

Short Research Article

Measuring Trust in Companies

Trust is not directly measurable. What can be measured are only indicators for trust. Therefore researchers mostly use questionnaires. Sometimes also interviews have been applied. But these methods have serious weaknesses: what they measure are not facts, they measure the self-perception of the participants. And there is another fact that has to be criticized: Many researchers create interaction by a special test assembly. They take randomly chosen people (mostly students) and simulate leadership relations. So what they observe or measure is trust in an artificial situation which may differ from trust in real existing leadership relations.

This paper is going to go a different way. It discusses an experimental design which is going to be applied in real employer/employee relationships, in order to observe gender specific trusting behavior by the actions of superiors and subordinates. This paper is a concept which tries to solve problems of validity regarding a quasi-experimental design applied in the environment of company.

Foundation of the Methodology

Reviewing literature, trust research has mostly been measured by questionnaire. In 1996 Schein criticizes the approach of measuring organizational culture instead of observing it. With this Schein criticizes himself, as he measured organizational culture for many years. And he states that only observation can bring organization studies to advance.¹

Some years later Glaeser et. al. criticized also measurement (of trust) by questionnaire. In their paper they compared the outcomes of questionnaires with real behavior. They state: "In recent years, economists have tried to identify the impact of social capital by using attitudinal measures of trust from survey questionnaires."² And further they criticize that

¹ Schein, E. H. Culture: The Missing Concept in Organization Studies. *Administrative Science Quarterly* **1996**, 41 (2), 229–240

² Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The quarterly journal of economics* **2000**, 115(3), 811–846

the questions often are "vague, abstract, and hard to interpret"³. But the most astonishing finding is that the standard attitudinal questions generally do not predict subject choices in their experiments⁴. But they found out that specific behavioral questions correlate (at least marginally significant) with the participant's behavior in their experiments.⁵ In spite of these findings surprisingly some years later Dietz et.al. thought that they found a gap: "However, of further interest here is whether the intention to act is translated into actual risk-taking behaviours. This "gap" is ripe for research."⁶

Yet the author cannot fully understand this statement as Glaeser et al. seem to have already closed that gap, as trusting behaviour also always is risk-taking behaviour.

One of the two experiments applied by Glaeser was an adapted version of the trust game which will be described later on.

Beside the method of measuring trust by questionnaires instead of observing trusting behavior there is another reason for critique regarding trust in leadership relations: mostly the participants are not in a real leadership relation. Often students have been recruited for creating a leadership simulation. For example Friedrich investigates trust in virtual leadership relations. And so Friedrich limits, that her results are not qualified to make statements to cooperative behavior in real leadership relations⁷. Experiments regarding trust in real (not virtual or simulated) leadership relations are rare i.e. the author didn't find such publications.

Traditional measurement of trust

The latter statement can be underlined by Dietz et al. who reviewed 14 different measures of measuring trust inside organizations. This paper provides a good and actual overview over the most common measurements of trust. And at the very beginning of their paper they are arguing that the existing measurements are not fully satisfying: "Such a range of

³ Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The quarterly journal of economics* **2000**, 115(3), 811–846

⁴ Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The quarterly journal of economics* **2000**, 115(3), 811–846

⁵ Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The quarterly journal of economics* **2000**, 115(3), 811–846

⁶ Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588.
<http://www.worldcat.org/oclc/670199743>

⁷ Friedrich, C. *Determinanten der Einschätzung vertrauenswürdigen Verhaltens von Transaktionspartnern. ein anwendungsorientierter Erklärungsbeitrag zur Bildung subjektiver Wahrscheinlichkeiten*, 2004

possible operationalisations may reflect the multi-disciplinary interest in trust, and its multi-dimensional nature, but it also hints at continuing dissatisfaction with the existing set of measures, an impression strengthened by the fact that there has been very little in the way of repeat testing of the instruments that we do have.⁸ So this motivated the authors to review the most common measures of trust.

They state that “all of the measures have been used in high-quality research studies that have either been published in international journals or, [...] presented at the Academy of Management.”⁹

But all measures are “only” questionnaires. Yet answering questionnaires is quite common in in practice. Most of employees and executives are used to them and may feel hardly disturbed in their workflow. Beside that the distribution and the analysis of questionnaires are easy. Observing trusting behavior or doing experiments within the staff might cause disturbance in workflow and reactance within the probands. These problems are going to be discussed later but surely are the explanation for applying questionnaires instead of alternative approaches.

