

CoMedia – An International Collaboration Best Practice Case

Michael J. Murphy
Rogers Communications Center
Ryerson Polytechnic University
Toronto Canada
Mmurphy@acs.ryerson.ca

Walter Ganz
Fraunhofer-Institute for
Industrial Engineering (IAO)
Stuttgart, Germany
Walter.Ganz@iao.fhg.de

Alexander Karapidis
Fraunhofer-Institute for
Industrial Engineering (IAO)
Stuttgart, Germany
Alexander.Karapidis@iao.fhg.de

Abstract

What is CoMedia - Cooperation Multimedia? CoMedia is a multi-disciplinary and international research project between the Rogers Communications Center at Ryerson Polytechnic University, Toronto, Canada and the Fraunhofer- Institute for Industrial Engineering (IAO), Stuttgart, Germany. Its aim is to develop an Internet-based cooperation platform for multimedia companies and to develop a Knowledge-Product for an end user manufacturing company as a business case using the platform. Partnering with the research institutes in Canada and Germany are small multimedia production companies and a large manufacturing organization. CoMedia intends to strengthen the competitiveness of multimedia companies in building up a client oriented cooperation network and testing several collaborative Multimedia production services (Storage, e-commerce, video shaping, rendering).

In this case study we also trace the history of the CoMedia project including the starting conditions and how and in which way the partners initiated successful collaborative work packages without being trapped in their previous context. This case study also demonstrates that international cooperation (between both industrial companies and research institutions) can be strengthened on the basis of WIN-WIN oriented cooperation strategies and concepts.

1. Introduction

Intercultural cooperation provides the potential to achieve higher quality in problem solving strategies and to improve the innovation potential because of culture specific performance patterns that can be complimentary. On the other side of the coin, multicultural teams can be confronted with difficulties due to the cultural distance of the different partners.

The focus of this case study lies in an international cooperation of scientific institutes, multimedia production companies and industry partners called CoMedia: Cooperation Multimedia. CoMedia is a research project targeting the competitiveness of multimedia production companies, attempting to strengthen them through a client-oriented internet-based cooperation network.

In this case report we concentrate on the cooperation between Ryerson University, Rogers Communication Centre, Toronto in Canada and the Fraunhofer Institute for Industrial Engineering, Stuttgart in Germany. The case explores both intercultural differences (Canada vs. Germany) as well as interdisciplinary barriers (Social Scientists vs. Technology oriented Scientists) that interact in a successful way.

The following description of the CoMedia case study attempts to provide an impression of how an international cooperation can be successfully constituted and more importantly in which way it can be a positive influence on the research outcomes. The case identifies which factors have been identified by the researchers to be most critical to cooperation success or failure. Using practical examples, the case study reports on how both teams (the Fraunhofer team in Germany and the Ryerson team in Canada) profited from international collaboration.

The summary provides a list of strategies to facilitate successful collaboration not only in scientific research but also in cooperation between industry partners.

2. The CoMedia Project

2.1 Background of the research project

The CoMedia project was the result of a government to government collaborative research initiative between the province of Ontario in Canada and the state of Baden-Württemberg in Germany.

Research partners were selected in each jurisdiction by the respective governments and introduced to each other

to accomplish the research task. As a result of this process, at first the researchers didn't know each other before initiating the project, and knew nothing about the background of each other's institutions. The initial condition, therefore, was that of two independent research projects with independent government funding, objectives and tasks. The single link between the two institutions was the government-imposed condition to work together to develop a project of mutual benefit.

Fortunately, at the first meeting between the two institutions in the spring of 1999, both partners identified the potential advantages of developing an international research collaboration. This first meeting was the crystallization point, resulting in an agreement to develop CoMedia as a true research collaboration. The partners agreed to develop the project and to work with a single industrial partner—a large German multinational manufacturing company.

