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WELCOMING WORDS

On behalf of the Organizing Committee I warmly welcome you to the Mass Customization and Personalization Conference 2009. I am pleased to say that our conference will again bring together leading experts and highly interesting presentations looking at the complex issue of personalization and mass customization from many different angles.

The MCPC conference series is a biennial conference devoted to Mass Customization and Personalization. The content has broadened in recent years, including also open innovation, user co-creation and other strategies of customer-driven value creation. But mass customization is still the main trend that drives the success of the MCPC conferences, bringing together hundreds of the world's most remarkable people in the field. Previous conference took place n Hong Kong, Munich, and Boston.

Now in 2009 it is the first time the conference is located in Finland. It is therefore indeed a pleasure for us to host the gathering of such a broad audience - delegates and exhibitors - leading researchers, students, decision makers, industrialists, end users, equipment vendors, customers, educators, media, and professional organizations - to our part of the world.

This is also important and exiting times for us, the conference hosts. We are on the threshold of a new university by merging together three Finnish universities: the Helsinki School of Economics, the University of Art and Design Helsinki and the Helsinki University of Technology - all leading and renowned institutions in their respective fields and in their own right. A central aim of the merger is to develop the new entity, named as Aalto University into a competitive world class environment for education, research and innovation. The new Aalto University will begin fully operating in January 2010, but already this conference will open up a new world of possibilities for multidisciplinary education and research.

Under this year's conference theme, Mass Matching, the conference will now look at new interesting and innovative ways of matching the preferences and offerings as well as leading-edge examples of customization, non-traditional and emerging new concepts of personalization and interaction and the newest customer-centric innovations. We already started the matching process by announcing the MCPC 2009 website which enables you to participate to the co-creation process of the conference. I would like to thank you all by giving your interests, ideas, outlines and profiles through the website. You are able to match your own personal interest areas to the most interesting outlines, papers and presentations of the other participants, as well as find new, interesting people for you to meet even before or after the conference. There's no better place to meet the people looking ahead to the future of customization, personalization, and user co-creation.

The program of MCPC 2009 contains sessions on personalization and mass match making in large scales, co-design toolkits, custom manufacturing, open innovation, product design, service design, customer co-creation, customization value, customization communities, product family design, MC supply chains, and again many case studies. The program will start with special interactive and introductory workshops about mass customization and personalization, followed by two full days of sessions around innovation and research. Last two days are dedicated to business aspects of MCP, first the business strategy focused seminar which is followed by a real innovation: an entire day of Labs, which offer you the unique opportunity to work one day with a smaller group of likeminded people on one dedicated topic.

I would like to express the great satisfaction I feel at having been able to gather a group of people like you coming from such different places and with so many rich and different experiences. I would also like to thank all those people who have dedicated their efforts to co-create the program of activities. Thank you and welcome.

Jarmo Suominen
Conference General Chair

CONFERENCE ORGANIZATION

The MCPC 2009 organizers are the University of Art and Design Helsinki, Helsinki School of Economics, Helsinki University of Technology (which will create Aalto University through a merger in January 2010), University of Tampere, Tampere University of Technology, MIT Smart Customization Group and the International Institute on Mass Customization & Personalization.

The conference is hosted by the University of Art and Design Helsinki (TaiK), Helsinki School of Economics (HSE) and Helsinki University of Technology (TKK). Future Home Institute, a research unit within the University of Art and Design Helsinki, is responsible for the practical arrangement of the conference.



University of Art and Design Helsinki

The University of Art and Design Helsinki (TaiK) is an international university specializing in design, audiovisual communication, art education and art. Established in 1871, it is the largest art and design university in the Nordic countries and one of the most prestigious in the world. The university has six schools with 1,900 students. In 2006, the university awarded 235 master's degrees and 10 doctorates. The share of foreign students at the University of Art and Design Helsinki is 18.5%. The university staff number is 450.



Helsinki School of Economics

Established in 1911, the Helsinki School of Economics (HSE) is the largest and leading business school in Finland. It provides the most diverse environment for world-class study and research in business subjects and an innovative community of approximately 4,500 students and over 400 researchers, teachers and service staff. In 2006, the HSE awarded 20 doctorates, 346 MSc degrees and 70 MBA degrees. There were over 2,500 people studying on the HSE's Open University courses.



Helsinki University of Technology

Helsinki University of Technology (HUT) is the leading university of technology in Finland. The university has 12 departments with over 12,000 students studying to become engineers, architects and landscape architects. In 2006, the university awarded 1,012 master's degrees and 158 doctorates - a record number. Graduates from TKK account for about 42% of all technology graduates in Finland, and 60% of doctors in technology. In 2006 TKK had about 1,100 foreign students, of whom 71 graduated with a master's degree and 29 with a doctorate. The university has 3,300 staff, of which 250 are professors. TKK celebrated its centenary in 2008.



University of Tampere

The University of Tampere (UTA) embraces many fields of science and its research profile is extensive and multidisciplinary. There are six faculties and nine independent institutes. The University of Tampere is the biggest provider of higher education in Finland for social sciences and the accompanying administrative sciences. Some 14,600 students are currently pursuing degrees at the University of Tampere. Every year approximately one thousand master's degrees and one hundred doctoral degrees are produced. The personnel number about 2,200.



Tampere University of Technology

Tampere University of Technology (TUT) conducts scientific research in technology and architecture and provides higher education within these fields. The University operates in close collaboration with business life and other facets of society and produces high-standard services within its range of tasks. TUT is Finland's most international university when evaluated according to the number of visiting researchers. Leading-edge fields of research at TUT

are signal processing based technologies, nanophotonics, biotechnology, and intelligent mobile machines and hydraulic systems. Practically all Masters of Science in Technology or Architecture and Doctors of Technology or Philosophy who graduate from TUT find employment, predominantly in the service of business life. Established in 1965, the University has grown to become a significant influence on technology in Finland and abroad. TUT plays a pivotal role as an advocate of business life, internationalization and well-being in the Tampere region and western Finland as a whole. The University is the fifth largest employer in Tampere.

MIT Smart Customization Group

The MIT Mass Customization Interest Group is an MIT-Industry collaboration devoted to improving the ability of companies to efficiently customize products and services in various industries and for diverse customer groups.



International Institute on Mass Customization and Personalization

The International Institute on Mass Customization and Personalization (IIMCP or short: MCP institute) is a society to provide a platform for interaction between researchers and practitioners on mass customization, personalization and related issues.

Conference Chairs and Committees

Conference General Chair

Jarmo Suominen, Professor, Aalto University, University of Art and Design Helsinki

Conference Organizing Chair

Eeva Mäkinen, Aalto University, University of Art and Design

Conference Coordinators

Satu Pöyhönen, Aalto University, University of Art and Design Helsinki

Renita Niemi, Aalto University, University of Art and Design Helsinki

Matti M. Hämäläinen, Aalto University, Helsinki University of Technology

The book of Program and Abstracts edited by Susanne Jacobson, Aalto University, University of Art and Design Helsinki

Conference Program Committee

Frank Piller, Professor, Aachen University

Mitchell Tseng, Professor, Hong Kong University of Science & Technology

Kalevi Ekman, Professor, Aalto University, Helsinki University of Technology

Matti Hämäläinen, Professor, Aalto University, Helsinki University of Technology

Turkka Keinonen, Professor, Aalto University, University of Art and Design Helsinki

Marko Mäkipää, Senior Researcher, University of Tampere

Kristian Möller, Professor, Aalto University, Helsinki School of Economics

Esko Penttinen, Assistant Professor, Aalto University, Helsinki School of Economics

Mikko Ruohonen, Professor, University of Tampere

Matti Sievänen, Senior Researcher, Tampere University of Technology

Jarmo Suominen, Professor, Aalto University, University of Art and Design Helsinki

Reijo Tuokko, Professor, Tampere University of Technology

Maija Töry, Professor, Aalto University, University of Art and Design Helsinki

Sponsors



EFG



Footbalance



NEAPO



GENERAL INFORMATION

Conference Venue

Pre Conference

Design Factory
Betonimiehenkuja 5, 02150 ESPOO

Public transport from Helsinki to the Design Factory: buses 102, 102T, 103, 194, 195 and 506.

Innovation & Research Conference

University of Art and Design Helsinki (LUME + lecture rooms in the 8th floor)
Hämeentie 135 C, 00560 HELSINKI

Public transport from Helsinki to the University of Art and Design Helsinki: buses 71, 71v, 74, 74N, 52, 68, 506, trams 6 and 8.

Business Strategy Seminar

Helsinki School of Economics (Chydenia)
Runeberginkatu 22-24, 00100 HELSINKI

Public transport from Helsinki to the Helsinki School of Economics: buses 14, 18, 39, 41, 45, 70T tram 3T.

Registration

Prices

On-line	On-site
Pre Conference workshop	100 €
Innovation & Research Conference	420 €
Business Strategy Seminar	700 €
Pre Conference workshop + Innovation & Research Conference + Business Strategy Seminar	900 €
Pre Conference workshop + Innovation & Research Conference	500 €
Innovation & Research Conference + Business Strategy Seminar	800 €
	960 €

Getting around in Helsinki

Transport

Taxi

Dial +358 (0)100 0700.

Tram

All the conference venues and hotels despite the Pre Conference can be easily reached by tram. The fare for a single ticket, which you can buy from the driver, is €2.50. The drivers also sell 1-day tourist tickets (€6,80).

Bus lines

A city ticket for buses within the area of Helsinki costs €2.50. You need a regional ticket (€4) to travel from Helsinki to Espoo, where the Pre Conference takes place.

Tourist Ticket

A Tourist Ticket provides you with unlimited travel for the duration of the ticket within the applicable zone. Prepaid Tourist Tickets are sold at YTV and HKL service points, Helsinki City Tourist & Convention Bureau, Stockmann Department store and R-kiosks in Helsinki city centre.

Currency, credit cards and exchange

The currency of Finland is Euro (1 EUR=~1,41 USD). All major credit cards are in general use in Finland. Most banks are open from 10 a.m. to 4 p.m. during weekdays. There are also several currency exchange offices in the city center.

Internet

There are WLAN connections available in the organizing universities. Several internet cafés are located in the city center.

Phones

Mobile telephone networks in Finland use GSM technique with the frequencies of 800, 900 and 1900.

Tipping

Tipping is not customary in Finland and in restaurants the service is included in the bill.

Shopping

Most department stores and shopping centers are open from Monday to Friday from 9 a.m. to 9 p.m. and on Saturday from 9 a.m. to 6 p.m. On Sundays only some of the smaller grocery shops and kiosks are open.

Weather

There is always a breeze in Helsinki, because the capital is located on the coast. In October it may be rainy, too. The average temperature in October is about 6°C.

Tourist information

Helsinki City Tourist & Convention Bureau, Pohjoisesplanadi 19, Helsinki.

Insurance

Participants are advised to take out their own travel insurances as the organizers will not be liable for personal accidents, illness, losses or damage to private properties.

In case of emergency

The general emergency number in Finland is **112**.

PROGRAM

Sunday, Oct 4, 2009, 13-18:00 Pre Conference at Design Factory

Monday, Oct 5, 2009, 9-18:35 Innovation & Research Conference at the University of Art and Design Helsinki (TaiK)

Tuesday, Oct 6, 2009, 9-18 Innovation & Research Conference at the University of Art and Design Helsinki (TaiK)

Wednesday, Oct 7, 2009, 8:30-18:00: Business Strategy Seminar at the Helsinki School of Economics (HSE)

Thursday, Oct 8, 2009: LAB workshops with associates

PRE CONFERENCE

Sunday, Oct 4 2009, 13-18

Design Factory, Betonimiehenkuja 5, 02150 ESPOO

The idea of this interactive workshop is to give the participants a flying start to the conference - to accumulate ideas and thoughts as well as to give an overall view of the new concept of personalization and interaction and the newest custom-centric innovations.

PRE CONFERENCE				
12:30	Registration opens at Design Factory			
13:00-15:00	Introduction to MCP: What you really need to know about mass customization and personalization Frank Piller, RWTH Aachen University and Fabrizio Salvador, Instituto de Empresa Business School			
15:00-15:30	Refreshments			
15:30-17:30	Hands on Creativity, Configuration, Customization: Interactive parallel sessions on special MCP topics: Select your speciality and work on it interactively in a small group	SESSION 1 Martijn Pater Co-Creation and Co-Design with Consumers	SESSION 2 Fazleena Badurdeen MC Simulation Game	SESSION 3 Mitchell Tseng Building up Product Family
17:30-18:00	Wrap up: Create questions and agenda for the next conference days			
18:30-21:00	Espoo City reception, Espoo Museum of Modern Art EMMA, WeeGee House Bus connections			

INNOVATION & RESEARCH CONFERENCE

Monday, Oct 5, 9-18:35

Tuesday, Oct. 6 2009, 9-18

University of Art and Design Helsinki (TaiK)

Hämeentie 135C, 00560 HELSINKI

The biennial World Conference on Mass Customization & Personalization (MCP) is one of the premier events for the Business, Innovation & Research community in this field. The Conference is designed to engage academics, business leaders and consultants in enriching debates and interaction through a set of plenary presentations, discussion panels, paper presentations and business labs. In addition to the traditional functional conference streams of the MCPC conferences, we especially welcome submissions from managers and consultants reflecting upon the conference theme. The theme "Mass Matching" asks for leading-edge examples of customization, non-traditional and emerging new concepts of personalization & interaction and the newest customer-centric innovations.

INNOVATION & RESEARCH CONFERENCE				
DAY 1 Theme: Applications of MCP				
8:15 -9:00	Registration and coffee			
9:00-9:10	<p style="text-align: center;">SAMPO Hall Matti Alahuhta, CEO of Kone and Chair of the Aalto University Foundation</p>			
9:10-9:50	<p style="text-align: center;">Chair: Jarmo Suominen, University of Art and Design Helsinki Welcome! Mitchell Tseng and Frank Piller, Conference Program Co-Chairs</p>			
9:50-10:30	<p style="text-align: center;">Opening Input: Joseph Pine The Future of Mass Customization</p>			
10:30-11.00	Refreshments and coffee at the upper foyer			
11:00-12:20	SESSION 1 room 1	SESSION 2 room 2	SESSION 3 room 3	SESSION 4 room 4
	Extending the Foundations of MCP	Green Customization: Mass Customization and Sustainability	Success Stories: Mass Customization in Practice	Personalization in Media Industries
	Sunikka, Bragge Personalization and mass-customization in the research literature	Chin, Smithwick Environmental Impacts of Utilizing Mass Customization: Energy and Material Use of Mass Customization vs. Mass Production	Zimmermann Success Story d o m	Töry, Helle Media concepts and mass customization
	Daaboul, Bernard, Laroche Implementing Mass Customization: Literature Review	Beutin, Mekwinski Converging Cross-Industry Innovation Management - Example Green Technology	Sinclair, Campbell From Configuration to Design: Capturing the Intent of User-Designers	Keskinen Beating the down economy - How the understanding of cross-channel purchase behaviour enable success even with lower resources
	Tsigkas, Papantoniou Theorizing a new Agenda on Mass Customization	Badurdeen, Liyanage, Gupta Product Lifecycle-based Approach to Mass Customization for Sustainable Manufacturing	Wallin Mass-Co-Configuration in Financial Services	Borchers Mass Career Customization

	Joergensen Customization Design - Levels of Customization	Black, Eckert, Watkins, Delamore, Geesin, Harkin Considerate Design for Personalized Fashion: towards sustainable production	Jawecki, Bartl, Füller How to be successful in Co-Creation - The case of Swarovski Elements Gemstone Jewellery	Pennanen Contextual and Behavioural Targeting of Content and Ads	
12:20-13:15	Lunch at the upper foyer				
13:15 -14:00	SAMPO Hall Chair: Frank Piller, RWTH Aachen University Keynote: Bruce Kasanoff The Emerging Personalization Economy				
	SESSION 5 (room 1)	SESSION 6 (room 2)	SESSION 7 (room 3)	SESSION 8 (room 4)	
	Customization, Personalization and Co-creation in Services	Green Customization: Customer Value and the Example of the Building Industry	MCP in the Fashion Industries: Enablers and Applications	Advances in Customer Interaction and Marketing for MCP	
14:05-15:25	Miettinen Iteration and co-creation connect the otherwise broad field of service design	Niinimäki Developing sustainable products by deepening consumers' product attachment through customizing	Mahtinger OptiTex Goes Online	Vibæk User Involvement as a Configurable Integrated Product Delivery	
	Heikkinen, Turkia General and individual requirements in a mobile health service	Thuesen Building a design community for sustainable homes through configuration and open innovation	Kirk Mass customization for a practicing textile designer - empirical research	Chen "Listening In" method to predict consumer purchase likelihood of green cars under mass customization approach	
	Elevant Customization by Sharing Weather Information: A Study on Winter Road Weather Warnings	Piroozfar, Popovic Larsen, Altan Customization in construction industry: Reducing environmental impact while serving the customer	Park, Park, Jeon, Kim, Koh Implementation of i-Fashion	Chi Hypermarket, Fair or Workshop - Customer Involve in Service Sectors	
		Tuokko Competitive Sustainable Manufacturing	Domina, Kinnicutt, MacGillivray Mining the Human Torso: Moving from Mass Customization to Mass Matching	Ono, Endo The Integration of Mass-Customized and Mass-Produced Product Shopping in a Single Website Environment	
15:25-15:45	Refreshments at the upper foyer and the 8th floor foyer				
15:45 -17:05	SESSION 9 (room 1)	SESSION 10 (room 2)	SESSION 11 (room 3)	SESSION 12 (room 4)	
	Design Thinking for MCP	Mass Customization and Personalization in Architecture & Construction	MCP in the Fashion Industries (II): Design and New Technologies	New Ideas for Customer Interaction and Marketing for MCP	

