

# **SOCIO-ECONOMIC ANALYSES OF THE “CO-INTEGRATIVE MEDIATION”-MODEL IN CONFLICT MANAGEMENT PROCESSES: FINDINGS FROM A LABORATORY-BASED EXPERIMENTAL EVALUATION STUDY**

*Josef Neuert, Fulda University, Germany josef.neuert@w.hs-fulda.de*

*Angelika Neuert, University of Passau, Germany, angelika.neuert@gmx.de*

*Manuel Woschank, University of Leoben, Austria, manuel.woschank@unileoben.ac.at*

## **ABSTRACT**

Conflict management has always been regarded as a major task of business management practice and as a preeminent issue of business management research [4]. In this paper, the authors analyse the outcomes of a laboratory experiment, which was also supposed to validate an empirical field study of real world conflict solution via mediation tools in in-court and out-of-court legal cases [12].

As a result of the field study design, a comprehensive conflict management theory had to be developed in order to evaluate the economic and socio-psychological outcomes of conflict management processes either with the intervention of a mediator or without.

The authors conceptualise the theoretical model of “Co-Integrative Mediation (CIM)” as a comprehensive conflict management tool, based on a combination of game theory, behavioural economics, new institutional economics, and social capital theory conjectures. The application of the CIM model against the “classical” approach of conflict solution by decision of a “legitimised” institution (LIE) was tested via an experimental investigation.

As a result, it can be tentatively stated that “Co-Integrative Mediation (CIM)” tends to show significantly superior effects concerning the economic and socio-psychological outcomes of the conflict management processes.

## **INTRODUCTION**

The Ministry of Justice and the General State Attorney of Rhineland-Palatine, Germany, in 2005 characterised his notion of civil court conflict resolutions as follows: “It is all about an improved communication in family court procedures, and also about enhanced competences for the answers to questions, which are not of genuine legal origin and about the abolishment of disadvantageous consequences of court decisions” [16].

Thus, he was referring to models of family court decisions known as “Altenkirchener Modell” and “Cochemer Praxis” [15]. Both concepts focus deliberately on Alternative Dispute Resolution (ADR) approaches, mostly including mediation tools and procedures.

In addition, the General Attorney commissioned an applied research project in order to test and evaluate the efficiency of ADR mediation models against “classical” court procedures via judge decisions. The primary objectives of this evaluation project were ultimately comprised of the following intentions:

- Sustainable improvement of the satisfaction of all stakeholders involved (conflict parties, attorneys at law, judges, experts, etc.);
- sustainable improvement of the economic component of conflict processes, aiming at a significant reduction of input and costs for all stakeholders;
- sustainable increase of the appreciation for the input and efforts of all stakeholders involved and
- sustainably improved “climate of dispute resolution” via the implementation of constructive conflict management systems [15].

As a result of this applied research project a modified conflict management model, called “Co-Integrative Mediation (CIM)”, was conceptualised and ultimately contributed to law in form of Germany’s “Mediationsgesetz” (mediation act) in 2012 [11].

The theoretical framework and the empirical evaluation findings of the CIM model will be described and reported in the course of this paper.

### **METHODOLOGICAL PLURALISM AND METHODICAL PLURALITY FROM AN EPISTEMOLOGICAL PERSPECTIVE**

The epistemological keynote of this study is based on the notion that theories and hypotheses reflect presumptions about cause-effect-relations in reality. In this sense, theories in the empirical sciences have to be “reviewable by experience and can basically be falsified by reality” [14].

Such an understanding of scientific methodology requires to set rules, which are supposed to examine the scientific character of research activities. However, so far it has to be conceded that there is no proven preference of a certain research method against other ones existing yet, concerning the scientific substance and validity of research projects and research findings [6].

This means that basically sound research findings in the empirical disciplines can and should be achieved via the utilisation of multiple sets of research methods, applied simultaneously and/or successively.

