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# Integrating Corporate Competence with Real Cases into Higher Education Curriculum

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*Abstract*—**Industrial competence and real business cases can be great attributes to higher education curriculum. For engineering higher education, there is a need for these attributes, not only to enrich the curriculum, but also to reduce the gap between theories and practices. An innovative teaching approach is integrating these attributes into off campus industrial lectures conducted during company visits. This paper writes about implementing and learning experiences on such off campus teaching approach at Østfold University College (HIOF). The paper documented students´ surveys, feedback and reflections on their off campus industrial lectures, and stated great learning outcomes through real company cases.**

*Index Terms*—**off campus teaching approach, corporate competence, company case.**

## I. INTRODUCTION

For professional higher education there is always a need for good matching between theoretic and practical approaches. This is also a challengeable task for many education institutions due to different natures of both approaches. The theoretic approach is by nature, required and based summarized research outcomes with general knowledge for universal cases. On the other hand, good understanding of the general knowledge needs to apply into specific cases, often with modification and practical implementations. University college graduated students need to learn how theories are used in the practical working life. The industries need what they called Day-One engineers, whose can quickly become company contributors among the first days.

Teaching and learning in higher education face nowadays the similar challenges as other industries and businesses, namely the requirement of efficiency and service demanding. The quality requirement for teaching is increasing and so does customer's, thus student's demanding. It is an essential task for every professor to motivating students' engagement in a subject, about all reading curriculum and learning updated knowledge.

 UNESCO defined four pillars of learning: Learning to know, Learning to do, Learning to be and Learning to live together [4]. The future education curriculum is therefore not one of these, but combined all of four as a sustainable and complex whole. Other studies found the benefits of bring the real life experience into teaching [3], combining work and study [5], stating the need of various styles on lessons for learning outcomes [1] and practicing internal ship placement at the industries [2].

Teaching in higher education is no longer merely emphasized on researching and exploring knowledge solely, but also emphasized on integrating with other actors, disseminating and educational outcomes. With this new emphasis, the idea of moving classroom out off campus, combining and teaching higher education curriculum by integrating corporate competence might provide a new and beneficial teaching option for higher education. This idea has been tried out throughout one study case carried by Østfold University College (HIOF) incorporated with regional business community and industrial commerce.

## II. THE INITIATION OF INTEGRATING CORPORATE COMPTENCE PROJECT

Østfold is a tiny county in southeast of Oslo, capital of Norway, with a good infrastructure and well-built logistic access to European continent, results a nature fundament for business activities. There are over 20000 registered business companies mainly small and medium size enterprises (SME) in the county with large variety types of business and significant production outputs. This business character contributes positively to integrating of corporate competence for higher education curriculum. A good network links the university college and business communities and there is a short distance between them both in personal and in geographic aspects.

The regional business community, represented by the Confederation of Norwegian Enterprise (NHO) is a good supporter for this integrating corporate competence into engineering curriculum. They assist extensively the university college for establishing contact network and coordinating the education needs with corporate competence throughout selected companies.

Other networks including few research programs are also contributing for bridging the university college and few participating companies. The general responses from local industries are positive and overwhelming. There are two particularly relevant industrial sectors noticed, one is packaging industries and the other is plastic industries involved into research networks. Both represented an uprising trend for regional industrial development, so integrating corporate competence is also updated.

Both mentioned industries are all highly production focused with a great variety of products and this character matches perfectly our educational need, thus learning by industrial cases. Some products are easy and simple to illustrate as packing industries where products are normally confined by sizes, colors, features or dimensions, while others require more detailed and basic knowledge, as plastic industries where most products composited by variety of different chemical or material components, and their production processes are rather complex. However, the combination of packing industry and plastic industry will

match perfectly for the need of a great variety of different industrial cases for teaching purpose.

## III. THE PILOT PROJECT AND SELECTED COURSES

HIOF initiated a pilot project in 2009 for realizing this practice. Over 30 regional companies were asked for joining this pilot project and contributing the competence to higher education curriculum. Half numbers made commitment to the pilot project and appointed their key coordinators to collaborate with the university college. Most companies valued highly and appreciate truly their roles as university partners. Many company managers have high real working life competence and industrial expertise, matching perfectly for off campus teaching for selected university courses, such as "Product development", "Industrial marketing", "Production techniques", etc. These majors are systematization and theorization of cases and tasks of real life tasks or projects from industry.

Most companies appraised highly the preparing work for their lectures, not only fostering on presenting and promoting their firms, but also more academic and detailed knowledge for teaching. Many companies appreciated afterwards this academic approach, saying they have been also benefited for own needs, so that they are able to summarize and reflect their daily tasks systematically on an academic and different level.

## IV. THE ORGANIZING OF COMPANY LECTURES

These off campus company lectures are organized as a part of ordinary teaching curriculum. One sample is a HIOF course in "Product development", one of few initiatives during the pilot project. Figure 1 shows the organization flow chart of this course content by topics and activities. The course is 10 ECTS (European Credit Transfer System), roughly equal to 100 hours lecturing. The course is teaching students basic knowledge and skills in product design methods. The lecture activities include, by time order and circa hours, 10 hours for self-selected cases for student projects (motivation), 20 hours of theoretic lectures for methods (basic knowledge), 15 hours self-selected cases for group project (cooperation skills), 10 hours, equally 2-3 visits in companies with industrial lectures (see real life cases), 10 hours for writing individual reflections (self-learning), 15 hours conducting real life cases for appointed companies in groups (practicing real skills), following another 10 hours new company visits with industrial lectures (new cases), then 10 hours preparing or coaching for final project presentations.

The company lectures represent 20 percent of total lecture time budget and these lectures are scheduled at middle and end of teaching period. This was carefully scheduled since the students must learn basic knowledge of product design before they see company cases. It is also beneficial to schedule reflection and let the students try out real cases before they visit another companies and learn more real cases to enrich their own learning results.

A typical company lecture is combined 1-2 thematic lecture in one hour for visiting students. The thematic topics are usually selected from the company´s daily business tasks, for instance, showing a case product, designed or developed by the company, presenting the history and working processes of the case, summarizing why this product was needed and how the company seeks the po-
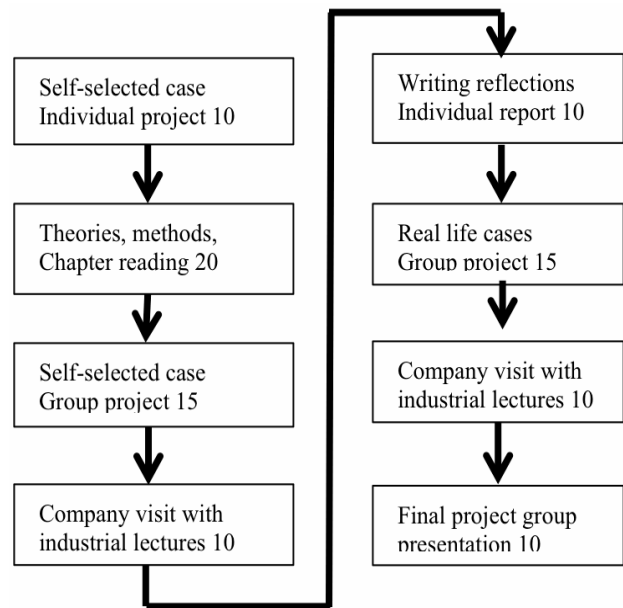


Figure 1. The organization flow chart of HIOF course Product Development in hourly lecture relevant activities

tential market or collaborates with clients for product specifications, explaining how the product design must be coped with production framework. In this way, the product development process with every step is well illustrated as from a holistic aspect.

From a learning process point of view, this actually is a case study with local context. For many students, cases in prestige textbooks are selected from other countries than Norway, most likely USA or UK, and these cases seem to be unfamiliar and lack of local context for Norwegian students and hard to learn. Company lectures contribute the cases with local context bringing a great advantage compared with cases from textbooks. It is easier to learn company cases since everything is in local.

One essential part of learning session is a plant tour combined with company lecture. The plant tour is meant for visualizing thematic topics, explaining every technical detail much better than any sketch compared with a textbook. Figure 2 depictures a plant tour starting in a product showroom so the students can see and touch different product samples, in this particular company visit, different packages. The tour is also taking students into the production plant showed in figure 3 and the tour is showing the students how packages are produced in the reality. Though the company lecture topic was product development, the students need to learn the whole process including production plant to understand inter-dependent steps of the whole product development process.

A long term positive effect of company lectures might be bridging the gap between theories and practices. Nowadays many students are directly from high school with no working experience. Therefore, company lectures are good options to be getting familiar with real working life, and learning the industries. Most students appreciate these options and left positive feedback for the visits. There is however variety among learning outcomes when checking how students cope methodology issues in the plant comparing in the textbook.

Figure 2.   A plant tour starting at a  product showroom so students can see and touch different product samples



Figure 3.   A plant tour in production plant to learn the product development as a whole process with manufacturing

## V.   THE PROJECT'S EDUCATIONAL DEVELOPMENT, LEARNING AND ACADEMIC OUTCOMES

One open and challengeable question often asked by that many higher education lecturers, is how to motivate college students to study their majors enthusiastically and guide their learning interests towards teaching materials. There is usually a barrier between theories and practices and demonstrating theories through case studies or practical examples is a common teaching approach. There is also a need in exemplifying "standard" curriculum to local context or with own interpretations. Currently many engineering higher education prefer to use English textbooks as learning sources. Still, this might bring some challenges or difficulties for none-English speaking students to read and understand learning materials efficiently. The current HIOF pilot project for company lecture has a great advantage to lecture students many specific and practical business cases and samples, especially cases generated from local businesses where students are able to recognize both the companies and their products.

A student evaluation of the course is a best barometer indicating direct responses on lecture outcomes. One standard question in qualitative surveys is asking students state three most positive elements or activities throughout the course "Product Development". They can state any

TABLE I.
MENTIONED FREQUENCIES ON COMPANY LECTURE        BY STUDENT SURVEYS AMONG 3 BEST COURSE ACTIVITIES

| When survey undertaken | Number respondents | Frequencies company lecture mentioned |
|---|---|---|
| 2013 Fall | N=6 | 1 |
| 2013 May | N=15 | 3 |
| 2012 Fall | N=19 | 1 |
| 2012 May | N=7 | 1 |
| 2012 March | N=4 | 0 |
| 2011 Fall | N=15 | 0 |
| 2010 Fall | N=12 | 1 |
| 2013 Fall | N=6 | 1 |

elements they prefer so the variety in different elements or activities can be great. However, the term "company lecture" activity was mentioned as a positive element almost in every surveys showed in table I, except surveys in 2012 March and 2011 fall. This was probably because both surveys designed own separate questions asking for students´ feedback on their company lectures, so the issue was covered by own separate questions and answers.

Though these surveys might not provide sufficient statistical data for a significant quantitative analysis, the student comments, their reflection notes, and direct class feedback during the classroom lectures all indicate they prefer varying forms of the lectures and presentations. A best learning option is a combination of company visits, theme based industrial lectures, as well as self-organized study, supplemented students own case projects.

## VI.   THE REFLECTIONS ON COMPANY LECTURES

The course evaluations by students also confirmed the positive learning outcomes of company lectures. The few narrative quotations are extracted from the students´ evaluation surveys and their reflection notes. Some appraised the motivation and variation elements as the quotation below stated:

*I think it's great for company visits. It's exciting and it's fine with little hours where we do not just sit and read. It's very interesting to see how the theory works in the real workplace.*

The company visit was valued by this student as the best combination of theory and practice, so the student can see theory works in practice, and the further theory learning is even more motivated. The lecture form was also varied so students not just sit and read, but also see and ask so the variation is great for the leaning process.

Other students might experience the company lectures as understanding of a holistic working process, as one of students wrote about:

*Very interesting company visits, it has given me greater insight into the process. This company was probably the company that managed to put the theoretical process more in place. It may be that they work more administratively (marketing/customers) and are more focused on this part than a manufacturing company, which is more focused on the work being done in production.*

The company mentioned above was a typical product design company focused more on customers and market needs, though the company is also responsible for product delivery, but throughout a contracted and outsourced pro-

duction subcontractor. Throughout this company visit, the students have learned basic knowledge about the company´s business process strategy by contracting away a heavy part but focus on the best competence in design.

The company lectures are organized separate periods, showed in figure 1. The first period plans 2-3 company visits in fall semester and another 2-3 company visits in spring semester. This was scheduled in a thought of learning curve aspect, that the students might need time to appreciate and understand company lectures after first period, the learning outcomes will be even better for second period.

The students have participated in the company visits combined with business lectures that showing how theories will work in practice through real business cases. The students can see and learn about the companies and the products and working processes in these companies, observed how things worked in reality, so they are motived to learn more knowledge and perhaps being engaged more professional commitment later study or career stages.

There are students whom appreciated the company visits with lectures and consider such industrial lectures as increasing level and interests of the study. They express the wish and demand on similar arrangements in a later stage:

*Company visits and industrial case presentation is very interesting. This means that we'll see what we learn about put into practice. This raises the level of and interest in the subject very much. It had been even better if we could have arranged a site visit in the course of six months.*

As the students obtained more knowledge from their company lectures, they are able to reflect and compare with different companies and cases. They have learned the different real business cases in details or procedures, so they are even obsessed by what they are leaning. As a quotation below indicated a student stated what were most interests during the visit, but also what wished to be done a better planning for company lectures in future:

*I think it is very useful, especially visits to this company. The fact that they tell about their 3 of 9 product development is intriguing. It is also interesting to know how the procedures work in different businesses. To do this better, it should be time for preparation in advance. Get a brief glance of what your business is doing and what ways they are working on (view it possible). So we are more prepared for the visit and can be even more involved and possibly the questions or indeed understand more.*

A great advantage on the mentioned company visits is that they all are located very close to the university college geographically, and their products are consumer based, easily recognizable for common people and some are well known by local people. For instance, a packaging industry shows their products of cardboard packages for frozen fish, juice or bike helmet, etc. all recognizable for average people. This makes this business lecture very accessible, understandable and touchable for the students, what we usually called down to the bottom lines. All these elements contribute positively to involvement of student discussions on pedagogical and professional items. These business lectures also contribute positively learning process and this has been stated by students´ learning reflections as one of these quoted below:

*Of the things I think is great about lectures / lessons, I particularly like to highlight guest lectures and company*

*visits we have been, they have helped me very much and been fun, interesting and educational. This has resulted in not only have we learned various views on product development, but that we can actively take this with us in the companies we work in, compared to what I first thought about the subject I have now seen that the product is more than just the idea, it is the process involved.*

The student has also reflected own learning process and came up with a good understanding of a product development process is not just an idea, but a process involved. This experience and appreciation for company lectures is accounted as an important part of understanding of the theories and specifications, which again, makes the student well motivated to learn more.