The aim of Dietz et al. was to ask whether the questions really measure what they intend to measure: namely trust. Following Bryman et al. the cited Dietz et al. reviewed the “measurement validity”¹⁰ of the questionnaires. Therefore they divided trust into three parts:

1. Trust as a belief
2. Trust as a decision
3. Trust as an action.¹¹

Briefly they see the „belief“ as an assessment of the trustworthiness of the trustee. This may lead to the „decision“ to trust an probably (not necessarily) to a trusting action. For the evaluation of the trustee’s trustworthiness they found that the following four attributes appear most often in literature:

⁸ Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588. <http://www.worldcat.org/oclc/670199743>

⁹ Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588. <http://www.worldcat.org/oclc/670199743>

¹⁰ Bryman, A.; Bell, E. *Business research methods*, 2nd; Oxford University Press: Oxford ;, 2007

¹¹ Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588. <http://www.worldcat.org/oclc/670199743>

- 78 • Ability
- 79 • Benevolence
- 80 • Integrity and
- 81 • Predictability¹²
- 82

83 After preparing this theoretical background they reviewed whether the questionnaires ask
 84 valid questions. They came to the result that most of the reviewed questionnaires focus on
 85 trusting belief and „Few test for the respondent’s intention to act, and still fewer for actual
 86 trust-inspired behaviours.“¹³ Unfortunately the trusting belief is the weakest predictor for
 87 future behaviour. The stronger predictor is the intention to trust and strongest are
 88 behavioral estimation items.¹⁴ But as strong the predictors may be – they are only
 89 predictors and probabilities. Trusting behaviour can never be fully captured with
 90 questionnaires.

91 As already stated it is easier to „measure“ trust with questionnaires than observing real
 92 behaviour. So the aim of this paper is to create a methodology, based on the trust game,
 93 which allows observing trusting behavior in existing leadership relations. This goes along
 94 with organizational problems and requires some adaption in order to get valid results.

95 **The Trust Game**

96 The trust game has initially been created by Berg et. al. At this time they called this
 97 experiment “investment game”. Later on researchers, like Glaeser or Sutter, called this
 98 setting “trust game”. Here we are going to use the term “trust game” – synonymously for
 99 the investment game. Berg et. al. designed this special experiment to study trust and
 100 reciprocity before the background of the fundamental assumption that individuals act
 101 selfish.¹⁵ The core of the setting was that person A, called the trustor, transfers money to
 102 person B, called the trustee. Sending money from the trustor to the trustee means that he or
 103 she is going to place trust. The money that the trustor sent has been tripled. So the trustee

¹² Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588.
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¹³ Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5), 557–588.
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<http://www.worldcat.org/oclc/670199743>

¹⁵ Berg, J.; Dickhaut, J.; McCabe, K. Trust, Reciprocity, and Social History. *Games and Economic Behavior*
1995, No. 10, 122–142

104 received the tripled amount. Than the trustee had to decide how much money he is willing
105 to send back, i.e. to reciprocate, which means to keep trust.¹⁶

106 This experiment has been adopted and adapted by many researchers. The already cited
107 Glaeser et. al. took this design and adapted it in some ways and applied it to 274 students
108 from which 189 completed all parts of the study.¹⁷ While Berg took the trusting partners
109 randomly, Glaeser decided to take also participants who had already known each other.
110 Furthermore they doubled the money sent, instead of triple it; they did not repeat the
111 procedure (as Berg did it); they combined the experiment with questionnaires and promises
112 about future action.¹⁸

113 One of the recent studies using the trust game, applied by Sutter et. al., is devoted to the
114 question of how trust and trustworthiness behavior occur over different age groups. There
115 were 662 subjects of six different age groups in this experiment. The participants were
116 asked to transfer money to another person, who gets three times the amount that has been
117 sent. The person who transfers the money, so the trusting person, hopes that the recipients
118 returns some money to him again.¹⁹ Sutter found "...differences in trustor behavior across
119 the six age groups. In particular, we find that transfers x increase monotonically from 8-
120 year-old children to students, ranging from 2.0 for primary school children to about 6.6 out
121 of 10 units of money for students.⁹ Within our adult groups of students, professionals, and
122 retired persons, we find that average transfers are almost identical for students and
123 professionals, and (insignificantly) lower in our group of retired persons."²⁰

124 The experimental design of the trust game corresponds to the theory of reciprocal altruism.
125 Briefly described, the altruist gives something that causes him less loss then the other gets
126 profit. And he does so because he trusts that his counterpart acts simultaneously on a later
127 moment.²¹

128 In the above mentioned experiments the one who trusts (or "the trustor") is the altruist. He
129 sends less money than the other gets. The only difference is the fact that the returned

¹⁶ Berg, J.; Dickhaut, J.; McCabe, K. Trust, Reciprocity, and Social History. *Games and Economic Behavior* **1995**, No. 10, 122–142

¹⁷ Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The quarterly journal of economics* **2000**, 115(3), 811–846

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¹⁹ Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games and Economic Behavior* **2007a**, 59, 364–382

²⁰ Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games and Economic Behavior* **2007b**, 59, 364–382

²¹ Buss, D. M. *Evolutionäre Psychologie*, 2., aktualis; Pearson-Studium: München [u.a.], 2004

amount will not also be tripled, and thus the benefit for the one who trusts is lower, compared to the reciprocal altruist. This fact may therefore require a higher level of trust from the trustor because of his lower potential profit and the higher potential loss.