	Ritola, Alizon, Coatanéa Implementing Mass Customization through Product and Service Platform Strategy	Linner, Bock Smart customization in architecture. Towards intelligent houses and new ways of value creation.	Larsson, Peterson One-piece fashion, summary of the Knit-on-Demand project	Merle, St-Onge, Senecal Do I Recognize Myself in this Avatar? An Exploratory Study of Self-Congruity and Virtual Model Personalization Levels.	
	McGrory Systemic Thinking, Architectures & Integrated Platform Strategies: The Apple Case	Tang, Tseng Economic Analysis of Customized Apartments	Olivato Apparel Customization: Ergonomics, Style and Safety	Dellaert, Haeubl Consumer Decision Processes in Product Search with Personalized Recommendations	
	Chan, Lau Development and Implementation of Product Platform in Small and Medium Size Enterprises	Paoletti Digital fabrication and mass customization in building industry: some recent case studies	Ross, Jenkyn- Jones Same-Sex Suits; Co-design, Style Advice and the Identification of the Gay Aesthetic Experience	Steiner, Ihl, Piller Embedded Toolkits: A User Acceptance Study in the Automotive Sector	
	Funke, Keinz, When User Communities break ranks: an exploration of managerial approaches to dealing with undesired behavior	Tomas Westerholm Stylemachine - mass tailored apartments		Bachvarov, Maleshkov, Katicic, Stoyanova Product Individualization by the Customer through Virtual Reality Integration	
17:05-17:15	Refreshments at the upper foyer and the 8th floor foyer				
17:15 -18:35	SESSION 13 (room 1)	SESSION 14 (room 2)	SESSION 15 (room 3)	SESSION 16 (room 4)	SESSION 17 (room 5)
	Design Thinking for MCP: Setting up the Solution Space	When and Where to Apply Mass Customization	Bringing Mass Customization of Apparel to the Next Level: EU-Project Symposium	Teaching, Designing and Implementing Mass Customization	Responsive Places for Living Symposium on MCP in Architecture and Construction
	Dhima A Search for the Meaning of Function in Space	Ihl, Piller, Koenig Aligning standard and customized product marketing	SERVIVE: Bringing Mass Customization of Fashion into Mainstream Kartsounis Project overview and mission	Walcher Teaching MC - From Ideation to Business Creation	Larson Introduction and overview of strategies for mass customized places of living
	Teich, Kretz, Jahn, Militzer, Neumann Using STEP standardized product data representation for automated process planning	Heiskala, Tiihonen Modeling phenomena for choice navigation of mass customized services	Lindgens, Harzer Market Study: The International Market of Custom Apparel Possen A Business Framework for MC Fashion	Nambiar Organization-wide Challenges towards implementing Mass Customization	Vuola Neapo case
	Kostkevicius, Valincius, Dumbliauskas Meta Mass Customization or Engineering of Mass Customization	Heiskala, Paloheimo, Sievänen, Siirilä, Tiihonen Business model view to service mass customization	Lott A pilot of in-store manufacturing of apparel	Medyna, Coatanéa, Lahti, Howard, Christophe, Brace Creative design: Analysis, ontology and stimulation	Suominen Strategies for sustainable mass customized cities; user profiling, customer journey and configuration

	Nielsen, Joergensen, Petersen Mechatronics and Mass Customization		OPEN GARMENTS: Consumer-driven Open Manufacturing and Open Innovation of Personalised Garments Stellmach, Denkendorf Byvoet	Pourmohamadi, Saunders Designerly Ways of Customizing	Duarte, Jose Mass customized housing strategies for Portugal
20:00	Conference dinner at Vanha, Old Student house Doors open at 19:00 at Vanha bar				

INNOVATION & RESEARCH CONFERENCE DAY 2 Theme: Creating the value chain for MCP					
8:30 -9:00	Coffee at the upper foyer				
9:00 -10:10	SAMPO Hall Chair: Mitchell Tseng, HKUST				
9:20 -9:40	Keynote: Benedict G.C. Dellaert, Erasmus University of Rotterdam Designing the gateway to product space				
9:40-10:10	Keynotes: David Gross, Zazzle, Jeff Beaver, Zazzle, James Johnson and Avery Dennison Collaboration in mass customization: How an innovative MC start-up and a hugh industrial incumbent collaborated for a new mass customization offering				
10:10-10:40	Refreshments and coffee at the pper foyer				
10:40-12:00	SESSION 18 (room 1)	SESSION 19 (room 2)	SESSION 20 (room 3)	SESSION 21 (room 4)	
	MCP in the Fashion Industries: Shoes and Footwear	Configuration and Choice Navigation: Strategic Issues	Beyond MCP: Co- Creation & Open Innovation	Production Networks for Mass customization	
	Dulio, Lodigiani, Brotini Customized Luxury Men Shoes; the Pakerson Tailor Made Project	Piasecki, Hanna Review of B2C Online Product Configurators	Weber Customer involved Open Innovation	Beyer, Poler REPLANET: Resilient Multi- Plant Networks	
	Head, Porter, Summerskill Specifying a system to facilitate the design, by consumers, of personalised running shoes	Fürstner, Aničić Adaptive Product Configurator for Different Level of Customers' Knowledge	Freund Multiple Competencies in Open Innovation Business Model	Saiz Bimatec-Soraluce REPLANET Pilot: Integration of a new product catalogue process generation ...	
	Salles, Gyi The specification of personalized footwear for rapid manufacturing: a pilot study	Haug, Hvam, Mortensen A classification of strategies for the development of product configurators	Wu Co-Design Communities Online: Turning Public Creativity into Wearable and Sellable Fashions	Ihlenburg, Bernas Managing customer interaction in innovation processes with value creation networks	
Pallari, Jumani, Dalgarno, Woodburn Rapid manufacturing of orthotics and prosthetics - is it a good idea?		Streichsbier Identification of De- Facto Standards for Designing the User Interfaces for Web Based B2C Product Configurators	Herd, Bardill, Karamanoglu X-ray specs, stickers and colouring in: Seeing beyond the configurator using design probes	Skjelstad, Armati, Borgonovo Potential for Mass Customization in Norwegian manufacturing industry	
12:00-13:00	Lunch at the upper foyer				

13:00-13:40	<p style="text-align: center;">SAMPO Hall Chair: Mikko Ruohonen, University of Tampere</p>				
	<p style="text-align: center;">Keynotes: Frank Piller, RWTH Aachen University and Fabrizio Salvador, Instituto Impresa Cracking the Code of Mass Customization</p>				
	SESSION 22 (room 1)	SESSION 23 (room 2)	SESSION 24 (room 3)	SESSION 25 (room 4)	
	Capturing Value from MCP	Configuration and Choice Navigation: Setting up the System	Beyond MCP: Co-creation & Open Innovation (II)	Production Networks for Mass Customization	
13:45-15:05	Seppänen, Mikkonen, Pyynönen Mass customization for advanced integrated ICT offerings to create systemic customer value	Mäkipää Effect of a sales configurator on sales work - analyzing different sales configurator configurations	Pater Co-creation's 5 Guiding Principles - a Co-creation 'crash course'	Oliveira Governing through trust in 'hidden innovation': networks, performance, and time	
	Ahoniemi The potentiality of Mass Customization in Asian markets	Risdiyono, Koomsap Crowdscreening: A Natural Selection for Mass Customization	Jaritz Customer's emotions and personality as key factors of Fluid Forms' community based co-design approach	Cho Mutual Trust and Information Sharing - The Quest for Sustainability	
	Petruzzellis, Iudice To brand or not to brand? That is the question. Branding issues in mass customized environments.	Krahtov Flexible Configurator for Production on Demand	Hoftijzer The Collaborative Design Lab (The Future Designer)	Saiz, Castellano, Besga, Uribetxeberria Customized Order Fulfillment in a Machine Tool Supply Network	
	Ahonen Sources of Innovative Opportunity and Mass-Customisation - An Analysis of EMF & Health Business Area		Braun, Türtscher Using feedback-process patterns of online user communities as a predictor for later market success of innovations	Battezzati Flexible configuration of BOM and Production Cycle Times for Mass Customization	
15:05-15:30	Refreshments at the upper foyer and the 8th floor lobby				
15:30-16:50	SESSION 26 (room 1)	SESSION 27 (room 2)	SESSION 28 (room 3)	SESSION 29 (room 4)	
	CEO's REPORTS: Success stories from running a mass customization business	Configuration and Choice Navigation: Configuring the Configurator	Applications of MCP in Different Settings: Finding Common Ground	Production Networks for Mass Customization: Resources and Capabilities	
	Goetze PersonalNOVEL - Personalized Literature - Case Study	Haug, Hvam, Mortensen, Lundvald, Holt Implementation of conceptual product models into configurators: From months to minutes	Hou, Lylly-Yrjänäinen, Sievänen, Suomala Managing the Long Tail in Homeware Industry - Understanding the Cost Considerations of Open Innovation	Chatzopoulos, Tsigkas, Papantoniou An Approach of a Flexible Manufacturing Thinking System for Lean-Flow Implementation for Mass Customization Industries	

	Renz, Rutschmann amisura experiences from scaling up a shop- in-shop system for mass customized high performance sports shoes	Piroozfar, Popovic Larsen, Piroozfar Mass-matching: Developing a quasi- game toolkit for a customer-driven design process in Building Industry	Saari, Ravaja, Salminen, Rapino, Kallinen A Mobile and Desktop Application for Enhancing Group Awareness in Knowledge Work Teams. Implications to Customized within Group Interactions.	Salvador, Akpinar, Rungtusanatham Mass Customization Revisited: Disentangling the Effects of Resource, Routine and Relational Flexibility	
	Yusel Certusoft Presentation: Customizing Fire Truck Dashboard and Frame Layout	Dressel, Frühwirt Open Toolkit - An Open Source Software System for Building Product Configurators	Saari, Turpeinen, Ravaja Emotionally Adapted Games - An Example of a First Person Shooter	Sippola Manufacturing needs more standards when the customer will have less	
		Curteza, Kalaoğlu, Heinen-Foudeh Mass Customization for Persons with Special Needs	Schumann, Hoffmann Conception of an Adaptive Efficiency Analysis for Mass Customization (AEAMC)		
17:00-18:00	Panel discussion: conference and session chairs Wrap up Joseph Pine				

BUSINESS STRATEGY SEMINAR

Wednesday, Oct 7 2009, 9-17

Helsinki School of Economics (HSE)

Runeberginkatu 22-24, 00100 HELSINKI, room G-111/G-112

The Innovation & Research Conference is followed by a Business Strategy Seminar at the premises of the Helsinki School of Economics. The seminar presents both practical business cases and intriguing insights into the topics of the conference.

BUSINESS STRATEGY SEMINAR	
Co-creating value with customers – setting up the customer centric enterprise	
8:30 -9:15	Registration and coffee
9:15 -9:30	Opening words and Chair: Kristian Möller, HSE
9:30-10:15	CREATIVITY AND CUSTOMER VALUE CO-CREATION Keynote: Joseph Pine
10:15-11:45	Panelist 1: Teemu Arina, Dicole Oy Interactive value creation in the age of real-time Panelist 2: Harri Oinas-Kukkonen, University of Oulu What if social media were actually mass interpersonal persuasion Panelist 3: Raul Lansink, Favela Fabric Customer co-creation starts inside Panel Discussion Moderator Christina Forsgård
11.45-12:45	Lunch at Chydenia restaurant and lobby
13:30-15:00	CUSTOMER-CENTRICITY AND CUSTOMIZATION Keynote: Louise Guay, My Virtual Model Inc. Panelist 1: Kamel Ouadi, Louis Vuitton Panelist 2: Uché Okonkwo, Executive Director & Founder, LUXE CORP and Author of Luxury Online" Panelist 3: Philip Rooke, Spreadshirt, VP and Managing Director of Shop Partner and Direct to Customer Business Unit Panel Discussion Moderator Christina Forsgård
15:00-15:30	Refreshments at lobby
15:30-16.15	CONFIGURATION AND NETWORK ORCHESTRATION Keynote: Rory Sutherland, Vice Chairman, Executive Creative Director, OgilvyOne Worldwide Ltd. United Kingdom - London Not only enabling choices but improving them Panelist 1: Bo Harald, Tieto We have all the tools for networked business models but they need to be resolutely furthered Panelist 2: Johan Wallin, Synocus How orchestration is used to address "grand challenge problems" Panelist 3: Jarmo Suominen, University of Art and Design Helsinki Configuration along the journey Panel Discussion Moderator Christina Forsgård
17.45-18:00	Wrap Up: Kristian Möller, HSE
19:00	Helsinki City reception at the Helsinki City Hall

LABS

Thursday, Oct 8 2009

In the MCPC2009 we also have company-initiated business labs, a co-creation challenge and several focused workshops which will elevate knowledge creation and sharing during the conference.

Fashion LAB - Bringing Fashion into customization

Oct 8 2009, 10:00, Design Factory, Betonimiehenkuja 5, 02150 ESPOO

At the Fashion Lab, there will be a unique opportunity to learn from entrepreneurs in mass customized fashion and to experience how life, fashion and customization fit together. Contact: sirkku@annaruohonen.com

PROGRAM/DRAFT/version 18.09.2009

Chair: Sirkku Liukkonen

Clock person: Jaana Hyvärinen

09:30-10:00 Welcome and Introduction

10.00-10:45 Kick-off presentations:

Clothing: AnnaRuohonen Shop (Sirkku Liukkonen)/www.annaruohonen.com

From Atelier work to mass customization

Textile: N.N.

Shoe: Claudia Kieserling/www.selve.net

Title

10:45-11:15 Coffee break

11:15-12:15 Group work based on the presentations:

The participant may choose the questions that they solve in a group work

12:15-12:45 Presentation of the results

12:45-14:00 Lunch (easy snack)

Live demos: Footbalance, Pakersons, Spreadshirt, TaiK knitting demo

14.15-15:00 Interactive discussion session with everyone with a life demo

15:00-15:45 Wrap up: Sirkku Liukkonen

Responsive City LAB

Oct 08 2009, 10:00, Design Factory, Betonimiehenkuja 5, 01250 ESPOO

The Responsive City LAB brings together experts in multiple fields to explore how new technology, services and strategies for design can make possible dynamic, evolving places that respond to the complexities of life.

LAB looks at from the scale of the city to the person, and addresses societal problems from health to energy. Although the problems, opportunities, and challenges in each place have different flavors, we believe that similar solutions can be applied. Contact: renita.niemi@taik.fi

Taivas Lab & workshop: Co-creating Me

Oct 08 2009, 10:00, Taivas, Unioninkatu 13, 00130 HELSINKI

360 million people have googled Harry Potter. This means that hundreds of millions of people probably are also active enough to talk about him to others... Thus marketing the books more effectively than any ad ever could.

Companies are not statues but organic entities that evolve continuously. Customers are not a threat but an innovative and active force that can help a company in becoming stronger, more desirable and more successful.

Traditionally brands have been co-creating people, offering them means to express their identities. Today people are co-creating companies by participating in marketing or even in product development. They do this invited or uninvited. Taivas Lab looks at ways in which companies can work as Editors in Chief of themselves, letting people get involved in making a company an icon.

Viewpoints during the day will include both social and other innovative media and platforms. Cases range from Habbo Hotel, virtual world for teenagers to Forum, the central Helsinki shopping mall where two young women will live 24/7, reporting their lives and shopping through videos, photos and text entries.

Taivas Lab will consist of keynote speeches and team work sessions that utilize rapid prototyping for giving participants both thoughts and solutions to walk away with. Any participant is encouraged to provide Taivas Lab with an actual business problem to be solved during the day with colleagues and both academic and business experts. Contact: kirsi.lehmusto@taivas.com

AFTER WORK

Several after-work events are being held to deepen the conference themes in the spirit of mass matching.

Espoo City Reception after Pre Conference

Sunday Oct 4 2009

18:30-21:00

Espoo Museum of Modern Art EMMA, WeeGee House, Ahertajantie 5, Espoo

Conference Dinner

Monday Oct 5 2009

19:00 Doors open at bar

20:00-23:00 Dinner

Vanha Old Student House, Mannerheimintie 3, Helsinki

The Old Student House is owned by the Student Union of the University of Helsinki. It was built with collected and donated funds, and the inauguration ceremony took place on 26 November 1870. The house is nearly 140 years old and still up-to-date.

Helsinki City Reception after Business Seminar

Wednesday Oct 7 2009

19:00 - 20:30

Helsinki City Hall, Pohjoisesplanadi 11-13, Helsinki

KEYNOTE SPEAKERS AND PANELISTS



Matti Alahuhta

Matti Alahuhta is the CEO of Kone and Chair of the Aalto University Foundation.



Teemu Arina

Teemu Arina is a sought out Finnish speaker, writer and entrepreneur focusing on the future of social technologies in management, knowledge work and learning. He works with enterprises, non-profits, startups and universities interested in implementing social technologies (web 2.0, social media) and facilitating the required change in attitudes, working patterns and culture. As the CEO of Dicole Ltd. he has implemented, advised and led novel approaches in the context of social technologies for organizations like Nokia, Finnish Broadcasting Company YLE,

City of Helsinki, City of Espoo, Elisa, Tekes, Merck and Tieto. For more information, see his website at <http://tarina.blogging.fi>



Fazleena Badurdeen

Fazleena Badurdeen is an Assistant Professor of Mechanical Engineering at the University of Kentucky (USA). Her fields of interest are manufacturing planning, scheduling and optimization, mass customization, sustainable manufacturing and sustainable supply chain design.



Benedict G. C. Dellaert

Benedict G.C. Dellaert is a professor of Marketing at the Erasmus School of Economics, Erasmus University Rotterdam, The Netherlands. He received his doctorate from Eindhoven University of Technology and has previously worked at the University of Sydney, Tilburg University, and Maastricht University. He is affiliated with the Erasmus Research Institute of Management (ERIM - see http://www.erim.eur.nl/ERIM/Research/Centres/Customer_Integration). In his research and teaching he focuses on consumer decision making and consumer-firm interactions from a marketing perspective. Important areas of application are e-commerce, retail, health, and services. His research on mass-customization and personalization has appeared in journals such as the Journal of Marketing Research, the Journal of the Academy of Marketing Science, the International Journal of Electronic Commerce, and Information & Management.



Louise Guay

PhD, President and Founder, My Virtual Model, Inc.

Louise Guay is not just a gifted entrepreneur, she's a highly accomplished visionary executive with international experience. Her many strengths include strategic positioning, strategic planning for startup & established corporations, technology enrichment. Thanks to her direction, Lands' End, Sears, H&M, IBM all innovated in social e commerce through My Virtual Model (MVM) experiences.

Proven track record in leading several online breakthroughs: online 3D virtual models; first virtual dressing rooms; realistic avatars for shopping, style advice and fit; virtual/visual identity; personalization; social shopping and e commerce; key images; Quick 3D.

Founder/CEO of My Virtual Model Inc. (2001-). Full responsibility for company vision, long range strategic planning, product definition, marketing, sales & business development, business intelligence. Operating in the company at different stages: startup, in-growth mode, restructuring, integration in a new venture. Redefinition of organizational structure, supervision of major pricing decisions and strategic changes. Creation of new markets, overseeing multiple financial evaluations & company results.