In a textbook, the topic might be divided into different chapters, so each chapter will structure the content, such as design, concept, manufacturing, market and brandy management, sales and client relations, etc. In a company lecture, these topics can be easily combined and presented through one or two real cases, as the quotation from one of students wrote comments after visiting a candy and nuts company:

*Company visit we had was Company B (candy and nuts producer). They are the manufacturer of candy and nuts, and it has else few more brand products its portfolio. Here we had a lecturer who talked about how to makes product development to keep pace with the market. I understood it so that the industry as they are, it is vital to constantly introduce new products or further development of existing products to maintain its market share. We also received a tour of the production of the factory. It was instructive to see how the process worked from the nuts as raw material came to the factory, and then were packaged in bags for sale.*

The reflection note indicated this particular company lecture has contributed the students not only generally basic knowledge and product specifications, but also an overall picture of how the business process worked and developed in a real world, including market, brand, manufacturing and packaging. This is a confirmation on a good pedagogical approach that any other theoretic textbooks might have difficulty to match in disseminating content for students.

Overall, the summary of student direct feedback and learning reflections confirmed positive learning outcomes of integrating corporate competence into higher education curriculum. The positive learning outcomes are many as the students own statements, lifting motivation, holistic view, engagement, understanding details and the whole process complexity.

## VII. THE OPEN AND DIGITAL LEARNING RESOURCES

This pilot project has few other missions to practice as well, and one is crating open learning sources and unlocking lecture materials available for public access. This practice was encouraged and required according to Open Education Resources (OER) principle [6], widely applied through MIT open courseware (OCW) practice [7]. The practice has however experienced some real challenges, for instance, finding a good balance between displaying most detailed knowledge from a real business case in order to provide best lecture materials for educational purpose versus intellectual properties (IP), or simply retention or protection of confidential business information in a

highly business competitive situation. Most companies are normally reluctant to disclose their technical details in concerning other competitors. At the same time, more and more companies realized a fact that public education might be the best way for promoting their business or solutions for the society.

For best balancing, the project has experienced mutual involvement is a must for both sides, that the university college teachers need to learn real business cases first to pick up the best available for education purposes. The company partners need to review their real business cases in details and disclose the most relevant one for public.

During the pilot project, all participating companies are encouraged to contribute their lecture materials open online for public access. Half of the companies have executed this practice and approved permission to publish lecture notes openly throughout the internet. It has been a very positive experience in collaboration with companies for publishing their lecture materials open online, and the company´s positive attitudes can be noticed even more positive and open than many academic colleagues when discussing the lecture materials published open online.

The pilot project has another intention to establish an industrial and business network for the university college in knowledge updating. The idea was collecting and updating fresh knowledge generating by industrial front lines. This knowledge base functions also as a database for all contributions and lecture materials given by the companies, so the university college is a mutual and neutral platform for many business partners. This goal was achieved to some extend as throughout this pilot project, a number of companies are becoming the university college´s partners and they meet each other during the business platform arranged by the university college, for instance, through business breakfast meeting.

## VIII. THE PROJECT KNOWLEDGE DEVELOPMENT

The summary of this project on the use experiences show the positive knowledge development in collaboration with industrial partners, specifically through integrating topic based lectures and using industrial competence into college teaching curriculums. The project is a dynamic process that involved many industrial partners within network which can be rewarding for different partners and directions. As a result, a teaching curriculum is updated by fresh knowledge and contributions from industrial partners. The students learned and renewed the updated knowledge by industrial competition in front lines.

On the other hand, there is also a positive element for invited and involved businesses partners whom work or refresh their daily tasks or their products in academic and systematical approaches, which again benefit their product and case presentations for guest lectures. The major beneficial group will be college students whom obtaining specific, useful and interesting cases and theme-based teaching curriculum directly picked up from real industrial cases.

The region´s geographic location made a nature competitive advantage for doing this teaching approach. Østfold is traditionally an industrial region of Norway, including many business companies with their own expertise in a great variety of disciplines. One of the great advantages is relatively fresh and quick updating knowledge and technology in these business companies, which again,

can contribute as an important supplement to college education. The university college takes advantage on this, and legislate it into the strategy plan, defining this approach as an important task in knowledge development and cooperation with regional businesses.

There are however challenges during the operative actions. Involving in partners often have their own daily tasks, priorities, procedures, not least, a working language, and thus requires a considerable efforts on tailored design for detailed teaching hours and particular company visit.

The overall experiences on this issue are getting student companies visits are often a simple matter and easily accomplished, but getting student company visits with theme-based instruction in business with a specific case from company required more often much more. It required the business partners and companies must think "academically", when they prepared for the guest lectures and focusing on explanations of theoretic approaches, such as questions of "how and why we do so" than only "what we." It requires considerably balancing efforts in disclosing detail knowledge versus retained corporate confidential information on industrial lecture content and materials, and even more demanding, publishing the lecture materials in open internet available for everyone according to OER principle and MIT OCW practices.

## IX. THE PROJECT CONCLUSIONS AND OUTCOMES

During this pilot project, off campus based company lecture was introduced as a supplement teaching means and experimented throughout few selected HIOF courses. The project main stockholders are the university teachers and students whom wish to improve teaching approaches to achieve better combination of theories and practices. The contributive actors are company partners with industrial lecturers contributing their real business cases, their life experiences and competences, as an integrated part of teaching curriculum.

The overall objectives was reducing the gap between theories and practices, furthermore, focusing on learning outcomes and better understanding of how methodologies applied in a real world. Throughout the experiences and knowledge collecting, the pilot project might come up with following conclusions:

- There is a need and wish from students for seeing more practice based teaching approaches.
- The industries and society are also looking for candidates with practical and real skills in addition of theoretic analysis skills.
- Off campus based company lecture is a motivated and beneficial teaching option for college students.
- The company lecture materials are good supplement and interpretations for theoretic methods in the textbook.
- The students are better motivated and engaged in the subject during and after company lectures.
- The university and industrial companies need to collaborate together and joint develop company lecture material best available for the students.
- A SME (Small and Medium Size Enterprises) environment contributes positively a great variety in company lecture topics and real cases, again benefits off campus lectures greatly.

- University teachers need to be leaners, to speak and understand industrial languages and have good dialogs with industrial partners in order to achieve this collaboration.
- Once the collaboration succeed, the beneficial parts will be shared by all stockholders, as the students will obtain better learning outcomes, the university will access supplement lecture materials and the companies will present their competence and real experiences in a systematic and academic way.

The higher education curriculum needs to be updated and debated continually in order to keep the learning content fresh. There is an academic debate on balancing of knowledge acquisition versus knowledge production as requiring work loading for college students and it seems to be hard to get everyone being agree [8]. The alternative off campus company lecture might be an interesting and beneficial contribution to this debate and to the future education content.

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# Collaborative Learning in the Workplace: Practical Issues and Concerns

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*Abstract*—**This study aims to identify practical issues and concerns about collaborative learning in the workplace. For this purpose, the study examines perceptions of corporate personnel including learning managers and instructional designers related to workplace collaboration and associated technology tools that might foster or enhance it. First, we identify future research interests and concerns related to collaboration and collaborative tools as revealed from an online survey of 97 respondents. Second, we verify the primary collaboration issues and concerns in corporations through an open discussion forum in which 30 corporate personnel participated. Findings indicate that the use of collaborative tools is growing in importance in the workplace as is collaboration in general. Further, participants in the survey appear highly interested in wikis as collaborative tools. In addition, group discussions reveal five main collaboration concerns in corporations including factors to consider when selecting and using collaborative tools. Based on those findings, significant implications for future research on workplace collaborative learning are offered.**

*Index Terms*—**collaborative learning, collaboration, collaborative tools, wikis, and workplace learning.**

## I. INTRODUCTION

Learning and training activities in the workplace have pursued the goal of improving not only individual competence and productivity but organizational performance as well [26]. As organizations increasingly focus on the importance of learning performance, they realize that it is no longer sufficient to provide their employees with traditional training programs such as instructor-led classroom instruction or self-paced e-learning. Since adult learners can be motivated once learning meets their practical needs on the job [16], they prefer to learn through collaborating with other people who have more hands-on experiences at work rather learn than from classroom instructors. The enhancement of requisite knowledge and skills requires insights from colleagues and mentors who have relevant prior experiences and backgrounds to solve unique problems and overcome different learning-related challenges. Summaries of the research literature indicate that collaborative learning can foster deeper level learning as well as critical thinking through sharing others' ideas and experiences [14].

Collaborative learning refers to instructional methods that encourage learners to work together on academic tasks. It fundamentally differs from the traditional direct transfer or one-way knowledge transmission by instructors [10]. In collaborative learning, instruction shifts from an instructor-centered to a more learner-centered paradigm since knowledge is considered as a social construct which is facilitated by peer interaction, evaluation, and cooperation [12].

The advent and application of Web 2.0 technologies also have been accelerating learner-centered personalized learning environments [28]. According to O'Reilly (2005), the Web 2.0 is characterized by Web applications such as wikis, blogs, Twitter, and Facebook and referred to as the second generation of Web-based services. Such tools have been increasingly used both in schools and workplaces. As a result, experimentation with Web-based collaborative learning technologies is spreading fast. This environment has enabled learner-led collaborative learning, which allows instructors to adopt a more supportive role [11]. As this occurs, new contents are created and used in partnership with others [7]. In effect, knowledge is constructed and shared, instead of just passed down from authorities and passively consumed or, worse still, simply ignored.

As collaborative processes and activities as well as the technological tools for enhancing teamwork have become increasingly critical to workplace success, learning managers and instructional designers have been faced with a series of pressing issues. For instance, there is a growing need to understand actual interests and concerns regarding collaboration processes, activities, and tools. Training managers and corporate leaders must better understand the collaborative tools and processes that can boost productivity. In effect, they must become better equipped to design, implement, and evaluate collaborative learning environments. In this context, it is crucial to examine the perceptions of corporate personnel on the use of collaborative tools within company operations and training as well as current issues of collaboration. Although those promoting collaboration processes and associated tools for the workplace have emphasized the potential for building knowledge resources and developing collaborative capabilities, there is little research investigating the actual interests and concerns in these areas in corporate settings. In response, this study identifies the practical issues and concerns regarding collaborative learning in the workplace by exploring the perceptions of people who have been working at organizations that utilize collaboration processes and tools.

## II. LITERATURE REVIEW

### A. Collaborative Learning in the Workplace

Collaboration can be defined as a process that "occurs when a group of autonomous stakeholders of a problem

domain engage in an interactive process, using shared rules, norms, and structures, to act or decide on issues related to that domain" [34]. More recently, collaboration emphasizes that it entails such activities as sharing information with others, jointly crafting strategic planning documents, and using forms of vertical integration to find effective ways to synchronize business operations with vendors without being forced to acquire additional businesses [29]. In collaboration, it is crucial to consider the interactive processes among people, but collaboration is more than the interactions between participants and the knowledge each brings to the collaborative setting. The key aspect of collaboration is the construction of new knowledge brought about through joint work. This generation of new knowledge is enhanced when members bring complementary domains of expertise to the planning and decision making process [21].

Some researchers and theorists have shown that collaborative learning fosters different aspects of critical thinking [9][32][33]. According to Gokhale (1995), learners who participated in collaborative learning performed significantly better on a critical-thinking test than learners who studied individually. The active exchange of ideas within groups not only increases interest among the participants but also improves critical thinking. In addition, learners in collaborative learning environments achieve at higher levels of thinking and retain information longer than learners who work as individuals [14]. Moreover, collaborative learning provides a cost effective method of training since collaboration reinforces the knowledge of both the helpers and the persons being helped [6][23].

In spite of these positive effects of collaborative learning, there are many challenges and open issues related to it in the workplace. Based on several studies of collaboration in the workplace, the challenges of collaboration can be summarized as follows: (1) cultural diversity and, accordingly, a lack of awareness of cultural norms; (2) geographical distance and time zone differences; (3) member isolation in virtual teams; (4) generation gaps and age differences in the acceptance of collaboration tools; (5) lack of technology support for learners; (6) lack of learners' awareness about effective collaboration processes and strategies; and (7) lack of learners' technological skills and knowledge about collaboration tools [13]18]. In terms of cultural diversity, it may be difficult for employees in different countries or overseas branches to understand the diverse culture expectations and experiences of each other when they collaborate. Furthermore, it may be a critical challenge to implement collaboration efficiently and effectively if corporations do not provide their employees with sufficient technologies for collaboration. In addition, even if companies provide appropriate technologies for collaboration, effective collaborative learning may be difficult to implement if learners do not perceive the importance of collaboration and do not have sufficient skills and knowledge for using collaboration tools and engaging in online team activities.

### B. Collaborative Tools in the Workplace

Companies in the past have used technologies such as discussion threads, email, or electronic bulletin boards [4] for sharing personal knowledge and ideas. However, personal knowledge contributions through those discussion-based technologies have often been limited to individual contributions without others being able to refine or add to such information. In other words, while one member posts a useful summary or a unique idea on those discussion boards, they cannot be edited or integrated by others [35]. Therefore, such traditional organizational repositories have not satisfied the demand for efficiently and effectively leveraging the knowledge in a firm or even among a small global team [1][24]. In contrast, collaborative tools in Web 2.0 environments can be highly valuable to solve such limitations of traditional corporate communication tools and group interactions.

As Web technologies have increasingly offered innovative ways to enhance collaborative learning, the use of collaboration tools for learning and interacting in the workplace has proliferated [36]. Recent technology advances in the organizational infrastructure emphasize efficient collaboration using Web 2.0 tools that foster a participatory environment where members generate, discuss, and evaluate evolving ideas. Since workers need to be able to think creatively, solve problems, and make decisions as a team [9], such tools can help learners collaborate more efficiently and effectively. Furthermore, collaborative tools not only help learners express themselves better, find like-minded communities, and make the Web a platform for work, but also enable people, teams, and communities to work together and build innovation through collaboration. Clearly, there are many benefits and expectations for collaborative technologies in workplace settings.

In Web 2.0 environments, employees of the highly successful companies in the twenty-first century can create valuable information and knowledge online and communicate electronically by using various collaboration tools such as wikis, blogs, Facebook, and Twitter. As pointed out by Tapscott and Williams (2008), these tools are assisting individual workers to communicate and collaborate more productively. They further note that among group collaboration tools, "wikis conform naturally to the way people think and work, and have the flexibility to evolve in a self-organizing fashion as the needs and capabilities of the organization change" [30].

### C. Wikis as a Collaborative Tool in the Workplace

As one of representative Web 2.0 technologies, wikis can be used to support collaborative activities in knowledge management by providing, sharing, and creating knowledge not only in educational environments [31], but in business as well. When effectively deployed, wikis can support an organization's collaboration and knowledge management requirements [25]. Stated another way, the impact of wiki technology is quite broad in terms of supporting collaborative knowledge creation from academic environments to those in the corporate world [25]. Furthermore, wiki technology can be a significant innovation in managing knowledge within society because it is designed for quick knowledge construction and collaboration for either a private or a world audience [2][3].

