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## WHERE ACADEMIC RESEARCH MEETS INDUSTRIAL APPLICATION - REFLECTING KNOWLEDGE EXCHANGE LOOPS FROM RESEARCH TO INDUSTRY AND VICE VERSA

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### *Background*

One of the major strengths of the ENTER conference series – or presumably its unique selling proposition (USP) - lies in the combination of the academic and the industry world. However, in order to really benefit from such mutual relationships, knowledge exchange processes between universities and their industry partners should be well understood so that they can be effectively managed and continuously improved. Thus, the goal of the ENTER panel workshop 2011 was to critically discuss knowledge exchange loops in the e-Tourism field, thereby trying to consider various industry standpoints (i.e. travel, tourism, ICT-branches) and concerns related to applied study fields (e.g. tourism, marketing, business informatics, etc.) or scientific disciplines (e.g. informatics, social sciences, engineering, economics, etc.). A total of **six panelists** largely representing these academic and industry sectors debated the core questions of “how well collaboration between research and industry works in the field of e-Tourism” and “what could be done to improve this cooperation”. Below, a summary of the panelists’ major assessments is provided.

### **1. Peter Starzacher - Technical Director *TISCOVER***

The most positive aspects arising from research projects jointly undertaken by academia and the industry was described by: 1) a significant “**gain of knowledge**” achieved through “highly specialized” and “neutral researchers” (i.e. without any interest to ‘sell something’) and, researchers typically consider “latest academic findings”. 2) Interestingly, also the opportunity to screen and recruit (i.e. “head-hunt”) future employees was highlighted. 3) The third major positive aspect was described by “**cost**” factors (i.e. “fix-cost reductions” due to public “co-funding”). With regard to critical aspects, Peter mentioned “**no finalized products**”, “**huge management efforts**” (i.e. reporting/reviewing) and a tendency towards too “**complicated project definitions and far-fetched solutions**”. In order to overcome these drawbacks, Peter suggested to adjust management expectations and to focus particularly on prototype development, thereby, however, guaranteeing a strong level of integration of own company’s development teams.

## 2. Jon Munro - Head Digital Marketing VISIT WALES

First of all, Jon fully confirmed the observations made by Peter. Additionally, Jon sketched major challenges for research in the field of e-Tourism from the content point of view, as follows: 1) to (prototypically) develop and test new approaches to improve “**customer integration**” (i.e. both, IT applications and business models). 2) To focus on research aiming at the development of analytical tools which enhance **data analysis** (and measurement metrics) to gain better knowledge from market transactions and customer behaviour. From a critical perspective, however, a challenging fact was emphasized, namely, that **time horizons for planning and executing research projects** typically differ between the industry (i.e. short-term)

and the academia (long-term). Finally, **internships** (e.g. student apprenticeships) were suggested as an ideal way to carry out joint research projects by the industry and academia.

3. **Markus Zanker** – Founder ConfigWorks; Prof. at *University of Klagenfurt*, Applied Informatics

Based on his prior experiences with applied research projects, Markus sketched typical expectations by the tourism and IT industry when it comes to academic research as follows: **clear answers and solutions, creative capacity not stuck in day to day business and new perspectives on hot/future topics/trends.** By contrast, the expectations by academia typically look differently: search for **interesting problems, understanding of problem relevancy, data and evaluation scenarios, project resources, reputation** and, finally, **job prospects**. Surely, such divergent expectations may lead to various ‘stumbling blocks’: As previously noted by Jon Munro, **project goals and planning horizons** typically differ between long-term (i.e. academia) and short/mid-term (i.e. the industry). Moreover, Markus assessed that research goals are often defined as too **ambitious and extensive**, thereby increasing the likelihood of a failed collaboration between academia and industry. At the same time, also **low-ambitioned projects** may lead to disappointment, particularly if carried out by not yet professional students. Finally, due to the **intrinsic goal to publish**, academic researchers are mostly interested in general, thus, generalizable solutions. By contrast, industry is particularly interested in very specific and individual solutions. Nevertheless, according to Markus, these drawbacks and goal conflicts could be minimized in the course of rather **small-sized and publically co-funded** projects (e.g. FFG, EU, innovation cheque, etc.). Finally, **knowledge transfer** activities, such as industry

workshops, project meetings but also academic publications may lead to positive outcomes, like increased employability of students, spin-offs, and, most importantly, more realistic expectations from applied research by both, academics and industrialists.

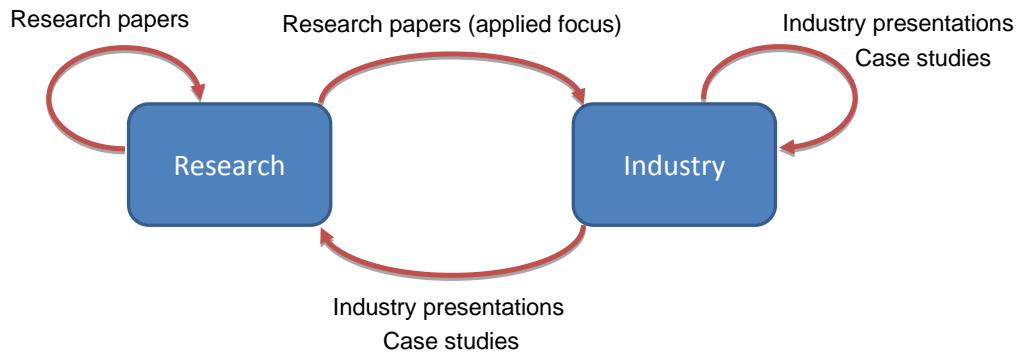
4. **Ulrike Gretzel** – Associate Prof. at *University of Wollongong*; Management Sciences and Tourism