This study applies a pragmatic plural approach of scientific methods and methodology, which refers to the principles of critical rationalism on the one hand, but also takes into account that within the empirical social sciences so far there are no deterministic research findings existing, and stochastic theories, theorems, and hypotheses have to be accepted [1].

In our research project, the empirical design, in order to test the validity of our CIM model, in comparison to “classical court decisions”, was comprised of a quasi-field experiment, conducted among real-world court cases, based on fully structured and standardised survey questionnaires. This design construct per se encompasses a mixed-method approach, including interrogation and observation methods likewise.

In order to test the external validity of the field study results, an additional laboratory experiment was conducted, aiming at finding out whether the research results remain robust under modified empirical conditions (conflict subject, differing samples) and can be transferred to various scientific disciplines (i.e. management, economics, etc.) in the context of a general conflict and mediation theory.

**CONFLICT THEORY AND THEORY OF CO-INTEGRATIVE MEDIATION (CIM) IN THE  
CONTEXT OF EXPLANATORY GAME THEORY, SOCIAL CAPITAL THEORY AND  
EVIDENCE-BASED SOCIO-ECONOMIC INSTITUTIONAL THEORY**

Referring to the theoretical outline above, the explanatory framework of our CIM theory is exemplified by the elements of game theory, social capital theory, and new institutional theory.

The game-theoretical foundations can be drafted via the following case study:

- Conflict subject: Distribution of a success bonus of 10 monetary units (MU) among a party of 2 people;
- optimal MU of each party (10/0) resp. (0/10);
- impossibility of optimal MU realisation;
- ideal distribution of MU according to the intention of the co-integrative mediator: (6/4); this ideal distribution is unknown to the conflict parties;
- exemplary probability estimate of the co-integrative mediator concerning the acceptance of the distribution (6/4)=0.6 and (4/6)=0.4;
- exemplary probability estimate of the co-integrative mediator concerning the preferred distribution function of the parties: (10/0) resp. (0/10)=0.0; (5/5)=0.5; (6/4) resp. (4/6)=0.3;
- ultimate disagreement of the parties leads to a decision of (0/0).

This scenario represents the following game theory matrices (Table 1 resp. Table 2):

**TABLE 1: Game Matrix 1 [12]**

	Conflict Party 1			Co-Integrative Mediator	
	maximal	suboptimal			
Conflict Party 2	(10/0) x 0.0	(6/4) x 0.3	(5/5) x 0.5	(6/4) x 0.6	(5/5) x 0,5
	(0/10) x 0.0	(4/6) x 0.3	(5/5) x 0.5	(4/6) x 0,4	(5/5) x 0.5

**TABLE 2: Game Matrix 2 (cumulative) [12]**

Conflict Party 2	Conflict Party 1		Co-Integrative Mediator	
	(1.8/1.2)	(2.5/2.5)	(3,6/2.4)	(2.5/2.5)
(1.2/1.8)	(2.5/2.5)	(1,6/2.4)	(2.5/2.5)	

Under the above mentioned assumptions the expected MU distributions of all stakeholders involved leads to an acceptance solution of (2.5/2.5), reflecting an egalitarian distribution of the MU's of (5/5).

All stakeholders, conflict parties 1 and 2 and the co-integrative mediator will consider the distribution (2.5/2.5) as “dominant” against all other alternatives. This is also the case with the distribution estimate of the co-integrative mediator of (3.6/2.4), because this distribution will be “corrected” by the probability estimate of conflict party 1 to (2.5/2.5).

A substantial element of conflict parties' behaviour can be seen in the trust relations, individually and collectively of all stakeholders among each other and in mutual interdependency. Trust in interaction

processes is at least basically required in order to create interaction between individuals and/or collectives at all. “Without trust there is no cooperation, no negation ..., no trade, no relationship ... no human togetherness would be simply impossible” [9].

Rierner characterises trust as an essential element of social capital, which is the prerequisite to establish and facilitate sound conflict resolution at all. [13]

Concerning our theoretical construct of CIM, trust resp. social capital decisively determine the outcomes of conflict management processes.

