?

11. Is the collaboration useful for the students?

Working Life Correspondence

12. Does the degree program renewed in year 2008 correspond the needs of working life?
13. Which competences are the most important for the FM students when preparing themselves to the working life?
14. Which competences should be developed so that they would meet the needs of working life?

Trends

15. What trends have affected the field of FM in the past? How?
16. What could be the trends of the future? How can they affect the field of FM?
17. Has IFMA Holland risen up any special trends that might face the field of FM in the future?
18. Should the FM degree program be modified based on the future trends?

Is there anything else you would like to say about the field of FM?

Thank you for your time.