Without any doubt, Ulrike first of all underlined the crucial importance of collaboration between academia and the industry, particularly for an applied study field like e-tourism. However, similar to Markus, she highlighted major institutional constraints when conducting research projects jointly by academia and the industry. Firstly, universities primarily pursue wide-ranging **education goals**, wherefore pedagogical institutions at the tertiary level behave very differently than industrial organisations. For instance, **work time in academia is clearly restricted to (usually two) semesters**. As a consequence, **students can be controlled by supervisors only to a limited extend** when they are involved in industrial research projects. Another critical issue stressed by Ulrike addresses the often relatively **weak competencies at university's cost offices and law departments**. However, accounting and legal competencies are crucial to efficiently enter up project costs among researchers, to correctly interpret guidelines of research promotion associations and to set up fair contracts. A final problem identified by Ulrike that imperils the collaboration between academia and industry is the relatively high share of **overhead costs at universities** ranging up to 40 - 50%. Industry partners typically can only commit to research projects that show a respective cost share of about 10 - 15%. To sum up, according to Ulrike, the success of research collaborations between academia

and industry in the future will clearly depend on how, particularly universities, can cope with the sketched drawbacks and on the establishment of long-term, strategic partnerships.

5. **Wolfram Höpken** – Prof. at the *University of Applied Sciences Ravensburg*; Business Informatics

Based on his prior experience with various research projects involving both the IT and the tourism industry, Wolfram made out a generally **insufficient understanding of the value and benefits** from research collaborations between industry and academia. This misperception can be observed in similar ways on both sides of the partnership and is reinforced by a lack of reciprocal encouragement and organisational awards. However, according to Wolfram, potentials for improvement could be achieved: 1) through the increased usage and exploitation of research results stimulated by a more effective knowledge management (i.e. **knowledge transfer**). 2) Through the dissemination of lessons learned (e.g. case studies) and the increased exploitation of industry experience by researchers. For the particular field of e-Tourism research, Wolfram referred to the ENTER conference series as an outstandingly positive example that builds on the symbiotic relationship between academic and industry research. Thus, the success story of ENTER could even be further strengthened by even more papers with a strong focus on applied research or IT applications, new “bridging sessions” devoted exclusively to case studies, or thematic workshops where research papers and industry presentations are discussed by both, industry and research representatives (see figure below).



Finally, when it comes to funding of applied e-Tourism research, Wolfram recognized **funding schemes that are very often too complex, bureaucratic or even unrealistic.** Moreover, funding is unequally associated with **financial risks for research partners.** In order to overcome this problem, according to Wolfram significant simplifications of funding schemes are required which would allow greater research and accounting flexibility, instead of pretending pseudo-accuracy. At the same time, academic research that actively involves the industry should more strongly be awarded by public funding.

## 6. **Francesco Ricci** – Prof. at *University of Bolzano*; Computer Science/Informatics

In order to reflect the status-quo of e-Tourism research jointly conducted by the academia and the industry, Francesco highlighted two anecdotic examples: 1) ***DieTorecs***, the first large-scale project on recommender systems in Europe. Although substantial scientific and practical results emerged, the system was not immediately implemented by the industry due to a resistance to consider the ranking of a query. 2) ***etPackaging*** financed by the eTourism Competence Center Austria: a recommender prototype was developed for Austria.info, but again, although the technology was successful (and the paper was awarded as best paper in vol. 11 of *JITT*), the

industry partner decided not to adopt it. Thus, according to Francesco, developing a shared **awareness of the problem relevancy and the applicability of research results** must be considered as the major issue to tackle. Moreover, industries are often not able to figure out what they really need or will need in 1-2 years. This lack of “problem awareness” is particularly strong for small-sized tourism businesses. At the other side, also researchers can easily generate technical or business problems and solutions that may not be useful. Thus, Francesco recommended that researchers should offer more **mature solutions** rather than continuously “throwing” new prototypes, since understanding the real technological and economic potential of new solutions is not an easy task. Moreover, industry and research partners should **develop and share a common language to understand and trust** each other. However, since there is an inherent **goal conflict** between researchers (i.e. **produce top publications**) and industry representatives (i.e. **increase competitiveness, profitability, etc.**), they should know and accept these different types of objectives. Nevertheless, the publication goals can lead to the situation that some researchers may implement solutions just to be able to publish a paper (e.g. in low profile conferences). Thus, in order to avoid this, Francesco suggested that these guys should better use existing solutions/applications and only deal with details. Francesco summed up his panel speech by the general notion that only if one is able to **correctly define the problem** also really useful solutions (i.e. IT applications) can be found (i.e. developed).

### *Conclusion*

By considering various academic and industry standpoints, the goal of the ENTER 2011 panel workshop was to critically discuss knowledge exchange loops in the field of e-tourism

research. Both, from the panel talks and the subsequent forum discussion an impressively high and varied number of potential success factors for e-tourism research emerged. If somewhat condensed and hierarchically ordered, they range from the “need of a shared awareness of the problem relevancy and the applicability of research results”, “too ambitious and far-fetched project goals” to the necessity to consider inherent “goal conflicts” and “differing planning horizons” by the academia and the industry. Moreover, although “cost reductions” can be achieved particularly in the course of publically co-financed research projects, excessive “overhead costs” at universities were detected and criticized. Finally, “bureaucratic and too complex funding schemes” were identified as major stumbling blocks behind applied e-tourism research.

To sum up, these interesting insights gathered in the course of the ENTER 2011 panel workshop may help to better understand critical areas of collaboration within applied e-tourism research and, thus, likely contribute to an improvement and a more effective management of knowledge exchange processes between academia and industry. These results, however, could only be achieved through the valuable input from all the invited panelists and the enthusiastic feedback delivered by the forum participating at the panel discussion. A big thank to all of you!