2.2. An Equal Understanding – Cooperation vs. Collaboration?

Considering the huge range and widespread definitions of cooperation in different scientific disciplines we can see differences in several dimensions and levels of validity relative to this study. (See Staudt (1993); Türk (1993); Neuberger (1998)). To identify what it means to “work together” we first need a common understanding of the content of an integrated multicultural work team. For this reason we decided to define the following terms:

Cooperation in work teams means, after defining a

common aim, to have a *parallel* development process in working at different tasks. Each team can work relatively independently towards a common goal, and the results are integrated once completed. The project partners can still distinguish between each others working packages at the conclusion of the project.

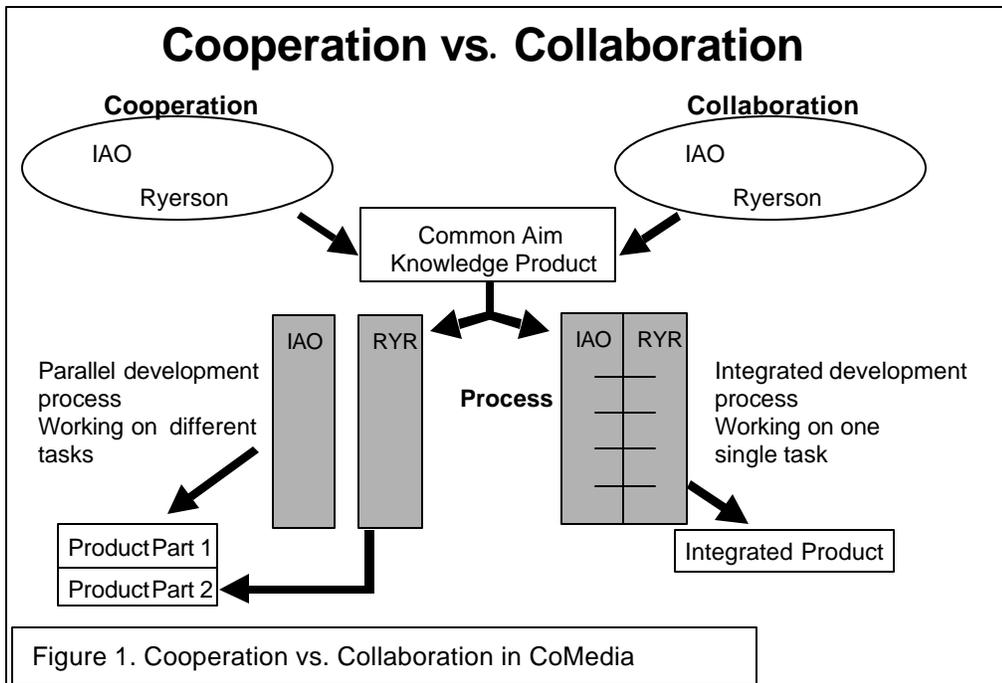
Collaboration in work teams means, after defining a common aim, to have an *integrated* development process in mixed teams or with strong ties between the teams and to work at a single task. The result is an integrated product that consists not only of the knowledge and skills of each member but moreover of the emergent synergies of the different working styles.

Cooperation and Collaboration should be seen as subcategories of working together in a specific way. “Teamwork” describes the teams working together in general.

In CoMedia, we have a mix of cooperation and collaboration areas. The reason for this mix lies in the different tasks of CoMedia. Some tasks are best solved using a parallel (cooperative) approach (e.g. research presentations, specific work packages with local partners). Some tasks need to be performed in a much more integrated (collaborative) manner (e.g. common scientific releases, product development etc.).

An important question is why the distinction between cooperation and collaboration is seen by both parties as being relevant. This is better understood by examining the strengths of both research institutes.

The Rogers Communications Centre in Canada has a more technological focus and core of expertise, with strengths in information technology and creative media production. The Fraunhofer IAO in Germany has a more industrial, client-oriented approach with a team of both technologists and social scientists. As a result, the researchers decided to build on their respective strengths. The Fraunhofer IAO strengths were identified as *Cooperation Knowledge and Applied Information Technology*. Ryerson strengths were identified as *Media & Design and Networked Multimedia Technology*. The complementary strength of both teams



provided an opportunity to coordinate research including an exchange of results, exchange of researchers and ultimately to develop a collaborative research project. Indirectly, there is also an opportunity for exchange in research and application management, project management, market trends in each others jurisdiction and local technological trends.