Bo Harald

Head of Executive Advisors at Tieto, Chairman of the EU Expert Group on Electronic Invoicing.

Mr. Bo Harald graduated from Åbo Akademi (law, economics and business administration) and joined Union Bank of Finland in 1975 where he first worked in trading, loan syndication and establishing of overseas units in Luxembourg, Singapore and London. Since 1979 he was

engaged in promoting and building electronic banking, payments and e-business services and became known as Mr E-banking. Union Bank of Finland is now a part of Nordea Bank - the largest Nordic bank and a global leader in e-banking and e-business services. Bo Harald was a member of the board of directors and participated in many payment and technology advisory boards before he retired in 2005 and joined Tieto as Head of Executive Advisors. In this task he is working with customer from all sectors with a particular focus on how value can be created by combining business concepts and technology solutions across industries.

Bo was working closely with Tieto already during his time with Nordea as Tieto delivered among others its pan-Nordic e-banking solution and also was a close partner when building the e-invoicing service network. Bo is now chairing the EU Commission Expert Group for e-invoicing and has earned the nickname Mr E-invoicing.



Bruce Kasanoff

Since 1996, Bruce Kasanoff has been working to help make the world more personal. His special focus is on encouraging cross-disciplinary collaboration on personalization across different industries, disciplines and functional areas. He consults, speaks and writes about personalization across all industries. In 2001, Mr. Kasanoff wrote "Making It Personal" book about personalization and privacy. He is also the founder and editor of: - NowPossible.com, how to compete in the emerging Personal Economy - YouandImproved.info, how to find personalized services that save you time, money and effort - Interests: differentiated instruction, personalized medicine, knowledge management, community knowledge, social media, personalization frameworks, recommendation challenges and opportunities, mass customization, and innovation.



Raul Lansink

Raul Lansink is CEO and co-founder of Favela Fabric, a co-creation consultancy. Favela Fabric helps organizations reframe their relationship with their audiences on a collaborative, participatory basis. Co-creation is about rallying people around common goals and interests and empowering them to engage in a productive and memorable dialogue with peers and experts. Favela Fabric provides the conceptual, technical and organizational framework to successfully harness the collective intelligence of the crowd. Raul has a background in advertising and brand consultancy and has studied political sciences (Ms). www.favelafabric.com



Kristian Möller

Kristian Möller is a Professor of Marketing at the Helsinki School of Economics and the Director of Service Factory, a joint center of excellence of the Aalto University (a new 'innovation university' combining Helsinki School of Economics, University of Technology, and University of Applied Arts and Design). His fields of interest are 'networked value creation'; i.e., business networks, innovation networks, and value co-creation in services. He believes in combining rigorous research and relevance; it's tough but important. As one of the co-organizers of the MCPC//2009 he welcomes you all to engage in the interactive co-creation of a successful conference.



Harri Oinas-Kukkonen

Harri Oinas-Kukkonen (Ph.D) is a Professor of information systems at the University of Oulu, Finland, and Senior Visiting Scholar at Stanford University.

His current research interests include the next generation of the Web, human behavior change, and social and organizational knowledge management. He has published more than 100 articles in refereed conferences and scholarly journals. In 2005, he was awarded The Outstanding Young Person of Finland award by the Junior Chamber of Commerce for his achievements in helping the industrial companies to improve their Web usability.



Uché Okonkwo

Uché Okonkwo (MBA, Phd) is the Executive Director and Founder of LUXE CORP and the author of Luxury Online. She is recognized worldwide as one of the pioneer luxury business strategists and opinion leaders in the luxury industry. With insightful vision on the luxury business, a strong creative talent and a rare capacity to pull luxury brands together, she has collaborated closely with luxury companies including Louis Vuitton, Gucci, Cartier, Christian Dior, Piaget, Chloé, Boucheron, Karl Lagerfeld, Coty Prestige, Rémy Martin, Oscar de la Renta, Fabergé, Burberry, Tiffany's, Galeries Lafayette, Barneys New York, Selfridges and the groups LVMH, Gucci Group and Richemont. Her expertise in taking luxury brands to elevated growth through strategic and insightful business solutions have led to the successful turn-around of several brands and the execution of action-plans that address burning platform issues, leading to market out-performance. Through her steering guidance, Luxe Corp is currently playing a key role in the re-shaping the business practices of luxury brands and the business approaches of the entire luxury industry.



Martijn Pater

Martijn Pater is a partner at Fronteer Strategy based in Amsterdam. Fronteer Strategy is a management consulting firm working for Blue Chips and start-ups alike. It specializes in Innovation and Brand Development. Co-creation is Mr. Pater's professional passion and he looks forward to meeting all kinds of people from different worlds to work with.



Frank T. Piller

Frank T. Piller is an Executive Faculty Member of the MIT Smart Customization Group at the MIT Design Lab, Massachusetts Institute of Technology, USA, and a chair professor of management at the Technology & Innovation Management Group of RWTH Aachen University.

His research focuses on value co-creation between businesses and customers/users and the interface between innovation management, operations management, and marketing. Frequently quoted in The New York Times, The Economist, and Business Week, amongst others, Frank is regarded as one of the leading experts on mass customization, personalization, and open innovation. His blog, mass-customization.blogs.com, is the premier source of information on mass customization and customer driven value creation. Together with Mitchell Tseng, Frank Piller initiated and co-chaired the MCPC conference series, the largest professional event on mass customization & personalization.

As a founding partner of Think Consult, a management consultancy, he helps his clients to serve their customers better by using truly customer-centric strategies. Frank Piller has consulted and delivered executive workshops for more than fifty companies, including many DAX30 and Fortune 500 corporations. As a member of the board of directors or scientific advisers, he works with a number of innovative technology companies in the area of customer-driven value creation. <http://www.mass-customization.de> <http://mass-customization.blogs.com>



B. Joseph Pine II

Author of Mass Customization, Experience economy, Authenticity: What customers really want.

B. Joseph Pine II is an internationally acclaimed author, speaker, and management advisor to Fortune 500 companies and entrepreneurial start-ups alike. He is co-founder of Strategic Horizons LLP, a thinking studio dedicated to helping businesses conceive and design new ways of adding value to their economic offerings.

Mr. Pine and his partner James H. Gilmore most recently wrote *Authenticity: What Consumers Really Want* (Harvard Business Press, 2007), which recognizes that in a world of increasingly paid-for experiences, people no longer accept the fake from the phony, but want the real from the genuine. This book, named one of the top ten business books of the year by Amazon.com and featured in a cover story in TIME Magazine on "10 Ideas that are changing the world", provides a way of thinking about authenticity in business plus a set of tools and techniques for rendering authenticity in any company. It follows the best-selling *The Experience Economy: Work Is Theatre & Every Business a Stage* (Harvard Business School Press, 1999), which demonstrates how goods and services are no longer enough; what companies must offer today are experiences - memorable events that engage each customer in an inherently personal way. Published in twelve languages and named one of the 100 best business books of all time by 800ceoread, *The Experience Economy* shows how businesses should embrace theatre as an operating model to stage unique experiences.

Mr. Pine also wrote the award-winning *Mass Customization: The New Frontier in Business Competition* (Harvard Business School Press, 1993). It details the shift companies are making from mass producing standardized offerings to mass customizing goods and services that efficiently fulfill the wants and needs of individual customers. The Financial Times chose the book as one of the seven best business books of 1993. He and his partner followed this up by editing a collection of Harvard Business Review articles entitled *Markets of One: Creating Customer-Unique Value through Mass Customization* (Harvard Business School Press, 2000). Mr. Pine has written numerous articles for the Harvard Business Review, The Wall Street Journal, Chief Executive, Worldlink, CIO, Strategy & Leadership, and the IBM Systems Journal, among many others.

Prior to beginning his writing and speaking activities, Mr. Pine held a number of technical and managerial positions with IBM. One of his many assignments was key to the effective launch of the Application System/400 computer system, for which he managed a team that brought customers and business partners directly into the development process of the system. Because of this innovative activity, customer needs were met more exactly and quality was significantly enhanced - factors that contributed greatly to IBM's Rochester, Minnesota, facility winning the Malcolm Baldrige National Quality Award in 1990.

Mr. Pine is frequently quoted in such places as Forbes, The New York Times, Wired, Business 2.0, USA TODAY, Investor's Business Daily, ABC News, Good Morning America, Fortune, Business Week, and Industry Week. In his speaking and teaching activities, Mr. Pine has addressed both the World Economic Forum and TED, is a Visiting Scholar with the MIT Design Lab, and he and his partner were the Dean Helen LeBaron Hilton Endowed Co-Chairs with the College of Family and Consumer Sciences at Iowa State University for 2002-3. Mr. Pine has also taught at Penn State, Duke Corporate Education, the University of Minnesota, UCLA's Anderson Graduate School of

Management, and the Harvard Design School. He also serves on the editorial boards of Strategy & Leadership and Strategic Direction, is honorary editor of The International Journal of Mass Customization, is a member of the Wise Committee for the Youth Imagination Initiative in Extremadura, Spain, and is a Senior Fellow with both the Design Futures Council and the European Centre for the Experience Economy, which he co-founded.



Kamel Ouadi

Kamel Ouadi is heading globally Digital Media for Louis Vuitton. With his team, he is supervising the worldwide strategy and development of Louis Vuitton on new media. His responsibilities include artistic direction and image consistency, content production from creative concept to execution, digital marketing and communication, intelligence marketing, innovation and digital operations. Kamel Ouadi was previously L'Oréal Group international VP in charge of strategic partnerships and in charge of Customer strategy for L'Oréal Group in China.



Philip Rooke

Philip Rooke is the VP and Managing Director of Shop Partner and Direct to Customer Business Unit.



Mikko Ruohonen

Mikko Ruohonen is the professor of business administration & information systems at the University of Tampere. He has worked in the field of information resources strategy and organization development since 1984. He has worked in many projects related to company interests and strategies such as i) an e-business strategy report for Finnish technology industries (2002), ii) an extensive research report on "Emergent Leadership Cultures in ICT Industry" (Finnish Work Environment Fund, 2004) and iii) the report on the status and needs of a national strategy for electronic networked economy for the Ministry of Trade and Industry (2005) as one member of the expert group and on-going iv) Finnish Funding Agency for Technology and Innovation (TEKES) granted him a leadership for a research and development project "Implementing mass customisation strategies utilizing information and communication technology(CT) as a competitive advantage for Finnish industry (MASSI)" This is executed during 2006-2008 with collaboration of Federation of Technology Industries in Finland, ten case companies and Tampere University of Technology, Industrial Management and Cost Management Center. This project continued with another TEKES and Federation of Technology Industries in Finland collaboration project "Strategically agile manufacturing networks" 2008-2010, which aims at developing strategic agility of Finnish technology companies in a networked context. Now Mr. Ruohonen is carrying a Academy of Finland funded study focused on "Nearshoring or Offshoring - comparing ITO and BPO models between India and Europe". He has good contacts to International Federation of Information Processing (IFIP www.ifip.org) as a special consultant and newsletter editor for Technical Committee 3 (Education).



Fabrizio Salvador

Professor of Operations Management at Instituto de Empresa Business School, Adjunct Professor at the MIT-Zaragoza Logistics Program and Research Affiliate at the Massachusetts Institute of Technology

Fabrizio Salvador is Professor of Operations Management at Instituto de Empresa Business School, Adjunct Professor at the MIT-Zaragoza Logistics Program and Research Affiliate at the Massachusetts Institute of Technology. He has been Faculty Research Associate at Arizona State University. He received a Ph.D in Operations Management from the University of Padova, where he also graduated in Industrial Engineering.

Dr. Salvador research focuses on operation strategy in uncertain environments and customer-centric organization design. He has been researching such topics as mass customization, concurrent product-process-supply chain design and organization design for efficient product configuration. His research has been published in many prestigious academic journals, including the Journal of Operations Management, Production and Operations Management, MIT Sloan Management Review, IEEE Transactions on Engineering Management, etc. He has been awarded over 400,000€ in research grants, both from public and private institutions, and has helped numerous companies in addressing operational problems associated with customization and product proliferation.

Dr. Salvador teaching experience spans over a decade and includes undergraduate, post-graduate courses, taught both in MBA programs, MS programs, executive programs and in-company programs. He is committed to a student-centered learning philosophy and follows the principle of mixing different methods for a successful learning experience: cases, exercises, lectures, games, student presentations, etc. But far from burying himself in research and writing, Dr. Salvador believes in good teaching as a fundamental mission for academic professors. "If you do good research, you also ought to transfer that valuable knowledge both to students and practitioners. It is your social duty."



Jarmo Suominen

Jarmo I. Suominen is a Professor of Mass Customization at the University of Art and Design. Since 1999 he has been working at the Massachusetts Institute of Technology, Boston as a visiting scientist at the School of Architecture and Planning.

Professor Suominen's competence is in personalization and mass customization strategies, user innovation concepts and customer experience management processes and tools. He is the director of the Future Home Research Institute at the University of Art & Design where he is currently developing mass customization strategies for companies in the media, construction and service sectors. His current research is focused on configurable high-interest, high-involvement products and services. His focus is on transforming production driven architectural design into a user-centered industrial design and product creation process. Recent projects address various layers in the process of developing and constructing new mass customizable buildings, communities and areas. By understanding the challenges involved in design, manufacturing, marketing and selling processes, there is an opportunity to develop a model for a more customer-driven way of designing, manufacturing and selling homes.

Professor Suominen is the chairman of the board of Co-Configuration Ltd. He is also a senior advisor for the Ogilvy Taivas Group in Finland where he is involved in the process of developing multi-channel customer experience and communication strategies.

Rory Sutherland

Rory Sutherland is the Executive Creative Director and Vice-Chairman of OgilvyOne London and the Vice-Chairman of Ogilvy Group UK.



Mitchell Tseng

Dr. Tseng is Chair Professor of Industrial Engineering and Engineering Management at Hong Kong University of Science and Technology (HKUST). He also serves as Director, Advanced Manufacturing Institute (AMI) and Zhejiang Advanced Manufacturing Institute (ZAMI) of HKUST. He received his PhD and Master's degree in Industrial Engineering from Purdue University, BS degree in Nuclear Engineering from National Tsing Hua University in Taiwan. After serving in industry for two decades, he joined HKUST in 1993 as the founding department head of Industrial Engineering and Logistics Management.



Johan Wallin

Dr. Johan Wallin is since 2001 the chairman and managing partner of Synocus Group, an international professional services firm. His latest book, *Liiketoiminnan orkestrointi*, has just been released. His previous book, *Business Orchestration* (Wiley, 2006), was also translated into Chinese.

ABSTRACTS

SESSION 1 EXTENDING THE FOUNDATIONS OF MCP

Monday Oct 5 200, 11:00-12:20, Room 1

Moderator Torsten Harzer, RWTH Aachen

Sunikka, Anne (Helsinki School of Economics, Finland)

Bragge, Johanna (Helsinki School of Economics, Finland)

Personalization and mass-customization in the research literature

Personalization and mass-customization are defined in numerous ways in the research literature. We combine a text-mining approach for profiling personalization and mass-customization research with a literature review in order to distinguish the characteristics of these two research streams. Research profiling with search words personalization and mass-customization was conducted using the ISI Web of Science database in April 2009. The elements typical to the personalization and mass-customization research were identified. Personalization research has a strong focus on technology and the internet, in addition to which it emphasizes customers' needs and preferences and information collection for user modeling and recommender systems. Mass-customization is an older research stream, and the main body of the research has focused on tangible products but has lately initiated service research as well. We suggest a classification of concepts linked to personalization in order to avoid confusion with the use of these concepts.

Daaboul, Joanna Macram (Ecole Centrale Nantes, France)

Bernard, Alain (Ecole Centrale Nantes, France)

Laroche, Florent (Ecole Centrale Nantes, France)

Implementing Mass Customization: Literature Review

Even though it is an attractive strategy, Mass customization (MC) is not feasible in all environments, and when it is, it presents many challenges to be dealt with. Therefore, an extensive study on how to implement MC is needed before the actual implementation. In this article a literature review is done to define how MC can be efficiently implemented and evaluated. Starting by defining the level of customization, then adapting the entire company to the desired MC strategy to finally evaluate it. Also it presents DOROTHY which is a European project that aims to design tools and methods for implementing MC in the footwear industry.

Tsigkas, Alexander (Demokritean University of Thrace, Greece)

Papantoniou, Agis (Technology Institute of Pireus, Greece)

Theorizing a new agenda on Mass Customization

This work provides a theory in order to shift mass customization from a mere physical product level to a perspective of total value system. Mass customization is the social production system currently evolving based upon Knowledge as the origin of value creation. Value is seen through the increasing involvement of the passive consumer turning into an active consumer. In modern capitalism, value is created through the mainstream economy based on the labour theory of value founded by Karl Marx. In the post-capitalist society value will be mostly created through the prosumer economy and will be governed by a theory of value based on knowledge. The new economy goes further and beyond the experience economy of Josef Pine. It is argued that mass customization must break the limitizing borders of mass configuration, and follow its natural evolution from mass individuation towards mass personification. Aristoteles, four reasons for any natural change, are taken as the basis for categorizing knowledge. Heidegger's phenomenology is adapted to approach the individuation process necessary for mass customization.

Joergensen, Kaj A. (Aalborg University, Denmark)

Customisation Design - Levels of Customisation

To implement Mass Customisation (MC) is often a non-reversible decision. Consequently, many issues have to be considered when companies want to move to such a future position. In order to support this decision making, a model for customisation has been developed. This model arranges customisation in four different levels of customisation, ranging from the structure level at the bottom, through the performance level and the experience level to the learning level at the top. The model has a dual view with a customer side and product side and it is important that a balance between these two sides are created and maintained.

SESSION 2 GREEN CUSTOMIZATION: MASS CUSTOMIZATION AND SUSTAINABILITY

Monday Oct 5 2009, 11:00-12:20, Room 2

Moderator Poorang Piroozfar, University of Brighton

Chin, Ryan (MIT Design Lab, United States)

Smithwick, Daniel (MIT Design Lab, United States)

Environmental Impacts of Utilizing Mass Customization: Energy and Material Use of Mass Customization vs. Mass Production

In 2005 Sanders Consulting published its ground-breaking research, “Why Mass Customization is the Ultimate Lean Manufacturing System.” Using the textile industry as their primary example, Sanders’ research showed that, when framed from the entire product lifecycle—from raw material production to point of purchase, the standard best practice of mass production was actually very inefficient and indeed wasteful in terms of money, time and natural resources. Beginning from this lifecycle framework provided by Sanders, this paper answers the question: What are the environmental impacts of utilizing mass customization compared to the impacts of utilizing mass production?