The interests in and needs for wikis are spreading fast because they allow users to create and edit Web pages easily and rapidly. Even though wikis are not the first technology for collaboration, they are often the tool of choice because of their simplicity and ease of successful application or implementation. The attractive characteristics of wikis can be summarized by the following five features or characteristics: (1) rapidness; (2) simplicity; (3) convenience; (4) open source; and (5) maintainability.

Wiki pages are not only rapidly and conveniently constructed, accessed, and modified by each member, but are also maintained as a type of database, which records its historical revision and content [27]. Wiki formats are often quite simple and require only a username and password to access and change. The use of wikis serves as both a means of communicating ideas and a resource for sharing, storing, and retrieving knowledge among its members [15].

Wikis can be used not only as an instructional strategy to promote collaborative learning in schools but as a communication tool for effective work activities by supporting collaboration in a corporate, military, or government setting. In corporate environments, it is extremely important to reduce time-consuming and inefficient work activities in order to increase employee productivity. To deal with such issues, wiki types of technology innovation can be valuable for saving time and money in corporate environments and other types of work settings. Wiki technology in the corporate world can be applied in various fields such as software development, e-learning, project management, communities of practice, ad hoc collaboration, technical support, marketing and customer relationships management, resource management, and research and development [31]. In particular, wikis are identified as an up-and-coming technology to support collaboration within and between firms [20].

There are many prominent examples of using wikis in the workplace. For example, wikis were introduced to Motorola as one of several important pieces of its collaboration infrastructure. Motorola also employed instant messaging (12 million per day) and blogs (2,600 corporate-wide) for employee interaction and collaboration. In addition, engineers at Motorola have used TWiki enterprise collaboration software, which is better suited to engineering applications [8]. Second, two European companies, Finnish handset-maker Nokia and London- and Frankfurt-based investment bank Dresdner Kleinwort, are finding ways to encourage their employees to use wikis as collaboration tools. Such activities might include editing documents, sharing ideas, or monitoring the status of a project. The functions of wikis are not limited to collaborative attempts to solve specific product-design problems but to explore alternatives to e-mail and expensive or difficult to use collaborative software. In particular, Nokia estimates at least 20% of its 68,000 employees use wiki pages to update the status of projects, exchange ideas, edit files, and so on. So successful are wikis in the corporate world that many like Dresdner Kleinwort have launched their own corporate wiki. In fact, by October, 2006, Dresdner Kleinwort 5,000 bank employees had created more than 6,000 individual pages and logged 100,000 hits on the company's official wiki [5]. Accordingly, the cases of Nokia and Dresdner Kleinwort show how the use of a radically new technology such as a wiki can quickly change the way organizations work. Third, Intel's corporate wiki, Intelpedia, developed by using MediaWiki, provides all the features and functionality that Wikipedia has on their own internal wiki [17]. Fourth, Carbon Five, a small company that develops enterprise web application for clients, uses wikis to collaborate on projects with their clients. Fifth, the wildly successful film producer company, Pixar, employs wikis internally to manage film production [19]. Along these same lines, some companies, such as IBM, SAP, and Sony Ericsson, use wikis as part of their developer networks. As an example, IBM DeveloperWorks Wikis includes topics such as Lotus Quickr Best Practices, WebSphere Instructor Wiki, and a series of "Web 2.0 Goes to Work" conferences. Given those examples, it is assumed that wikis can be used not only internally for employees' tasks but also externally for support clients' services.

## III. METHODOLOGY

### A. Paricipants

The participants in the study were corporate personnel including learning mangers and instructional designers in various organizations. They were divided into two different groups, which were a survey group and a discussion group.

In the survey, a total of 97 corporate people participated. The respondents represented a range of corporate and government organizations mainly located in North America. In addition, some learning managers from across the globe--such as Canada, Australia, Japan, Saudi Arabia, Switzerland, and Sweden--also participated in the survey.

Additional data related to key collaboration issues in corporations were collected from group discussions. Participants of this group discussion were training and learning professionals such as learning mangers and instructional designers working in a range of corporate and governmental organizations. There were 30 people in the discussion session. They constituted five focus groups for small group discussion. These individuals were not the same people who participated in the previously referenced survey of research interests and concerns.

### B. Instrumentation

To examine areas of interests and concerns related to collaborative processes and associated Web-based collaborative tools among corporate learning managers and instructional designers, an online survey was conducted over the period of two weeks in August 2010. In order to gain access to this group, their organizational identities were kept confidential. These survey questions were open-ended.

In addition, the sticky-note pieces of paper were used in each group for small group discussions which were in a special session during a national conference focused on learning technologies in October 2010.

### C. Data Analysis

In the survey, three main questions were targeted, namely, (1) research questions for future research on collaboration and collaboration tools in the workplace; (2) collaboration tools that would be of interest for further study; and (3) other concerns regarding collaborative processes and tools in the workplace. The answers of the participants about the three questions were analyzed and constituted two categories.

Discussion topics included the following five collaboration issues: (1) factors considered when selecting and using collaboration tools; (2) factors promoting collaboration within and between organizations in the workplace; (3) implementation of collaborative processes and tools; (4) measuring the effectiveness of collaboration and associated tools; and (5) future research of collaboration in the workplace. Before starting the group discussion, individu-

al participants were given 10 minutes to respond to these five issues using sticky-note pieces of paper. Next, the 30 participants formed five groups consisting of six members each. These five groups discussed one of the topic questions or issues assigned to their group. They were given 20 minutes to discuss the question more fully based on their individual response to the question. After the group discussion, each group shared their discussion results with the other groups for approximately 20 minutes. Finally, near the end of the session, ten minutes was allocated for debriefing and question and answers across the entire group. The discussion session was conducted in an hour. The results of the discussions were summarized by the results of each group discussion.

## IV. RESULTS

### A. A survey on research interests and concerns in collaboration and its tools

Regarding the first question related to areas of future research on collaboration in the workplace, two main topics such as collaboration and collaboration tools were identified. These topics were extracted from the survey responses and are summarized in the Table 1.

The first topic, collaboration, included a series of interesting research questions related to collaboration methods, factors affecting collaboration, and measurement of collaboration effectiveness in the workplace. Regarding collaboration methods, many participants were interested in how collaboration contributes to workplace efficiency and how collaboration facilitates knowledge and skills development. The collaboration topic related to factors affecting collaboration also had several possible research questions, such as what factors contribute to creating and sustaining a collaborative culture and what factors contribute to maximize collaboration within and between organizations in the workplace.

The second topic of collaboration tools was divided by six detailed issues such as (1) types, (2) functionality, (3) utility, (4) benefit, (5) implementation, and (6) measurement of effectiveness of collaboration tools. Each of these issues contained two or more research questions deemed vital to workplace learning. For example, the topic related to the implementation of collaboration tools included four future research questions, i.e., "What are some success stories related to the implementation of collaborative technology for learning?," "What is the basic way of implementing collaborative tools in organizations?," "What functional areas of organizations have seen the greatest performance improvement as a result of implementing collaborative tools?," and "It's challenging to find the right collaborative tools to create shared resources. Each tool requires time, effort, and organization to implement into work practices. How do we resolve the issue of too many tools, not enough time?"

TABLE I.
SUMMARY OF THE FIRST SURVEY RESPONSES: FUTURE RESEARCH QUESTIONS ON COLLABORATION AND COLLABORATIVE TOOLS

| Topics | | Future research questions |
|---|---|---|
| Collaboration | Methods | • How does collaboration contribute to workplace efficiency?<br>• How does collaboration facilitate knowledge and skills development?<br>• How do you build the trust that creates the foundation for collaboration? (In particular, in virtual collaboration)<br>• How do remote team members collaborate? |
| | Factors affecting collaboration | • What factors contribute to creating and sustaining a collaborative culture in the workplace?<br>• What factors contribute to maximize collaboration within and between organizations in the workplace?<br>• What policies, procedures, tools, and competencies facilitate productive collaboration in a work environment?<br>• What are the factors that motivate collaboration--both within a workplace and within an electronic environment? |
| | Effectiveness measurement | • How can we measure the effectiveness of collaboration?<br>• How do you determine the business ROI of (online) collaboration?<br>• How do we measure performance and the effect of collaboration on corporate culture? |
| Collaborative tools | Types | • What collaboration tools are you currently using in the workplace?<br>• How or why did you choose these tools? |
| | Functionality | • What is the core functionality of collaborative tools?<br>• What functionality needs further improvement and refinement to make it easier for communities of practitioners to collaborate? |
| | Utility | • How to utilize the tools to improve collaboration?<br>• How to deal with teams where people are physically in different locations? |
| | Benefit | • Does the use of collaboration tools enhance learning acquisition and retention?<br>• How does their use impact employee productivity? |
| | Implementation | • What are some success stories related to the implementation of collaborative technology for learning?<br>• What is the basic way of implementing collaborative tools in organizations?<br>• What functional areas of organizations have seen the greatest performance improvement as a result of implementing collaborative tools?<br>• It's challenging to find the right collaborative tools to create shared resources. Each tool requires time, effort, and organization to implement into work practices. How do we resolve the issue of too many tools, not enough time? |
| | Effectiveness measurement | • How do you translate the use of collaboration tools into improved performance?<br>• How do you measure business impact/success/effectiveness of collaborative tools? |

Regarding the second question, "Which collaboration tools would be of interest for further study?," the results signaled that the participants were interested in various collaboration tools such as social networking tools, virtual work (or meeting) software, and virtual learning technology. Social networking tools included Web meeting tools and professional networking such as wikis, blogs, Facebook, MS Sharepoint, Twitter, Yammer, YouTube, LinkedIn, and Ning. In addition, virtual work software included Second Life, VenGen, ActiveWorlds, and Proto-Share 2.0. Other tools, such as instant messaging, discussion boards, podcasting, mobile learning tools, video conferencing, Skype, and Flickr, were mentioned. Clearly, the respondents were experimenting with, or at least aware of, a range of technology tools for collaboration in various workplace environments.

Through the open ended survey items, participants were able to comment on several forms of online collaboration and associated collaborative tools. Thus, the survey results presented a broad perspective of practical issues and concerns. For instance, 40 of the 97 respondents were keenly aware and interested in wikis as a collaboration tool for their companies. One person stated "I am most interested to see examples of how wikis are used in companies to assist with learning." Another person noted "I am most interested in wikis and how organizations control content and accuracy." As the survey results indicate, the preference for wikis as a collaborative tool option was superior to all other options including the use of social media like LinkedIn and Twitter. Figure 1 displays the research interest of the study participants related to collaboration tools in corporate settings.

Regarding the third question, "What are some other concerns regarding collaboration in the workplace?," the five concerns can be classified as follows: (1) a component of blended learning, (2) a relationship with other learning strategies, (3) contribution, (4) generation, and (5) characteristics of individuals (see Table II).

According to the survey results, learning managers and instructional designers in the workplace are mainly concerned with how organizations implement collaboration successfully and how organizations facilitate their employees' use of collaboration tools effectively for their collaborative learning environments. At the same time, the managers and designers taking part in this study also realized these collaborative strategies and tool efficiencies may vary based on prior experiences of an individual or an entire generation. They were also aware that established organizational practices as well as surrounding culture have a huge influence on how, when, and where collaboration occurs. Management acceptance and embrace of collaboration as key to successful operations also plays a vital role in awareness, implementation, and pervading attitudes of employees related to workplace collaboration. Overall, however, the chief focus of the study participants was on efficiency and productivity issues, not on issues like social rapport, emotional connectedness, or community building.

### B. Group discussions about main issues of collaboration and its tools

During the group discussion, it was revealed that accessibility, ease of use, and security were critical factors when selecting and using collaboration tools. Participants also mentioned the critical nature of the value placed on
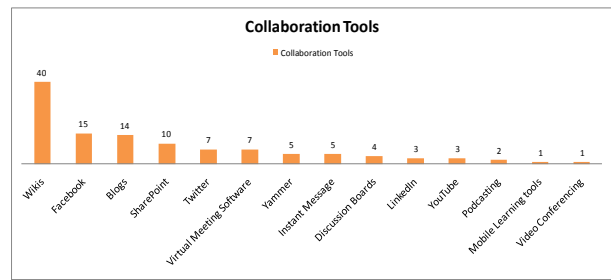


Figure 1. Summary of the second survey responses: Preferred collaboration tools in the workplace for future research

TABLE II.
SUMMARY OF THE THIRD SURVEY RESPONSES: SOME CONCERNS REGARDING COLLABORATION IN THE WORKPLACE

| Category | Concerns |
|---|---|
| A component of blended learning | • How does social network technology integrate as a component of blended learning (including virtual classroom and live classroom application)? |
| A relationship with other learning strategies | • How does collaboration tie in with other strategies such as an organization's KM/content management as well as its' learning strategies? |
| Contribution | • It is said that people like to look at what others write, but many don't actually contribute. Is this really the case? If so, how does one overcome that? |
| Generation | • How do different generations of employees collaborate most effectively? How do groups of same or mixed groups of different generations collaborate? |
| Characteristics of individuals | • What types of people collaborate? Are they from different departments or geographical locations within a corporation? Are they individuals from different companies? Why do they collaborate? |

collaboration within the workplace; if management support was lacking, then it was unlikely to be valued. In addition, they discussed the utility of the information gained from collaboration as a key factor that promoted collaboration within and between organizations.

Regarding the implementation of collaboration and collaborative tools, some felt that companies could use collaboration tools in their LMS. In effect, collaboration tools could be connected to learning management systems without separately implementing collaboration tools and LMSs. In addition, many argued that it would be helpful to create guidelines on how to use collaborative tools as well as provide training for understanding collaboration and using collaboration tools. Next, there were several opinions about measuring the effectiveness of collaboration activities and associated Web technologies. In order to measure the effectiveness of collaboration and collaboration tools, companies could analyze data from the following sources: (1) users' ratings and feedback; (2) access frequency; and (3) user participation. Finally, the participants felt that future research on collaboration in the workplace was needed to focus on investigating the maintenance or increase of interest in collaboration tools. They also suggested that researchers might explore the positive and negative psychological effects of such increases in collaboration and collaborative tool use. Table III summarizes much of this discussion.