Finally, the approaches of principal agent theory can be integrated into a CIM model of efficient conflict management strategy. The principal agent theory basically examines and explains the exchange relations between actors, designed by potential information and power asymmetries among the conflict parties. Those asymmetries can cause inefficient conflict resolutions [10]. In order to avoid those asymmetries, the co-integrative mediator has to search for acceptable solutions for both parties, and thus facilitate the conflict management process aiming at consensual agreements [8].

Our above outlined efficiency theory of Co-Integrative Mediation (CIM) is supposed to create a set of rules and a “constitutional framework” which allows for general “welfare” bonuses for the conflict parties (i.e. sustainable satisfaction with the conflict solution), as well as for the co-integrative mediator as the representative of the “society in general” [12]. In this sense, the combination of game theory elements, social capital theory elements, and new institutional socio-economic elements immediately contributes to the theoretical outline of Co-Integrative Mediation (CIM) as a concept of conflict management mechanism design. The central paradigm of this CIM mechanism design is comprised of the so-called “social welfare function”, representing “generally desired behaviour” resp. “generally desired solutions of socio-economic interaction processes” [1].

The conflict management mechanism of Co-Integrative Mediation (CIM) aims at the optimisation of this “immanent social welfare function” as its foremost objective.

## **LABORATORY EXPERIMENTAL RESEARCH DESIGN FOR CRITICAL VALIDATION OF THE SET OF HYPOTHESES**

The empirical theory of Co-Integrative Mediation (CIM) as a general theory of conflict management is represented by the following set of basic hypotheses:

- H<sub>1</sub>: The degree of effect of CIM depends on the conflict subject, the competence of the integrative mediator and the degree of utilisation of the CIM-mechanism elements.
- H<sub>2</sub>: The utilisation of the CIM-model increases the economic and socio-psychological efficiency of conflict solution in a procedural as well as in an outcomes-based evaluation in comparison to classical conflict management procedures by legitimised institutional decision.

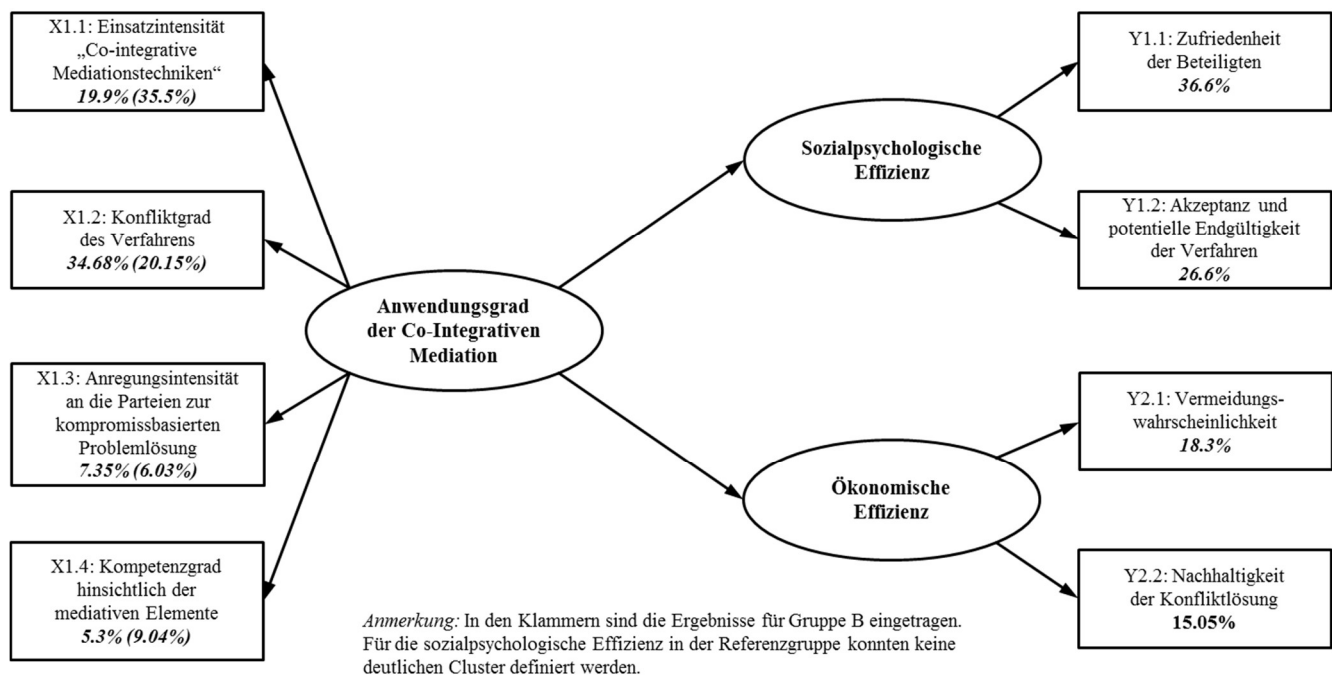
Both hypotheses will be operationalised in the course of the laboratory research design outline.