Beutin, Nikolas (GMX, Germany)

Mekwinski, Sven (GMX, Germany)

Converging Cross-Industry Innovation Management - Example Green Technology

Green technology with its green products and services is constantly and rapidly changing the rules of the game in presumably „old industries“ creating sometimes enormous new markets. Driven by consumer demand, new green laws, new environmental standards, internal cost pressure, large governmental subsidies and high and further rising energy prices, companies face a totally new situation and need to enter new markets and businesses. Moreover, industries more and more converge within the “Green Technology”. To be successful in this new and ever more complex environment, companies have to change their innovation and product development strategies, processes and methods. Furthermore, cooperations and internal changes are inevitable. We will show the challenges and possible solutions in the Automotive, Building and Glass Industry.

Badurdeen, Fazleena (University of Kentucky, United States)

Liyanage, Jayantha P. (University of Stavanger, Norway)

Gupta, Sonal (University of Kentucky, United States)

Product Lifecycle-based Approach to Mass Customization for Sustainable Manufacturing

Mass customization (MC) has become increasingly popular as a business strategy over the past few years, particularly due to changing customer expectations. In the mean time, from a much broader perspective, the problems and limits of current development practices, in terms of environmental degradation and exhaustion of natural resources, have begun to surface. Thus, over the last 20 years, there’s been an increasingly urgent search for workable approaches to sustainable development with an emphasis on economic prosperity, environmental protection and societal well-being. While MC has emerged as a business solution to meet diverse customer requirements, sustainability in the design, manufacturing, use and post-use handling of these MC offerings is an issue companies must now give serious thought to. Therefore, it is also important that mass customizers adopt a more holistic and product lifecycle-oriented approach that leads to closed-loop SC practices rather than focus on one, or a few, discrete stages of the life-cycle individually. This paper is aimed at appraising the benefits and challenges to MC from a sustainability perspective and at offering insights for further research.

Black, Sandy (University of the Arts London, United Kingdom)

Eckert, Claudia (Dept DDEM, Open University, United Kingdom)

Watkins, Penelope (London College of Fashion, University of the Arts London, United Kingdom)

Delamore, Philip (London College of Fashion, University of the Arts London, United Kingdom)

Geesin, Frances (London College of Fashion, University of the Arts London, United Kingdom)

Harkin, Steven (Steven Harkin Designs, United Kingdom)

Considerate Design for Personalised Fashion: towards sustainable production

The inbuilt obsolescence of the fashion system and its ever faster cycles creates large volumes of waste, as clothing is discarded long before its useful life is over, with 60% of what is thrown away recoverable. The Size UK survey of 2001-2 found that the average female was size 16, yet the fashion clothing choices available do not meet the needs of a wide sector of the market. The fact that many items of clothing do not fit well contributes to the landfill problem. Considerate Design for Personalised Fashion Products seeks to develop personalised fashion and accessories to meet consumer needs for individual fit and comfort. The intention is, through personalisation, to increase consumer engagement and use of garments, whilst providing support for designers in the fashion industry by developing a sustainable design methodology for designers and a tool that enables them to access the relative environmental impact of design options. The project draws on three practice-led sub-projects situated at different

sectors of the market: the mass market through ‘Knit to Fit’, radical innovation in the fashion industry through rapid prototyping techniques and the bespoke market through the work of innovative designer makers.

SESSION 3 SUCCESS STORIES: MASS CUSTOMIZATION IN PRACTICE

Monday Oct 5 2009, 11:00-12:20, Room 3

Moderator Martijn Pater, Fronteer Strategy

Zimmermann, Uwe (d|o|m Deutsche Online Medien GmbH, Germany)

Success Story d|o|m

Deutsche Online Medien (d|o|m) is a full service provider in the field of online photo and printing services and is based in Germany. d|o|m provides well-known business customers with online photo services which they again offer to their end customers who wish to design and personalize products using their own pictures, such as photo books or gifts like mugs, calenders etc. My presentation will focus on the success story of one of our customers: fotokasten.de. fotokasten started out in the year 2000 then selling ordinary prints and from there moved on to more and more elaborate products like calendars or photo books. I am going to share with you some of what we have learned along the way which might help you to avoid some mistakes and I will supply you with some information about market and environment changes.

Sinclair, Matt (Loughborough University, United Kingdom)

Campbell, R.I. (Loughborough University, United Kingdom)

From Configuration to Design: Capturing the Intent of User-Designers

In recent years it has been suggested that rapid manufacturing presents the possibility of unique or bespoke design, tailored to an individual’s need and wishes. Such a possibility infers direct user interaction with the design of the product, however the specification and design of a suitable toolkit, and the new design tasks a user might be expected to undertake, have received little attention. This paper presents a user trial of the design of a USB memory stick, and investigates the extent to which non-professional user-designers are able to engage in design exploration and to communicate design intent. It compares two scenarios: in the first, users sketched a design on paper without guidance or constraint within a specified (volume) envelope; this design was then interpreted to build a 3D CAD model which the user was subsequently able to modify. In the second scenario users were presented with a choice of existing designs and asked to choose one; this design was then manipulated by the CAD operator to incorporate the user’s desired changes. The paper finds a limited ability amongst non-designers to conduct design exploration through sketching, it also finds a conflict between participants’ preferred design process and their most preferred designs.

Wallin, Johan (Synocus Group, Finland)

Mass-Co-Configuration in Financial Services

The notion of mass-customization has gained increased attention also in services. Successful new business models based on Internet-technologies like Amazon.com and iTunes have shown that the consumers increasingly can co-create and co-configure their own offerings. In financial services niche operators such as eTrade in the United States and eQ in Finland are examples of Internet-upstarts that have used the Internet as a way to mass-customize the offering for a limited bundle of services. For mainstream financial services providers the challenge is how to combine the old logic, based on long-term personal relationships where the service provider is a trusted advisor to the customers, and the new logic whereby the customer him- or herself can configure the service package. This paper provides a real world case description of how this question of mass-co-configuration of the business ecosystem was addressed in one financial institution.

Jawecki, Gregor (HYVE AG, Germany)

Bartl, Michael (HYVE AG, Germany)

Füller, Johann (HYVE AG, Germany)

How to be successful in Co-Creation - The case of Swarovski Gemstone Jewellery

The case of Enlightened-Swarovski Elements Gemstone Jewellery introduces the Innovation Community as an instrument for co-creation and collaborative innovation. Based on web2.0 internet technology the creativity and skills of a huge number of consumers was integrated into the value creation process. Swarovski invited creative consumers and designers to engage in a jewellery-design-community and to generate new and innovative designs for gemstone jewellery. 1.790 participants from all over the world joined the community to showcase their talent and submit their designs. In total, they created 3.180 pieces of jewellery. Of all submissions, 980 were freely created designs and 2.200 designs were made with a provided configuration tool. The participants uploaded own avatars and pictures and contributed more than 33.000 evaluations and 2.900 qualitative comments. The

presentation gives detailed insights regarding the proceedings and realization of the co-creation platform and illustrates the winning user designs.

SESSION 4 PERSONALIZATION IN MEDIA INDUSTRIES

Monday Oct 5 2009, 11:00-12:20, Room 4

Moderator Maija Töyry, University of Art and Design Helsinki

Töyry, Maija A. (University of Art and Design Helsinki, Finland)
Helle, Merja (University of Art and Design Helsinki, Finland)

Media concepts and mass customization

Media organizations are in many ways exactly like any other organizations operating in saturated and highly competitive mass customization markets, competing for the interests of consumers facing an increasing variety of media products. Media business is a combination of mass production for mass markets in the newspaper industry and in the magazine business it is geared towards mass customization. Digital media also permit the targeting of smaller and smaller but highly profitable niche audiences. New developments in digital publishing and social web come close to the idea of co-configuration in which the producer and user of information influence each other and develop the product jointly. We present our notion of a media concept as a useful theoretical construct and tool for analyzing, understanding and changing media products and practices. We see the need to combine the societal situation, publisher's interests, journalistic culture and audience needs into an integrated approach that focuses on the negotiations and practices of media organizations and audiences as well as between different levels and participants in an organization.

Keskinen Toni (Taivas Business Design Oy, Finland)

Beating the down economy - How the understanding of cross-channel purchase behaviour enable success even with lower resources

One Experience is a tool that enable companies to practice "Strategic sensitivity" effectively and stay connected to the market behaviour and its changes. Understand where to save, which actions don't deliver and what are the things that drive most results. One Experience report actual buyers cross-channel behaviour: what customer did, what influenced them, how they made decisions, why they dropped some brand out and continued with something else, how brands were perceived in the beginning, which brand had best sales conversions and which brands were the second best ones. Why? Sales can improve incrementally, especially if the result enable innovation in offering, segmenting according to behaviour and motivation or recognize bottlenecks at certain points of decision making that need opening. One Experience has a track record of increasing sales and even doubling market share by enabling innovation in offering and service channel roles, resulting higher conversion rates.

Borchers, Vanessa

Mass Career Customization

Presentation

Pennanen, Petrus (Leiki Ltd.)

Contextual and Behavioural Targeting of Content and Ads

Presentation

SESSION 5 CUSTOMIZATION, PERSONALIZATION AND CO-CREATION IN SERVICES

Monday Oct 5 2009, 14:05-15:25, Room 1

Moderator Peter McGrory, University of Art and Design Helsinki

Miettinen, Satu (Savonia University of Applied Sciences, Finland)

Iteration and co-creation connect the broad field of service design

An iterative design process is based on a cyclic process of prototyping, testing, analysing, and refining work in progress. This applies well in a service design process where prototyping tools are in active use. Innovating opportunities for new co-creation processes between the client and the user is part of the service designer's everyday working life. Prahalad and Ramaswamy (2004) discuss co-creation experiences as new ways to create

value. The focus on value in business transactions has shifted to experiences, and experiences are increasingly created through services. Consumers are co-creating value with the firm. Co-creation allows the customer to co-construct the service experience to suit her context, and the service design process offers methods to enable this. This paper focuses on service design and its relationship to both iteration and co-creation process.

Heikkinen, Tero, (University of Art and Design Helsinki, Finland)

Turkia, Kirsi (University of Art and Design Helsinki, Finland)

General and individual requirements in a mobile health service

A portable persuasive technology application can encourage people to maintain a healthier lifestyle through motivating physical activity. Varying life situations and everyday contexts can influence the appropriateness of the service. This paper presents a study in which 94 people carried an accelerometer-equipped mobile phone for a period of over six months. The application gives audible feedback and points for bouts of movement during and in-between daily routines. Questionnaires were used to collect opinions and development ideas from the users. The answers show contradictory preferences and suggest mobile health concepts other than the one used in the study. General requirements and individual preferences for a good mobile health service are discussed.

Elevant, Katarina (Royal Institute of Technology, Sweden)

Customization by Sharing Weather Information: A Study on Winter Road Weather Warnings

Weather information is crucial to weather-dependent businesses. Consequences of weather also affect daily life. Societal and environmental savings can be made, if providing weather information in-time due to users' exact needs. Studies on on-road behaviour show that people usually do not adjust their behaviour to adverse weather, even when acquired information about coming weather events. A new customization model is here suggested to be of major importance for raising the awareness about weather. Along with recent developments on communication technologies, a number of areas of interest for humankind are challenged to move on from traditional ways of collecting, processing and distributing information, realising the opportunities offered by participatory culture. The new customization model provides more reliable and accurate weather information, combining collective intelligence with a new approach within weather service development based on not only the weather information itself but the user's recent weather experiences. The model was tested as road weather warning messages were provided during winter season 2008/09 to 71 users in Stockholm through SMS, e-mail and the web. The experiment created a community of people with interest in traffic and weather information - a starting point for a future collaborative, user-generated weather observation network.

SESSION 6 GREEN CUSTOMIZATION: CUSTOMER VALUE AND THE EXAMPLE OF THE BUILDING INDUSTRY

Monday Oct 5 2009, 14:05-15:25, Room 2

Moderator Mikkel Thomassen, Smith Innovation

Niinimäki, Kirsi (University of Art and Design Helsinki, Finland)

Developing sustainable products by deepening consumers' product attachment through customizing

This paper aims to contribute to a better understanding of consumers' product attachments in the field of home textiles. The study approaches product attachment through the user's emotional bonding with home textiles. The paper also explores the meaning of individuality, uniqueness and customizing in textiles. Thus this study seeks to address the following questions: how consumers become attached to home textiles, what the meaning of uniqueness is in home textiles; if individual and customized design can deepen product satisfaction and product attachment and in this way if the product lifetime can be extended and sustainability in consumer choices increased. Uniqueness and customizing is approached through the use of digital textile technology together with a design service.

Thuesen, Christian (DTU Management, Denmark)

Building a design community for sustainable homes through configuration and open innovation

This paper presents a development project which aims to create a market place for sustainable homes - around a design community where the uses and producers collectively can develop new energy efficient solutions and thereby reduce the emission of CO₂. The core functionality of the design community is a configurator where the users based on the producers templates can design their own home at a selected address visualizing and estimating the energy consumption, total cost, CO₂ emission etc. All the designs will be collected and rated in a design space creating transparency over the market and technologies. Furthermore will an idea space collect and rate ideas from the users. Through a combination of technical and user driven innovation the design community will act as a learning tool for the users and producers and thereby facilitate the development of a market for sustainable homes.

Piroozfar, Poorang (University of Brighton, United Kingdom)
Popovic Larsen, Olga (Royal Danish Academy of Fine Arts, Denmark)
Altan, Hasim (University of Sheffield, United Kingdom)

Customisation in construction industry: Reducing environmental impact while serving the customer

This paper investigates mass-customization in the context of sustainability. The research for this paper is done by comparing two schools. The case study of the two schools is presented from the aspect of customisation in construction industry with an aim of reducing environmental impact. It will compare two buildings; an old junior high school which has been abandoned and a new one which has been built using a semi-customisable building system to replace the old one. Having a thorough in-depth study on the costs involved, the two projects will be compared with each other against their energy and environmental impacts. The two examples will be monitored in the most suited and appropriate way for each particular case. In the old building the energy, maintenance and repair costs will be calculated, while in the new building, the embedded energy will be added to the energy and maintenance costs which are normally expected not to be significant. Then, if applicable, a breakeven period will be calculated to figure out at which point the second building will cost-effectively surpass the first one. In a more articulate consideration, the demolition costs of the first building may also be taken into account to provide a firmer yet more precise ground for the argument.

Tuukko, Reijo (Tampere University of Technology, Finland)

Competitive Sustainable Manufacturing
Presentation

SESSION 7 MCP IN THE FASHION INDUSTRIES: ENABLERS AND APPLICATIONS

Monday Oct 5 2009, 14:05-15:25, Room 3
Moderator Evalotte Lindgens, RWTH Aachen

Machtlinger, Ran (OptiTex Ltd., Israel)

OptiTex Goes Online
Presentation

Kirk, Sue (Manchester Metropolitan University, United Kingdom)

Mass customization for a practising textile designer - empirical research

Method - I am a Masters of Arts Textiles student at Manchester Metropolitan University. I have carried out the following primary research as I intend to set up bespoke textile design business based on mass customisation on completion of my MA. Five interested clients were given the opportunity to experience co-design. They each had a project that needed a printed textile outcome. I took them through a customer-centric, collaborative design experience, resulting in a co-designed, unique, personalised, high quality, digitally printed textile. These products will then be further processed into items such as cushions, dining chairs, bed covers to name a few. Findings - All enjoyed this challenging, unique experience. I discovered the mechanics of such a process i.e. the time it takes, the level of commitment required and if I enjoy sharing my design experience with someone else. It was concluded that there is a business to be developed, which embraces a direct client/designer interface, but that also, this model can be developed that embraces e-commerce. Value - This paper is about research that is empirical and primary. It is original and based on real people and events and our shared experience. I have placed the work into the context of mass customization, comparing it with other MC businesses such as Dell and nikeid.nike.com/nikeid/index.jsp.

Park, Chang Kyu (Konkuk University, Republic of Korea)
Park, Yongsoo (i-Omni Co. Ltd, Republic of Korea)
Jeon, Hyeong Joon (D&M FT Co. Ltd, Republic of Korea)
Kim, Sungmin (Chonnam National University, Republic of Korea)
Koh, Joonseok (Konkuk University, Republic of Korea)

Implementation of i-Fashion

i-Fashion in Korea is aiming at ubiquitous and personal fashion world through digital convergence in IT and Fashion industry. Vision of i-fashion is creation of i-Fashion market and industry to provide more values with new digital services, seeking what customers want. i-Fashion Technology Center has supported pilot projects of 16 fashion enterprises to deploy business intended by i-Fashion in cooperation with the Korean government, the Seoul Metropolitan City, Konkuk University, the KITECH, the KAIST and several other universities. The individual corporation is able to gain the support of a professional technology IT system, production facilities, and specialists

within i-Fashion Technology Center. Therefore, corporations are able to operate their business model within the center, and will support them if they regard their business model as worthy. Several on-line shopping malls and digital shops have implemented i-Fashion with digital shopping assistance services including 3D avatar, virtual try-on, virtual fitting, etc. and custom-made apparel goods on demands including dress shirts, T-shirts, men's suit, ladies dress, uniforms, glove, bedding, etc.

Domina, Tanya (Central Michigan University, United States)

Kinnicutt, Patrick (Central Michigan University, United States)

MacGillivray, Maureen (Central Michigan University, United States)

Mining the Human Torso: Moving from Mass Customization to Mass Matching

Data mining tools can be used effectively for determining customer buying patterns and finding correlations between seemingly unrelated variables. By using image segmentation techniques on the thermal profiles of human subjects combined with a database of subject demographics and anthropometric data, companies are now technologically able to mass match apparel with heterogeneous thermal and moisture wicking properties to provide extra value for the consumer interested in both functional performance of their garment and on fit. This paper discusses the role of data mining to correlate thermal profiles of the human torso with demographic and anthropometric information, enabling categorization of consumers into a "thermal family" or community. By enabling consumers to provide feedback in the fit and functional performance of their garment (or garment system), this information can be added to the database and used in garment redesign.

