

PREMIER REFERENCE SOURCE

HIGHER CREATIVITY FOR VIRTUAL TEAMS

DEVELOPING PLATFORMS FOR CO-CREATION



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Section I

Tests: Discovering Insights for Creative Success in Virtual Teams

Chapter I

Modeling Work Processes and Examining Failure in Virtual Design Organizations /

Steven P. MacGregor 1

Based on two industrial case studies this chapter models the virtual process observed in original and adaptive/variant design environments. Virtual problems or ‘failures’ are generated and examined using failure modes and effects analysis (FMEA), to develop insight into possible solutions. The suitability of the design field is shown for the study of creativity in virtual teams and the link between design, creativity, and business performance is discussed.

Chapter II

Creativity in Asynchronous Virtual Teams: Putting the Pieces Together / *Rosalie J. Ocker* 26

This chapter explores creativity within the context of asynchronous virtual teams. Using four experiments, Dr. Ocker studies how creative performance is affected by individual team member personality, team composition, and team interaction.

Chapter III

Educating Future Product Developers in Virtual Collaboration: Five Years of the E-GPR Course / <i>Roman Žavbi, Jože Tavčar, and Jouke Verlinden</i>	48
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The key resources for development are product developers, but it is questionable whether existing structures are appropriate for the education of such professionals. This chapter describes the European Global Product Realization (E-GPR) course program and reflections from the perspective of participating students and company representatives.

Chapter IV

Media Ensembles and New Product Team Creativity: A Tree-Based Exploration / <i>Roger Th.A.J. Leenders, Jan Kratzer, and Jo M.L. Van Engelen</i>	75
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In this chapter the authors conduct an empirical study of the media ensembles employed by 46 industrial teams involved in hi-tech new product development. They find that being above or below average cannot be explained by theories that focus on single media: the creative performance of new product development teams is a function of the media ensembles used.

Chapter V

The Building Blocks for Creativity in Virtual Teams / <i>Jill Nemiro</i>	98
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This chapter presents a model that outlines five building blocks for enhancing and supporting creative work in virtual teams. The five building blocks are—design, climate, resources, norms, protocols, and continual assessment. By building and maintaining each of the five building blocks discussed in this chapter, virtual teams may move to higher levels of creativity and ultimately success.

Section II

Tales: From the Battlefield of Virtual Team Practice

Chapter VI

Fostering Creativity in Global Virtual Teams: Conversations with Team Leaders / <i>Margaret Oertig and Thomas Buergi</i>	123
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This chapter presents insights from conversations with global team leaders on how to foster creativity in global virtual project teams in the field of product development. It shows how the leaders pay attention to team formation and managing the group dynamics in order to create a climate in which creativity will flourish.

Chapter VII

Rethinking Virtual Teams for Streamlined Development / *Andreas Larsson, Tobias Larsson, Nicklas Bylund, and Ola Isaksson* 138

Drawing from experiences in automotive and aerospace development, the authors argue that it is time to radically progress our current understanding of how creativity could be introduced in organizations where factors like legal demands and contractual agreements severely restrict ‘outside-the-box’ thinking, and where well-known creativity enablers such as trust, shared goals, and shared culture are becoming increasingly difficult to accomplish.

Chapter VIII

Enabling Creative Virtual Teams in SMEs / *Avril Thomson, Angela Stone, and William Ion* 157

This chapter describes, through four case studies, how a typical small and medium size enterprise (SME) achieved successful virtual team working within their organization. A “Strategy for Enabling Creative Virtual Teams” encompassing the processes, methods, and tools developed and implemented within the company to achieve this success is presented. Generic and transferable findings drawn from this study aimed at helping other SMEs, form the conclusion of this chapter.

Chapter IX

Virtual Teams and Creativity in the Mondragón Cooperative Corporation / *Javier Fínez* 180

In this chapter, a detailed insight is provided into three experiences of virtual teams from companies in the Mondragón Cooperative Corporation. Details are provided regarding the needs and opportunities behind the decision to set up the virtual team, the organizational structure adopted in each case, the dynamics incorporated to achieve higher creativity, and suggested practices that can put the reader on the path toward common drivers for virtual creativity.

Chapter X

Virtual Teams in Practice: Tales from the Battlefield of the Fuzzy Front End of the Innovation Process / *John M. Feland* 202

This chapter uses examples from the industrial and interaction design sector to examine the challenges of managing customer expectations, explore the membership dynamics of virtual teams, and suggest a new framework for assessing the progress of creative virtual teams—concept maturity. An example from the creative virtual team at Synaptics, the Red Dot Award winning Onyx mobile phone concept, is used to delve deeper into these concepts.

Section III

Tools: Unlocking the Power of Virtual Teams for Creativity

Chapter XI

Tools and Technology to Support Creativity in Virtual Teams / *Julian Malins, Stuart Watt, Aggelos Liapis, and Chris McKillop* 224

This chapter examines the ways in which currently available software applications can support the creative process in general, and designers, in particular, working in virtual teams. The chapter provides examples of tools, considering their strengths and limitations, and speculates on future directions for software development to support creativity and collaboration within virtual teams.

Chapter XII

Enhancing Flexibility in Dispersed Product Development Teams / *Preston G. Smith* 246

This chapter provides tools and approaches for being flexible to the inevitable changes in contemporary teamwork as creative teams proceed. These include ways of lowering the cost of change, anticipating change, isolating change, and maintaining options as late as possible. Such tools and approaches will help virtual teams working on highly creative projects to take advantage of their creativity without compromise.

Chapter XIII

A Spatial Environment for Design Dialogue / *Thomas Leerberg* 264

This chapter offers a spatial concept of the way virtual design teams communicate, work, and ultimately design. It is concerned with two problems that face creative teams today: (1) That the design process is carried out through a diverse range of digital media, and (2) That the digital tools used by virtual teams are not designed for virtual team work, which often limits the creative efficiency.

Chapter XIV

iCE: Interactive Coinnovation Environment / *Terry Rosenberg and Mike Waller* 279

This chapter looks at the way a virtual space may be built and used to facilitate group, team, and individual thinking in developing projects and also shaping practice in organizations where innovation is an important focus. The chapter describes the work being done to produce an interactive networked based ‘coinnovation’ environment (iCE).

Chapter XV

A Virtual Environment to Support the Distributed Design of Large Made-to-Order Products / *Robert Ian Whitfield, Alex H.B. Duffy, Alastair Conway, Zhichao Wu, and Joanne Meehan* 297

This chapter presents an overview of a virtual design environment (virtual platform) developed as part of the European Commission funded VRShips-ROPAX (VRS) project—where the design of an innovative passenger ship was the overall aim. The main objectives for the development of the virtual platform

are described, followed by the discussion of the techniques chosen to address the objectives, and finally a description of a use-case for the platform. The platform may be extended out with ship design to the creative development of any large made to order product.

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