TABLE III.
GROUP DISCUSSIONS ABOUT COLLABORATION AND COLLABORATIVE TOOLS IN THE WORKPLACE

| No | Topics | Results |
|----|--------|---------|
| 1 | What are some factors to consider when selecting and using collaborative tools? | • Ease of use—easy to add comments<br>• Security—access for external/internal<br>• Available methods of access |
| 2 | What factors promote collaboration within and between organizations in the workplace? | • Influencing organizational culture<br>• Accessibility<br>• Value of the information—exciting, high value |
| 3 | How would you implement collaboration and collaborative tools? | • LMS platform as a way to do it<br>• Something of interest—pick high interest issue<br>• Leadership buy in and role modeling<br>• Designing or finding the right tool, creating guidelines on how to use, providing training on how to do it |
| 4 | How would you measure the effectiveness of collaboration and collaborative tools? | • The frequency of access<br>• User ratings and other feedback<br>• The impact<br>• Loop back feedback to improve usage<br>• Alignment to potential business impact<br>• Problem solving with others across the country: accurate resolutions can measure success<br>• Not just numbers but patterns or themes<br>• Authors vs. users, repeat visitors, unique visitors<br>• Survey Users vs. Non-Users<br>• Site hits<br>• Volume of discussion<br>• Number of additions to the Wiki |
| 5 | What would you like to see researched regarding collaboration in the workplace? | • Getting metrics on getting questions answered via email distribution vs. discussion boards<br>• Best in class companies for benchmarking<br>• How to maintain interest level in wikis (spike in interest, then falls off… how to keep it going)<br>• Community "gardeners" to cultivate and keep fresh<br>• Psychological effect of collaboration: positive/benefits, negative/costs |

## V. CONCLUSION

Many organizations are actively pursuing and promoting collaborative learning for high-performance at work. Given the significant rise in collaboration in corporate settings, it is crucial to identify the major research interests and issues related to such collaboration through perspectives of those engaged in such efforts. As such, this study focused on research that might be conducted on both the collaboration processes as well as the associated collaboration tools impacting the workplace today for effective collaborative learning environments.

According to the survey results, the main research questions that seem to be critical are in the areas of collaboration and collaboration tools. In terms of the topic of collaboration, most participants were interested in how collaboration facilitates knowledge and skills development and contribution in the workplace. Such findings indicate that corporations are seeking methods to effectively implement collaborative learning. In effect, if the key factors affecting collaboration can be identified by research, it can reveal what factors are critical for collaboration. It is our hope that companies can use information about those factors to implement collaborative practices more effectively for learning. In addition, the implementation and effective measurement of collaborative processes and tools also can be researched through case studies of best practices. It is hoped that the results of future research may reveal more specifics as to when, where, and how to implement different forms of collaboration and types of collaborative tools in the workplace.

A key finding of this particular study regarding the topic of collaboration tools was that wikis had the highest research interest as a collaboration tool when compared to several other options. In our survey, most participants responded with more than one collaboration tool as potentially impactful; however, they frequently mentioned wikis as the most interesting tool for collaboration research. The survey result also revealed keen interest in wikis in corporations. Many wiki users, in fact, indicate that the benefits are linked to the ease and efficiency with which collaboration takes place [30].

As noted in the review of the literature on wikis in corporate contexts, companies have been using wikis in many ways to enhance their production efficiencies and knowledge management. The power of wiki technology comes, in part, from the simple collaborative editing function which allows users to share their ideas and collaborate seamlessly across time and space. However, despite the advancement of Web technology, most users are accustomed to "read-only" Web-based systems where they cannot contribute their thoughts and ideas. Consequently, sufficient time and training is required in order to fully utilize wiki technology in workplace settings [25].

There were several concerns regarding collaboration in the workplace. These concerns included looking at collaboration as a component of blended learning. Understanding how collaboration can enhance or perhaps ever transform blended learning experiences and learning results as well as how to measure such benefits is of increasing concern. Another issue was its relationship with other learning strategies such individual exploration or refection.

Other study participants were interested in research on participant contributions in collaborative situations. Finally, some wanted to know more about characteristics of individuals who performed well in collaborative situations as well as the traits of those who did not. Similarly, some were interested in generational differences in exposure to collaboration strategies and activities. What was clear from these discussions was that instructional designers in corporate settings can incorporate collaboration tools into various learning environments to design a type of blended learning. In addition, collaborative processes and tools can be combined with learning strategies such as knowledge management and learning management systems.

Although there are many possibilities to implement collaborative processes and associated technologies, some participants were concerned that most people do not contribute but merely look at others' work in collaborative contexts. Thus, it is vital to find appropriate ways to overcome this kind of challenge in collaboration. Furthermore, participant concerns about generational differences and characteristics of individuals imply that corporations need to consider generation gaps between senior and junior workers and also individual learners' characteristics such as active or passive learning expectations and backgrounds of those engaging in collaborative learning activities.

According to the results of the group discussions, collaboration issues in corporations could be condensed into these five main issues: (1) factors considered when selecting and using collaboration tools; (2) factors promoting collaboration within and between organizations in the workplace; (3) implementation of collaboration and its tools; (4) measuring the effectiveness of collaboration and its tools; and (5) future research on collaboration in the workplace. Through group discussion, more detailed perceptions of people in the corporate world regarding collaboration and collaboration tools were investigated. Although most companies in the group discussion remained in the experimental stage in terms of using collaboration tools, the participants presented diverse opinions in each discussion topic. Importantly, the group discussion lent insights into several of the key areas of interest mentioned in the survey.

In conclusion, this study shed light on the significance not only of future research related to collaboration processes and tools but how certain tools like wikis are already being employed in the workplace. As such, it provides some initial indicators of the main collaboration issues that should be addressed in future research regarding collaborative processes and tools in the workplace. Since the results of this study came mostly from the perspectives of learning managers and instructional designers in various organizations from around the world, they will provide practical insights into collaboration and its tools in the workplace. The coming decade should prove highly interesting for those collaborating with emerging technologies in the workplace as well as those studying it.

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# GEDIFO: A Cross-Organizational Approach to Learning in Communities of Practice

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*Abstract*—**This case study focuses on the situation of works councils who in today's globalized economy are challenged to represent the interests of employees on the one hand and to act as co-managers on the other. GEDIFO, a unique pilot initiative by the Vienna Chamber of Labor and the educational body of the Austrian Trade Union, seeks to empower and support works councils by promoting cross-organizational learning and peer coaching in communities of practice (CoP).**

*Index Terms*—**Community of Practice, Cross-Organizational Learning, Peer Exchange, Peer Coaching, Double-Loop Learning, Facilitation.**

## I. INTRODUCTION

In today's globalized economy, organizations face international competition, the need for technology-driven innovation, inefficiencies due to bureaucracy, severe cost-cutting, and frequently economic and social pressure as well as a deterioration in working conditions as a result thereof. Works councils are challenged to represent the interests of employees and at the same time to act as co-managers. In order to meet these challenges, they need to acquire negotiation and communication skills, social skills, ICT skills as well as legal knowledge and domain skills. GEDIFO (short for "Gesellschaftspolitisches Diskussionsforum" or socio-political discussion forum) is a unique pilot initiative by the Vienna Chamber of Labor (AK Wien) and the educational body of the Austrian Trade Union (VOEGB) that promotes cross-organizational learning for works councils of corporate and public sector organizations. GEDIFO's mission is to identify new trends and challenges on the labor market and to support works councils in acquiring the skills they need for developing and implementing timely and adequate measures aimed at promoting fair and sustainable working conditions for employees.

Currently, GEDIFO's focus is on six core areas (*domains*): workplace health promotion; continuing training of educationally disadvantaged employees; temporary agency work; corporate social responsibility; political campaigning; and age diversity in the workplace. These *domains* have been identified and defined by GEDIFO members (works councils) on the basis of their professional needs. GEDIFO membership is voluntary and free of charge. Domain skills, mutual engagement and readiness to take action in the organizational context are prerequisite for participation in GEDIFO. Facilitated meetings take place at regular intervals and are closely monitored by sponsors.

### A. History of learning within GEDIFO

GEDIFO was founded 12 years ago under the label of "literature club" by Uli Schönbauer, a sociologist and systemic coach who is employed with the Vienna Chamber of Labor. Back then, works councils, members of the trade union, and external experts with an interest in socio-political topics were regularly invited to reflect ongoing trends and developments in society.

Over the years, and especially since the community of practice (CoP) model was introduced in 2011, GEDIFO has developed into a face-to-face platform where cross-organizational "out-of-the-box" thinking and learning has not only been "allowed" but fostered. Despite GEDIFO's non-hierarchical approach, the initiative is still quite strongly influenced by a traditional trade unionist mindset – such as strict hierarchical budgeting guidelines and a rather traditional attitude towards learning, training, and problem-solving. Against this background, "out-of-the-box" thinking indicates that works councils are encouraged to think and act beyond organizational, political, and hierarchical boundaries as well as to reflect their existing values and beliefs while trying out new ways of problem-solving to overcome the challenges they face in their organizations.

### B. Paradigm shift

With the advent of the new technologies and the rise of the network society, organizations and works councils started to need more sustainable and self-organized learning processes. Accordingly, GEDIFO members have been exploring a variety of innovative learning approaches and participative techniques for effective and democratic decision-making, including the sociocracy model (see Buck and Villines, 2007) and the method of "organizing" as a strategy for political campaigning (see Shirky, 2009). Three years ago, GEDIFO introduced the community of practice (CoP) model as defined by Etienne Wenger and Jean Lave (1991), aimed at providing more sustainable learning within GEDIFO and at encouraging cross-organizational and cross-party peer coaching and learning. What differentiates this new approach to learning from former learning formats (such as project-based learning groups) is that individual problem-solving approaches are being looked at from a systemic theory point of view (see Königswieser & Exner, 1998) and supported by systemic-constructivist coaching methods (see Fischer et al, 2013). In other words, works councils are encouraged and empowered to reflect their existing values and beliefs, to try out new ways of problem-solving in their organizational context, and to share and reflect their learning with peers.

As far as the authors of this case study know, GEDIFO is currently the only such cross-organizational, cross-hierarchical, cross-party initiative in Austria that promotes peer coaching and peer learning among works councils and trade union members in a CoP setting.

## II.  LEARNING IN CoPs

### A.  Introducing a new approach to learning

In January 2011, GEDIFO introduced the concept of CoP as defined by Etienne Wenger (1998). "Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."

A CoP consists of three components – domain, community, practice (ibid). *Domain* stands for shared interest in a topic and means that membership implies both mutual engagement and domain skills. *Community* refers to the fact that members of a CoP – practitioners - interact regularly to pursue their shared goals, thus building a social relationship and learning together. This aspect differentiates a CoP from a loose community of interest and a project-based working group or task force. *Practice* implies the shared repertoire of resources that are produced by members as a result of their learning, including experiences, stories, tools, and ways of addressing recurring problems in their work field.

In the case of GEDIFO, establishing the six CoPs has taken a considerable amount of time and sustained interaction as well as tailored coaching by facilitators and external experts. The facilitation team consists of GEDIFO founder and host Uli Schönbauer and of Christina Merl, a social learning expert and CoP consultant. Initiating and nourishing these CoPs despite the hierarchical structures and traditional mindset of sponsoring organizations as well as making CoP members aware that hands-on solutions must come from them on the basis of their expertise and practical experience have been the major challenges for the facilitation team. Actually, facilitators have put a considerable amount of time and effort to empower and encourage GEDIFO members to reflect their existing values and beliefs; to co-develop hands-on solutions to problems they face in daily work; to take action in their real-life organizational context; and to reflect their learning together with peers.

CoP meetings take place at regular intervals; the focus of these meetings is on developing practice-oriented steps and activities. It should be mentioned that GEDIFO host Uli Schönbauer has to report to sponsors at regular intervals and to justify why it makes sense to continue sponsoring the CoP approach.

### B.  Double-loop learning

Frequently, works councils may face resistance as a result of deeply rooted political traditions, strict hierarchical structures, and last but not least as a result of neoliberal tendencies that increasingly dominate their work context. They have to represent the interests of employees and at the same time to act as co-managers. GEDIFO's approach to learning differs from traditional learning formats in that it provides systemic coaching interventions that make works councils realize that they may need to change their underlying values and beliefs as well as to reframe their goals in order to achieve satisfactory results in their organizational context.

For example, in the field of workplace health promotion, two works councils in Vienna and Lower Austria experience major troubles in their hospitals. The hospitals need to cut costs, which leads to an increase in burnout cases and a decrease in staff performance. The works councils face major resistance at the political level and feel helpless. Against this background, GEDIFO facilitators organized a "systemic constellation" meeting. This coaching intervention helped the two affected works councils to understand specific processes and political positions better and also to reframe their own thinking and approach. In addition, they got valuable feedback and advice from peers who work in different organizations. As a result, the two works councils felt empowered and started to build alliances and to develop an action plan that should help them improve the situation in their hospitals.

This process of reconsidering existing assumptions and re-assessing fixed values and goals may be compared to *double-loop learning* as defined by Argyris & Schön (1996). There, individuals and/or organizations are able to modify or even reject their goals in the light of practical experience (see Fig. 1).



Double Loop Learning is about redefining or rejecting goals (by getting past defensive reasoning)
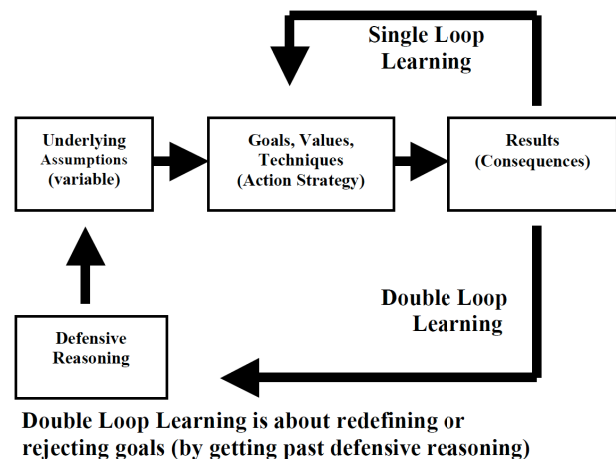
Figure 1.  double loop learning

GEDIFO provides a space where works councils can reflect their practical experience with peers.  They get feedback from peers and experts and thus can further develop their practice, re-define or even reject their current goals and try out new ways of problem-solving.

While *single-loop learning* (see Argyris & Schön, 1978) involves trying out different strategies and modifying actions to achieve different outcomes, *double-loop learning* requires a deeper assessment of existing values, assumptions and policies that led to the actions in the first place, and modifying those. In the context of GEDIFO, works councils are encouraged to assess their situation, values, and strategies at a deeper level. Together, they find out how they need to reframe their values and objectives in order to obtain satisfactory results. Double loop learning has proven very necessary and valuable for GEDIFO members. After all, they have confirmed that their regular CoP meetings do not only provide one of their main sources of knowledge and know-how but also a valuable space for reflection about their practice and learning. A member of GEDIFO, a works council of a semi-privatized

Vienna-based social care organization, describes her learning experience as follows:

*"GEDIFO has opened up a new world to us. A world where we can exchange our thoughts and experiences, learn with and from each other and pursue common goals across political and organizational boundaries. What is more, we do not only discuss things on a theoretical level but look behind the scenes and take action. We develop concrete solutions and strategies together and implement them in our work fields. GEDIFO provides a platform where we can discuss our practice and get feedback and advice from peers and experts. It therefore stands for knowledge transfer, awareness-building, networking, collaboration, and finally for taking action and implementing measures. This is what makes GEDIFO successful: Members learn from and with each other and benefit as a group as well as individually."(Doris B.)*

### C. The facilitation process

The past three years have been characterized by cultivating and nurturing the six CoPs (workplace health promotion; continuing training of educationally disadvantaged employees; temporary agency work; corporate social responsibility; political campaigning; and more recently, age diversity in the workplace.)

