

# Univ.-Prof. Dr. Thomas Fischer Chair of Business Information Science and Information Management

Activity Report

September 1<sup>st</sup> 2011 – August 31<sup>th</sup> 2012

#### WHU

Otto Beisheim School of Management

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#### Introduction

During the reporting year the Chair of Business Information Science and Information Management

has - besides its tasks in teaching and research - contributed particularly to important WHU in-house development projects. This comprises on the one hand the supporting of conceptual design and modelling of the Campus Management System (CMS) which is currently being reformed. On the other hand the Chair coordinated the e-learning activities which are performed within the various programs.

Regarding teaching activities there is first to be mentioned that the last SAP seminar can be considered as a real success. 25 members of the Bachelor program have successfully completed the practical exercises concerning company-wide Information Management. The seminar had been prepared and accompanied by the assistants of the



Figure 1: The Chair, Weitersburger Weg

Chair and had given the students a deepened insight into business processes of companies using the SAP FRP software.

Beyond that a seminar additionally offered and titled "Teamwork in Dispersed Networks" resulted in a particular positive feedback by the students. The regular courses "Business Information Science (BIS I and II) had been vitalized again with help of presentations by external speakers which helped to ensure practice-orientation.

The contribution of the Chair to the development of the new CMS consisted - besides consulting by the Chairholder - in the professional supervision of detailed modelling of all administrative processes of the business school with the aid of the ARIS tool.

Based on the resultant specific requirements of WHU an appropriate software provider could be systematically selected.

E-learning functionalities and the introduction of correspondent technologies and systems have emerged also at WHU quickly to become a strategic topic. The assistants of the Chair went about developing an e-learning area together with IT department, colleagues of different programs and of interested chairs. Teaching methods are analyzed under didactical and technical aspects as well and from this, recommendations for appropriate software systems were elaborated.

A significant part of the chair's research activities takes the participation in the European research projects "SmartNets". In close cooperation with the coordinator of the project, The Center for Man-

agement of the German Institutes for Textile and Fibre Research Denkendorf (DITF-MR), intensive investigations have been performed with the companies involved. In particular, the preparation of the companies for their participation in cross-sectorial and cross-country innovation projects has been analyzed. Major aspects of the networking ability of the included partners are appropriate organizational structures, knowledge oriented management and the existence of appropriate IT- infrastructure. In the course of the project the companies will use instruments for joint development of hybrid products and their collaborative production and marketing. This includes the use of special information systems, which make important contributions to supporting of collaboration and knowledge sharing, while ensuring the necessary confidentiality. In this context, we are working closely together with the Chair of Software Engineering for Business Information Systems (sebis) of the Technische Universität München.

Finally should be mentioned a particular fact. Ms Renate Fuchs who supported the chair for more than 15 years as a Personal Assistant went into well-earned retirement. She supported all of us with her carefulness, cordiality and reliability. We are deeply grateful for her extraordinary engagement. In the meantime Ms Benita Otte has integrated and settled well with us, we are glad about her great professional support.

I don't want to close without mentioning that our Assistant Professor Sven-Volker Rehm has become the proud father of a little Victoria and we cordially congratulate him.

Prof. Dr. rer. pol., habil. Ing. Thomas Fischer

Bill

Vallendar, im Oktober 2012

### **Team**

In its 20th year the Chair of Business Information Science and Information Management consists of 5 team members.



Figure 2: Team members of the Chair

# **People at the Chair of Business Information Science and Information Management**



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#### **External Doctoral Candidates**



Dipl.-Kfm.

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Dipl.-Kfm. (FH)

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### **Teaching**

#### Lectures

Business Information Science I and II were the major contributions of the Chair to the Bachelor Program. Purpose of the lectures is to give an introduction to the role of ICT in business and to its management in the context of changing economic boundary conditions and business networks in particular. Current concepts of the IT area such as Cloud Computing, Ubiquitous Computing and Softwareas-a-Service were taught in the course. Further topics include practical exercises in modeling of business processes, and presentations of professionals regarding the alignment of IT and business strategies.