Whereas the field experiment is “characterised by the authenticity of the survey situation” [7], the laboratory experiment is a research method, “within which the researcher creates a situation with exactly the conditions he wants to possess, and within which he controls and modifies the variables” [5].

Bolton and Ockenfels, among others, try to find out about the potential external validity of lab and field experiments by – vice versa – conducting a controlled field experiment on Ebay with the research question “Does Laboratory Trading mirror Behaviour in Real-World Markets?” [2]. By and large, they conclude that trading behaviour in the field resembles the observations in the lab and, moreover, behavioural patterns in the field experiments represent in total the trading patterns in the real-world market [2].

The field experimental design of our applied research project Co-Integrative Mediation (CIM) is based on real-world court procedures about family issues, applying integrative mediation tools in the project group, in contrast to classical decision procedures in the control sample. After the finalisation of each of the 456 court cases, all of the stakeholders (conflict parties, attorneys, judges, and experts) had to fill in a fully standardised and structured questionnaire concerning the procedure and the outcomes of the conflict processes. In sum, the findings of that quasi-field experiment can be outlined as follows, based on a comprehensive factor and regression analysis of the underlying causal model (Figure 1):

**FIGURE 1: Co-Integrative Mediation (CIM) Model [12]**



**Abbreviations**

*Anwendungsgrad der Co-Integrativen Mediation: Independent variable degree of Co-Integrative Mediation (CIM) utilization*

*Sozialpsychologische Effizienz: Dependent variable socio-psychological efficiency*

*Ökonomische Effizienz: Dependent variable economic efficiency*

*X1.1 ... X1.4: Indicators of the independent variable degree of Co-Integrative Mediation (CIM) utilization*

*Y1.1 ... Y2.2: Indicators of the dependent variables socio-psychological efficiency resp. economic efficiency*

The research results can be interpreted as follows: 35% of the total variance in the project group Co-Integrative Mediation (CIM) can be explained by the degree of mediation mechanism utilisation, whereas in the control group a significantly higher part of the total variance can be explained by the degree of conflict strength. Moreover, the utilisation of Co-Integrative Mediation (CIM) mechanism explains to a large extent the variance of the socio-psychological and the economic efficiency of the conflict management procedures.

In order to create a valid and reliable situational and conditional context for a laboratory simulation model, a realistic conflict situation as an identical treatment task for both, the project group and the control group, was developed and applied in both subsamples. The experimental treatment referred to a 2 party teamwork in order to solve a classical business problem in form of the recruitment of personnel, based on a relevant job description and potential applicants' documents. The work teams had to solve this task jointly in view of the relevant questions and requirements for this decision making process. Again, the impact of the Co-Integrative Mediation (CIM) model in comparison to the classical LIE (Legitimised Institution's Decision) model was investigated.