The individual CoPs comprise between 7 and 20 members; facilitated meetings take place at regular intervals; the role of facilitators has been to initiate the CoPs as well as to encourage members to define and develop the three elements – domain, community, practice – in parallel. For this, various methods and coaching interventions have been used, including expert round tables, world café (Brown and Isaacs, 2005), the fishbowl format (Keck-McNulty, 2004), and especially the systemic-constructivist methodology of coaching (see Fischer et al, 2013) that has been transformed into a specific peer coaching design to serve GEDIFO purposes.

Artefacts have been produced by CoP members, including mission statements, a little GEDIFO booklet, GEDIFO badges, video statements, etc. Furthermore, topic-related events and workshops have been organized by the individual CoPs at regular intervals with the aim to push their subject and to raise awareness among works councils.

The facilitation process cannot be put into a clear-cut recipe as the dynamics of the individual CoPs are very different and unpredictable. For example, facilitators thought of closing down the CoP for temporary agency work and discussed that option with core members two years ago. All of a sudden, the interest in the topic grew, and the number of members increased. The CoP started to flourish and meanwhile counts over 20 members. It is hard to predict the life span and dynamics of a CoP as it depends a lot on the overall social and political interest in the domain, on the motivation of members, their mutual engagement, commitment as well as time resources.

Facilitators have learned that they need to be very flexible and constantly adapt the facilitation process to the needs of CoP members. One major difficulty is to remain flexible within the strict hierarchical structures of the sponsoring organizations. One key to success may be the clear focus on concrete outcomes. Facilitators demand from CoP members that they are clear on which activities they want to take in their real life organizational context. This is how members stay focused and the CoPs are pre-vented from developing into a pure discussion club. Once works councils have become familiar with the CoP approach and once they have started to see the impact of their activities in real life, they have become more active and committed.

### D. Out-of-the-box thinking

It has taken a major effort by facilitators to "channel" the expertise and creativity of CoP members and to encourage them to think "out of the box". As most GEDIFO members come from very hierarchical organizational and traditional political backgrounds, they were used to hierarchical settings and traditional learning groups with fixed objectives, such as project teams, learning groups, instructional trainings, and traditional seminars. It took facilitators quite some time to make members aware that they themselves are the experts who can change things for the better in their organizational context and that hands-on solutions must come from them. This learning process has demanded a lot of flexibility, creativity, and vision on the part of facilitators. Their role has been to empower members; to push them towards re-assessing their existing values and beliefs; and also to provide the setting where they can reflect together with peers on the effectiveness of their individual activities. As a matter of fact, "out-of-the-box thinking" is an important aspect of the peer-coaching approach as applied in the GEDIFO context. Members are invited to dig deeper, assess their existing assumptions, reframe their thinking and co-develop new ways of problem-solving.

### E. Definition of roles

A major challenge in the community building process has been the definition of roles within the individual CoPs. Each CoP consists of a number of core members and also peripheral members who contribute on an irregular basis. In the beginning, facilitators have taken the leading role. In some CoPs, individual members started to take an active role out of their own initiative. For example, two members have taken a leading role in the work health promotion CoP, meaning they have started to co-organize meetings and agendas. The same happened in the temporary agency work CoP. Also, several task forces have formed within the various CoPs that work on solutions for specific problems that are relevant to all members. In the meantime, experts from the sponsoring organizations have started to join CoP meetings as they can benefit from practitioners' experiences and points of view for their daily work; further, their role is to support CoP members with regard to legal and political questions.

It can be said that a flourishing CoP needs a visionary leader - someone who has a clear vision, takes the initiative and is able to motivate the others and to share their experiences and develop hands-on solutions.

### F. Meta CoP: cross-CoP learning and networking

Three or four times per year, core members of the individual CoPs meet to exchange important insights and to make strategic decisions that are relevant for all CoPs. This cross-CoP meeting format is called "Meta CoP" and gives CoP members the opportunity to connect and exchange valuable insights, information, and practical experience. More recently, a growing number of practitioners have demanded increased cross-CoP learning and networking even if they have limited time resources. Their

wish for more cross-CoP exchange seems to imply that they benefit from cross-topical, cross-organizational, cross-party peer exchange and learning.

## G. Technology-driven learning

Originally, GEDIFO sponsors planned to install online CoPs when the new approach was taken up in 2011. The learning should take place within a Moodle supported setting where online discussion spaces had been created for members of the individual CoPs. At least, some fruitful discussions took place in the online environment. However, the enormous need for online facilitation posed a budgetary challenge. What's more, members were clearly in favor of face-to-face interaction for several reasons. For example, some core members simply lack the necessary technological and social media skills. They say it is because of their age (some of them are over 50 and do not need social media skills in their job). Many of them seem to lack the time and motivation to engage in online discussion and learning out of office hours. Also, members are clearly reluctant to discuss delicate legal issues in an online environment. They prefer face-to-face settings and personal conversation for this. In order to not lose the dynamics of the overall process, facilitators agreed to replace the online platform by face-to-face meetings and to move in the direction of online discussions at a later point. Social media skills trainings were provided without big success. As GEDIFO is a rather small initiative with limited budget, the initial wish to install online discussion forums has been postponed.

At least, an official GEDIFO blog (www.gedifo.at) and a Facebook site as well as a Twitter account have been installed. Facilitators and sponsoring organizations would clearly like to see more learning and activities to take place online as they think the GEDIFO spirit could be well transmitted online and reach a wider target group. For this purpose, an online media team was recently set up. This team consists of a member of each CoP and will strive to find a more systematic and motivating approach towards spreading the GEDIFO spirit online and also to encourage other members to join in online discussions and learning. However, members are still reluctant to discuss their topics in a social media setting as they fear a lack of data security and of giving confidential information that might be used against them at some point. At the moment, it seems that works councils prefer to discuss delicate matters and strategies in a face-to-face setting.

## H. The added value of professional facilitation

Last but not least, it should be pointed out that professional facilitation of CoP meetings is pre-requisite to successful meeting outcomes. Without professional facilitation, members tend to discuss their challenges without considering concrete solutions and taking concrete steps. The role of facilitators has therefore been to identify current trends, define strategies, and smoothly guide CoP members in "the right direction" in order to get good meeting outcomes. Adequate coaching interventions have been used, such as peer coaching, expert round tables, world cafés, portrait painting, creating artefacts, etc. The overall goal of facilitators is to nourish the self-organizing spirit among CoP members and to inspire and empower individual members to take more and more of a leading role.

## III. LEARNING WITH CONCRETE PRACTICAL OUTPUT

Learning within GEDIFO has to be result-oriented. Sponsors want to see concrete outcome of CoP meetings and they want to use results to improve their own programs as well as to promote their (political) interests. It should be pointed out that sponsors expect fast results despite severe budget restrictions. Experience has shown that CoPs need time to develop and that they need to be nourished continuously. This takes a lot of time, patience, vision, flexibility and especially communication and empathy from the facilitators. CoP members have very limited time resources and need to be encouraged and empowered by facilitators quite a lot. It can be said that CoPs do not just sprout up organically but that they have to be created and nourished via "artificial insemination". Once members are on board, however, they feel the energy and dynamics that inspires them to contribute and share their know-how and co-develop hands-on solutions to improve the situation in their organizations.

Even if GEDIFO is seen as a laboratory of trial and error, it is quite strongly influenced by a traditional trade unionist mindset, meaning, among other things, that strict (budgetary and decision-making) guidelines have to be followed. It takes a lot of effort to convince sponsors that relevant knowledge nowadays resides in networks and that most relevant workplace learning today is experiential, unplanned, social, and informal. As the dynamics of the individual CoPs is hard to predict, facilitators are challenged to guide learning processes within GEDIFO with utmost flexibility. At the same time, they have to operate within strict hierarchical structures as set by sponsoring organizations.

GEDIFO seeks to embrace and foster social networking and learning across organizational, hierarchical, and political boundaries with the aim to provide sustainable support for practitioners who struggle with the increasing complexity, unpredictability, and uncertainty in their organizational contexts.

After all, some knowledge transfer from the individual CoPs to the sponsoring organizations has been achieved. Experts of the sponsoring organizations started to participate in the CoP meetings as they can gain inspiration and interesting contributions for their own work while feeding CoP members with important legal and other know-how. For example, a press conference was organized by sponsoring organizations where the results of the CoP on temporary agency work were presented to a large number of Austrian newspapers and other media. Further, some important cross-organizational alliances have been built in the field of health promotion. Last but not least, experts from the sponsoring organizations can get valuable insights into the corporate world through the CoPs. It seems that cross-organizational, informal, and social learning in CoPs is a key to works councils achievements in today's business climate.

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# The Usage of Telecommunication Technologies in the Integration of Universities and Business

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*Abstract*—**Nowadays the world economy suffers a global innovation gap, which reveals itself in essential disproportions in innovative development of particular countries. The deep inequality is also observed in the sphere of innovations between various geographical regions. Unfortunately, Russia does not belong to the countries – leaders of the innovative development. The reasons of its underrun should be searched for in the sphere of organization of innovative process on the national level, in the state and condition of the national innovative system, and in the low effectiveness of the cooperation between universities and business. An active introduction of telecommunicational technologies can play a positive role in integration of education and business.**

*Index Terms*—**global innovation gap, integration of universities and business, international cooperation, telecommunicational technologies.**

## I. INTRODUCTION

According to the analytical report "Global Innovation Index 2013", Russia takes the 62nd place by its global innovative index [1]. Russia belongs to the group of countries where expenses on innovations exceed the average level of the observed countries, while results of the innovative activity fall considerably behind the average numbers.

Conducted investigations have shown that the state of the innovative sphere, expenses of GDP on scientific research and development are in close correlation with the index of Russian research institutes quality. Thus, in 2010 this index equaled 49.93 in Russia, while in the USA it made up 82.53 and in Germany 81.13.

This indicates the presence of a global innovation gap between the countries [2].

Russian scientific thought cannot create effective model of increasing innovative activity of domestic enterprises and branches. Significant gap remains in a number of indicators, characterizing introduction of innovative technologies and development of integration processes between science, education and production. Index of cooperation of universities (science and education) with industry is almost two times lower in Russia than that in the USA and Germany, and 1.4 times lower than that in China.

GDP in Russia today is 31-32% from the level of the USA, which is 2.5 times lower than the corresponding figures in England, France and Germany. According to the rating agencies prognoses, if Russian economy grows nearly for 4% a year, it will help it to take the 15th place by 2050, but the gap between the leading countries and Russia will only increase during these years [3].

The national innovative system of Russia today is misbalanced. Its core elements, such as science and educational institutions, industrial enterprises, innovative infrastructure exist independently from each other; there is no cooperation mechanism between them.

Two-sided integration prevails in Russia: integration among educational and scientific institutions is on a high level in the scientific and educational spheres. Business representatives prefer science in research sphere and higher education institutions in educational sphere. Meanwhile, Russia should develop tree-sided correlation of science, education and business by making three-sided contracts, creating collaborative research and development centers, laboratories, developing of cooperation as part of scientific educational complex with the detachment of the guiding link, which determines priority partners and branches of activities. Only such three-sided cooperation of these institutions can create multiplication effect and turn Russian economy to the innovative way of development.

Developing countries solve the problem of overcoming technological backwardness by means of concentration of resources on breakthrough directions of the new technological mode, multiple increasing in innovative and investment activity, which provide new quality of economic growth.

The project of development and renovation of Russia's transport infrastructure can become a powerful locomotive of innovations development and one of the «centers of crystallization» of innovative activity. Progressive foreign countries experience of creating technological platforms based on combination of three factors: apparent demand, intellectual capital and new foreign technologies can be effectively introduced particularly in the sphere of road construction.

## II. DEVELOPMENT OF INTERNATIONAL COOPERATION

The department of road building machines of Kazan State University of Architecture and Engineering actively enlarges partnership both with national and foreign companies, having established on its platform international educational center of transfer of modern technologies in the field of road construction together with German company Wirtgen, Swedish company Volvo OOO "Ferronordic Machines", Chinese companies Guilin Huali Heavy Industries Co. Ltd, Xugong Construction Machinery Group [4].

International educational center regularly holds international seminars and meetings with leading foreign specialists for the managers of enterprises of road construction

industry of Republic of Tatarstan. During summer practice three best students of road construction department visit Wirtgen Group plants such as: Kleeman, Hamm, Vogele and Wirtgen. They study structures of modern road building machines, and in practice learn the newest technologies of roads laying in Germany, get acquainted with the newest methods and ways of their production.

Road building machines department has also signed an agreement with Chinese Geologic University (Wuhan) and Xugong Construction Machinery Group plant about creating a course "Application of Trenchless Technologies in Construction", aiming at studying and practical using of progressive experience. For example, Xugong Construction Machinery Group has formed a classroom on the platform of road building machines department and equipped it with necessary joints and instruments for demonstration aid; and Chinese Geologic University (Wuhan) sends its specialists in the field of trenchless technologies and horizontal directional drilling for holding training and educational seminars and conferences to exchange experience.

Realization of the mentioned above projects supplies the department with various groups of resources: material resources, i.e. access to unique equipment, financial resources, i.e. financial support of innovative projects, and immaterial resources, i.e. intellectual property, which is conveyed in accordance with licensing agreements and by using human resources and knowledge.

International educational center supports practice of collaborative participating of higher-education teaching staff in contests for gaining orders for investigations and project engineering, and in international programs and projects. All these allow forming the environment favorable for integrative processes in scientific-educational community. Challenges from developing technological market have encouraged active formation of patent portfolio of the department.

Realization of innovative projects is accompanied with creation of small innovative enterprises. Road building machines department is working hard on creation of Technical Park "The Roller", which will help to increase innovative activity in the road construction industry, and create new transfer channels of progressive technologies.

### III. USAGE OF TELECOMMUNICATIONAL TECHNOLOGIES IN INTEGRATIONAL PROCESSES

Telecommunicational technologies and interactive methods of education are widely used by the department for gaining effectiveness of integrational processes and increasing the quality of education.

Formation of student's portfolio, usage of case-technologies, creation of focus-groups, realization of business and role plays, case-study and on-line testing play a significant role among interactive methods. After practicing abroad, students defend their reports in on-line mode, creating participation effect of the host party.