The choice of the topics is strictly aligned on the curricula recommendations of the German Informatics Society (Gesellschaft für Informatik e.V.). A combination of case studies from practice, and introduction of theoretical background enables the students to discuss current topics. This helps students acquiring basic knowledge in the field of Business Information Science and supports understanding the need for Information Systems and tools for corporate success as well as reflecting on difficulties

appearing in this context. Qualified experts from industry, telecommunication and IT sectors illustrated the need of theoretical concepts and the relevance for practical problem solutions in the lectures. (For further information please consider the chapter "Contribution of external Experts").

#### **Tutorial and Exercises**

For years, tutorials on programs of the Microsoft Office Package are an important element of the Chair for continuing education of students and employees and have been offered at the university last year as well. The tutorials, financed by the Schneider-Stiftung, are enjoying great popularity and are conducted by qualified students.

As a part of BIS II – lectures further **exercises** were offered. The main focus here was on combining practical implementation of contents of theory blocks with questions from practice. Thus, theoretical concepts are illustrated and high practical relevance provided. Thereby, the main subject area was event-driven process chains (EPK) (Ereignisgesteuerte Prozesskette (EPK)). Those exercises where it is dealt with the designing of the operational information systems are valuable experiences for students.

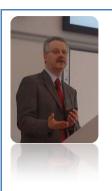
According to this, the SAP-training environment of the SAP AG financed by the Schneider-foundation was provided to interested students and employees by the chair. Prepared case studies allowed the participants to become acquainted with the SAP environment under the instruction of Prof. Sven-V. Rehm and Waldemar Kraus. The overall concept and single modules were provided to students by the use of targeted milestones. The main focus in the course was the application of different module components. This gives the participants a broader knowledge of the system in a realistic environment.

#### **Overview**

Business Information Science I	Lecture, 3ECTS, B.Sc Program	HS 2011, 160 students
Business Information Science II	Lecture, 3ECTS, B.Sc Program- Gruppe A Vorlesung, 3ECTS, B.Sc Program- Gruppe B	HS 2011, 76 students FS 2012, 79 students
SAP R/3 IDES Case Studies	Seminar, 1ECTS, B.Sc Program	HS 2011, 25 students
Teamwork in dispersed net- works	Seminar, 3ECTS, 6. Term	FS 2012, 7 students

### **Contribution of external Experts**

As in the previous year, the chair succeeded in winning interesting extern speakers to special topics which were part of the lecture "Business Information Science I". They also reported from their practical experiences to the students. Thus the chair wants to express its particular gratitude to former doctoral students who regularly come back to the WHU and contribute to the success of lectures through speeches and presentations. In the lectures a total of 2 speakers hold speeches:



### Dr. Axel Emunds Service Management based on ITIL

T-Systems GEI GmbH 29.11.11 22.03.12



### Dr. Christian Coppeneur-Gülz Application Service Providing

WWM System Service GmbH 02.12.11 27.03.12

#### **Examination**

Likewise, the number of initial support in the doctoral program has risen.

Bachelor Program		
Lecture	HS 2011: 160	BIS I
	HS 2011: 76	BIS II
	FS 2012: 79	BIS II
Master Thesis	1	
Research Assessment	3	
Oral Examination	3	
Other Assessments	1	

PhD Program		
First Supervision	6 (Prof. Fischer)	
Second Supervision	3 (Prof. Fischer)	
	2 (Prof. Rehm)	
Defense		
"Ermunterung"		
Disputation	1	
Deputy Head of Doctoral	1 (Prof. Fischer)	
Commitee		

### **Administrative Activities at WHU**

- Member of Commission for Securing proper Behavior in the Research (Prof. Fischer)
- Deputy Head of Doctoral Committee (Prof. Fischer)
- Academic Organizer of Forum Mittelstand at WHU (Prof. Fischer)
- Member of the study group "Campus Management" (Prof. Fischer / Prof. Rehm)
- Member of the study group "E-Learning" (Prof. Fischer)
- Member of the Senate of WHU (Prof. Rehm, since 10/2007)

