PROCEEDINGS

of the 7th International Conference on Mass Customization and Personalization in Central Europe (MCP-CE 2016)

September 21 – 23, 2016 Novi Sad, Serbia

Organised by:

UNIVERSITY OF NOVI SAD - FACULTY OF TECHNICAL SCIENCES

Department of Industrial Engineering and Management

MY PRODUCT – Center for Product Development and Management

in cooperation with

Ministry of Education, Science and Technological Development of the Republic of Serbia,

Editors:

Zoran Anišić & Cipriano Forza

Published by:

Faculty of Technical Sciences in Novi Sad

Title

Proceedings of the 7th International Conference on Mass Customization and Personalization in Central Europe, MCP-CE 2016

Publisher

UNIVERSITY OF NOVI SAD – FACULTY OF TECHNICAL SCIENCES DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT 21000 Novi Sad, Trg Dositeja Obradovića 6, Serbia

Editors

Dr Zoran ANIŠIĆ & Dr Cipriano FORZA

Technical Editor

Nenad MEDIĆ

Cover Design and Prepress

Dr Ivan PINĆJER

Manuscript Submitted for Publication

01.09.2016.

Printing

Graphic Center GRID, Faculty of Technical Sciences

Circulation 100

CIP classification

CIP - Каталогизација у публикацији Библиотека Матице српске, Нови Сад

005:001.895(4-191.2)(082) 005.591.6(4-191.2)(082)

INTERNATIONAL Conference on Mass Customization and Personalization in Central Europe (7; 2016; Novi Sad)

Proceedings of the 7th International Conference on Mass Customization and Personalization in Central Europe (MCP-CE 2016) September 21-23, 2016, Novi Sad / editors Zoran Anišić, Cipriano Forza. - Novi Sad : Faculty of Technical Sciences, 2016 (Novi Sad : Grid). - [VIII], 284 str. : ilustr. ; 30 cm

Tiraž 100. - Str. [III]: Preface / Zoran Anišić. - Bibliografija uz svaki rad. - Registar.

ISBN 978-86-7892-84-44

а) Менаџмент - Централна Европа - Зборници b) Предузетништво - Иновације - Централна Европа - Зборници COBISS.SR-ID 308039175



PREFACE

With the 7th MCP-CE Conference upon us, we are looking forward to welcoming back old colleagues and friends, as well as many new participants, who want to share with us their knowledge and experience, in the field of mass customization and open innovation. We hope that you will, at the same time, have a pleasant time during your stay in Novi Sad.

We have accepted 40 interesting papers for publication, prepared by authors from 16 countries. The highest ever number of papers was not exceeded this time, however, with the focused choice of topics and quality level of papers will make this year's event certainly the most successful MCP-CE conference so far. We are also glad to note that the topics covered in these conferences show this field to be vibrant and dynamic. From the analysis of the topics it can be concluded that the interest in problems of configurators and configuration systems has not diminished, and there is a noticeable, growing interest in additive manufacturing and 3D printing, as well as in the product innovation process through customer or crowd co-creation, powered by social networks and platforms.

This year again, we have two more events running in parallel. The 1st iDEAlab Regional conference on Entrepreneurship and Open Innovation in University - Industry Collaboration, organized within the framework of the ongoing Tempus programme of the European Union, brings us a consortium of twenty institutions together with their partners from industry and university to discuss the most efficient ways of fostering creation of innovative products and services and encouraging entrepreneurship among students.

The other event is the 2nd Doctoral Students Workshop (DSW), organized by the MC-Ol Network in order to bring together young researchers pursuing their doctoral studies with the aim to focus their attention on solving the current problems and challenges in the field of mass customization and open innovation, guided by leading European experts in the field. The initial goal has been fully reached, and the 2nd DSW, now boasting twice as many participants as for the first workshop, will surely become a regular accompanying event with the MCP-CE Conference in the future.

It is always important to point out all the support provided by considerable number of companies. More importantly, this is not just a kind of one-time financial support for the organization of the conference, but the outcome of a long-term cooperation in various collaborative projects, whose results will be presented during the conference. This support is extremely important to us, because we are thus receiving positive confirmation about the quality of our work with the desire to give a significant contribution to the companies we work with. We sincerely hope that this publication will be a step in that direction.