## RECAPITULATORY RESEARCH FINDINGS

The main objective of the laboratory experiment was to review the findings provided by the field experiment. The research question, whether the empirical results of the field study would be validated by the lab experiment, was supposed to be answered. If the results of both research approaches are similar to a certain extent, the external validity of the findings would be mutually corroborated.

Both studies – lab and field – were based on a double step hypothetical procedure. Firstly, it is examined which factors resp. variables determine the degree of mediation in conflict management processes, and secondly, to which extent different degrees of mediative behaviour have an impact on the socio-psychological and economic efficiency of the final conflict solutions.

The research outcomes can be reported as follows, representing the statistical findings of the structural equation modelling, including a series of regression analyses:

- In the field study, the effect-degrees of CIM are explained with an  $R^2$  of 0.67 (that means to 67%) by the variation of the independent variables strength of conflict, conflict subject, competence of the integrative mediator and the degree of utilisation of the CIM-mechanism elements in the project group and with an  $R^2$  of 0.70 in the control group.
- In the lab experiment the  $R^2$  for this function was 0.684 for the project group (CIM) and 0.745 for the control group (LIE).
- The findings for the field study and the lab experiment can be described as nearly identical.
- In the field study, the impact of the CIM mechanism on the socio-psychological efficiency of the conflict solution is represented by an  $R^2$  of 0.63, meaning that 63% of the variation of the socio-psychological efficiency can be explained by CIM.
- In the field study, the impact of the CIM mechanism on the economic efficiency of the conflict solution is represented by an  $R^2$  of 0.34 (34% variation explanation).
- In the lab experiment, the impact of the CIM mechanism on the socio-psychological efficiency represents an  $R^2$  of 0.758, meaning that nearly 76% of the variation can be explained by CIM in the project group.
- In the lab experiment, the impact of the CIM mechanism on the economic efficiency represents an  $R^2$  of 0.795 (nearly 80% variation explanation) in the project group.
- In the lab experiment, for the control group of LIE conflict decision the  $R^2$  was 0.914 for the socio-psychological efficiency and 0.779 for the economic efficiency (explaining 91% resp. 78% of the efficiency variation by the mediative methods impact).

Summing up, it can be stated that the tendency of the research findings for our hypotheses testing shows a nearly uniform cause-effect-relation between the CIM determining variables and the CIM effects as well as the impact of CIM on the socio-psychological and economic efficiency in the field study in comparison to the laboratory experiment. Conspicuously, the explanatory power of the underlying causal model between conflict management concept and conflict management efficiency is significantly more evident in the laboratory study than in the field experiment. In all likelihood, this “phenomenon” can be explained by the fact that in the lab experiment the causal variables can be more precisely extracted and operationalised than in the field study. In contrast, the external validity of the field survey might be assessed as superior in comparison to the laboratory experiment.

## **TENTATIVE CONCLUSIONS**

Our basic research question is aiming at the identification of tools, concepts, and models for the viable management of conflicts in various societal and economic contexts. It is derived from the general notion that consensual conflict solutions resp. solution attempts are in any case superior to confrontative behaviour, at least on the long run, in view of sustainability [3].

The Co-Integrative Mediation (CIM) model as a general theoretical framework of conflict management refers to that very notion by providing a cause-effect-design-approach from an analytical as well as from an empirical perspective.

It was empirically confirmed that the utilisability of the CIM model, on the one hand, depends on situational and context variables like conflict subject, conflict strength, and especially on the competence of the conflict mediator and his conflict management tools. In particular, the role and the impact of the mediator were pointed out, at first theoretically and analytically. In addition, it turned indeed out as tremendously evident, based on the empirical examination studies, showing that the co-integrative mediator had a significantly positive impact on the sustainability and the viability of the conflict solutions.

So far, the basic ideas and convictions of ADR models were confirmed, particularly when comparing mediative conflict management approaches to “dictatorship-like” conflict decision attitudes.