- Member of the WHU Research Committee (Prof. Rehm, until 10/2011)
- Engagement in the selection processes for Part-time MBA Program of WHU (Prof. Rehm)
- Recommendations for "Studienstiftung des deutschen Volkes", IMBA Program Peking University, ESADE Business School (Prof. Rehm)

### **Supervised Master Theses**

In the last fiscal year the chair supervised one Master thesis:

 Fabian W. J. Speiser: "A deep dive into the service science field – A review of existing research on service systems and challenges for future research"

### **Research Projects**

#### **Research Fields**

During the academic year 2011 – 2012 the research activities focused furthermore on the following core areas:

For the upcoming research year the focus of the assistants will be in the sector of knowledge management, the shape and bonding of skill-intensive services in networks, and also the investigation of dynamic networks as to its changeableness. Overall topic is among others the ontology based development of so called Smart Services, which can be interesting tools as part of intra and intercompany knowledge management of many divisions. This interesting topics needs further scientific foundation.

Research activities of Assistant Professor Sven-V. Rehm mainly focus on the field of **Information and Knowledge Management for networked enterprises**. In the SmartNets project, he studies the interplay between **information systems and organizations** within settings of inter-organizational innovation. He conducts qualitative studies on how coordination and decision-making of actors can be influenced by information system design. This involves approaches from the System Sciences, sociology and from Information Systems Research. Further research activities include case studies on **organizational transformation** towards value co-creation, following the service science paradigm.

#### **Projects**

A long lasting close partnership with the center of management studies of DITF Denkendorf contributes to a constant exchange of knowledge. During the last fiscal year, the framework of the research project SmartNets, which will be pursued also in the new fiscal year, benefited from this close collaboration. The Chair undertook a significant part of this project of the Industrial Community research (Industrielle Gemeinschaftsforschung), which is supported by the European Commission in the 7<sup>th</sup>

Framework Program. Furthermore, the Chair stays in close contact with other Chars of the WHU to work on interdisciplinary topics and to share knowledge.

#### **SmartNets**

Since April 2011, the chair is a partner of the EU research project SmartNets which is funded by 7th Framework Program of the European Commission until March 2014. Beside the WHU 14 industrial and research partners from four countries are participating in the project. The overall project is coordinated by the Center for Management Research DITF Denkendorf.

SmartNets will provide network members with the necessary concepts, methods and tools to guide them through organization-, ICT- and knowledge-related network adaptations, which are typically required in value adding processes from idea generation to exploitation of **knowledge-intensive products and services**:

- Providing appropriate organizational structure of network actors,
- guaranteeing efficient and confidential exchange of knowledge within the network and
- implementing interoperability by adequate application of **information and communication technology** (ICT).

By and within several **value-adding SME networks**, the concept of the industrial model "Smart Networks" will be established and evaluated. Within their collaborative development and production processes, new and sophisticated materials like Shape Memory Alloys or Sol-gel will be used to develop and to produce sustainably and efficiently knowledge-intensive products and services (e.g. medical device, innovative helmet or interior textiles).

The chair makes a significant contribution to the transformation of partnerships into valuable members of Smart Networks. SME-suitable guidelines with comprehensive and easy-to-implement instructions how industrial partnerships can become Smart Networks are elaborated. Besides checklists to identify their 'as-is' status and step-by-step instructions the guidelines should support to reach a desired final state. Thus the guidelines explain the SmartNets Framework and support SMEs to invest systematically into the various elements of it. Along this evolution path the chair cares for SMEs in order to develop appropriate Smart Network capabilities.

Sven Gross executed for the analysis of the 'as-is'-status audit interviews with each of the partners. Based on these results the transformation towards Smart Networks, based on several individual methods, will take place.