Organizers:

University of Novi Sad - Faculty of Technical Sciences Department of Industrial Engineering and Management

My Product – Center for Product Development and Management

Scientific Committee

Chairman

Cipriano Forza, University of Padova, Italy

Committee Members

- Alessio Trentin, University of Padova, Italy
- Alexander Tsigkas, Democritus University of Thrace, Greece
- Cipriano Forza, University of Padova, Italy
- Danijela Lalić, University of Novi Sad, Serbia
- Dominik Walcher, Salzburg University of Applied Sciences, Austria
- Duško Lukač, Köln University of Applied Sciences, Germany
- Bojan Lalić, University of Novi Sad, Serbia
- Boris Tudjarov, Technical University of Sofia, Bulgaria
- Christos Chatzopoulos, Ashcroft Instruments GmbH, Germany
- Ivica Veža, University of Split, Croatia
- Ilija Ćosić, University of Novi Sad, Serbia
- Igor Fürstner, Subotica Tech, Serbia
- Maciej Piotrowski, UITM, Poland
- Marcel Weber, 3CI Customer Co-Creation, Netherlands
- Paul Blažek, cyLEDGE Media GmbH Vienna, Austria
- Petar Vrgović, University of Novi Sad, Serbia
- Robert Freund, Germany
- Valentina Gečevska, University "St. Cyril and Methodius", Skopje, Macedonia
- Zoran Anišić, University of Novi Sad, Serbia

Organizing Committee

Chairman

Zoran Anišić, University of Novi Sad, Serbia

Committee Members

- Nikola Suzić.
- Nenad Medić.
- Danijela Ćirić,
- Jelena Demko Rihter,

Financing and publishing of this Proceedings was supported by **Ministry of Education**, **Science and Technological Development** of the Republic of Serbia.

TABLE OF CONTENT

ASSESSING THE VALUE OF 3D PRINTED PERSONALISED PRODUCTS
Miroljub Arbutina, Srdan Mihić and Dragan Dinu TECHNIQUES FOR 3D HUMAN BODY SCANNING
Slavomir Bednar and Vladimir Modrak FINDING A SUITABLE DEGREE OF CUSTOMIZATION FOR PRODUCT PLATFORMS
Nikola Berdić, Srdan Mihić and Dragan Dinu 3D FULL BODY AVATAR APPLICABILITY IN CONSUMER PRODUCTS
Paul Blazek and Klaus Pilsl GUIDELINES FOR SETTING UP SUCCESSFUL PRODUCT CONFIGURATOR PROJECTS
Maria Mikela Chatzimichailidou and Dusko Lukac BUILDING ON THE EXPERIENCE OF SMART CITIES: ARE THEY SMART ENOUGH TO BE SAFE?
Danijela Ćirić, Jelena Borocki, Danijela Gračanin and Bojan Lalić METHODOLOGIES FOR MEASURING INNOVATION PERFORMANCES 49
Alain Debrot, Paul Blazek and Monika Kolb VALUE-BASED SELLING WITH THE SUPPORT OF CONFIGURATORS 58
Svetoslav Dimkow ASSESSING THE EFFECTIVENESS OF COLLABORATIONS BETWEEN COMPANIES IN INNOVATION PROCESSES – A REFERENCE MODEL
Miroslav Ferenčak, Mladen Radišić, Dušan Dobromirov and Aleksandar Kupusinac CUSTOMIZATION APPROACH FOR SME RISK ASSESSMENT 72
Paul Christoph Gembarski and Roland Lachmayer BUSINESS MODELS FOR CUSTOMER CO-DESIGN
Paul Christoph Gembarski and Roland Lachmayer IMPACT OF RULE-BASED SYSTEMS ON PRODUCT COMPLEXITY
Leontin Karl Grafmüller and Hagen Habicht THE VALUE OF MASS-CUSTOMIZED PRODUCTS. EXPLORING ITS PECULIARITIES FOR BUSINESS CUSTOMERS
Chiara Grosso, Cipriano Forza and Alessio Trentin THE USER NEED FOR SOCIAL INTERACTION WHILE USING ONLINE CONFIGURATORS: TOWARDS THE DEVELOPMENT OF A MEASURE
1(1)