SESSION 8 ADVANCES IN CUSTOMER INTERACTION AND MARKETING FOR MCP

Monday Oct 5 2009, 14:05-15:25, Room 4

Moderator Christoph Ihl, RWTH Aachen

Vibæk, Kasper Sánchez (CINARK - Center of Industrialised Architecture, Royal Danish Academy of Fine Arts, School of Architecture, Denmark)

User Involvement as a Configurable Integrated Product Delivery

Integrated product deliveries as known from the product industry are beginning to emerge in construction. These are normally considered as physical systems that can be configured and customised for a specific delivery to form part of a unique construction project and help to reduce the complexity of the total construction project. However tools for handling the equally complex processes that leads to the final result are also required. This paper uses a specific software tool recently developed for user involvement in construction processes as a setoff for discussing the process focus as an equally relevant field for development of customisable integrated product deliveries in construction. This development and its causes challenge the traditional role of the architect as the centre point in the creation of physical wholes or entirities. If user involvement, as argued, can be considered as a configurable integrated product delivery then the architect can - using slightly provocatively a term from the production industry - be seen a configuration manager of processes shaping our physical surroundings. Products focusing on standardisation and mass customisation of the building process rather than physical systems could however become architecturally intriguing by leaving more open the solution space of the final result.

Chen, Vivienne (Yu)

"Listening In" method to predict consumer purchase likelihood of green cars under mass customization approach

Fuel-efficient automobiles are the hope for the automobile industry. However, the survival of this innovative product depends not only on the design guided by the "Lean" engineering theories, but also on consumers' expectations and willingness to adopt the automobiles. With the Internet's increasing power as an information provider, the web-based adviser concept has been used in both consumer and business-to-business markets, such as high-end copiers, home entertainment centers, and financial services (Ulrich and Eppinger 1995). The virtual adviser system would help resolve the real mass customization (one-to-one marketing) problem in fuel-efficient automobile promotion. The development of fuel efficient automobiles can require tremendous amounts of investment. As such, consumers' expectations should be considered as an important factor at the very first stage of the development. The combination of web-based adviser and the fuel-efficient automobile design therefore needs to be explored and understood for the sake of the consumers and the sake of the industry. This proposal suggests the application of the "Listening In" method to find combinations between customer needs and fuel-efficient automobile designs. Further, the research aims to identify the relationships between consumer purchase preferences and the virtual marketing conditioning (virtual interaction with consumers and experimental stimuli during the interaction). "Listening In" refers to the ongoing dialogues created when customers use the Internet to search for information and for advice about automotive purchases (Urban & Hauser 2004). "Listening In" not only permits access to data that are available at little incremental cost, but also provides a scale that is large enough to identify opportunities. As illustrated in Urban and Hauser's research (2004), "Listening In" includes mainly the

Bayesian virtual interaction to obtain the data, explore and clarify the identified opportunity and a design palette to explore how customers would design their desired products.

Chi, Chaoyin (Industrial Economics and Knowledge Center (IEK), Industrial Technology Research Institutes (ITRI), Taiwan)

Hypermarket, Fair or Workshop - Customer Involve in Service Sectors

People sometimes want to show off and sometimes stay low profile. The same situation should apply to shopping. We choose different store when demands differ. Due to different demands, suppliers design various types of customer involvement to enhance attractions. But you must be familiar with the followings. When you're a customer, do you have the experience of feeling ignored or bothered? When you're a supplier, do you sense offering too much or less? Hypermarket, fair and workshop are three types of customer involvement. It depends on what value the supplier wants to deliver. Based on that, enablers of each type are developed. In service industry, products could be the target to invite customer's involvement. Besides, time and location are also good targets for customization.

Ono, Akinori (Keio University, Japan)

Endo, Sage (University of Mississippi, United States)

The Integration of Mass-Customized and Mass-Produced Product Shopping in a Single Website Environment

Most mass-customization (MC) studies have focused mainly on the MC shopping process instead of on a shopping process integrating mass-customized products (MCP) and mass-produced products (MPP). In real online shopping settings, only a few online retailers provide MCP exclusively. Rather, many online retailers provide both MCP and MPP in the same website environment. Consequently, some consumers may make an unplanned MCP purchase, while others may make a planned MCP purchase. This study explores the factors that are associated with consumers' decisions to choose an MCP shopping activity over an MPP shopping activity. The findings indicate that, far from burdening the selection process, an extensive assortment of products and features is essential in attracting consumers. In addition, because of the perceived risk of choosing MCP, past experience is also a critical factor in the MCP shopping process.

SESSION 9 DESIGN THINKING FOR MCP

Monday Oct 5 2009, 15:45-17:05, Room 1

Moderator Ditmar Ihlenburg, Festo AG

Ritola, Tuomas (Helsinki University of Technology, Finland)

Alizon, Fabrice (Keyplatform, France)

Coatanéa, Eric (Helsinki University of Technology, Finland)

Implementing Mass Customization through Product and Service Platform Strategy

To address the globally present issue of increasingly fragmented market, this paper studies mass customization through a strategy of designing products and services based on platforms. Firstly, the fundamentals of product platforms are presented; secondly, the potential benefits and challenges related to platforms are studied; and finally, an overview on research on mass customization via product platforms and variety in product supplies is provided.

McGrory, Peter (University of Art and Design Helsinki, Finland)

Systemic Thinking, Architectures & Integrated Platform Strategies: The Apple Case

The presentation will address the following: What is a Platform? Why to use Platforms? Why to extend the scope of Platform Thinking? How to ... Three lessons from Apple Inc., concerning the strategic and operative benefits of an Integrated Platform Approach to design and business planning.

Chan, Horace (The Hong Kong Polytechnic University, Hong Kong)

Lau, Alan (The Hong Kong Polytechnic University, Hong Kong)

Development and Implementation of Product Platform in Small and Medium Size Enterprises

Many businesses belonging to the local or the Mainland's product design and engineering sectors find it difficult to maintain commonality and economies of scale for products with strict customer design requirements, which greatly vary per contract or per piece. The design requirements are typically highly customized and costly to manufacture, involve small production runs, and require long delivery periods. This university-industry collaborative research project aims to develop a generic product design platform that will facilitate the design and manufacturing process of electronic and home appliances using product family design and our newly developed

profile card concepts. The project is intended to benefit our local and the Mainland's product design and manufacturing industry. This platform is a base for collecting, consolidating, and analyzing all necessary information—including design and engineering knowledge, components, requirements, technologies, and standards for a series of products—to build product architectures that can reduce the number of parts of products and the time to manufacture and assemble them, and that can streamline and simplify the conceptual design and embodiment design phases through the reuse of previous parts, components, and ideas.

Funke, Thomas (Vienna University of Economics and Business Administration, Austria)
Keinz, Peter (Vienna University of Economics and Business Administration, Austria)

When User Communities break ranks: an exploration of managerial approaches to dealing with undesired behavior

The explosive diffusion of the Internet since the mid-1990s has fostered the proliferation of user communities, virtual networks formed around a certain product or brand. One core aspect of user communities is that its members individualize or modify products, hack code, or adjust services to suit themselves. The modern business environment provides unprecedented opportunities for user communities to engage in these actions and, furthermore, the internet permits the rapid dissemination and communication of customer innovations (Benkler 2001, Figallo 1998, Preece 2000, Sproul 1995). In many cases the behavior of user communities formed around a certain product or brand can hardly be controlled by the respective manufacturer due to its rapid development (Lueg 2001). More often, user communities break ranks through certain behavioral patterns influencing the manufacturer in several ways. The case of the Apple Newton Brand Community (Muniz, Schau 2005) shows the miraculous performance and survival of a product that was abandoned by the marketer. It explicitly illustrates the importance of how a community can influence or even determine a company's success, subsequently even leading to the return of the marketer. However, individualization and mass customization is, despite all positive effects, a source for conflict between customer and manufacturer. Our research examines these User-Manufacturer discrepancies and sheds light on the circumstances that may trigger and propel conflicts of this kind. By describing and comparing 7 well-known cases in detail, we try to reveal why such User-Manufacturer conflicts occur and how they develop depending on the manufacturer's de-escalation strategy.

SESSION 10 MASS CUSTOMIZATION AND PERSONALIZATION IN ARCHITECTURE & CONSTRUCTION

Monday Oct 5 2009, 15:45-17:05, Room 2

Moderator Antti Pirinen, University of Art and Design Helsinki

Linner, Thomas (Technical University of München, Germany)
Bock, Thomas (University of Tokyo, Japan)

Smart customization in architecture. Towards intelligent houses and new ways of value creation.

People's living environments are particularly important in an increasingly crowded and complex world where the demand for inclusiveness and connectivity with the rest of the world is crucial. The performance of conventional architecture which can be described as low-tech, inflexible and not-adaptive, more and more contrasts with the variety of possibilities generated by ICT, Internet and Pervasive Technologies. Industrialized architecture on the contrary could offer a dynamic framework which is much more in tune with the fast innovating nature of new materials, Microsystems and Information Technology embedded in our environments. The paper's goal is to show that existing information based industrialization and customization strategies used in building industry could be supplemented with functionalities enabled by embedded information-based technologies integrated in the building and active during the building's life-cycle period. A continuum from high-tech fabrication into high-tech environments could be created through this convergence. All in all industrialization in Architecture and Construction is reaching a next step in its evolution- and this evolution does not start from scratch. Therefore in this paper we conduct a case study on value-chain relevant processes for on demand customized building systems outlined by facts, processes and examples of Japanese Customized Prefabrication (Sekisui Heim, Toyota Home). Japans Prefab industry is regarded to be among the most advanced industrialized housing industries in the world. Further a case study on a "smart" and prefabricated prototype house (Toyota PAPI) highly integrated with Microsystems leads over to the second part of the paper. There the outlined examples are conceptually extended and carried on towards new kinds of customer relations, personalization and ICT based service value creation showing that a continuum is possible.

Tang, Guohua (The Hong Kong University of Science and Technology, Hong Kong)
Tseng, Mitchell M. (The Hong Kong University of Science and Technology, Hong Kong)

Economic Analysis of Customized Apartments

The application of customization in housing industry has attracted attention from homebuilders and consumers in many countries for the last decade. With customized housing, customers have wider latitude of choices beyond the monolithic decision in traditional housing. Given the additional choices for customers, developers are facing new

challenges in deciding different business alternatives such as what is the right mix of attributes offered to customers, range of choices, etc. Specifically in this paper, high-rise Customized Apartment (CA) is selected as the research object to neutralize location factor. A framework in which CA developers can address related economic questions is presented. To do so, firstly presented are CA market segment and the challenges that CA poses for architecture design, sales and marketing, project management etc. This analysis provides a basis to further identify cost drivers in this customization scenario. However, customization brings value along with costs, thus CA value creation model is discussed subsequently. Furthermore, an empirical evaluation of CA, which is a project carried out in China, is also present to discuss the operating window of customized apartment in a specific business environment.

Paoletti, Ingrid (The Building and Science Technology of Science Department (BEST), Politecnico di Milano, Italy)

Digital fabrication and mass customization in building industry: some recent case studies

The scenario of construction industry is nowadays pushed to evolve due to different factors: first of all the enhanced capabilities of parametric design which enables designers to anticipate technological constraints, secondly the evolution of cnc machines and production devices which allows new degrees of freedom in some types of component production. Those factors influences the construction industry giving new tools to better respond to architecture contemporary request of flexibility, unusual shapes, high performances, personalization of materials and technologies. Digital fabrication - aiming at fastening and improve information transfer from design to construction (file2factory) - and mass customization - a type of production flexible to customer needs at a cost nearly equal to standard products - can offer to the designer new instrument to control architecture construction and introduce innovative procedures or technologies. This paper, after analysing some recent case studies, most of them focused on innovative building envelope components which seem to better take into account these new challenges, gives some suggestions for taking advantage in architecture of the benefits of digital fabrication and mass customization in building industry.

Tomas Westerholm (3D Render Oy)

Stylemachine - mass tailored apartments

Presentation

SESSION 11 MCP IN THE FASHION INDUSTRIES (II): DESIGN AND NEW TECHNOLOGIES

Monday Oct 5 2009, 15:45-17:05, Room 3

Moderator Evalotte Lindgens, RWTH Aachen

Larsson, Jonas (Swedish School of Textiles, Sweden)

Peterson, Joel (Swedish School of Textiles, Sweden)

One-piece fashion, summary of the Knit-on-Demand project

During the last three years the research project Knit-on-Demand has been running at the Swedish School of Textile. The aim of the project was to develop and test a solution for mass customised knittedwear. Together with two industrial partners, one producer of knitwear and one retailer of tailored fashion, a business concept was developed. To begin with, there is one retailer in Stockholm where the customer designs or configures the garment which is then produced locally in Sweden. Knit on Demand is the second project in the world to produce customised knitwear. The other company is Shima Seiki in Japan which has been selling customised knitwear for some years. Demand for customised fashion is increasing in Sweden as people want to be more diverse. As a research project it is now finalized and handed over to the project partners to make it a commercial success. The next step in the research is to analyse how a demand driven supply chain performs compared to a traditional supply chain and to see if the concept can be developed further. The purpose of the paper is to present how Knit-on-Demand has developed from idea to a fully functioning business. What are the benefits, what are the challenges and which is the best approach?

Olivato, Paolo (Delta R&S S.r.l., Italy)

Apparel Customization: Ergonomics, Style and Safety

The presentation introduces a system to physically customize wearable products, such as footwear, body protections for sport activities and orthopedic corsets as well. The process implies body parts digitalization, data elaboration and automatic identification of the most comfortable products. The best-matching algorithm is designed in order to take into consideration morphological, psycho-physiological as well as personal related information. To evaluate body-product interactions in terms of usability (efficiency, efficacy and user satisfaction) the process takes in account both quantitative and qualitative subjective data. All variables are also weighted as safety factors, while style constrains are managed by experts with both technical competencies and specific cultural background.

Ross, Frances (London College of Fashion, University of the Arts London UK, United Kingdom)
Jenkin-Jones, Sue (London College of Fashion, University of the Arts London UK, United Kingdom)

Same-Sex Suits; Co-design, Style Advice and the Identification of the Gay Aesthetic Experience

This is an exploratory study of the online gay market for same-sex suits/special occasion wear to assess potential for the SERVIVE 3-year research project for SMEs wishing to leverage their business through the application of new technology in mass-customisation new markets. The main objective is to test the notion of a 'gay aesthetic' product/web design experience to assess if this may be used in cross-over fashion sites. The second objective is to identify the importance of co-design and style advice in increasing consumer confidence to purchase apparel options. This is achieved through a theoretical review and a small qualitative study of in-depth interviews with gay fashion industry experts. The storyboard web-pages were created from the original online surveys, observations and interviews with a sample of gay/heterosexual market. The results from a small sample of experts show an indication of some differences in preference, attitude and behaviour from the heterosexual market but no identifiable 'indicators' of difference that would deter the incorporation of these style configurations into an existing fashion website with 'cross-over appeals'. The practical implications are an insight into the potential of the gay market, their taste, lifestyle and attitudes to online consumption with relevance to mass-customisation and web-design.

SESSION 12 NEW IDEAS FOR CUSTOMER INTERACTION AND MARKETING FOR MCP

Monday Oct 5 2009, 15:45-17:05, Room 4

Moderator Christoph Ihl, RWTH Aachen

Merle, Aurélie (Grenoble School of Management, France)
St-Onge, Anik (University of Quebec in Montreal, Canada)
Senecal, Sylvain (University of Quebec in Montreal, Canada)

Do I Recognize Myself in this Avatar? An Exploratory Study of Self-Congruity and Virtual Model Personalization Levels

Among all possible advantages offered by electronic commerce to retailers, the capacity to offer consumers a personalized relationship is probably one of the most important (Wind and Rangaswamy 2001). Online personalization offers retailers two major benefits. It allows them to provide accurate and timely information to customers which, in turn, often generates additional sales (Postma and Brokke 2002). Thus, the question for retailers may then be "How much personalization should we offer consumers?" Although some research has been conducted addressing the issue of personalization extent and how it impacts consumer attitudes and responses (e.g., Ansari and Mela 2003, Song and Zinkhan 2008), to our knowledge no research has yet investigated the personalization of avatars, more specifically the personalization extent of virtual models on apparel retail websites. Thus, our research contributes to the personalization research stream by investigating how different levels of personalization influence consumers' perceptions, attitudes, and intentions.

Dellaert, Benedict G. C. (Erasmus School of Economics, Erasmus University Rotterdam, The Netherlands)
Häubl, Gerald (School of Business, University of Alberta, Canada)

Consumer Decision Processes in Product Search with Personalized Recommendations

We examine how personalized recommendations that present products in order of their predicted attractiveness to a consumer transform decision processes during product search. While such an ordered presentation of products is generally deemed to benefit consumers, it also poses new challenges. Specifically, with personalized recommendations, consumers may search too much and make suboptimal choices among the inspected products. We propose that this can be explained by the fact that such recommendations activate a choice orientation in searchers. Evidence from two experiments provides strong support for this perspective. When inspecting a new product with personalized recommendations, consumers tend to compare it to the entire set of previously encountered alternatives rather than only the best one among these, in line with choice from pre-defined sets rather than with sequential search. Moreover, with personalized recommendations, encountering products that are more similar in attractiveness reduces the probability of stopping the search at a given stage, which also indicates a choice orientation in that it is consistent with choice deferral, but opposite to what is commonly observed in unordered search environments.

Steiner, Frank (RWTH Aachen University, Germany)
Ihl, Jan Christoph (RWTH Aachen University, Germany)
Piller, Frank T. (RWTH Aachen University, Germany)

Embedded Toolkits: A User Acceptance Study in the Automotive Sector

A main challenge in new product development (NPD) is to match a new design to customer preferences. Recent reviews show large failure rates in the commercialization of new designs. In most of the cases, the reason of failure has been not a lack of technological capability of the firm, but a wrong understanding of the customer needs and demands. The idea of this paper is to investigate a new approach to reduce the NPD risk by postponing some design decisions into the customer domain. Our concept of embedded toolkits for user innovation plans for manufacturers to design products with build-in flexibility by embedding knowledge and rules about possible product differentiations into the product. This shall enable users directly to modify a product according to their individual needs, freeing the manufacturer to perfectly acquire concrete customer needs before the product is designed. The objective of this paper is to study the feasibility of such an embedded open toolkit conceptually and experimentally, whereas the empirical research was conducted in the automotive sector.

Bachvarov, Angel G. (Technical University Sofia, Bulgaria)
Maleshkov, Stoyan B. (Centre for Virtual Engineering of the Technical University Sofia, Bulgaria)
Katicic, Jurica (University of Karlsruhe, Germany)
Stoyanova, Polina

Product Individualization by the Customer through Virtual Reality Integration

The main goal of this work is to present author's ideas and experience in providing direct customers' participation within the modular product design and development process in form of "a pre-sale service", based on the use of Virtual Reality. Possibilities for product individualization implementation through some recently used Virtual Reality technologies are given and discussed. Further an experimental prototype of a Virtual Reality product configurator, working in both web based and immersive virtual environments is presented.