3. The Identified Influencing Variables

3.1 Starting Conditions of “teamwork”

Why is some teamwork effective or ineffective? Often organizations focus on the process that teams use to improve their performance. However, the initial conditions are often overlooked as a variable in influencing team performance. Does the team have a history of working together? Do the partners have a history of success or failure in past partnerships?

To determine why the team performs in a particular way cannot be isolated without looking at the starting conditions of the team building. In our opinion these conditions can be a significant source of variance in later performance. We draw a distinction between teams that have a common history and teams without a common history.

3.1.1 “Teamwork” with a common history. Discovering parameters that influence the teamwork in the beginning leads to the development of a common team language and syntax. Without having a common understanding of each other’s work style, vocabulary and way of thinking it is unlikely that the team will find an effective way to work together. So, without a common language, a common understanding in the team is hardly possible to find. This problem is less critical in successful teams with a common history, because the acteurs have previously learned to understand each other in a way that does not hinder performance.

Also, a higher conflict potential lies in multidisciplinary teams. To integrate the knowledge of all members from different fields (e.g. social sciences & technologists) is an additional challenge to group performance. Clearly, teams with a common history who have overcome these challenges in previous work are better positioned for effective collaborative performance.

3.1.2 “Teamwork” without common history. In fact, in CoMedia we didn’t have a common history in the beginning but we think that out of our experience it is also necessary to describe the starting conditions of “teamwork” with no common history.

Groups mature and develop. Like individuals they have a fairly clearly defined growth cycle. Tuckman (1965) has classically categorized this as having four successive stages.

Forming- the group is not yet a group but a set of individuals (or teams). This stage is characterized by talk about the purpose of the group, the definition and the title of the group, its composition, leadership pattern, and life span.

Storming- many groups go through a conflict stage when the preliminary, and often false, consensus on purposes, on leadership and other roles, on norms of behavior and work, is challenged and re-established. If successfully handled this period of storming leads to a new and more realistic setting of objectives, procedures and norms. This stage is particularly important for testing the norms of trust in the group.

Norming- the group needs to establish norms and practices. When and how it should work, how it should take decisions, what type of behavior, what level of work, and what degree of openness, trust and confidence is appropriate.

Performing- only when the three previous stages have been successfully completed will the group be at full maturity and be able to be fully and sensibly productive.

The CoMedia project experienced all of the four stages in its road to collaborative performance.

3.2 Language and Communication

To define targets and to develop action strategies it is necessary to interact with the team partners in a deep and meaningful way. Intercultural problems can be often traced back to different decoding and encoding of messages (See Kühlmann 1998: 69). To choose English as a standard language for communication leads to unintended actions, confusion and of course higher “costs” because of the increased stress for the non-English speaking partners. Werp (1998: 177) stresses that the distance between partners has a stronger impact when the language barriers are high for one group. In CoMedia we came to the conclusion that every culture has its own format of communication. We learned to ask questions if something is unclear or confusing. This simple strategy helps to translate and interpret the intention of the senders in their own cultural context. The pitfalls of communication and misinterpretation with limited lingual skills can be shown in an example. The word *possibility* is often used by Germans to describe alternatives, opportunities or options. In English speaking countries this expression has a more literal meaning (that something is in fact possible). These “lingual traps” can lead to misunderstandings and may cause problems between project partners. Conclusion: If

we don't see a mistake in our lingual expressions, we cannot change it! In having more and more personal contacts between the different project partners in each country the misunderstandings are becoming fewer. The Canadians as native speakers are developing a higher tolerance of the mistakes of the "German English" and are building many bridges to make good working communication much easier.

As important as language is the different communication behavior of project partners from different cultures (See Hall & Hall (1991). This has also shown to be true in CoMedia. In the first meeting in 1999 the Germans determined that the Canadian project team often communicates in subtle and indirect ways. Open criticism is rare, but differences of opinion are often communicated indirectly or are hidden. The German project partners prefer more direct and exact communication. Verbal confrontation is rare, with the teams preferring to solve problems and conflict through discussion. To recognize this needs partners who check their behavior in a very sensitive way (see also 3.5.3 Sensitivity). These efforts make the cooperation and moreover the collaboration much easier and lowers the conflict potential.