Sven-V. Rehm has been following the development of partnerships in the industrial networks, focusing on the adoption processes concerning methodologies and information systems. Objective of these studies is to provide empiric evidence leading to better design of information systems supporting collaborative innovation.

### **Project Overview**

The table below represents projects of the Industrial Community research within the European Framework, which had been processed from the center for Management Research of DITF Denkendorf, run by Professor Fischer until June 2011. The Chair participated on these projects through regular exchange of experiences and ideas.

Name	Beschreibung	Identifikation	Laufzeit
MODSIMTex	Development of a rapid configuration system for textile production machinery based on the physical behaviour simulation of precision textile structures	EU FP7 NMP2-SE- 2008 CP-FP 214181-2	10.2008 - 03.2012
TexWIN	Textile Work Intelligence by closed- loop control of product and process quality in the Textile Industry	EU FP7-NMP- 2009-SE-3 CP-FP 246193-1	03.2010 - 03.2013
CoReNet	Customer-Oriented and Eco-friendly Networks for health fashionable goods	FoF.NMP.2010-2	06.2010 - 05.2013
SmartNets	The Transformation from Collaborative Knowledge Exploration Networks into Cross Sectoral and Service Oriented Integrated Value Systems	FP7-NMP-2010- SMALL-4	01.04.2011 – 31.03.2013

### **Presentations**

In the recent year, Professor Fischer, Assistant Professor Rehm and the assistants participated to various events throughout Europe, and conducted various guest lectures, seminars and presentations. The following list gives an overview of the activities:

Event	Function	Place	Date
SmartNets Meeting	Coordinator	Genua	15 – 16/09/2011
ITMA	Exhibitor	Barcelona	23 – 25/09/2011
TexWin Midterm Review Meeting PROsumer.Net Workshop Forum Mittelstand Heimtextil/ rooms for free SmartNets project meeting	Coordinator Participant Organizer Workshop Coach Coordinator, WP Lead-	Biella Denkendorf WHU, Vallendar Frankfurt a. M. Prague (CZ)	11/10/2011 26/10/2011 09/11/011 13/12/2011 17-
INTOP	er (Prof. Rehm) Workshop Coach	Wald- mannshausen	18/01/2012 26 – 29/01/2012
Unternehmernachmittag SmartNets General Assembly	Participant Co-Organizer / Coordinator	WHU, Vallendar Prag	19/4/2012 26 27/04/2012
rooms for free	Workshop Coach	Wasserburg	18 – 19/05/2012
IVGT, Arbeitskreis Textile Kette Spin- nerei	Speaker	Herrieden	24/05/2012
KyWi 2012	Co-Organizer	Aachen, Ger- many	28 - 29/06/2012
Research colloquium at the Faculty of Mechanical Engineering at Helmut Schmidt University/ University of the Federal Armed Forces Hamburg	Speaker (Prof. Rehm)	Hamburg, Ger- many	02/2012
Information Day on Collective Awareness Platforms for Sustainability and Social Innovation	Speaker (Prof. Rehm)	Pisa, Italy	09/2012
Seminar in the M.Sc. program M2 Commerce électronique, Faculté de Droit de Sciences Politiques et de Gestion, Université de Strasbourg	Lecturer (Prof. Rehm)	Strasbourg, France	01/2012
Lecture in the M.Sc. program, Faculty of Engineering Design, Production Engineering and Automotive Engineering, Universität Stuttgart	Lecturer (Prof. Rehm)	Stuttgart, Ger- many	06/2012

#### **Publications**

V. (2012). Kann die Kybernetik zum Entwurf von Designtheorien beitragen? Ein Versuch im Kontext der Information Science. (Can cybernetics contribute to the development of design theories? An experiment in the context of Information Science). To appear in: Meike Tilebein, Wissenschaftliche Jahrestagung der Gesellschaft für Wirtschafts- und Sozialkybernetik 2011 in Stuttgart. Berlin: Duncker & Humblot.