SESSION 13 DESIGN THINKING FOR MCP: SETTING UP THE SOLUTION SPACE

Monday Oct 5 2009, 17:15-18:35, Room 1
Moderator Peter McGrory, University of Art and Design Helsinki

Dhima, Sari (University of Art and Design Helsinki, Finland)

A Search for the Meaning of Function in Space

This article looks at the meaning of function in space. The question raised stems from a dissertation entitled 'Space within Space'. In the article a new perspective for spatial design and a new concept of space will be proposed.

Teich, Tobias (University of Applied Sciences Zwickau, Germany)
Kretz, Daniel (University of Applied Sciences Zwickau, Germany)
Jahn, Franziska (University of Applied Sciences Zwickau, Germany)
Militzer, Jörg (University of Applied Sciences Zwickau, Germany)
Neumann, Tim (University of Applied Sciences Zwickau, Germany)

Using STEP standardized product data representation for automated process planning

Extremely variable customer demands and increasing competition require a fast and efficient product development. Especially the industry for machining parts is forced to give an accurate estimate of costs and delivery time besides an forecast of the feasibility immediately to gain a lead over competitors. With the Standard for The Exchange of Product model data STEP, the international standardization organization provides a standard with specialized application protocols (AP) for the integration of application systems from different fields of product development. In our long term research we are going to generate manufacturing variants using genetic algorithms under respect of a configured virtual factory environment. Therefore we require an application protocol specific interface for the integration of the STEP exchange structure from the physical file into the logical software layer. Especially for the generation of process variants we prefer AP 224 - Mechanical Product Definition for Process Planning Using Machining Feature. This paper gives an overview of our model which supports and enables mass customization and presents an approach on how to generate programming language dependent source code from the formal modeling specification language EXPRESS using the example of AP 224 and C#-.NET. This is then used for automated process planning as part of the integration of process- and production-planning.

Kostkevicius, Gediminas (Baltic Orthoservice UAB, Lithuania)

Valincius, Donatas (Elinvision UAB, Lithuania)

Dumbliauskas, Saulius (Baltic Orthoservice UAB, Lithuania)

Meta Mass Customisation or Engineering of Mass Customisation

Paper presents conception and architecture of integral Human body form digitalization - CAD design - CAM production meta system developed for MC&P applications. This solution can be configurated under special MC&P application needs and could be applied in many industries. Practical realization of the solution in fields of technical orthopedics and footwear is presented in two case studies.

Nielsen, Kjeld (Aalborg University, Denmark)

Joergensen, Kaj A. (Aalborg University, Denmark)

Petersen, Thomas D. (Aalborg Industries, Denmark)

Mechatronics and Mass Customization

The possibilities for customizing mechatronic products have often not been utilized to their full potential. The reasons for this include: 1) Mechatronic products tend to inherit their functionalities originating from parent products, with an outset in sole mechanical or electronic systems. 2) Design and development do not focus on utilizing interactions between the different types of elements. 3) Much potential remains to be utilized regarding advanced control systems. Defining the elements of the mechatronic products and the classification of the relationship of these elements will ease design, development and production of new mechatronic products with focus on customization. This research in a recently initiated project is done by analyzing the complexity in a mechatronic structure, and a model for design and development of new mechatronic products will be developed. This paper sets out in a literature study of mechatronics and mass customization. Based on this study, this paper seeks to identify different definitions of mechatronics in relationship with mass customization.

SESSION 14 WHEN AND WHERE TO APPLY MASS CUSTOMIZATION

Monday Oct 5 2009, 17:15-18:35, Room 2

Moderator Aydin Alptekinoglu, SMU Cox School of Business

Ihl, Christoph (School of Business and Economics, RWTH Aachen University, Germany)

Piller, Frank (School of Business and Economics, RWTH Aachen, Germany)

Koenig, Dennis (School of Business and Economics, RWTH Aachen University, Germany)

Aligning standard and customized product marketing

An increasing number of incumbent firms with well known brands start to consider mass customization as complementary strategy to mass marketing. These firms market standard and customized products under a common brand and retailing context. The success of customization as extension to standard product lines relies on which standard product model should be customizable - low-end or high-end models. In this paper, we investigate how consumer evaluations of customized products are formed /relatively/ to standard products that form the base of customizing. In particular, we study the role of standard products as consumers' reference point to infer the utility of a customized product. In a series of experiments, we test two (competing) principle mechanisms by which the underlying standard product moderates the marginal utility of a customized product: (1) diminishing marginal utility and (2) performance uncertainty. We find support for the first principle by which the marginal utility of a customized product is predicted to be lower (rather than higher) with an increase in base product utility.

Heiskala, Mikko (Helsinki University of Technology, Finland)

Tiihonen, Juha (Helsinki University of Technology, Finland)

Modeling phenomena for choice navigation of mass customized services

Increasing importance of services has been widely discussed in recent years, both by practitioners and academia. In academia a prominent example is the vibrant discussion around service-dominant logic (S-D logic). According to S-D logic the provider can offer value propositions to customers and then participate in value co-creation with them during possibly repeating interactions over long-term relationships. This is contrasted with goods-dominant logic (G-D logic) which focuses on transactions and assumes the providers can create value for customers in isolation of the customer. However, mass customization literature on services is still scant, although it has been budding amidst the discussion of growing economic significance of services. Preliminary findings in service mass customization indicate similarities to goods mass customization. It requires similar capabilities: a stable, predefined solution space that is delivered through robust processes and the customer must be supported in choice navigation. We examine mass customized services in order to identify phenomena that are relevant for supporting the communication of the provider's value proposition during choice navigation and for managing the customers'

role during value co-creation. Further, we identify a subset of the phenomena for which formal capture in ontologies could be useful to improve the state-of-the-art of of IT systems supporting choice navigation, e.g. configurators. Our preliminary results indicate that it could be useful to capture bundles and customer sacrifices in such formal ontologies. Supporting repeated choice navigation tasks such as reconfiguration during the possibly long-lived customer relationship is also important. However, it is less clear whether specific modeling concepts should be introduced for this purpose. We draw from both service and mass customization literature and our case findings in seven companies we have worked with during the last five years.

Heiskala, Mikko (Helsinki University of Technology, Finland)

Paloheimo, Kaija-Stiina (Finland)

Sievänen, Matti (Tampere University of Technology, Finland)

Siirilä, Teppo (Finland)

Tiihonen, Juha (Helsinki University of Technology, Finland)

Business model view to service mass customization

There has been a lot of discussion about the growing economic importance of services. Similarly, mass customization has been an interesting topic the past two decades. Mass customization of services has been recognized, however, a solid conceptual understanding is missing. There has been some examples of service mass customization but they are quite often limited to simple case studies and often it is not clear how actually service characteristics affects to mass customization. It has been presented that mass customization require three capabilities, solution space development, robust process design and choice navigation. In this study we examine how and to which elements of a business model these three mass-customization capabilities affects. We will compare the differences of standardized, mass-customized and customized service business model. Moreover, we discuss the effects of service characteristics (IHIP) to the business model. We will use the business model presented by Osterwalder, however, we will leave the financial aspects out of the study. The preliminary results show that service mass customization has effect on every part of business model. Compared to standardized or customized services the most important difference is in key resources. Mass-customized services require more knowledge and skills than standard services and robust process design differ mass-customized from customized services.

SESSION 15 BRINGING MASS CUSTOMIZATION OF APPAREL TO THE NEXT LEVEL: EU-PROJECT SYMPOSIUM

Monday Oct 5 2009, 17:15-18:35, Room 3

Moderator Frank Piller, RWTH Aachen

SERVIVE: Bringing Mass Customization of Fashion into Mainstream

Presenters:

George Kartsounis, ATC: Project overview and mission

Evalotte Lindgens and Thorsten Harzer, RWTH: Market Study: The International Market of Custom Apparel

Bas Possen, CustomMax: A Business Framework for MC Fashion

Christian Lott, Unicatum: A pilot of in-store manufacturing of apparel

Servive proposes the enlargement of the assortment of customizable clothing items currently on offer, the enhancement of all co-design aspects (functionality and fun) and the development and testing of a new production model based on decentralized networked SME cells. The Servive network will not only seamlessly link critical Mass-Customisation (MC) enabling services, but more important it will adapt these services to the specific needs of well-defined target customer groups. It will also enable all necessary interactions of customers with value-chain actors in transparent ways, thus enabling and encouraging the active participation of end consumers in the configuration of the customised items. Central to this scenario is the concept of Virtual Customer Advisor (VCA), which, depending on the profile of the customer will recommend the optimum product configuration, based either on style preferences (Style Advisor), functional requirements (e.g. for protective clothing/ sportswear) or body morphology and physical disability or problem figure related issues. On the upstream part of the chain, the Servive net will introduce the innovative organisational concept of the Networked Micro-Factory, directly linked to the concept of User-centered Production Configuration.

OPEN GARMENTS: Consumer-driven Open Manufacturing and Open Innovation of Personalised Garments

Presenters:

Dieter Stellmach, Project Manager, DITF Denkendorf

Michel Byvoet, CEO, Bivolino.com

The overall objective of Open Garments is the Manufacturing Service Provider (MSP) Business Model enabling individual garments. This model will enable a new way of design, production, and sales of consumer designed and configured garments, based on the provision of individualised services and products to customers and partners. This will lead to new product designs, to a much more customer satisfaction, and to an improvement of the stability and competitiveness of SMEs. Applying this to the European Textile and Clothing Industry will be able to create and provide individual garments with a very high degree of customisation in terms of fit, fashion and function at a comparable price in typically 72 hours. The idea is to empower the consumer as designer, producer and retailer for individual garments by taking the creativity and the willingness of consumers by means of web-based virtual communities of individuals, adopting and integrating (mainly) existing digital technologies for design and production of individual garments in a framework of Open Innovation and (a new concept of) Open Manufacturing, and turning this into a new MSP concept for SMEs with an appropriate business model and tools, which coordinates, supports and manages the Open Innovation community and the Open Manufacturing network.

SESSION 16 TEACHING, DESIGNING AND IMPLEMENTING MASS CUSTOMIZATION

Monday Oct 5 2009, 17:15-18:35, Room 4

Moderator Fazleena Badurdeen, University of Kentucky

Walcher, Dominik (Salzburg University of Applied Sciences, Faculty of Design and Product Management, Austria)

Teaching MC - From Ideation to Business Creation

Within the last 3 years I have taught MC to classes at universities in Munich, Salzburg, St. Gallen, Stuttgart and Helsinki (Arcada). Altogether I saw at least one hundred student presentations. Topics of my lecture are: MC Basics (Definition) Classification (Hard vs. Soft Customization) Strategic Issues (Simultaneous Hybrid Strategy) Profit and Cost Issues (Economies of Modularity, Integration, Decoupling etc.). Moreover many examples are illustrated and discussed. At the end the students get the task to develop an own MC business from the scratch or be a business development department of an existing company heading into MC. They are asked to cover these questions: what do you offer, what is the USP, what are your competitors, what is your positioning, what kind of MC (soft, hard) do you offer, how does the customer interaction work (powerpoint mock up of online configurator), what does your products cost, calculate a rough business plan. All in all we talk about the ideation process of a business with basic marketing concerns. Last semester I offered together with a colleague from the entrepreneurship department the lecture "From Ideation to Business Creation", where the students had to deliver a precise business concept with a comprehensive cost calculation. The results were really promising. One student won two prizes at business plan competitions in Munich and Salzburg. Also he recently got a 50.000€ funding by the Business Creation Center Salzburg (BCCS) for building a real business. At MCPC 2009 I will present the central findings of my teaching experience and show some good examples. Concluding MC is well suited as teaching umbrella for different marketing, entrepreneurship and innovation management concepts.

Nambiar, Arun N. (California State University - Fresno, United States)

Organization-wide Challenges towards Implementing Mass Customization

Practical implementations of mass customization lags behind research in the field. What are the foundational requirements necessary for a company to embark upon the journey towards mass customization? What are some of the challenges (design, configuration, production, logistics, distribution, lifecycle) that organizations face while implementing mass customization? This work will attempt to identify some of the issues and suggest future direction of work.

Medyna, Galina (Helsinki University of Technology, Finland)

Coatanéa, Eric (Helsinki University of Technology, Finland)

Lahti, Lauri (Helsinki University of Technology, Finland)

Howard, Thomas (University of Bath, United Kingdom)

Christophe, François (Helsinki University of Technology, Finland)

Brace, William (Helsinki University of Technology, Finland)

Creative design: Analysis, ontology and stimulation

This paper establishes an ontology of creativity and innovation processes. A comprehensive review was undertaken describing the four key perspectives of creativity research, namely the creative-output, -process, -person and -environment. The focus of this review is based around the metrics for measuring creativity from each of the above

perspectives. These metrics are drawn together in a common model which highlights key considerations when attempting to measure creativity. It was observed that many of the measurements were trying to identify patterns associated with creativity which correlated to a higher potential for creative output. It is argued that metrics linked directly to the creative output provide direct measure for creativity when other metrics related to the environment, person and process are correlated positively or negatively with the potential for creativity. In addition, the FBS framework established from design literature is linked to the principle of continuity argued as a necessary element of creativity in design. It is also argued that innovation requires creativity as an enabler.

Pourmohamadi, Morteza (University of Sydney, Australia)

Saunders, Rob (University of Sydney, Australia)

Designerly Ways of Customising

This paper explores the customisation as a design problem-solving task for customers in mass customisation (MC). In a typical MC system, customers use provided tools to customise their chosen product. We applied Goel's cognitive method for assessing design problem solving tasks to compare the customisation with design and found a high degree of similarity. Customers who attempt to tackle these designerly tasks will typically have little or no design education. Consequently, we tend to consider the customer's lack of design experience a forgotten cause of confusion in customer-system interactions. Using the routine/non-routine design classification, we propose a taxonomic framework to classify different roles that a mass customisation system could assign to its customers. Further we use Gero's Function-Behaviour-Structure model to explain the proposed framework and analyse the processes inside each customisation session. We believe the proposed framework provides guiding principles to support proper design processes within customisation as an effective way of minimise confusion and improve customers' experience. This is the focus of our future research in designerly ways of customisation.

SESSION 17 RESPONSIVE PLACES FOR LIVING SYMPOSIUM ON MCP IN ARCHITECTURE AND CONSTRUCTION

Monday Oct 5 2009, 17:15-18:35, Room 5

Moderator Jarmo I. Suominen, University of Art and Design Helsinki

Larson, Kent (Massachusetts Institute of Technology)

Introduction and overview of strategies for mass customized places of living

Vuola, Olli (Neapo Oy)

Neapo case

Suominen, Jarmo (University of Art and Design Helsinki)

Strategies for sustainable mass customized cities; user profiling, customer journey and configuration

Duarte, Jose

Mass customized housing strategies for Portugal

SESSION 18 MCP IN THE FASHION INDUSTRIES: SHOES AND FOOTWEAR

Tuesday Oct 6 2009, 10:40-12:00, Room 1

Moderator Evalotte Lindgens, RWTH Aachen

Dulio, Sergio (Vigevano, Italy)

Lodigiani, Fabio (Asset Pro S.r.l., Italy)

Brotini, Gabriele (Pakerson S.p.A. Cerreto Guidi, Italy)

Customized Luxury Men Shoes; the Pakerson Tailor Made Project

The paper presents the business case of the Italian footwear company Pakerson and of its "Tailor Made" project aimed at offering to its most valued and demanding customers a full range of customized, luxury men shoes. The work is structured in three parts; in the first one the main business goals and market expectations of the company are presented as well as the motivations that have led a well established traditional shoe maker to tackle this new market challenge. In the second part the technical elements of both the front (shop) and back end (production) processes are described and their implementation path is outlined; the final configuration of the various modules of the complete solution was the result of a careful selection work and of an intensive integration activity which

are extensively described in the paper. The third and last part presents an overview of the initial returns after the first market exposure of the new concept in the Pakerson flagship store in Saint Petersburg (Russia).

Head, Matthew (Loughborough University, United Kingdom)
Porter, Samantha (Loughborough University, United Kingdom)
Summerskill, Steve (Loughborough University, United Kingdom)

Specifying a system to facilitate the design, by consumers, of personalised running shoes

Running shoes are the largest selling category of sports footwear in the United States; however, only three of the ten major sportswear brands offer consumer footwear personalisation. Is there actually a demand for running shoe personalisation? If yes, are the foci of the current sports footwear personalisation services appropriate? In this paper these questions are addressed. Investigation of the current research in these areas revealed market potential for the personalisation of running shoes. Focus groups were then used to establish the appropriate focus of a service offering personalised running shoes; examining, in-depth, consumers' purchasing habits and relationships with running shoes. The findings suggest that the focus on aesthetics in current personalisation services is not well suited for consumers more interested in the comfort and fit of their running shoes. The importance of these factors also implies a need for a physical store based service, in direct contrast to the existing internet based services.

Salles, Andre S. (Loughborough University, United Kingdom)
Gyi, Diane E. (Loughborough University, United Kingdom)

The specification of personalised footwear for rapid manufacturing: a pilot study

Although rapid manufacturing has potential in producing personalised footwear, it is not known how best to measure feet in this context nor even whether a personalised shoe can positively affect comfort, performance and prevent risk from injury. A pilot study was conducted to define anthropometric measurement techniques for specifying personalised footwear and evaluate the most effective methods of measuring discomfort, performance and injury risk. Recreational runners were recruited and had anthropometric measurements taken as well as the plantar surface of both feet scanned. Participants then were fitted with footwear under two experimental conditions: control and personalised insole. The footwear were compared in terms of discomfort ratings, performance and injury risks. Metatarsophalangeal joint height and hallux height showed positive correlations ($p \leq 0.05$) with discomfort scores in the forefoot, whereas relative arch deformation showed significant positive correlations ($p \leq 0.05$) with discomfort scores in the midfoot and arch areas. No significant differences were found between the two conditions for discomfort scores and performance. With regard to injury risks, significant differences ($p \leq 0.05$) were found between the two conditions for midfoot peak plantar pressure. The results suggest that producing personalised insoles from scan data and the rapid manufacturing process is feasible.

Pallari, Jari (Materialise NV, Belgium)
Jumani, Muhammad (Newcastle University, United Kingdom)
Dalgarno, Kenny (Newcastle University, United Kingdom)
Woodburn, Jim (Glasgow Caledonian University, United Kingdom)

Rapid manufacturing of orthotics and prosthetics - is it a good idea?