Stephan Hankammer, Ning Wang and Jing Guo CONSUMPTION TRENDS IN GERMANY AND CHINA IN COMPARISON: AN EMPIRICAL CROSS-CULTURAL STUDY ON THE ROLE OF SUSTAINABILITY AND CUSTOMIZABILITY
Maike Hora, Stephan Hankammer, Luca Canetta, Sultan Kaygın Sel, Shirin Gomez and Stefan Gahrens A FRAMEWORK FOR THE DEVELOPMENT OF SUSTAINABLE MASS CUSTOMIZATION BUSINESS MODELS
Franziska Junker, Dominik Walcher and Paul Blazek ACCEPTANCE OF ONLINE MASS CUSTOMIZATION BY GENERATION Y 126
Dragica Koldžin, Vera Medić and Zoran Anišić SUPPORT OF INTERNATIONAL COOPERATION AS A SPECIFIC POLICY INSTRUMENT FOR IMPROVEMENT OF INNOVATION ENVIRONMENT IN AP VOJVODINA 129
Katrin Kristjansdottir, Sara Shafiee, Lars Hvam, Martin Bonev and Anna Myrodia QUANTIFICATION OF BENEFITS AND COST FROM APPLYING A PRODUCT CONFIGURATION SYSTEM
Bojan Lalić, Nemanja Tasić, Milan Delić, Andrea Katić, Ivana Katić and Branislav Bogojević CUSTOMIZED APPROACH IN ORGANIZING STUDENT INTERNSHIPS AT DIEM-FTS
Bojan Lalić, Nenad Medić, Milan Delić, Nemanja Tasić and Uglješa Marjanović OPEN INNOVATION POTENTIAL FOR AP VOJVODINA MANUFACTURING SECTOR IMPROVEMENT
Dusko Lukac and Maria Mikela Chatzimichailidou COMMON SENSE APPROACH AS A BASIS FOR SUCCESSFUL UNIVERSITY-INDUSTRY COOPERATION
Tim Mosig, Leontin Karl Grafmüller and Claudia Lehmann IDENTIFYING BUSINESS MODEL PATTERNS OF B2B MASS CUSTOMIZERS: THE CASE OF GERMAN TEXTILE SMES
Marko Orošnjak CONCEPTUAL MODEL OF CONTRIBUTIVE FACTORS IMPORTANT IN MASS CUSTOMIZATION APPLICATION: THEORETICAL VIEWPOINT

Marko Orošnjak, Mitar Jocanović, Velibor Karanović and Aleksandar Vekić TRANSFORMATION FROM MASS PRODUCTION TO MASS CUSTOMIZATION IN SOOBSTACLES AND ADVANTAGES	
г. с. 1.	197
Enrico Sandrin WHAT DETERMINES THE DEGREE OF PRODUCT CUSTOMIZATION? AN EMPIRICATION INVESTIGATION	AL
	201
Sara Shafiee, Katrin Kristjansdottir and Lars Hvam BUSINESS CASES FOR PRODUCT CONFIGURATION SYSTEMS	208
Lars Skjelstad, Børge Sjøbakk, Maria Thomassen and Ottar Bakås FRONT-END/BACK-END INTEGRATION IN MASS CUSTOMIZATION – A RESEARC FRAMEWORK	
	215
Zuzana Soltysova IMPACT OF INFEASIBLE CONFIGURATIONS ON CUSTOMER PERCEPTION IN TER OF MASS CUSTOMIZATION	MS
NI 1 0 1/ 0' 1 D 11 1 D 1/ 17 17 17 17 17 17 17 17 17 17 17 17 17	221
Nikola Suzić, Cipriano Forza, Alessio Trentin and Zoran Anišić THE STATE OF THE ART OF THE RESEARCH IN MASS CUSTOMIZATION IMPLEMENTATION GUIDELINES	
	226
Aleksandar Vekić, Marko Orošnjak and Milan Čosić USE OF BANKING MACHINES IN THE PAYMENT SYSTEM OF THE REPUBLIC OF SERBIA AS A PERSONALIZATION MODEL FOR BANKING SERVICES	
	236
Petar Vrgović, Željko Tekić and Vladimir Todorović OPEN INNOVATION IN WBC SMES: CROSS-INDUSTRIAL PERSPECTIVE	
Ning Wong Fronk Dillor and Vanliang Wong	245
Ning Wang, Frank Piller and Kanliang Wang CULTURAL COMPARISON FOR THE CUSTOMER PREFERENCE OF FEATURES IN ONLINE CONFIGURATORS BETWEEN CHINA AND GERMANY	
	250
Yu Wang, Congdong Li and Xiaoxia Cai THE GROUP PERSONALIZATION SUPPLY CHAIN DRIVEN BY CO-CREATION KNOWLEDGE	
	255
Marcel Weber EFFECTS OF CO-CREATION ON NON-PARTICIPANTS OF THE CO-CREATION	260
Marcel Weber and Alexander Oude Elferink	260
THE CX-LINER: CUSTOMER EXPERIENCE MANAGEMENT COMPASS FOR SMES	269
INDEX OF AUTHORS	
	276