Fischer, T.; Rehm, S.-V. (2011): Konzeption, Methodik und Technologie kollaborativer Innovations-prozesse in Wertschöpfungsnetzwerken. (Conception, method and technology of collaborative innovation processes in value creation networks). In: Meike Tilebein, Innovation und Information. Wissenschaftliche Jahrestagung der Gesellschaft für Wirtschafts- und Sozialkybernetik vom 3. bis 5. Dezember 2008 in Oestrich-Winkel: 253-264. Berlin: Duncker & Humblot.

### **Service to the Scientific Community**

Prof. Fischer as well as Prof. Rehm serve as Members of the Board of the "Gesellschaft für Wirtschafts- und Sozialkybernetik e.V." (GWS)/ German Society for Economic and Social Cybernetics. Prof. Fischer has been its Chair since 1999.

Associate editor and reviewer activities were conducted by Assistant Professor Rehm for various conferences, among them the European Conference on Information Systems (ECIS), Americas Conference on Information Systems (AMCIS), Int. Conference on Wirtschaftsinformatik.

### **Dissertation Projects**

Following dissertations are currently being processed at the Chair of Information Business Information Science and Information Management:

As a driver for innovations in the business world, ICT is a crucial enabler of new business models. New services are nowadays developed in networks and more and more in highly dynamic innovation networks. Globalization and increasing cost pressure make it necessary to closely hyperlink knowledge, ICT and organizations and to enable highly specialized knowledge workers to collaborate and to develop new products and / or services. The research of Dipl.-Ing. Waldemar Kraus focuses in this context on developing new concepts which enable the systematic designing of services with the focus on collaboration in knowledge-intensive service environments and business ecosystems. The reuse of services includes specialized competences, especially in a more and more specialized environment. This is becoming a major success factor for many companies. Therefor service oriented architecture is a major concept which can effectively support service provision in business ecosystems. Ad-hoc interlinking and use of services in different ecosystems with different partners needs particular methods and tools. A systematic description of services and the particular business ecosystems similar to a description of production processes or product design is crucial for the success in service economy.

Co-adviser is Prof. Dr. Peter-J. Jost, Chair of Organization Theory

The dissertation proposal of Mr. Dipl.-Kfm. Morten C. Kühl focuses on computer-aided knowledge management for example in due diligence processes. The contribution of the work aims to be in the improvement of the collaboration of heterogenous teams in complex, knowledge-oriented projects by the usage of semantic and ontology-centric technologies. Existing tools do not fulfil the requirements of real-world use cases, leading to interesting opportunities of scientific exploration especially by applying the design science method. Dynamic and complex projects with short duration appear to provide useful insights such as those merger and acquisition projects in a fast-growing US start-up that were actively participated in during 2012.

Prof. Dr. Christian Koziol, Chair of risk management and derivatives, Universität Tübingen is the coadvisor of this dissertation proposal.

Mr. Kühl has been supported by a scholarship / gifted promotion of the state of Rhineland-Palatinate until he changed to an external PhD candidate status.

**Dipl.-Ing. Sven Gross** investigates in his doctoral dissertation service-oriented structures for the collaboration of stakeholders in a dynamic environment analyzing the development of innovation networks in three dimensions: Knowledge Management, Organizational Structure and ICT Support. He develops a method that supports the introduction of service-oriented structures in corporate networks as well as the dynamic adjustment of enterprise architectures to dynamically changing requirements. The investigation is carried out methodically following Design Science approach. The EU research project SmartNets allows him a practical application and validation of the concepts developed.

As a part of his dissertation, **Dipl.-Kfm. (FH) Tobias Sebastian Witte**, deals with the research area "organization of business intelligence", by creating an design science based approach for an process-oriented business intelligence specific organization model. One input for this model is a worldwide study in cooperation with the Business Application Research Center (BARC) in Würzburg which investigates the impact of a special organizational unit and important factors for an enterprise-wide integration of business intelligence. This model is designed to deliver advices for companies to change the today's often very technical IT-driven implementation of business intelligence in a solution which focus more on business requirements.