This research presents the possibilities of creating customised orthotic and prosthetic products using rapid manufacturing (RM) processes, which show potential in improving lead times, quality, consistency and patient care. Research addressing the various technical, clinical and commercial aspects of orthotic and prosthetic devices and their production and how RM could improve the state of the art is presented in this paper. Limitations in the manufacturing technology and in associated materials and material properties research coupled with the conservative nature of the orthotics and prosthetics (O&P) industry has prevented these technologies from being adapted so far. Nevertheless, the right combination of RM technologies, new kinds of functional integration systematic design and engineering, proper clinical research and co-creation of the devices with the patient open up great possibilities to create a new generation of O&P devices that could have a major impact in the industry.

SESSION 19 CONFIGURATION AND CHOICE NAVIGATION: STRATEGIC ISSUES

Tuesday Oct 6 2009, 10:40-12:00, Room 2

Moderator Marko Mäkipää, University of Tampere

Piasecki, Michal (Bartlett School of Graduate Studies, United Kingdom)

Hanna, Sean (Bartlett School of Graduate Studies, United Kingdom)

Review of B2C Online Product Configurators

While business to customer (B2C) mass customization (MC) has been discussed mainly from the producers' perspective, researchers have reported a lack of sufficient literature examining the topic from users' perspective. This paper provides a review of configurators with user experience in mind. We first discuss terms related to configurators such as: "solution space", "product attributes" and "attribute values". We then propose definitions of terms such "personalization" and "customization", "modular MC" and "full MC" as well as the term "design". An outline of mass customization nomenclature frames the review of two distinct sets of configurators - a set of 55 configurators currently operating commercially and a set of configurators subject to experimentation to date. We find that while configurators operating commercially have a heterogeneous set of features, configurators subject to experimentation to date, by contrast, are characterized by relatively homogenous features. We also find that personalization of B2C configurators is a very rare approach. We conclude with an outline of features found in configurators available commercially, but not researched experimentally. We argue that those features demand empirical experimentation.

Fürstner, Igor (Subotica Tech, Serbia)

Anišić, Zoran (FTN, University of Novi Sad, Serbia)

Adaptive Product Configurator for Different Level of Customers' Knowledge

The paper presents the latest results of an ongoing project which deals with the development of a specific on-line product configurator in the field of thermal insulation of buildings. Based on the experience of a previous version of the developed configurator that was meant to be used both by users with average or no technical knowledge (B2C configurator) and by professionals with proper technical knowledge in the related field (B2B configurator), some problems have been recognized. The problems have arisen mostly because some of the previous non-professional users have found the product configurator too complex to use, because of their lack of proper knowledge about insulation and poor IT knowledge. On the other hand some of the professional users have found that the configurator lacked the possibility of defining exact and precise input parameters. The adaptive product configurator proposes a definition of the customer profile that is relevant to the area of investigation. Based on defined customer profile, three levels of input information complexity are defined (for "dummy" user, intermediate user and professional user). The type and amount of input information on one level is defined by a set of initial questions, based on which the customer profile is defined. The proposed solution is generated based on input data and built in logic. The results show that different levels of input data produce different structure of the configuration process and proposed solutions, both qualitatively and quantitatively, but that the differences could be acceptable considering the field of thermal insulation. The results also show an improvement considering the simplicity of handling and understanding of the configuration process as experienced by the user.

Haug, Anders (University of Southern Denmark, Denmark)

Hvam, Lars (Technical University of Denmark, Denmark)

Mortensen, Niels Henrik (Technical University of Denmark, Denmark)

A classification of strategies for the development of product configurators

Product configurators are a subtype of software-based expert systems with a focus on the creation of product specifications. Product configurators are increasingly being applied by engineering-oriented companies, which has resulted in many positive effects, such as reduced lead times, fewer errors, shorter learning periods for new employees, etc. Unfortunately, also many configuration projects fail because the task of developing the configurator turns out to be much more difficult and time-consuming than anticipated. In order to minimize the chance of project failure, it is crucial to apply the right strategy. However, the literature does not discuss different strategic alternatives in a detailed manner, but only provides generalised recommendations of single strategies. To deal with this issue, this paper defines three main and four additional strategies for the development of product configurators. The strategies are defined based on literature, seven named case studies, and other case experiences of the authors. The paper deduces the advantages and disadvantages of the individual strategies, and gives a general recommendation of which type of strategy to pursue in different types of projects.

Streichsbier, Clarissa (cyLEDGE Media GmbH, Austria)

Identification of De-Facto Standards for Designing the User Interfaces for Web Based B2C Product Configurators

In order to assess the usefulness of de-facto design standards as a guide for designing human-computer interactions, this case study attempts to identify if and which kind of design standards exist for web-based B2C

product configurators - systems that allow consumers to design their own products, and are characterized by a particularly high level of interactivity. Using the world's largest configurator database in combination with a grid-classification of different user interface designs, 126 such configurators in three different industries (electronics, apparel, automotive) are examined and made comparable. The case study reveals more differences than similarities, placing the usefulness of de-facto standards as a design guideline for human-computer interactions into question.

SESSION 20 BEYOND MCP: CO-CREATION & OPEN INNOVATION

Tuesday Oct 6 2009, 10:40-12:00, Room 3

Moderator Andreas Jaritz, Fluid Forms

Weber, Marcel E.A. (Altuition BV, The Netherlands)

Customer Involved Open Innovation

Presentation

Freund, Robert (Germany)

Multiple Competencies in Open Innovation Business Model

Open Innovation can be considered as an organizational innovation by which companies seek to adapt to environmental changes. Successful Open Innovation also depends on the open character of the business model. Therefore knowledge must be applicable to different, new, and complex situations and contexts. It is against this background that the concept of competency has attracted increased research attention. An introduction to the concept of Multiple Competencies is presented and it is argued, that the concept of Multiple Competencies is highly useful to develop a competency model for Open Innovation. Also a framework is outlined.

Wu, Juanjuan (University of Minnesota, United States)

Co-Design Communities Online: Turning Public Creativity into Wearable and Sellable Fashions

This observational research investigates co-design community features and interactions between the company and co-designers, as well as among co-designers on two websites (Zazzle and Threadless). Both websites invite their consumers to co-design their product offerings and provide a platform for co-designers to interact. Interactions and communications among consumer co-designers mark a critical departure from early co-design practices that relied on a one-to-one relationship between the customer and the mass customizer. As a result of this research, a three-phased framework for apparel mass customization is developed, along with three corresponding models that depict and predict the multi-dimensional interactions between the mass customizer and consumer co-designers, and among consumer co-designers.

Herd, Kate (Middlesex University, United Kingdom)

Bardill, Andy (Middlesex University, United Kingdom)

Karamanoglu, Mehmet (Middlesex University, United Kingdom)

X-ray specs, stickers and colouring in: Seeing beyond the configurator using design probes

The broad spectrum of research within the field of MC to date has done much to further knowledge relating to the practical implementation of designing and manufacturing custom, co-designed products. However, research into the customer experience remains limited. There is a need to understand both the nature of the co-design experience in MC, and how to design for it? The selection of research methods used to explore this area appears imperative in uncovering useful and relevant data and insights. This paper discusses the application of design probes as a research method for a means of exploring what the literature refers to as the 'multifaceted phenomenon' of customer experience, and introduces a research project using these tools for the construction of conceptual models.

SESSION 21 PRODUCTION NETWORKS FOR MASS CUSTOMIZATION

Tuesday Oct 6 2009, 10:40-12:00, Room 4

Moderator Frank Steiner, RWTH Aachen

Beyer, Stefan (Spain)

Poler, Raul (Spain)

REPLANET: Resilient Multi-Plant Networks

The REPLANET Project mission is the development of methods, guidelines and tools for the implementation of the Resilient Multi-Plant Networks Model in non-hierarchical manufacturing networks, characterised by non-centralised decision making. A resilient organization effectively aligns its strategy, operations, management systems, governance structure, and decision-support capabilities so that it can uncover and adjust to continually changing risks, endure disruptions to its primary earnings drivers, and create advantages over less adaptive competitors. The research will consider and balance both operational resilience and strategic resilience in the context of machinery and equipment global manufacturing networks; operational flexibility-agility, and strategic innovation-renewal. REPLANET model and tools will focus on the integration of the customer driven innovation influence in the products and manufacturing processes design, and the responsiveness to customised market demands of the related non-hierarchical global manufacturing networks processes under a real-time non-centralised decision making context. Theoretical research and related tools will be contrasted, validated, and enhanced through empirical cases (pilots) from different machinery and equipment enterprise networks which have multi-site and multi-nation manufacturing plants, as well as customers distributed around the globe.

Saiz, Eduardo (Ikerlan, Spain)

Bimatec-Soraluce REPLANET Pilot: Integration of a new product catalogue process generation and resilient supply network configurations for several customised demand scenarios and global manufacturing network conditions

In order to compete against low cost Asian machine tool builders, more than you it is becoming crucial to think about you do the relationship and commitment degree with critical clients and providers in the complete value chain; in other words, the resilience of the networked model that a company configures. Bimatec-Soraluce's main targeted sectors are General Machining and Subcontractors, Capital Goods, Railway industry, Power Generation and Automotive Industry. Its targeted geographical markets are concentrated in West and East Europe, including Russia and Turkey. Nevertheless, emerging markets demand (such as China, India) is increasing very significantly in recent years. Bimatec-Soraluce aims to offer a maximal customization degree to the market in its architecture. Actually, the dimension, variability and customization degree of this pilot, is reflected by a company with more than 500 different references and 3.000 components with technological complexity, nearly 100 providers integrated in the value chain, and 12 product families with more than 60 optional equipment for each product. Inside REPLANET (FP7-NMP-2008-SMALL-2) project, Bimatec-Soraluce pilot will work specially on 2 critical families of the 12 mentioned ones. Developments will be later implemented to the rest. Both families have a total production lead time bigger than the delivery time accepted from their markets. Therefore, production plans have to be established on the basis of demand forecasts. When customer orders arrive, machines in process must be assigned and reconfigured for each one. To do the assignment, some relevant information like similarity degree between orders and actual launched machines, machines process status, plants load capacity balance, plants capabilities, subcontracting availability or customer location needs has to be used. Customer requirements will be taken into account in machine modules customization (e.g. head group that fixes the precision and power of the machine). It comprises a technical complex problem including several types of technologies (mechanical, hydraulic, electrical) for product and process design. In addition, it is necessary to incorporate and manage multiple Bimatec-Soraluce network agents (suppliers, subcontractors, Danobat Group companies, technological centres) so much in the product/process co design with the customer as in the supply network resources design and management that will be activated to deliver the order in term and price agreed.

Ihlenburg, Dittmar (Festo AG & Co., Germany)

Bernas, Michael (Festo AG & Co., Germany)

Managing customer interaction in innovation processes with value creation networks

The article focuses on the following questions: How can the mechanical and plant engineering industry provide targeted application and solution knowledge on an electronic platform? What role do web services play in intelligent searching for application / solution knowledge and in efficient communication and interaction between providers and consumers of this knowledge? Draft results and experiences of prototypical use of THESEUS will be presented as an electronic platform for solution knowledge exchange for solutions in the mechanical engineering industry in the early stage of the innovation process.

Skjelstad, Lars (Norwegian University of Technology, Norway)

Armati, Andrea (University of Bergamo, Italy)

Borgonovo, Mattia (University of Bergamo, Italy)

Potential for Mass Customization in Norwegian manufacturing industry

One of the aspects of Mass Customization (MC) is to provide products or services that satisfy individual customer's needs and simultaneously meet manufactures' economic objectives. This paper presents results from a survey developed to 1) assess the approaches to realise and exercise the Mass Customization strategy, 2) to unveil the potential for MC within the companies, and 3) to ascertain the potential competitive benefits and improvements of strategic positioning of the company in its market place, achieved through the applications of MC principles. The survey is a questionnaire of best practices, divided in 5 topics (Production & Organization, Product, Administrative processes and ICT, Market, and People), sent to 343 Norwegian companies in different industries. The objective is to understand and analyze the spread of Mass Customization in the firms, and how they develop and improve their goods and services using Mass Customization principles.

SESSION 22 CAPTURING VALUE FROM MCP

Tuesday Oct 6 2009, 13:45-15:05, Room 1

Moderator Thorsten Harzer, RWTH Aachen

Seppänen, Marko (Tampere University of Technology, Finland)

Mikkonen, Karri (Tampere University of Technology, Finland)

Pynnonen, Mikko (Lappeenranta University of Technology, Finland)

Mass customization for advanced integrated ICT offerings to create systemic customer value

A previous study on the customer preferences of Quad Play offering case has shown that the ease-of-use, convenience and interoperability of devices produced in a total offering are as strong as or even stronger value components than price. These value components are not directly linked to any single source of value as a certain device or a service module. This phenomenon is referred to as 'systemic customer value'. As different customer preference classes eventually have shown up in the field studies, the paper demonstrates how mass customization approach can be utilised in creating systemic customer value for integrated offerings.

Ahoniemi, Lea (University of Tampere, Finland)

The potentiality of Mass Customization in Asian markets

Traditionally the Chinese culture is strongly labeled as a collective culture following the Confusian principles of harmony and loyalty. On the other hand China has been accounted among developing countries due the large number of population. There are existing large differences between the Chinese areas in economical, social and urbanization etc. point of views. Large cities alike Shanghai and Beijing follow tightly the Western style of living. There is also a growing number of well educated people willing to achieve more individualistic products than in earlier times. This study is analyzing the potential of mass customization in order to offer sustainable and effective solutions for the challenges of product development and delivery time. The systematics of mass customization developed is basing on the framework of mass customization studied in Finland 2007. The model of developing the process of mass customisation utilization in a company is named as a Mountain of Mass Customization. By following the steps of the model of McMountain can also the systematics be achieved more easily.

Petruzzellis, Luca (University of Bari, Italy)

Iudice, Domingo (University of Bari, Italy)

To brand or not to brand? That is the question. Branding issues in mass customized environments.

Mass customization is redefining firm strategies as well as consumer expectations and consumption. This paper tries to understand the trade off relationship between brand and mass customization, that is, to understand which of them is the antecedent. It aims to apply the hedonic and utilitarian value dimensions to better understand the brand effect which, on the one hand, could mitigate the effects that mass customization could provoke (i.e. the complete elimination of the brand), and on the other boost the positive and sensorial effects. The paper develops a series of research hypotheses on the brand effect on consumer choice and then a model that aims at measuring the consumer propensity to brand or mass customization and their reciprocal effect.

Ahonen, Mikko (University of Tampere, Finland)

Sources of Innovative Opportunity and Mass-Customisation - An Analysis of EMF & Health Business Area

Systematic innovation means monitoring changes in existing business structures and early entrepreneurs are often taking risks in entering a new business area. Currently one area of change is the EMF (Electro-Magnetic Fields) and

Health. Recently, several scientists, governments and the European Union have emphasised precautionary principle and indicated health risks in mobile phones, base stations and other technologies. At the same time authorities and the standard setting bodies (like ICNIRP, IEEE and WHO) do not officially recognise such risks. Within this paper we will inspect three health product companies. The Seven Sources of Innovative Opportunity, an innovation evaluation framework from Peter Drucker is utilised in evaluating these companies and their innovation activity. The emerging business models are inspected from the open innovation paradigm. Since this business area is new, we will demonstrate how crowdsourcing and mass-customisation toolkits could be utilised more effectively in the future.

SESSION 23 CONFIGURATION AND CHOICE NAVIGATION: SETTING UP THE SYSTEM

Tuesday Oct 6 2009, 13:45-15:05, Room 2

Moderator Tero Heikkinen, University of Art and Design Helsinki

Mäkipää, Marko (University of Tampere, Finland)

Effect of a sales configurator on sales work - analyzing different sales configurator configurations

In this paper we will evaluate the different alternatives for sales configurator and each alternative's effect on sales work. We will evaluate sales configurator as a social-technical system, whose optimization requires the combined optimization of the human and computing sub-systems (Forza and Salvador, 2007). We distinguish four levels of configurators: 1) primary, e.g. selecting options from pre-defined lists, 2) constrained sequence, e.g. following a stepwise path in configuration that reduces option alternatives after each step, 3) interactive, e.g. each selection reduces other option alternatives but order of selections is free, and 4) automatic, e.g. instead of directly selecting options of product customer define use-environment characteristics that are automatically transformed to product characteristics. Sales work we analyze as a knowledge process where one of the objectives is to transform customer need to a product configuration (an order). We use Carlile's integrative framework for managing knowledge across boundaries as a base for analyzing use of different level of configurators in sales work. In the end, we will evaluate pros and cons of each alternative.

Risdiyono (Universitas Islam Indonesia, Indonesia)

Koomsap, Pisut (Asian Institute of Technology, Thailand)

Crowdscreening: A Natural Selection for Mass Customization

One of the foremost competitive challenges of a mass customization company is how to set a proper solution space. Too many configuration possibilities (variety) can result in increased complexity which may lead to mass confusion. Hence, the success of mass customization company lays on how effective the solution space is specified. This paper proposes a new conceptual strategy adopted from natural selection theory to ensure that the solution space (population) of mass customization will contain only the fittest part variants which meet customer needs. A new term of crowdscreening, means "screening process by the crowd (an undefined and generally large network of people) in the form of an open call" is also derived. Part variants which are frequently selected by the crowd (fit to customers) will be kept in the solution space while the unpopular one will be taken out from the solution space. Hence, the complexity and variety of product can be reduced without sacrificing customer needs.

Krahtov, Konstantin (Open Experience GmbH, Germany)

Flexible Configurator for Production on Demand

Open Experience provides internet-based solutions for generation of highly individualized products. Unlike the current state of the art, where customers can mainly choose an individual configuration from a discrete set of possible options, these services open the way for a new customization approach. Free modelling possibilities ensure the exact specification of the geometries and proceeding operations for the realization of individual ideas and personalization details. Life production-relevant validation and realistic visualization guarantee automatically the correctness of the models. The integration with production control systems makes possible the production on-demand after ordering. Configurators based on this concept are realized for the high segments in the furniture industry as well as for some specific production operators.