3.3 Mode of Operation—"Arbeitsweise"

A different way of work can also be a success criterion for teamwork. One example in CoMedia is the different working style concerning meetings. The German partners are usually coming to meetings with a firm agenda, with ideas written on paper, recording result protocols and meeting action minutes. The Canadian partners usually come with a more flexible agenda and want to brainstorm before converging on a problem solution. They are also clearly uncomfortable with a rigid meeting protocol, preferring a more freewheeling approach. Clearly, this initially lead to some of the "storming" behavior mentioned earlier. But in the end, both sides have evolved a compromise process.

There are other examples that can cause confusion to one or both partners. One area is a different experience level in interdisciplinary work. Another area of potential misunderstanding stems from differences in the institutionalization models in Canada and Germany.

3.3.1 Different experience levels in interdisciplinary work. The German team finds that Canada uses a more tayloristic way of working together with different disciplines, and feels that this is a barrier (e.g. social scientists communicating with media designers and technologists). Interdisciplinary work teams are more difficult to find in Canada and positive synergies can hardly be found because of a lack of common

interdisciplinary history. The German Partners from the Fraunhofer Institute are more experienced in interdisciplinary teamwork. The reasons for this are made clear in the next section.

3.3.2 Institutionalization. The Fraunhofer Institutes are research institutes with a focus on applied research. They differ strongly from the basic research institutes that exist at many universities. That means that in nearly every project they have to work together with industry partners to improve and invent products or processes that should be transferred in the economy. This can be described as a combination of a client focus on one side and a research focus on the other side. Fraunhofer typically work in interdisciplinary teams. Their institutional culture feels that, over the long run, the benefits of an interdisciplinary approach far outweigh any higher costs incurred in building a common language, syntax, and working structure.

In Canada and at Ryerson University, the research structure is more discipline or sector oriented. Although Ryerson has an applied research tradition, it does not have the same history of interdisciplinary work that exists at Fraunhofer. This is seen as a benefit to the CoMedia collaboration.

3.4 Different background and experience in multicultural teamwork

Ryerson has a history and tradition of working collaboratively in international projects, and has extensive experience in working with multicultural teams in North and South America, Africa and Asia. This experience base assists in preparing for new international collaborations, and is an important initial condition variable.

Fraunhofer also have experience in multicultural teams but this is more centred in the European Union. Both teams built on this past experience and were open to the challenges and effort required to launch the CoMedia partnership.

3.5 Intercultural Social Competence

To develop a successful intercultural team strategy, it is necessary that there exists a basic knowledge of the local and the foreign cultural orientation patterns of all acting individuals. Because of the differing cultural characteristics, the norms and values of all project partners and especially of those from other countries needs to be strongly understood and recognized (see Brüch 1998). Out of this we can develop an agreed-to process and orientation, framed by parameters that all individuals have determined (See Krewer 1994: 154). In

CoMedia we have created the motto “No surprises”. This means that arbitrary behavior not discussed with project members or redefined targets from one project group without discussing these points with the other team members should not happen. Four factors appear to be important requirements for successful intercultural teamwork.

3.5.1 Tolerance. To be tolerant of different working styles, ways of thinking etc. is a central necessary precondition to understanding. Because of their experience with other multicultural projects, the Canadian and the German project team members are not trapped in a vicious circle of intolerant behavior.

One example that shows tolerance is the different work styles exhibited by the Canadians and the Germans. The more methodical concept-oriented and planned German work style and the more reactive “trial and error” oriented pragmatic work style of the Canadians is partly assimilated by each group. In the end, this has developed a CoMedia “hybrid” working approach that is flexible and adaptive, because of the emergent synergies that have been adopted.