#### "Forum Mittelstand"

The "Forum Mittelstand an der WHU" (a panel for small and medium sized enterprises at WHU) will inform medium-sized companies – in particular from the region where the WHU - Otto Beisheim School of Management is located – competently and regularly about new scientific findings, which are relevant in practice. Hence, our mission is:



#### Prepare and communicate highly qualified research results for industrial practice.

The Forum would provide a significant contribution to the economic and innovative power of the companies in close cooperation with the Koblenz Chamber of Commerce (IHK Koblenz): Within "Forum Mittelstand" events representatives of the regional economy meet each other in order to learn about new management concepts and technological developments.

The session "Turnaround Management in Family Businesses" at 9<sup>th</sup> of November 2011 – organized by the INTES Institute of Family Businesses – highlighted specific patterns of family crisis, possibilities of a proactive crisis management, as well as measures to prevent the threat of insolvency. This was followed by a very lively discussion between speakers and participants.

According to Professor Jensen's former talk on marketing challenges, in April 2011, many SMEs have asked for a deepening event. The Chair of Sales Management and Business-to-Business Marketing organized at 10<sup>th</sup> of February 2012 a sales conference (Campus for Sales), which illuminated the balance between the old and the new of Sales Management: "Distribution Channels between evolution and revolution". (The event was leaded by the)

### **Irmgard und Erich Schneider-Foundation**

The Irmgard and Erich Schneider Foundation is a longtime sponsor of WHU and in particular of the Chair of Business Information Science and Information Management. Again the Foundation supported during 2011/2012 research projects and numerous activities at the university and financed equipment of the IT laboratory at the Chair of Business Information Science, in particular an advanced system for video conferencing and collaboration of locally dispersed partners.



Figure 3: IT-Lab of the Irmgard und Erich Schneider Foundation

Again numerous student projects and activities at the business school prospered from the support of the Schneider Foundation according to a central goal of the foundation: Financial support of students by awarding scholarships to qualified and committed candidates of the Bachelor and Master programs. Accordingly, the Chair of Business Information Science appreciates a number of fellows and a very good cooperation with them.

Furthermore, the successful concept of tutorials within the first semester of the bachelor program was offered again. It provides students the opportunity to acquire comprehensive knowledge of the Microsoft Office package in the current 2010 version, in particular:

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

For the execution of the tutorials and the transfer of knowledge, student tutors were engaged. The need for a safe use of the described Microsoft products - not only for the future career, but also for the successful completion of the academic studies - has once again led to a high level of participation in the tutorials offered.

One major issue of the Irmgard and Erich Schneider Foundation is the practical preparation of students for a professional work life. For this reason the Foundation sponsors a training system **SAP R/3 IDES** for interested students of Bachelor's and Master's program. SAP R/3 IDES is an ERP-Software which allows students to work in a virtuell company and gather experience. The simulated business processes allow to use particular modules of SAP and experience production planning (PP), controlling (CO) and logistics (LO) in a realistic context.



**Figure 4: SAP-Training System IDES** 

#### **Modification of IT-Lab**

In the last financial year, by the help of the Irmgard and Erich Schneider Foundation, the IT Lab was further upgraded to today's standards, in order to meet the needs of professional users. The conference facilities were extended, making it possible, in the context of student seminars and collaborative research projects, to support telework at its best. The IT department of the WHU supported this reconstruction technically.



Figure 5: Modernized Lab

### Use of the IT-Lab

Туре	Topic
University Projects	Working Group "Campus Management"
	Working Group "E-Learning"
	SAP-Seminar
Further Projects	Meetings of "Forum Mittelstand an der WHU" in cooperation
	with the chamber of commerce Koblenz
	Meetings with partner within the EU research project
	SmartNets
	IPM-Workshop
	Workshop with Prof. Matthes (TU München)