The department actively develops education by means of network resources, which broadens interaction between students and teaching staff, provides dialogue exchange between the participants of the educational process in on-line and off-line modes. Synchronous holding of interactive courses with instructing in on-line mode, as well as with the further asynchronous discussion, is actively practiced in the process of teaching.
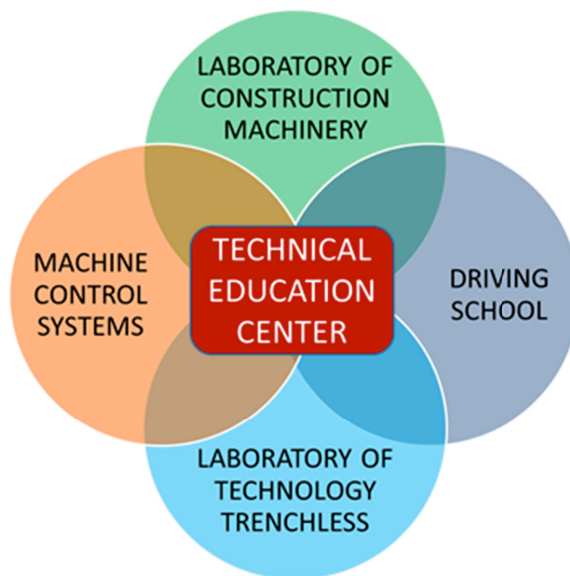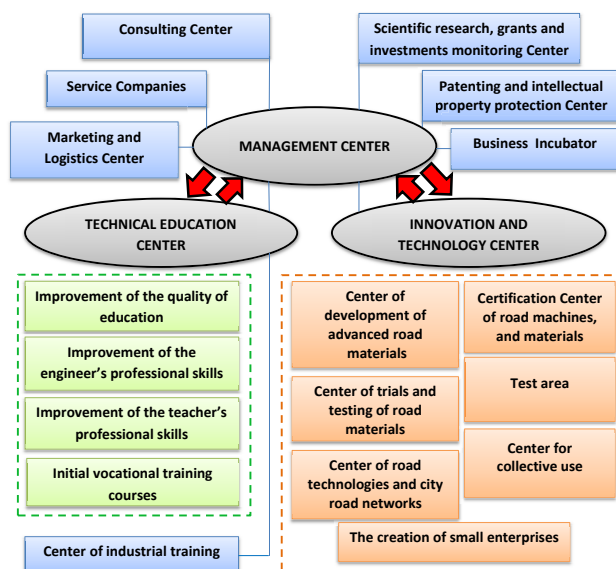


Figure 1. The Scheme of the Center.



Figure 2. The Scheme of the Road Technology Park «Roller».

Wirtgen Company representatives hold lectures about modern world tendencies in the development of road construction industry for students and specialists, who upgrade their skills in the International educational center. During educational seminars video conferences, round tables, on-line debates and discussions, forums for business as well as for informal communication are held both with Russian representatives of road construction industry and foreign partners.

Qualification upgrading courses are constantly held on the platform of the department, where exploitation peculiarities of foreign road construction machines of such companies as Wirtgen, Vogele, Hamm, and Volvo are studied, and machines of modern trenchless technologies of horizontal directional drilling are observed. Information technologies are actively used in this process.

Cooperation of the universities with business structures on the bases of telecommunicational technologies opens:

1. ability of participating in solving real production tasks in on-line mode;
2. adjusting of one's activities to international standards in the educational sphere;
3. ability to get feedback from the consumers of scientific-educational services;
4. acceleration of the transfer of knowledge and practical experience;
5. training of higher level specialists by access to new educational and information resources;
6. access to new markets of educational services in the form of distance education;
7. continual renewal of acquired knowledge and upgrading of professional qualification by means of studying multimedia courses.

The introduction of information technology into the process of continuing engineering education has led to the formation of a new individual-oriented paradigm. It is based on virtualization of the educational process. Today the department is working to create electronic textbooks, electronic reference books and glossaries, coaching and monitoring software. This assumes widespread use of multimedia technology, local and global communications network. Unlike the traditional forms of education, the student can individually select the rhythm of studying, speed of course, group mates, educational and reference materials. Virtual project-based teams to solve specific production problems are being created. All of this allows increasing the level of the professional skills of trained engineers.

According to the results of the international research in the sphere of innovations "Global Innovative Barometer 2012", only 35% of the examined agreed that Russian schools and universities provide level of education, necessary for formation of innovative leaders of the future (on average 59% of 22 countries; 52% of BRIC countries). Among the most important factors that could contribute to gaining success in innovative activities, 64% of Russian managers emphasized the availability of the employees, who can think creatively and find out-of-the-box solutions, and 42% of the respondents wanted to see employees with a higher level of technical competence [5]. The represented data enable to evaluate really the level of qualification of Russian specialists and search for cardinal new ways of its increase, among other things by means of strengthening the integration between universities and business on the bases of telecommunication technologies.

## IV. CONCLUSION

Transition of Russian economy to the innovation-based development is impossible without strengthening the inte-



Figure 3.   The Scheme of the Department Development.

gration between universities and business. This will favor narrowing the technological gap and returning Russia into elite technological club. Development of global partnership between educational institutions and leading global producers and Russian companies will increase specialists' training quality, and activate conducting Russian scientific research. Broadening of integration processes today is impossible without active application of telecommunicational technologies. The usage of them opens new possibilities in educational and scientific spheres.

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# Knowing Customers Better: An Experimentation of Twit Marketing in the e-Commerce Industry

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*Abstract*—Internet gives incredible opportunities for companies to learn about their consumers and provides different channels for marketing. Otlobli.com website (an e-commerce company established in Saudi Arabia), uses different channels, such as: Google AdWords, newspaper website banners, official thread on a famous online forum and, Twitter. A marketing tool has been developed to enhance the effectiveness of marketing on Twitter. This research investigates the impact of the developed system. Website access from these various channels was examined, in addition to the number of visitors who have completed an order. Results showed that the tool caused around 49% increase in the number of visits from Twitter, and comparatively, a good percentage of them completed an order.

*Index Terms*—Twit Marketing, e-Marketing, e-Commerce, Organizational Learning

## I. INTRODUCTION

The fundamental thing marketing professionals want is to learn about customers. Internet gives incredible opportunities for companies to learn about their consumers. In the knowledge economy, knowledge is increasingly considered a critical factor for organization's success and a source of its competitive advantage and value creation [1], [2]. The development and widespread use of information technologies are fostering the revolution of means used to access, and share information. In particular, internet technologies are literally facilitating individual and organizational access to information they need and utilize these information as needed. This new economy has introduced a new lexicon in which knowledge capital, intellectual capital, learning organizations, intangible assets, and human capital describe new forms of economic value [3]. The potential usefulness of information technologies is well recognized. In fact, these technologies are considered critical part of modern life. Their importance has rapidly increased with time on a personal and organizational levels, especially with the development of the Internet and electronic commerce. Now a days, the role of IT is more essential rather that supportive. It helps in building organizational strategies by providing new market opportunities, products, and customers [4].

Social media have revolutionized the 21st century. The proliferation of social media has exceeded expectations. It is globally available on numerous devices, including mobile devices, which assist users to access these services any time. With social networking sites, such as Twitter and Facebook, people are connected with each other and can share and exchange messages, media, and news easily. Social media have become essential tools for individuals, companies, and governments. The influence of social network sites is critical and far-reaching, affecting personal lives, governments, and business, particularly in terms of marketing strategies, sales, and new opportunities for existing and start-ups. Lately, marketing is more significant than ever, with many channels available that can be used to reach customers and optimally market goods and services. Marketing has been performed directly or indirectly via multiple traditional channels including TV, newspapers, banners, or other print media. However, the introduction of the World Wide Web has changed the concept of marketing, with new channels that supersede traditional ones.

This study aims to develop and experiment a tool for marketing on Twitter for one of the e-commerce sites, Otlobli.com, a company in Saudi Arabia that handles the purchasing and payment processes of online products and ensures the delivery of these items to local addresses.

## II. TWITTER FOR MARKETING

Social media has influenced advertisements and marketing strategies. Recently, there has been an interest in the used of social media in marketing. Several companies are already using social networking sites to support the creation of brand communities [5] or for marketing research in the context of netnography [6].

Twitter, which was launched in 2006, enables users to send and read short messages limited to 140 characters, known as "tweets". For some authors referred to Twitter as an information sharing tool rather than a social network platform [7], [8], [9]. Regardless of its classification, Twitter has grown exponentially, reaching 200 million users and recording over 30 billion messages in only five years [10].

Twitter is one of the most known and accessed social networking site in Saudi Arabia. Twitter penetration keeps breaking records, placing Saudi Arabia on top Twitter user penetration per internet capita, increasing its user base by 45% in 2013 with more than 5 million active users, 73% of them access Twitter via mobile (http://www.thesocialclinic.com). Most users of Twitter share or report news, exchange information, discuss different opinions and political and social interests, and campaigning for or against certain people, companies, or governments [11].

In addition of the role Twitter plays at different levels; for instance, at the political level as in the Egyptian revolution in 2011 [12] on one hand, and on the business level as in word of mouth marketing on the other hand [13], Twitter can be considered an effective platform for mar-

keting and public relations. Marketing strategies on Twitter can be, interactive or reactive. The former is using Twitter "to provide a highly interactive one-to-many information channel, using, and a combination of retweets, hyperlinks, and hashtags to promote positive messages, especially by independent influential individuals" [14]. Where the latter is "using Twitter as a service recovery channel to respond to customer complaints – both those made directly to the organization, or those discovered by monitoring the Twitter feed" [13]. Twitter can also provide easy access to information for those to who it is most relevant or interesting, by pushing users to an internal web site on one hand, and companies can listen to/influence consumers' opinions" [15].

Otlobli (otlobli.com) is a small Saudi online company that handles the purchasing, payment and delivery processes of online products from other e-commerce sites and ensures the delivery of purchased items to local addresses. They use different channels to market their services many of which are performed manually. Some examples of these channels are Twitter, Google AdWords, newspaper website banners, and advertisements in online forums.

The company never tried a semi-automated mechanism with Twitter to market its services. Therefore, we developed and experimented a Twit Marketing tool, which is discussed in section III, for advertising Otlobli and we compared it to the other techniques. Results are presented in section V.

## III.   TOOL DEVELOPMENT FOR TWIT MARKETING

Lots of questions being asked by people on Twitter either were not receiving answers, or were receiving useless answers. Businesses are having a hard time finding ways to interact with Twitter users. There are various tools available in the market, such as: InboxQ (inboxq.com), Twitter Keyword Tracker (twtrland.com), and Tweetbeep (tweetbeep.com). However, most of the available solutions are limited to basic keyword searches; and none of these tools provide an automatic replies to the tweets that found to be related to a specific topic. A tool that helps increase the likelihood that information seekers will get good answers to their questions has been developed.

The web-based tool can be used to collect everything about a specific topic based on the keywords related to the topic (e.g. product and organization). We can then reply

automatically to all tweets collected with a pre-defined reply. This tweet can also be sent to a group of people who are potentially interested in buying online or looking for some help in this matter, system architecture is shown in Figure I. In particular, the web-based tool is used in two steps. First, creating categories and defining keywords that can be used to collect business related tweets. Second, replying to the collected tweets in which multiple tweets can be selected from the list and a single reply can be sent from company's Twitter accounts. Automatic replies has been defined to be sent immediately to tweets collected under a specific category. The tool also provides a statistical report on all tweets, including the retweets, accounts been tweeted …etc.

One important consideration in the development of the tool is the ethical issue. The tool can be used to help information seekers. But also can be misused to harm people or companies by sending messages to people who do not wish to receive them. To avoid any ethical violation, we manually made sure that tweets sent by the system reaches only people who are interested in such information and avoid any random push of messages.

## IV.   METHODOLOGY

As mentioned previously, Otlobli.com marketing partner used to send tweets manually to potential customers who ask about buying online or related information. We conducted an experimentation at the company to study the impact of Twit Marketing on website visitors and number of orders made.

The research have gone through two main stages. First, in collaboration with Otlobli management, we manually listed 35 keywords or hashtags that indicates potential customers. For instance, one of the detected hashtags was related to a negative feedback regarding another online company that provides similar service. Second, the monitoring period of three weeks for collecting interesting tweets and subsequently sending a 113-character tweet that summarizes Otlobli's main service and the link to the web site.

"نشتري لك ماتريد من المواقع والماركات العالمية بكل سهولة ولاينطلب سوى 4 خطوات سريعة. للطلب www.otlobli.com "

The accounts are configured to send one tweet every five minutes per account, enabling us to send 100 tweets
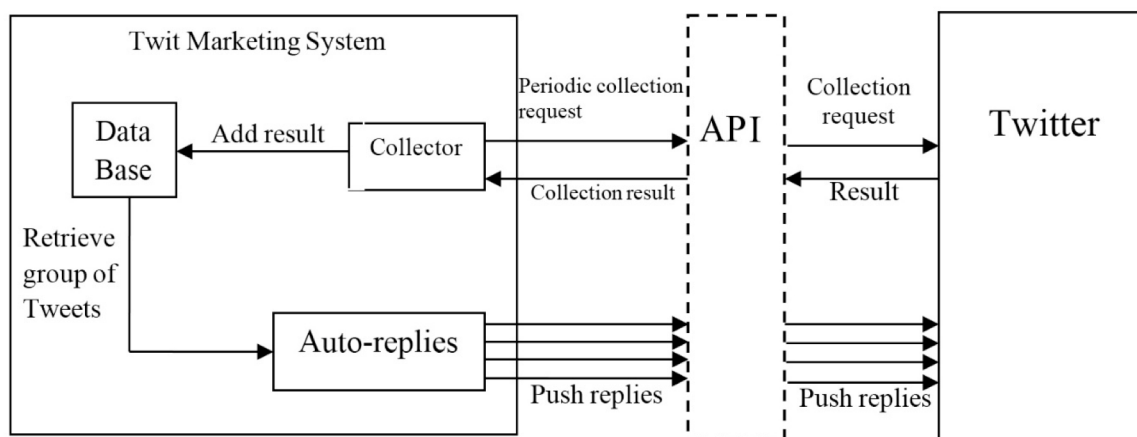


Figure 1. Web-based System Architecture

every five minutes. Throughout the three-week period, collected tweets will be reviewed (manually) and unrelated tweets were excluded.

Later on, Otlobli management provided detailed statistics about the number of visits, including statistics on who completed an order, allowing us to present accurate results. In addition, we got analytics distributed on the channels used for marketing, for example, Google Adwords, normal banners on certain websites, and publishing official advertisement threads on an online forum. These statistics can be found via Google Analytics, a comprehensive, accurate, and trusted third-party tool.

## V. FINDINGS

An experiment has been conducted to measure the effectiveness of marketing via Twitter and it has gone through two stages, hunting potential customers' tweets, and then replying to those tweets and measure the impact on the number of visitors and completed orders. During the three-week stage, many Arabic tweets (n = 567) were captured, examples are shown in Table I. The majority of these tweets (n = 432) were related to one hashtag in which users expressed their dissatisfaction of dealing with a competitor company providing similar services. Obviously, this number of related tweets is difficult to capture manually and will require a lot of time and effort.

As stated previously, different channels are used to market the Otlobli.com website, these are: Google AdWords, newspaper website banners, official thread on a famous online forum and Twitter. However, to investigate the accurate value of the developed system, we differentiate between the manual/traditional marketing, and the semi-automated marketing using the developed tool. Website access from these various channels was examined, in addition to the number of visitors who have completed an order. Data has been gathered captured over a four-day period from Google Analytics are presented in Table III. An explanation of the metrics is provided in Table II.