3.5.2 Open-minded. To be open to new ideas and different approaches is an important point in CoMedia. The ethnocentric view is not the rule in the team. Because of the emerging nature of the multimedia industry, it has been useful to imagine oneself in different social, cultural, political, and jurisdictional environments. Many contacts with the project team and the local multimedia and industry companies of the foreign country give a contribution that allows CoMedia to generate a more universal and less country-specific solution. This improves the research approach and provides interesting new market opportunities and feedback for the project industrial partners and multimedia producers.

3.5.3 Sensitivity. To be open-minded and tolerant is not sufficient for a proactive recognition of barriers in teamwork. It is also necessary to develop sensitivity to the way different partners are acting and reacting. Once again, a lack of ability to imagine oneself in a different role appears to be a barrier for multicultural teams, especially when the individuals in the team come from different cultures.

Here we hypothesize a correlation between the ability of the team members to empathize with the different views of the team members and the amount of previous experience of the partners in international and interdisciplinary teamwork. In CoMedia the recognition of hidden signs appears to work, but of course this is a developing process.

3.5.4 Trust. Trust is an important factor in multicultural teams (See Werp 1998). Preisendörfer (1995: 269) described from empirical studies that the estimation of trust to an individual is not merely dependent from the decision context. The readiness of trust of individuals is also structural, individual and culturally dependent. Trust can be viewed as a bridge function between self-interested rational behavior and expected and norm-conform behavior of another individual. A problem of trust will be manifest when the expectations are unclear and when there is an option of an expectation disappointment. In CoMedia trust is seen as a process, as described in exchange theory or game theory (see Blau 1964; Axelrod 1984; Dasgupta 1988).

In the first meeting between the Canadian and the German project partners both sides came in contact with a confidence bonus. By “bonus, we mean that both sides did not initially know if the potential partnership would succeed or not but they trusted in positive results. The expectations of both sides were fulfilled at the end of the first “one week meeting” and were reinforced by subsequent follow-up actions.

Trust is growing in CoMedia by further fulfilled expectations and it increases with each new meeting and milestone achieved. As a surplus result of the teamwork we established a scientific staff exchange program between The Fraunhofer Institute for Industrial Engineering and Ryerson University that is operating over and above the confines of the CoMedia project on an institutional basis.

4. Measures for successful teamwork

After identifying important factors for the teamwork the question should be answered in which way we mastered them successfully. We show this best in the way that describes the teamwork constitution, the defined area of work and the installation of a corporate “CoMedia” identity as a crystallization point of the whole team building process (See Smith & Noakes 1996).

4.1 Teamwork constitution

4.1.1 Commitment for English as the working language. English was chosen as the common group language, as this is the language both partner groups are able to speak.

To lower the hurdle for non-native English speakers in the project we committed that the German partners did not have to translate every “less relevant” document into English. That is also a trust bonus from the Canadian side. This means that, although the working language of the project is English, some of the project documentation is only in German. To date, this has not caused any

significant problems and it also lowers the “performance costs” of the German side a bit.

4.1.2 Confidence-building discussions for teamwork.

An important decision for CoMedia was to decide to regulate how often and in which way face to face and other forms of communication would occur. The early meetings were certainly important for building confidence in both the process and the other team’s capacity and ability to perform.

More and more the confidence-building elements take a reduced importance in the discussions because of the fulfilled expectations in the past. The result is that the meeting outputs are now more specific, detailed and the team members are more committed to them.

4.1.3 Social relations. Another successful measure to keep CoMedia performing well is to strengthen the social relations between the different team members. Several activities have been made in the past and will be continued in the future like common dinners in the evening, short sightseeing trips etc.

The main effect of these measures in CoMedia is that we gain confidence and a better understanding of the personalities and cultural norms in each group. At the beginning we viewed the “other” members in a stereotypical way. However, over time we recognized each individual’s abilities, fields of interest and other personal traits. Also, in a non-work environment, often things are said much more easily than saying them in a structured work meeting. On the one hand that brought a redefinition and insecurity into play because some of the different cultural values became evident. On the other hand with this new knowledge it was much easier to define “unwritten group norms”. With this awareness we were able to break the ice and moved from partners to becoming friends. We want to remark that in this context, doing things together “outside” the office or lab does not mean that business is never discussed. In fact, the teams have noted that some of the most significant discussions and decisions have occurred during these after-hours social events.