SESSION 24 BEYOND MCP: CO-CREATION & OPEN INNOVATION (II)

Tuesday Oct 6 2009, 13:45-15:05, Room 3

Moderator Robert Freund, MAIBIS eG

Pater, Martijn (Fronteer Strategy, The Netherlands)

Co-creation's 5 Guiding Principles - a Co-creation 'crash course'

Want to do Co-creation? Here is how. Companies and organisations are searching for tools to help them win their day-to-day battles. They are faced with increasingly challenging questions: - Where to find future growth?- How to deal with the risk of commoditisation? - How to innovate from the core? - How to get - or stay - connected with customers? Our clients ask us: can co-creation provide the answer? Our answer: Yes it can, but as with many other solutions, co-creation will only truly deliver if it's done properly. Co-creation is more than just a tool; it is a program of change. With 8 years of lead-user co-creation experience, Fronteer Strategy has identified a few strong recommendations to anyone wanting to venture out into this area. In this presentation, or rather co-creation 'crash course', we identify different types of co-creation (suitable for different types of challenges), present 5 guiding principles for success, discuss the value of co-creation and present a number of inspiring cases from around the world.

Jaritz, Andreas (Fluid Forms, Austria)

Customer's emotions and personality as key factors of Fluid Forms' community based co-design approach

The challenges faced in involving customer's emotions and personality into a community based co-design approach by using intuitive product-design-tools and digital 1-to-1 production.

Hoftijzer, JanWillem (University of Twente, The Netherlands)

The Collaborative Design Lab (The Future Designer)

This paper concerns the description of a - to be executed - government subsidized research project (The Netherlands; IOP/ IPCR), that attends to the matter of co-design, and the creation of a collaborative design laboratory. People have an innate urge to participate in the design of their product, if only they are allowed to or have the opportunity to (Atkinson 2006, Constant 1969). These opportunities will appear more and more. Platforms as Nike's 'Nikeld.com' and 'Freitag.ch' allow people to participate in the design of physical products, by letting people choose from a range of options through so-called toolkits or configurators. Today people even 3D-shape their designs using online software (Ponoko.com). Regarding the current status of product co-design, the most interesting questions to both supplier and designer are: which products or categories fit co-design? Which aspects of a product are - if the user may say it - interesting to design or decide by yourself? How to facilitate the co-design process, depending on these issues? This research project's objective is to develop and deliver a 'generic toolkit' for product co-design. The industrial research plans contain a series of industrial pilots executed by the various consortium members, together forming the 'Collaborative Design Lab'.

Braun, Katharina (Vienna University of Economics and Business Administration, Austria)

Türtscher, Philipp (Vienna University of Economics and Business Administration, Austria)

Using feedback-process patterns of online user communities as a predictor for later market success of innovations

User communities are a widely-known means of user integration into the innovation process. Communities provide their members with the opportunity to exactly create what they need and to benefit from each other by freely revealing their innovations and by giving assistance. A crucial aspect of the innovation management process is the fuzzy front end, since at an early stage of the innovation process the prediction market success is very difficult but of fundamental importance. We suggest using the feedback process during the idea development phase as a means to predict market success. This shows a major advantage since it provides the opportunity to predict market success at a very early stage in the innovation development phase. Major theoretical as well as practical implications are set forth.

SESSION 25 PRODUCTION NETWORKS FOR MASS CUSTOMIZATION

Tuesday Oct 6 2009, 13:45-15:05, Room 4

Moderator Mitchell Tseng, HKUST

Oliveira, Nuno (LSE - London School of Economics and Political Science, United Kingdom)

Governing through trust in 'hidden innovation': networks, performance, and time

The network mechanisms of governance are the cornerstone of the innovation in the creative industries. This research addresses the lack of handful research on survival networks governance in the context of 'hidden innovation'. The suggested model explores the role of trust for the survival of governance among actors (e.g. architects and designers) in the design phase of the housing sector. This work contributes to the literature by separately analysing the network governance through trust according to both companies and clients. The discussion on the impacts of networks to performance is antagonistically grounded by both the determinism of the embeddedness strand and the versus strategic action strand. We adopt an inductive case-study approach. Conclusions highlight that 1) the participation of clients affects the dynamics of trust within actors, 2) trust affects the performance in terms of 'hidden innovation' measured by amount of environmental sustainable design features, and 3) the levels of trust change over the time. The emergent theoretical framework argues for the actors strategic action when interacting within network nodes.

Cho, Yasuyuki (Wacoal Corp., Japan)

Mutual Trust and Information Sharing - The Quest for Sustainability

Configuration becomes the key to MCPC. Consumers may not know what configuration is. From one practitioner's view we've started collaborative information sharing but not collaborative configuration building nor sharing with Consumer Customers yet. Preparing our sustainable business models to come we should be patient to provide enough background information related to Configuration accessible for Consumer Customer such as traceability on products.

Saiz, Eduardo (Ikerlan, Spain)

Castellano, Eduardo (Ikerlan, Spain)

Besga, Juan Manuel (Ikerlan, Spain)

Uribetxeberria, Jone (Ikerlan, Spain)

Customised Order Fulfillment in a Machine Tool Supply Network

The research presented in the paper attempts to help globalised organisations to identify alternative supply network configurations and management strategies, to respond to different customised order fulfillment demand scenarios within existing cost and time restrictions. A case study of a machine tool manufacturer is presented. The company has a global multi-plant network and imperative requirements for introducing flexibility in a market demanding products with a high degree of customisation. Machine tools have a total production lead time longer than the market time. Therefore, the machine manufacturing process has to start before customers orders arrive. When an order arrives, a machine that is in process must be allocated to it. Some relevant information is collected and reviewed to carry out this allocation. The path across the manufacturing network that the allocated machine is going to follow is generated, the point where customisation will be executed to reconfigure the machine to the specific order requirements is identified and the delivery time is communicated to the customer. The research shows how this information is managed to make the allocation and how a simulation tool is used as a decisional support system to identify better network design alternatives for the location of new plants, warehouses, or logistics platforms, under mass customisation scenarios.

Battezzati, Luigi (Politecnico di Milano, Italy)

Flexible configuration of BOM and Production Cycle Times for Mass Customization

Variety growing due to Mass Customization impacts on response time and product cost of each customer order. Often the customized products are unique and so it is not possible or it is difficult the definition *a priori*" of bill of materials (BOM) and of production cycles based on production experience. The BOM definition based on Modular Bills (MB) is easier to implement than the definition of production cycles. MB are basically a sum of customer requirements with constraints of compatibility: production cycles require the precedence constraints also. Predetermined motion times (PMT) can solving am problems and MOST is the most diffused worldwide. We are proposing a new model based on MB and PMT for realizing in real time a flexible configuration with product costs and response times.

SESSION 26 CEO'S REPORTS: SUCCESS STORIES FROM RUNNING A MASS CUSTOMIZATION BUSINESS

Tuesday Oct 6 2009, 15:30-16:50, Room 1

Moderator Sylvain Senecal, HEC Montreal Marketing

Goetze, Jan-Christoph (PersonalNOVEL, Germany)

PersonalNOVEL - Personalized Literature - Case Study

Presentation

Renz, Sven (Ertl/Renz, Germany)

Rutschmann, Dirk (corpus.e AG, Germany)

amisura | experiences from scaling up a shop-in-shop system for mass customized high performance sports shoes

The mass customization of shoes is one area which is in the focus of the academic and practitioners discussion since the beginning of the emergence of the basic concepts. Since these days we observed many different projects in this industry with different approaches and success in scaling these projects onto a mass level. We show in this case study the key factors and experiences of replicating a best fit based mass customization concept in a well chosen area of the shoe market, mass customized skiing boots, where we concentrate on one of the mass customization possibilities of individual fit and eclipsing the other main feature of style.

Yusel, Cermet (Certusoft, United States)

Certusoft Presentation: Customizing Fire Truck Dashboard and Frame Layout

When a customer requests the best product for a set of requirements and preferences, the manufacturer's response is usually a compromise between the engineering cost and its desire to sell. Engineering a product to exact customer specification decreases profitability and extends delivery schedule. The compromise solution to this dilemma is to pre-engineer a sufficiently comprehensive set of modularized components and to document all compatible combinations of components and their availability. The product is mass customizable to the extent that the requested configuration is already engineered and documented. It is the perceived necessity of pre-engineering and product documentation in the form of rules that lead to sales configurator as the ultimate solution to mass customization. This paper presents an alternative approach; Mass Optimization that automates sales engineering, creates the best product design on demand, and minimizes the costs and delivery delays associated with customization. Mass Optimization, driven by a Parametric Configurator, creates a new product configuration that not only meets customer specifications but also is the optimal configuration. This paper describes the application of Mass Optimization to Heavy Duty Truck Driveline and Chassis optimization at the point of sales.

SESSION 27 CONFIGURATION AND CHOICE NAVIGATION: CONFIGURING THE CONFIGURATOR

Tuesday Oct 6 2009, 15:30-16:50, Room 2

Moderator Tero Heikkinen, University of Art and Design Helsinki

Haug, Anders (University of Southern Denmark, Denmark)

Hvam, Lars (Technical University of Denmark, Denmark)

Mortensen, Niels Henrik (Technical University of Denmark, Denmark)

Lundvald, Susanne (Novenco, Denmark)

Holt, Peter (Novenco, Denmark)

Implementation of conceptual product models into configurators: From months to minutes

For years the use of software-based product configurators has produced a number of benefits for engineering-oriented companies. However, achieving such benefits can be challenging, and often configurator projects do not succeed. A main reason for such failures is that the tasks of developing and maintaining configurators often are very challenging and time-consuming. With a focus on reducing the efforts needed for development and maintenance of product configurators, this paper describes an emerging technology that makes it possible to automate the conversion of conceptual product models made by ordinary product experts into the knowledge base of a configurator, and the other way around. Thus, this new technology enables new ways of carrying out the tasks of configurator development and maintenance. This paper defines the new use patterns that the technology enables and deduces the possible benefits compared to existing approaches. To investigate if the new technology can fulfil its great promises, a case study is presented in which the technology has been applied.

Piroozfar, Poorang (University of Brighton, United Kingdom)
Popovic Larsen, Olga (Royal Danish Academy of Fine Arts, Denmark)
Piroozfar, Ghashang (Uppsala University, Sweden)

Mass-matching: Developing a quasi-game toolkit for a customer-driven design process in Building Industry

This paper investigates an idea of a game-like toolkit with which the customer is able to design their favourite composition or combination of a series of pre-defined or pre-designed modular components. The novelty of this idea lies where the modularity in its modern industrial concept in general and with special reference to its established interpretation in construction industry will be scrutinised. This will be done by considering the size range, the dimensional coordination and the interfaces whether it is between identical or different components; or between components and the embracing platform. The main aim remains to be the least interference possible with the customer freedom of playing and choice. However, despite many other manufacture industries, the construction industry is bound to many physical and functional restrictions. It will be argued that these restrictions can be minimised, should the toolkit be devised appropriately for the application in the construction industry both in the mathematical and geometrical sense.

Dressel, Günter (cyLEDGE Media GmbH, Austria)
Frühwirt, Wolfgang (cyLEDGE Media GmbH, Austria)

Open Toolkit - An Open Source Software System for Building Product Configurators

Presentation

Curteza, Antonela ("Gheorghe Asachi" Technical University of Iasi, Romania)
Kalaoğlu, Fatma (Istanbul Technical University, Turkey)
Heinen-Foudeh, Yvonne (Gerber Technology - A Gerber Scientific Company, United States)

Mass Customization for Persons with Special Needs

The life quality improvement issue is a problem of general and international interest. This acquires total different values when it is to refer to a series of disadvantaged categories that is (i.e.) the persons with locomotor disabilities. To improve the life quality of the persons with locomotor disabilities it is necessary to approach an inter/transdisciplinary integrative concept of design (design for all), which should conduct to the development of advanced materials and of highly functional textile products and personalized garments, oriented to the necessities of this disadvantaged category of people.

SESSION 28 APPLICATIONS OF MCP IN DIFFERENT SETTINGS: FINDING COMMON GROUND

Tuesday Oct 6 2009, 15:30-16:50, Room 3
Moderator Juanjuan Wu, University of Minnesota

Hou, Shengfan (Tampere University of Technology, Finland)
Lyly-Yrjänäinen, Jouni (Tampere University of Technology, Finland)
Sievänen, Matti (Helsinki University of Technology, Finland)

Managing the Long Tail in Homeware Industry - Understanding the Cost Considerations of Open Innovations

As it has been claimed, customer preferences are changing. Customers increasingly seem to demand larger product variety or at least that is something companies are offering. The concept of long tail is used for illustrating this large group of small-volume niche products. This paper is a descriptive case study focusing on a company offering homeware products (littala). The managers see the trend towards the long-tail products also in their industry. However, in homeware business, production batches need to be rather large to reach acceptable unit costs and, at the moment, there simply is not a technology that would enable mass customization. As a result, some other means are needed in order to increase product variety available for customers. This paper introduces marketing-based solution that enables "mass customization" in homeware industry. However, increased product variety easily leads to a situation where it becomes difficult to represent the product variety to customers; the customers are simply overwhelmed with the amount of products and can no longer see the forest for the trees. In order to avoid that problem in the case company, this paper shows an interesting analytical model for representing the product variety in that particular industry. In a sense, this paper introduces a tool that can provide a good starting point for customers when (1) searching for available products or (2) making requests for products not currently in the production. In addition, this paper also discusses the implementation process and the ways the case company is planning to execute the new business model.

Saari, Timo (Temple University, USA; HIIT; CKIR, United States)
Ravaja, Niklas (CKIR, HSE, Finland)
Salminen, Mikko (CKIR, HSE, Finland)
Rapino, Marco (CKIR, HSE, Finland)
Kallinen, Kari (CKIR, HSE, Finland)

A Mobile and Desktop Application for Enhancing Group Awareness in Knowledge Work Teams. Implications to Customized within Group Interactions.

In this paper we present a mobile and desktop prototype system and application for enhancing group awareness in knowledge work teams. The prototype gathers information from the interactions of the group within the application and analyses it. Results are displayed to members of the group as key indexes describing the activity of the group as a whole and the individual members of the group. The advantages of using the prototype are expected to be increased awareness within group possibly leading to positive effects on group performance. The prototype also enables the group members to more efficiently and successfully customize their interactions with others based on the data perceived through the use of the system.

Saari, Timo (Temple University, USA; HIIT; CKIR, United States)
Turpeinen, Marko (KTH; HIIT, Finland)
Ravaja, Niklas (CKIR, HSE, Finland)

Emotionally Adapted Games - An Example of a First Person Shooter

This paper discusses a specific customization technology - Psychological Customization - which enables the customization of information presented on a computer-based system in real-time and its application to manipulating emotions when playing computer games. The possibilities of customizing different elements of games to manipulate emotions are presented and a definition of emotionally adaptive games is given. A psychophysiological adaptive game is discussed as an example of emotionally adapted games.

Schumann, Christian-Andreas (University of Applied Sciences Zwickau, Germany)
Hoffmann, Karsten (Chemnitz University of Technology, Germany)

Conception of an Adaptive Efficiency Analysis for Mass Customization (AEAMC)

The conception of an Adaptive Efficiency Analysis for Mass Customization (AEAMC) builds on different previously defined dimensions, which are described by distinct properties of the entity under research concerning the level of detail, providing information about the preselected performance measures. Therefore, the conception consists of a module-, a perspective-, and an aggregation dimension. Different efficiency metrics can be evaluated using in- and output-related Key Performance Indicators (KPI) of the dimensional framework in addition with methods assessing the efficiency of performance (individual efficiency, perspective efficiency, module efficiency and premium efficiency). Upon the entered issue and depending on the degree of controlling requirements the dimensional framework can be adapted to the needs of each specific corporate management level involved and measurement of Return on Mass Customization.

SESSION 29 PRODUCTION NETWORKS FOR MASS CUSTOMIZATION: RESOURCES AND CAPABILITIES

Tuesday Oct 6 2009, 15:30-16:50, Room 4
Moderator Thorsten Harzer, RWTH Aachen

Chatzopoulos, Christos (Democritus University of Thrace, Greece)
Tsigkas, Alexander (Democritus University of Thrace, Greece)
Papantoniou, Agis (Technology Institute of Pireus, Greece)

An Approach of a Flexible Manufacturing Thinking System for Lean-Flow Implementation for Mass Customization Industries

Systems thinking for the development of a flexible manufacturing system supported by methodologies of agile manufacturing, is the premise of this work. This system will be a basic platform for implementing a lean-flow manufacturing concept for a large variety of industries. Its ambition is to decrease the time of designing, scheduling and executing manufacturing in a lean-flow fashion for Mass Customization environment. In a chaotic demand, the industries know the exact details for production a very short time, after the customized order. The cost and the waste of organizing and managing the utilities and the resources are very high. In this paper, a comprehensive theory is developed, taken as a basis for the development of an IT platform. The theory concerned is the first step in order to decrease the cost of production. Such an IT-tool will be developed in the future to generate a lean-flow Compatible product named Lean-Flow product generator.

Salvador, Fabrizio (Instituto de Empresa Business School, Spain)

Akpınar, Anıl (Instituto de Empresa Business School, Spain)

Rungtusanatham, Manus (Johnny) (University of Minnesota, United States)

Mass Customization Revisited: Disentangling the Effects of Resource, Routine and Relational Flexibility

Most of the empirical work on mass customization focuses on the effect of resource flexibility (i.e., the capacity of tangible and intangible assets to yield multiple outputs in terms of both number and heterogeneity) on the capacity of the plant to mitigate the tradeoff between customization and efficiency. However, an increasing amount of anecdotal and case-based evidence points out the need to explore the complementing role of both routine and relational flexibility in developing the mass customization meta-capability. Starting from this premise, our paper complements past research by exploring how routine and relational flexibility affect the relationship between resource flexibility and MC. We define routine flexibility as the capacity of a manufacturing plant to recombine flexible resources in order to acquire and fulfill differentiated orders, and relational flexibility as the willingness of plant personnel to listen to and comply with customer needs. We test our theoretically motivated hypotheses using plant level data from 238 plants located in 8 countries and operating within the machinery, electronics and transportation equipment industries. Empirical results show that resource flexibility complemented by routine flexibility helps plant to have a higher MC capability whereas moderating role of relational flexibility is found to be negative.

Sippola, Jyrki (Helsinki University of Technology, Finland)

Manufacturing needs more standards when the customer will have less

One challenge of personalization in mass production is how can unique products be built while the common belief is that quality is based on eliminating variation. This paper presents one manufacturing IT architecture and some guidelines used in the design. Target has been a design that provides good flexibility and maintainability of production system yet provides easy configurability and high product quality. The paper also presents a principle how the process control data can be grouped together depending on the use of the information and highlights why the standardization of manufacturing equipment control interface is a necessity for high-volume production.