Manual/traditional marketing on Twitter is conducted through a company that specializes in marketing on Twitter. The company undertakes several activities, such as replying to all questions forwarded to the Otlobli account on Twitter, following new accounts to indirectly inform them about the Otlobli account, promoting tweets in active hashtags, tweeting daily using the official Otlobli accounts on Twitter, and re-tweeting some Otlobli account tweets. The average of visits that used to come from Twitter, using the traditional marketing method, were around the 550 visits for a similar four-day period.

After the start of the experimentation (replying to the collected tweets), the number of visits to the website raised to 822 visits in the four-day period. We can therefore conclude that the additional visits were because of the replies sent automatically through the developed system.

## VI. CONCLUSION

Google AdWords is clearly the best marketing channel based on all the metrics (visits and orders completed). It was the cause of most of the visits (79%) to Otlobli.com website during the four-day period. However, only 2.91% of those visitors made completed order, see Table IV. On the other hand, Twitter followed Google AdWords in rank. Twitter caused 822 visits, (17%) of total visits.

### TABLE I.
### SAMPLE OF CAPTURED TWEETS

| Translated Tweets | Original Arabic Tweet |
|---|---|
| "I would love to try buying online" | "ودي اجرب يوم اشتري من النت" |
| "How can I buy online - ?" | "وشلون اشتري من النت؟" |
| "Please may you explain how I can buy online, I would love to try this method but I don't know how" | "حبيبي ممكن توضح لنا الطريقة والله اتمنى اشتري من النت بس مو عارف تكفى علمنا " |

### TABLE II.
### NUMBER OF VISITORS WHO COMPLETED AN ORDER

| Metric | Description |
|---|---|
| Source/Medium | Type of channel the visitors used to access the website. |
| Sessions | Number of visits |
| % New Sessions | Percentage of new visitors from the total number of visits or the number of visitors who had not visited Otlobli.com website since a month ago |
| New Users | Number of new visitors from the total number of visitors |
| Order Done (Goal 3 Conversion Rate) | Percentage of visitors who submit and pay for a specific order on Otlobli.com from the total number of visits. |
| Order Done (Goal 3 Completions) | Number of visitors who submit and pay for a specific order on Otlobli.com from the total number of visits. |

### TABLE III.
### RESULTS FROM GOOGLE ANALYTICS

| Source / Medium | Sessions | % New Sessions | New Users |
|---|---|---|---|
| Google AdWords | 3774 | 71.86% | 2712 |
| Al-Jazirah.com | 25 | 52.00% | 13 |
| Almokhtsar.com | 75 | 92.00% | 69 |
| Forum.hawaaworld.com | 43 | 72.09% | 31 |
| m.forum.hawaaworld.com | 28 | 42.86% | 12 |
| Twitter | 822 | 51.70% | 425 |

### TABLE IV.
### NUMBER OF VISITORS WHO COMPLETED AN ORDER

| Source/Medium | Order Done (Conversion) | Order Done (Completions) |
|---|---|---|
| Google AdWords | 2.91% | 110 |
| Twitter | 1.88% | 5 |

More importantly, the percentage of visitors who actually placed orders is not substantial between Google AdWords and Twitter marketing channels. Since 2.91% of visitors through Google AdWords placed actual orders, 1.88% of visitors through Twitter submitted complete orders. The number of visits from Twitter before using the marketing tool was about 550 visits and the tool caused the increase of about 49% getting 822 visits in total.

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# Customized E-Learning for B2B Companies

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*Abstract*—Business-to-Business (B2B) companies have customers that are primarily other corporations. These companies have unique problems in workplace training. They must train their customers and their customers' employees. A B2B company may operate with only a few dozen employees, but they may need to help thousands of customers learn how to make best use of their product or service. Discussions with industry executives suggest an ideal training solution might include a number of features that are reviewed in this paper.

*Index Terms*—business-to-business, customer training, e-learning.

## I. TRAINING AND BUSINESS-TO-BUSINESS COMPANIES

B2B companies (companies whose customers are primarily other corporations) have unique problems in workplace training. They must train their customers and their customers' employees. A B2B company may operate with only a few dozen employees, but they may need to help thousands of customers learn how to make best use of their product or service.

The value to a B2B company in having well-trained customers is enormous: lowered support costs; improved customer satisfaction; increased customer engagement; lower churn; higher up-sell rate; and in this era of the Social Network - improved ratings and recommendations. All of these lead directly to the bottom line through reduced costs and increased sales.

Companies use face-to-face learning events, webinars, on-line videos, documents, and on-line courses to help their customers become expert users. These are effective methods, but they can be expensive. They can also require long lead time to produce, which can limit flexibility in addressing issues from the field in a timely way, or keep up with rapid innovation in the company's products and services.

Discussions with industry executives suggest an ideal training solution might include the following:

- Lesson Creation Speed
- Rich Content
- Engaging Interactivity
- Accessibility
- Reports and Monitoring
- Single-Sign-On and Co-Branding
- Cost Effective
- Flexible Business Model

## II. CHARACTERISTICS DESIRED IN TRAINING SOLUTION

Educating customers about a company's products is not the same as teaching someone how to write better essays or how to do algebra. There is no source of educational materials to directly use, simply because the product is unique. Producing the unique lesson materials that are required takes time and expense. The ability to create interactive lessons in a short amount of time is a valuable component of a training solution.

There is research showing that multimedia (sound, graphics, and video) produces better learning results and creates a more positive impression of the material that is taught than use of text only [1]. The training solution should provide the ability to include video, audio, images, documents (pdf, PowerPoint, Word) and text. Companies often have collections of media that they use for marketing purposes. It should be easy for companies to leverage these collections of media to produce engaging training for their customers.

Gamification provides an additional dimension of engagement and interactivity. Use of points, awards, leader boards and games with the teaching activities produces increases in engagement, understanding, and interest in the subject matter being taught [2]. A training solution that automatically creates activities, games, and quizzes from lessons can present learning content easily in the form of games. This produces a higher level of customer interaction with the company and its products.

It's best for training to occur as close to point of use as possible. Leading companies that have franchises schedule training for franchisees just before the opening of the new store, so that as much learning as possible can be retained and reinforced in the actual experience of operations. When the training solution is available everywhere, on all kinds of devices (cell phones to big screen displays and everything in between), then customers can take or retake the training at any time and place they choose. It's desirable that the training solution is completely web-based, with mobile versions that work on all relevant platforms. In fact, if customers are enabled to have full autonomy for free exploration, they may make use of on-line educational experiences even in leisure settings [3].

Customers have greater confidence in using products that they feel they really understand. The training solution should include the ability for customers to self-assess their progress and for the company to monitor customer activity in detail. Private on-line assessments that give immediate feedback about activity results and the difficulty levels of the learning challenges that are presented improve test scores [4].

Additionally, by following the results of customers' engagement with the training material, businesses gain insight into which features and design aspects of their products are most troublesome for the users, and which are the most usable. This is important input for the design of future products.

Since training is another opportunity for customers to engagement with the business, the experience should be consistent with the company's branding and image. The training solution should be co-branded with and support single sign-on with the company's web site or core application offering. Customers should be primarily aware of using the training solution. They should feel that they are making use of a valuable service that the business provides them.

The training solution should be cost-effective. Ideally, there should be little or no cost to produce the training lessons, and it should be possible to rapidly recover cost by modest customer fees, advertisement or other means as the lessons are delivered.

Businesses will need flexibility in business models that the training solution supports. They can pay directly for delivery of lessons, or their customers can be billed as they use lessons. The training solution should be flexible in setting up convenient payment arrangements and applying them in a way that is most effective for each business and its customers.

With current technology and insight into ways in which technology can improve learning it is possible to build a globally available e-learning platform that has the characteristics that executives of B2B companies have asked for.

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# The Missing Link:
# How Lack of Branding can drive to Failures in E-Business and E-Commerce Ventures

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*Abstract*—**In the paper we present first hand and personal experiences from the lack of branding and how much it can influence the failure of a project or a venture. We do so in terms of present a personal failure story, namely this of the PACE toolkit, a methodology that the author has co-developed at ALTEC Research Programmes Division for valuating intellectual and intangible assets, in parallel with the success story of the business model canvas developed by Alex Osterwalder. We emphasise on the need for e-business and e-commerce professionals and practitioners to more seriously and enthusiastically invest in branding related activities. Involving others such as future potential users or customers as well as investors is a key in the adoption and uptake of our offerings.**

*Index Terms*—**branding, e-business projects, e-commerce projects, ventures, business model canvas, valuation, value co-creation.**

## I. ORGANISATIONAL BACKGROUND

The case we present is not about a company but about a methodology we developed as part of the activities that were undertaken as part of the Research Programmes Division that the author was heading at ALTEC Software S.A. in Greece. ALTEC Software is one of the biggest ERP vendors in Greece, with activities on software, system integration (since 1st of August 2009 forming a second separate and independent subsidiary of ALTEC, namely ALTEC Integration S.A.), services and products and telecommunications, in several branches all over Greece, while also operating a subsidiary company in Romania and with a business expanding in Bulgaria, Serbia and Cyprus. ALTEC develops and provides technologically advanced systems and software applications to cover the entire spectrum of computerised and organisational demands in both the public and the private sector. ALTEC Software S.A currently has an installed base of over 50.000 companies from all business sectors in Greece.

Since its foundation in 1996, the Research Programmes Division of ALTEC Software has succeeded in opening up a set of novel research fields many of which were successfully adopted by the corporate business development and commercial departments. It has participated in a number of European and national research projects using their results for improvement of current products as also development of new innovative software products and services that cover needs of the European mark.

The Research Programme Division has fostered innovations by collaborating with academic institutions and research centres throughout Europe. Great emphasis is also given to internal (within the ALTEC group) technology uptake for support of existing product and service lines, which mainly address the market of ERP systems. ALTEC has a thorough experience in project management and co-ordination at the European level especially in the successful marker validation and deployment of services in Europe.

Despite the blue sky picture we give above, the subject of our case is related with a … failure. However, it is not a case of a corporate failure – quite the opposite the author presents the case as a personal failure to make the appropriate moves that would have possibly driven us to a success story. However, our point of view is positive and optimistic: success needs failures - Samuel Beckett has stated in his Worstward Ho novella 'Try Again. Fail again. Fail better.'

## II. SETTING THE STAGE

Currently almost all people I know in the area of European research projects talk about the business model canvas, use the business model canvas and exchange ideas and arguments about the business model canvas. These people are researchers and academics, some of them also work in the industry. They do so in order to address a need that is apparent in all European Commission funded projects to prepare for some commercialisation, exploitation, business planning or sustainability related activities.

People see in the business model canvas an easier way to come up with things that in the past were closer to an accounting exercise – the business model canvas now seems to offer them with a postmodern, Post-it era facility they can feed with any thoughts or ideas under any of the 9 available slots. From the original canvas, there are now several differentiations and variations that can accommodate any particular need or (even worse) any style-dictated necessity. Below you can see a quite consistent application of the canvas for use in such a case of a research project, namely the BlogForEver project, for reasons that I shall describe later in this article.

Some bits of history on the canvas may be useful to the reader: Axel Osterwalder published his now best-selling book on business model generation by 2010 [1]. For sure, time has passed since some ideas that were still work in progress back in 2002 [2] converged to his PhD thesis [3].

In the amazon.com reviews section, the aforementioned book attracted 271 reviews of which 194 assigned to the book 5 stars while only 5 reviews gave to it only 1 star. From these 5 reviews, 3 were referred to the low quality

of the e-book namely the kindle edition, thus leaving only 2 truly negative reviews that related to the content of the book [11].

More specifically, according to the first reviewer (Not Camping, Asheville), who claims that 'this will be my first return of a book I bought on Amazon. I really don't understand all the 4 and 5 star reviews this has received'. The reviewer states that '[…] What I expected was an easy read to help map out ideas that I have for small businesses.
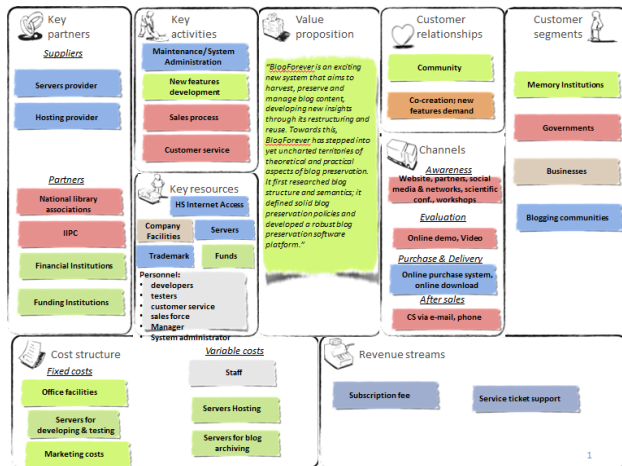


Figure 1. The BlogForever business model: an overview of the European research project BlogForever business model canvas which illustrates all nine building blocks together (source: Deliverable 6.4 BlogForever Business Model, http://blogforever.eu/ )

What I got was a book full of fancy drawings surrounding some hard to read, overly-complicated text. It reads like snippets from a bad college textbook. Maybe I'm simple minded, but I appreciate plain language.'

The second reviewer was attacking the book elsewhere, and namely in the field of practice. According to him/her it is a 'nice book... very simple and easy to understand. Have you ever try to use it in practice? This knowledge is useless because it doesn`t work in real work! Nice design and easy methodology is not the purpose of the book. The Business Book must give you the power to create something new and become reach. [sic] This book is the entertainment, not the knowledge.'

I had been introduced to [1] soon after it was published. At that time I was impressed by the design of the book – having read numerous other books dealing with the design of your business and business planning and all the related paraphernalia that appear in the bookshelf of an MBA student, Osterwalder's book brought a fresh air in the area.

The bottomline is that these two reviewers aren't at all wrong; it may be simply the case that they didn't let themselves fall easy victims of the viral fall-in-love symptoms of a big mass amongst whom I would include myself. Or that they weren't inclined to see value where lots of others may have seen…

### A. You can observe a lot by watching

The title in the subheading above is not mine – it is one of the Yogi Berra quotes and the title in one of his books [10]. Osterwalder did either consciously, purposefully and deliberately design what happened next, or was lucky enough to enjoy it without his own involvement. I am aware that many of us like to be recognised and not have

contributed or machinated our own rise in regard to recognition, reputation and image. What Osterwalder seems to have experienced is related to branding: his business model canvas succeeded in getting out of obscurity – it is not by chance that he mentions all the names of the 470 co-creators of the canvas model in the book – because of an extensively well-thought and optimally executed branding exercise.