4.2 Areas of work

4.2.1 Fixing Targets and Ways of Working Together. As described above we recognized early that working together could result in a complete exploration of the entire process chain to mutual advantage. An early determination was to build on the previously mentioned respective strengths of the two research institutes (*Fraunhofer IAO*- cooperation & collaboration knowledge and applied information technology. *Ryerson University-*

media & design and networked multimedia technology). First, we defined the areas of cooperation and collaboration in the project.

Cooperative areas included common formal documentation for the government funding agencies, development platforms and technological tools and software packages used by the different research teams.

The collaboration aspects of the project were initially (at the first meetings) only vaguely identified, but not fixed in work packages. After having fulfilled expectations and early cooperative milestones, we began to more concretely specify the areas of true collaborative development. The primary activity agreed to was the joint development of a multimedia knowledge product for the German industrial partner participating in the project—specifically a multimedia extension of an industrial design for a new high-efficiency gas furnace.

With growing trust of the CoMedia partners we also recognized other growing areas of collaboration (e.g. institutionalization of a student exchange between our institutes).

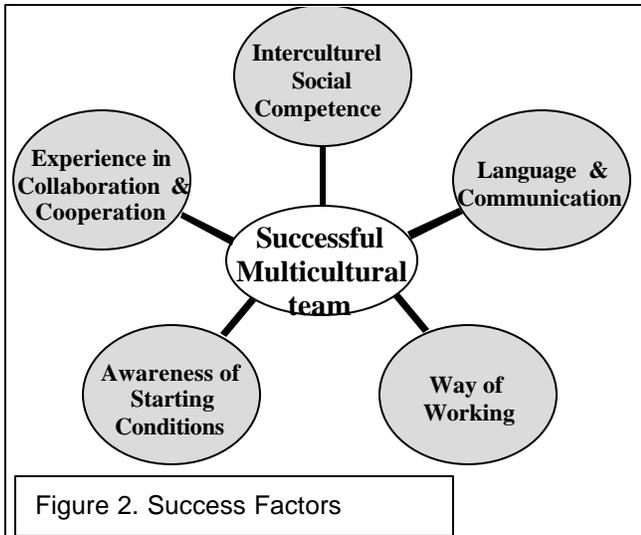
4.2.2 Constructing a hierarchy of targets. One continuing challenge is to determine task lists and relative priority of tasks in both jurisdictions. Indeed, this is a serious and ongoing challenge because without this hierarchy of targets the priority and the quality of the content out of common work packages that should be completed can become confused and unclear. In CoMedia we continue to define targets for project activities and combined them with a draft time schedule. Out of this framework we build up scenarios for cooperation and identify collaboration opportunities.

4.2.3 Defining responsible persons for different work tasks. From of the hierarchy of targets determined above, we designate the Canadians and Germans as responsible persons for different work packages. These points are well documented in joint “action minutes” which serve as a project memory and document the agreed deliverables and time line.

4.3 Corporate Identity

After the constitution of the team and defining the areas of work the next step in CoMedia was to attempt to launch a common, unifying project mission and identity. Beneath the codification of common targets and areas of teamwork we believed that it was an appropriate time to show that we are one team. So we took the last step and designed a common “corporate” identity. This included; designing a common project logo; developing a common video for marketing to show the aims and the benefit of

CoMedia; and a common web site mainly for marketing purposes. This has proven to be an effective team building exercise and has unified the CoMedia approach even more, providing the project with an opportunity to agree to a common marketing and external focus.



5. Summary

To summarize the paper we present a matrix that combines relevant teamwork factors with the measures for successful teamwork (See Table 1). Out of our CoMedia experience we have also added the “additional costs of action” and the “gain” for the project. “Additional costs” mean that we invest resources (like time, travel) to compensate for factors we believe may influence CoMedia in a negative way. The costs of working operatively in work packages like programming, etc. are not included in this balance sheet.