Finally, it can be stated that in general the findings of field studies and laboratory studies show a relatively high degree of external validity by comparing their respective research results mutually to each other.

## REFERENCES

1. Albert, Hans; Popper, Karl R.; Morgenstern, Martin; Zimmer, Robert (2005): Briefwechsel 1958-1994. Frankfurt am Main: Fischer.
2. Bolton, Gary E.; Ockenfels, Axel (2014): Does laboratory trading mirror behavior in real world markets? Fair bargaining and competitive bidding on eBay. *Journal of Economic Behavior & Organization* 97, pp. 143–154.
3. Dahrendorf, Ralf (1963): Gesellschaft und Freiheit : zur soziologischen Analyse der Gegenwart. München: Piper.
4. Dlugos, Günter (1979): Unternehmungsbezogene Konfliktforschung. Methodologische und forschungsprogrammatische Grundfragen: Bericht über die Tagung in Berlin, April 1978. Stuttgart: Poeschel.
5. Festinger, Leon; Katz, Daniel (1953): Research methods in the behavioral sciences. New York: Dryden Press.
6. Findel, Renate (2005): Ein Schritt auf dem Weg zu einem verbesserten Methodenmix in der empirischen Sozialforschung. Doctoral Thesis. Universität Regensburg, Regensburg. Philosophischen Fakultät II.
7. Friedrichs, Jürgen (1980): Methoden empirischer Sozialforschung. 9th ed. Opladen: Westdeutscher Verlag.
8. Hehenkamp, Burkhard (2007): Die Grundlagen der Mechanismus-Design-Theorie. Zum Nobelpreis an L. Hurwicz, E. S. Maskin und R. B. Myerson. *Wirtschaftsdienst* 87 (11), pp. 768–772.
9. Jiménez, Fanny (2011): Traust du mir, trau ich dir. *Welt N24*. Available online at [www.welt.de/print/wams/vermishtes/article12894468/Traust-du-mir-trau-ich-dir.html](http://www.welt.de/print/wams/vermishtes/article12894468/Traust-du-mir-trau-ich-dir.html), updated on 3/20/2011, checked on 1/5/2017.
10. Jost, Peter-J; Backes-Gellner, Uschi (2001): Die Prinzipal-Agenten-Theorie in der Betriebswirtschaftslehre. Stuttgart: Schäffer-Poeschel.
11. Mediationsgesetz (MediationsG) (2013). Paderborn: Outlook.
12. Neuert, Josef (2009): Sozio-ökonomische Analyse der „Integrierten Mediation“ als Konfliktregelungskonzept: Realtheorie, Modellkonstrukt und empirische Befunde. unpublished.
13. Riemer, Kai (2005): Sozialkapital und Kooperation. Zur Rolle von Sozialkapital im Management zwischenbetrieblicher Kooperationsbeziehungen. Tübingen: Mohr Siebeck.
14. Schröder, Guido (2003): Milton Friedmans wissenschaftstheoretischer Ansatz – Milton Friedmans wissenschaftstheoretischer Ansatz – Über die Methodologie der Ökonomik Zu einer Ökonomik der Methodologie? *Universität Bayreuth. Rechts- und Wirtschaftswissenschaftliche Fakultät. Wirtschaftswissenschaftliche Diskussionspapiere* Diskussionspapier 14-03, pp. 1–51.
15. Trossen, Arthur (2008): Koblenzer Praxis. Studie über das Justizprojekt "Integrierte Mediation in Familiensachen" im Bezirk des Oberlandesgerichts Koblenz. Altenkirchen: Win-Management.
16. Trossen, Arthur (2010): Das Justizprojekt. Integrierte Mediation in Familiensachen im OLG Koblenz Bezirk. *Integrierte Mediation*. Available online at [www.in-mediation.eu/justizprojekt](http://www.in-mediation.eu/justizprojekt), updated on 3/16/2010, checked on 1/5/2017.