I am praising Osterwalder and his approach because I have developed or co-developed some similar frameworks and methodologies that never managed to exhibit any successful uptake and adoption – they remained in the twilight zone of made-up success which, by the time I ended investing any additional resources to them quickly made the transition to oblivion. I used the term twilight above deliberately and in a rather negative way: twilight as we know from physics is the illumination that is produced by sunlight scattering in the higher parts of the atmosphere, illuminating the lower parts of the atmosphere when the sun itself is not directly visible, so that the surface of the earth is neither completely lit nor completely dark. Same also with some of my past work that gave some 'promising' signs of a possible wider adoption and uptake though this was only an illusion and nothing would happen at all as soon as I would cease pouring any energy and efforts there. This brings us to the main postulate of this article: even if a brand has been conceived, designed and promoted by a single person, it has to be adopted and embedded by an increasingly large group of people out there so that it has a chance to set a trend, become viral and have the capacity to influence the market. And it is only by that time that one can start using the term brand for it. Any time before this happens we can talk about a brand-to-be, or a potential new brand, or anything else other than a brand. And it is this branding exercise that is currently missing in many e-business and e-commerce projects or productions that I elaborate in the following paragraphs.

### B. Branding needs altruism and longshot mentality

Same as with SWOT analysis that is taught to several levels of education all over the globe but few people care to know that this method was not always with us but developed by Albert S. Humphrey, our children and grandchildren may get taught in school about the business model canvas but without any reference to Osterwalder. This way Osterwalder will have managed to establish a new brand name that will outlive him. Also he may not be able to cash in financially or in monetary terms the positive externalities that he has created with what one may call the business model canvas economy. Some easy to understand way in the form of examples of figurative meaning follow below:

People teach classes and give lectures for which they get paid using as content the canvas – is Osterwalder getting any single penny (or Euro cent) out of them? The answer is rather not…

People use the canvas to fulfil contractual obligations as part of e.g. financially supported from national or transnational agencies (like the European Commission in the above mentioned BlogForEver project) with the use of canvas as a methodology or tool to carry out their work assignments. Is, again, Osterwalder getting any money for this? No… And I am sure that many consultants make intensive use of the canvas as part of the professional ser-

vices they provide to their customers. And again Osterwalder is not cashing any single penny.

However, Osterwalder created a brand and is given the opportunity to grasp its fruits. He may possibly fail to do so, or others may do this in a better way. Establishing a brand does not necessarily or automatically imply that you will be successful in making money out of it. But there are two thinking errors that many of us make: first that branding is an easier, more straightforward process where you can solitarily pour energy and get results out of it; second that successful branding helps you make money. For the scope of this article we limit our attention to the first and try to see the lacks and inefficiencies in many of the attempts that people make in establishing their work and being able to successfully exploit on it in commercial terms.

### III.    VISITING A CASE

#### A.  In theory there is no difference between theory and practice. In practice there is

The title in the subheading above is attributed to Yogi Berra though it has been attributed to several others amongst them Jan van de Snepscheut (a computer scientist and educator), Manfred Eigen, and … Karl Marx. And while for tango it takes two, for a successful branding operation you need many committed enthusiastic people, working in teams or separately, with loose or tight control, and the idea of burning scarce resources (money, working hours, sleepless nights, off-home travels) to give substance to something that may or may not succeed and which may take long time till you get the feeling whether you betted on the wrong horse or not.

Quite paradoxically, and in times where we want to think that success is some type of a promissory note, same as it is the case with banknotes that are immediately payable to bearer on demand, it may take some time till success comes: in (Finkelstein, 2000) the case of Iridium, a rather notorious venture in the area of telecommunications is presented. Its – then – CEO Edward Staiano had 'as late as 1998 […] predicted Iridium would have 500,000 subscribers by the end of 1999'. Unfortunately, by April 1999, Iridium had only 10,000 customers and its CEO, Edward Staiano, resigned under pressure. However, and with a delay of almost twelve years, as of December 2011 Iridium had managed to achieve a base of approximately 523,000 subscribers [4].

Osterwalder may have been luckier to this, but as it seems he has rather engineered this success to happen – while for Iridium they have rather ignored many of the common sense rules that should have been followed and a mentality of arrogance and too big to fail may have driven towards the initial failure, amongst other factors, of course, several of which are covered in [5].

A great part of e-commerce and e-business projects, productions (in the sense we use the term in the entertainment business area) and ventures builds on an ephemeral basis; a fast economy where people come up with a cool idea and soon after they make the launch of a Web portal or an App, they start collecting checks with five, six or seven digits by investors and financiers and thousands of downloads by customers and users. This has been an idiotic curse and a delusionary fantasy that is haunting many people's minds till today, and some of the blame is to be attributed to MBA classes where people are educated

about the successes of others to only face their own individual failures tomorrow.

The role of branding is essential and can be regarded as a seamless parallel process that continuously feeds the particular venture with positive only input, spanning from immaterial assets like reputation, goodwill, image, recognition, visibility, word of mouth and emotions. In this respect, branding helps the core process of value creation which will not depend on the particular technology or any other feature(s) used for the implementation of the project.

Of course the choice of a 'wrong' technology or the association with the 'wrong' features can facilitate a failure. Same important is the choice of the users: imagine a Tweeter that might have been invented or conceived for messages in some neo-nazi group or for the members of some extremist group? Nobody should be making any second thoughts about the poor uptake and business potential of such an, otherwise, promising technology. On the other hand it is easy to disassociate an e-business / e-commerce offering from a wrong context and re-position it to a new one. This continuous give and take of feedback between the market(s) and the core project team is what branding is at the end; you get messages from the market, you interpret and process them and you reposition your offering. Quite not rocket science at all – but who said that it takes a lot to fail in the small things?

#### B.  The case of PACE: failing without a failure

In the past when I was with my previous position heading the Research Programmes Division of ALTEC (http://research.altec.gr), we had for a rather short period of time been involved in many research projects concurrently. This is not the usual case for academic or research institutions where you have people fully assigned in a single project and in some few cases also in two. Being able to watch the inner processes in several projects, and having (at some time at least) very good and genuinely good communications amongst us (something that I regret to say rarely happens in institutions that concentrate a high number of intelligent individuals who have never learned to work together in teams and are continuously caring about themselves only) we created capacities and skills that would be rarely found in the market. At some point we came to the idea that we could transfer parts of this know how into a methodology that would help research consortiae make better use of the intangible assets and the intellectual capital they were creating so that exploitation and commercialisation of the project outcomes could take place easier or at all. I should note here that for European research projects there is a long tradition of doing very few things regarding this part and so we thought that anything we do would be in the right direction and easily liked and loved. We were a little bit naïve as the story will show.

We developed PACE – a methodology for valuating Project Assets, Core competences and Exploitable items [6], [7]. The methodology was based on an approach developed by Donald Andriessen [8]. His book we loved and had passionately read and discussed many times. One of the team members has also decided later to have his PhD in a nearby area. We started passionately talking about PACE in the projects we were involved and people were always listening with interest. All the initial feedback we got was very positive. Momentum seemed to be gained. And then things started going backwards: people were

happy to hear about PACE but didn't find it easy to use it. At that point we saw an opportunity of organising PACE workshops and also bilateral sessions to help them make use of it. But again things were not promising at all. And then silently we made some publications and used this in some offers as an accessoire – not very relevant perhaps but not bad to include amongst other more relevant tools and methods. So we felt that PACE would be dying soon and we preferred to bury it or choose some type of zombie state for its later existence.

### IV. CURRENT CHALLENGES/PROBLEMS FACING THE ORGANIZATION

The reasons for failure are many – and while people say that "success has many fathers, failure is an orphan" I never thought to shift responsibility for the PACE failure to anyone else than myself. The problem I was facing was: what did I do wrong? What did go wrong? Which mistakes have I made? Which were the wrong assumptions I made? Perhaps the market was not ready yet to accept something like this; perhaps I was trying to push it for adoption to the wrong people; perhaps I was using too complicated terminology (though I personally felt that I had oversimplified Andriessen); perhaps the way we were 'teaching' people was not good. And a lot of other reasons came to my mind. Can you now imagine the case of Osterwalder – hypothetically now, of course – asking himself the same questions in case the canvas wouldn't have succeeded?

Now that I look back I think that I made all the right questions to myself. The problem was that I wasn't doing anything to deal with the 'possible' mistakes. I haven't changed my market and the people I was selling it to; and I didn't do anything to change the terminology – or making the steps easier to use (something that Osterwalder does with the canvas: one can fill out all nine segments of the canvas while we were sticking to some non-value creating sequential approach used in algorithms in the old programming world paradigm of structured programming but not what people do in business…). And also the way that we were teaching people was totally uncool – something like sex lessons organised by the Catholic church – or even worse. Good for intellectuals but too bad for consumers. If you read again the two negative reviews for Osterwalder mentioned in the introduction, you shall see that they both admit that the book was well designed and was 'nice'. I have to confess that this was the first thing that attracted me to the book. So if the first impression your stuff makes to others is not excessively positive, everything starts to get difficult.

We were not as unsuccessful at all, one can say. We envisioned PACE and had it 'realised' for some time. It is only that we failed in making a bigger 'viral' success – and keeping it alive as a methodology or a resource used intensively by a community. What we failed to see – same as many other e-business and e-commerce practitioners is that our job is not only to develop the technology or the tools but also carry out successfully the branding part as well.

Actually what we were trying to develop in some way was some type of the business model canvas combined together with a canvas with valuation capabilities – something that a bit later on Osterwalder came up with the Business Model Toolbox which was promoted for combining 'the speed of a napkin sketch with the smarts of a spreadsheet' and which is now provided as an App (http://www.businessmodelgeneration.com/toolbox/bmtbox).

One might see that having been so close to a potential success I may personally have feelings of bitterness envying the victory of canvas over PACE. Quite not: from the first moment it was easy for me to see that there was something wrong and something missing, namely the branding part, in our approach, though at that stage I was not able to recognise it exactly. This is not the right place for speculations – it may be that my first degree and all my background were in Computer Science while Osterwalder had an education in Political Science and Management. For a computer scientist a revolution starts when you write (or compile …) a piece of software code while for a political scientist it is cliché knowledge that revolutions start out in the streets and it is good for an engineered revolution to have your followers supplied with well-prepared and easy-to-function and operate Molotov cocktails. And the canvas was that type of an easy to spread and disseminate intellectual artefact that could relatively easy become the subject of wider adoption and uptake. I shall speak for myself: Osterwalder made perhaps the most important contribution in the business community after 2000. The sooner we shall recognise it the better for all of us. And he did so by means of an exceptionally successful branding that involved 470 co-authors all of whom are listed in the beginning of the book and some of them that I met personally feel proud of having been a contributor or a co-author to the book.

Even if the book may not be worth for some people as the two reviewers mentioned in the beginning of the article, it is worth for you to read the process as this is presented in page 275 of [1].

*'The core team, consisting of Alexander, Yves, and Patrick start the project with a number of meetings to sketch out the business model of the book. The Hub is launched to co-create the book with business model innovation practitioners throughout the world. Creative Director Alan Smith of The Movement hears about the project and puts his company behind it. Finally, Hub member Tim Clark joins the core team after recognizing the need for an editor. The group is completed by JAM, a company that uses visual thinking to solve business problems. An engagement cycle is started to pump fresh "chunks" of content out to the Hub community for feedback and contributions. The writing of the book becomes completely transparent. Content, design, illustrations, and structure are constantly shared and thoroughly commented upon by Hub members worldwide. The core team responds to every comment and integrates the feedback back into the book and design. A "soft launch" of the book is organized in Amsterdam, Netherlands, so members of the Hub can meet in person and share their experiences with business model innovation. Sketching out participant business models with JAM becomes the core exercise of the day. Two hundred special limited edition prototypes of the (unfinished) book go to print and a video of the writing process is produced by Fisheye Media. After several more iterations the first print run is produced.'*

Same important are some numbers that are given to document the background process for this – I copy them from the same source and would like to put them next to what we did with PACE:

TABLE I.
COMPARISON OF NUMBERS OF INTERACTIONS AND QUANTITATIVE ESTIMATES FOR THE BUSINESS MODEL CANVAS AND THE PACE TOOLKIT.

| Canvas – numbers as presented in the book: | PACE – rough estimates: |
|---|---|
| 9 years of research and practice | 4 years of research – low to no practice |
| 470 co-authors | 2 main authors and 5 other lukewarm contributors |
| 19 book chunks | 4 papers and 1 (badly written) 'manual' |
| 8 prototypes | 1 prototype |
| 200 copies of a messed up test print | None |
| 77 forum discussions | ca. 10 small group / core team (: 2 persons) discussions |
| 287 Skype calls | less than 10 |
| 1,360 comments | less than 10 or 20 |
| 45 countries | 1 country |
| 137,757 views of method | Less than 100 |
| online before book publishing | online access |
| 13.18 GB of content | few megabytes |
| 28,456 Post-it™ notes used | hmm… |
| 4,000+ hours of work | ca. 250-300 hours |
| 521 photos | not even a single photo from all events we organised! |

## V. EPILOGUE AND LESSONS LEARNED

Branding is a mainly communication function. Molly Hislop writes that 'a simple way to measure the effectiveness of advertising, as stated by the head of online advertising at a large packaged goods company is to "stop advertising and see what happens"' [9]. In this respect, by the time we stopped doing anything about PACE nothing happened except some anaemic and sporadic citations we still receive from postgraduate students burning the midnight oil for their bibliography desk research trying to find who else may have published something same strange or bizarre. On the other hand, all may agree that the canvas has a life to live and some more miles to go even if the core team retired and stopped doing anything new to support it.

Hislop in [9] defines branding as 'the process of creating an association between a symbol / object / emotion / perception and a product / company with the goal of driving loyalty and creating differentiation'. In order to see your e-business or e-commerce project, production or venture succeed in having a critical mass of followers and achieve an installed base you have to continuously and uninterruptedly invest in building relationships and connection between your offering and the people out there. One could add next to the 'Osterwalder' metrics some other non-conventional ones which I truly believe: how many coffees (espressos, lattes, Americanos, macchiatos, etc.) have you had with people talking to them and holding value-creating conversations? How many bottles of wines have you enjoyed or consumed with your extended team members and future value co-creators for your ideas? How many small- or micro-projects or events or ventures have you established and sponsored next to your mega-project or production to allow for other people to position themselves and create a mutually beneficial space for them? Otherwise why care find 470 fool people to follow you unless they don't see that they also get some value out of it? You might not even find 4 at all.

This article wouldn't be complete if I left out an important thinking error I personally made on branding. This has to do with my own conceptualisation about the 'shadow' linkage between branding and viral marketing. For the latter the general understanding is that it aims to create a strong appeal to people with high social networking potential and produce increases in brand awareness which can help achieve any particular marketing objectives through self-replicating 'viral' processes, be them word of mouth or any other activity that can create a multiplicative snowball effect and all this within a short period of time. I am afraid that the mistake I and many other people do is that this type of viral uptake was not holding even in the ancient pre-Internet and pre-Tweeter times. In fact, Paul the Apostle whose influence on Christian thinking arguably has been more significant than any other and is generally considered as one of the most important figures of the Apostolic Age for Christianity and what it is today, has understood and it is therefore that he foresaw the need to start churches in his lifetime. And it is this element that Osterwalder did in terms of establishing a community of 470 co-authors. If you want to find willing customers, partners, investors and users you have to 'plant churches' close to them – in our times this doesn't need to be physically or geographically close but it does need to be contextually close to their needs, their interests and their motivations.

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