The result is that both the Germans and the Canadians invest additional costs to gain a higher probability of success in this collaborative project. As seen in the matrix the only factor that is significantly different is the language and communication section with higher additional costs for the German project members. What is shown is that the positive balance sheet is a result of a planned WIN-WIN situation.

6. References

- Axelrod, R. 1984: *The Evolution of Cooperation*, New York
- Blau, P. 1964: *Exchange and Power in Social Life*, New York
- Brüch, Andreas (1998): Individualismus-Kollektivismus als Einflußfaktor in interkulturellen Kooperationen, in: Spieß, E. & Nerdinger F. (Hrsg.): *Kooperation in Unternehmen*, München
- Dasgupta, P. (1988): Trust as a Commodity, in Gambetta, D. (Hrsg.): *Trust. Making and Breaking Cooperative Relations*, New York
- Hall, E.T. & Hall, M.R. (1991): *Understanding cultural differences: Germans, French and Americans*, Yarmouth
- Krewer, B. 1996: Kulturstandards als Mittel zur Selbst- und Fremdrelexion in interkulturellen Begegnungen, in: Thomas, A. (Hrsg.): *Psychologie interkulturellen Handelns*, Göttingen
- Kühlmann, T. (1998): Kooperation in multikulturellen Arbeitsgruppen, in: Spieß, E. & Nerdinger F. (Hrsg.): *Kooperation in Unternehmen*, München
- Neuberger, O. (1998): Strategische Kooperation (Mikropolitik), in: Spieß, E. (Hrsg.): *Formen der Kooperation: Bedingungen und Perspektiven*, Göttingen
- Preisendörfer, P. (1995): Vertrauen als soziologische Theorie, in: *ZfS* (24), Heft 4, S.263-272
- Staudt, E. et al. 1992: *Kooperationshandbuch. Ein Leitfaden für die Unternehmenspraxis*, Stuttgart
- Tuckman, B.W. 1965. Developmental sequences in small groups. *Psychological Bulletin* 63:384-399.
- Türk, K. (1993): Organisation und Kooperation. Grundzüge eines theoretischen Programms, in: Türk, K. (Hrsg.): *Diskussionspapiere zur Organisationstheorie*. Gesamthochschule Wuppertal: Unveröffentlichtes Skript, Seite 29-40).
- Werp, R. (1998): *Aufbau von Geschäftsbeziehungen*, Wiesbaden

Authors' Biographies

Michael Murphy, PhD, is Academic Director of the Rogers Communications Centre at Ryerson Polytechnic University. Research at the Centre includes a focus on Digital Media Production techniques and technologies, broadband delivery of media and mass storage and retrieval systems.

Walter Ganz, M.A. is Member of the Board of Management of the Fraunhofer Institute for Industrial

Engineering (IAO), and is Head of the Market Strategy team “Serviceportfolios”. The main focus of his applied research work is in the service industry including cooperation research and solutions for SMEs.

Alexander Karapidis, M.A. is a staff member of the Competence Center in Human Resource Management at the Fraunhofer Institute for Industrial Engineering (IAO). The main focus of his applied research work is in the service industry and includes cooperation research and new media applications.

Table 1. Matrix of Factors and Measures

Factor	Measure	Cost	Gain (WIN-WIN)
Awareness of Starting Conditions	Confidence-building discussions for team work	+ CAN/GER	Successful Starting Phase
	Initialize social relations	+ CAN/GER	
Experience in Collaboration & Cooperation	Staff with pre-experience in team work	0 CAN/GER	Pre-Condition for successful team work
Language and Communication	Commitment for English as the working language	++ GER	Successful running of the project
		0 CAN	
Intercultural Social Competence	Tolerance Open-minded Sensitivity Trust	+ CAN/GER	Successful running of the project
Way of working	Constructing a hierarchy of targets	+ CAN/GER	Successful running of the project
	Fixing Targets and Ways of Working Together	+ CAN/GER	
	Defining responsible persons for different work tasks	0 CAN/GER	

WIN-WIN Balance Sheet. GER = German part of the team, CAN = Canadian part of the team