The Trust game in a company

At this time it is useful to make clear that the diction sometimes is misleading. Following traditional business research methods (e.g. Bryman et al.) an experimental design has to follow strict rules. An experiment always requires a control group. If there is no control group they describe the design as a quasi-experiment²². Although Sutter describes the trust game as an "experimental trust game"²³ the author recommends to omit the word "experiment" and to just use the word "game" in this respect – of course being aware that this design is also known as a quasi-experiment.

The trust game should be conducted in a real company with real leaders and their subordinates in order to reduce the level of simulation. The author intends to apply the trust game to 50 female and 50 male leaders, each of them interacting with two of their subordinates.

Yet it is challenging to find companies with 50 female leaders. After evaluating some ideas of which companies come into question the author decided to apply the trust game in a mid-size Hospital. Especially the following arguments are underlining the decision for this kind of company:

- The author assumes that the proportion of female leaders may reach the aim of 50.
- The socialization caused by education of female and male physicians run almost parallel for a long time (school, university, junior doctor). So the influence of socialization in this case is less than in companies with employees with heterogeneous education.
- Trust can be assumed to be extremely important in the job environment of a hospital.

This last assumption can be underlined by Eberl: "trust is a moderator variable, which is only relevant if spontaneous self-coordination rather than hierarchy is preferred as the

²² Bryman, A.; Bell, E. *Business research methods*, 2nd; Oxford University Press: Oxford ;, 2007

²³ Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games and Economic Behavior* **2007c**, 59, 364–382

158 dominant organizational integration mechanism.”²⁴ And further: “it can be argued that the
159 conditions for using trust-based self-coordination are only given if task ambiguity is high,
160 and measurability of job performance is low.”²⁵

161 Following this we can conclude:



162

163 Figure 1: Trust and self-coordination

164 When taking a look at the everyday life in a hospital it is apparent that task ambiguity must
165 be high (e.g. “Healing the patient”) and measurability is low (e.g. “Success of the cure”).
166 In contrast for example in a peace work factory task ambiguity should be low and
167 measurability of the output is high. And this, referring to Eberl, requests low trust.

168 Problems and solutions of the trust game within a company

169

170 In the following paragraphs there will be discussed which problems may occur in applying
171 the trust game within a running company. The solutions of the problems are twofold: first
172 the experiment must not disturb company and employees and second must be granted that
173 the outcome of the experiment has to be scientifically valid. As mentioned before almost
174 all measures of intra-personal trust in organizations use questionnaires – according to
175 literature review the trust game never took place in a company. May be the challenge in
176 both solving the organizational problems and gathering valid data can be the reason for
177 that.

²⁴ Eberl, P. The development of trust and implications for organizational design: A game- and attribution-theoretical framework. *Schmalenbach business review* **2004**, 56 (3), 258–273

²⁵ Eberl, P. The development of trust and implications for organizational design: A game- and attribution-theoretical framework. *Schmalenbach business review* **2004**, 56 (3), 258–273

178 **Acceptance within the company**

179 Nowadays companies may have broadly realized that trust is a crucial competitive
180 advantage. And the impression exists that our recent crisis is more seen as a crisis in trust
181 but in finance. Before this background it can be argued that most companies do not really
182 appreciate the interpersonal trust to be measured by an external researcher because the
183 outcome of the investigation may be different to the management's expectations. Probably
184 the company has to face a trust level which is not satisfying which can go along with
185 questions regarding management and leadership. When the outcome is not properly
186 communicated it could be quite uncomfortable for the executives. For getting the
187 company's acceptance at this early state of research three points appear important: the
188 company's benefit, security of data, and integration of the employee organization.

189 **The company's profit:**

190 The outcome of the research is not predictable but the data has to be delivered anonymous
191 and brought to the executives in the form of a presentation. If they want they have to get
192 the full survey (with anonymous data) in order to derive action. Whatever the findings may
193 be, the company must get the chance to see them as profit: when the trust level appears
194 high, the company can publish it; when the trust level seems to be low, the management
195 gets the chance to foster a trusting work environment. This has to be communicated
196 beforehand – in the first contact.

197 **Security of data:**

198 Data about the trust level within the leadership relations are sensitive. Therefore the data
199 must be confident and partly anonymous. The company must have the right to set a
200 restriction note in the survey. This must assure that publications of the outcomes are only
201 possible with the agreement of the company.

202 **Integration of the employee organization:**

203 The investigation should take place in an Austrian company. In Austria traditionally the
204 employee organizations are involved in management matters. So the members of the
205 employee organization have to be involved beforehand – at the same time, or even right
206 after getting the principal o.k. from the management. Their commitment may be (not
207 necessarily but probably) valuable for the acceptance of the experiment within the
208 employees (e.g. superiors and subordinates).

209 **Acceptance within the participants**

210 While the acceptance within the company is the fundamental requirement for applying the
 211 trust game in a company, the acceptance of the game within the participants is necessary to
 212 get valid data. For the probants it is a broadly new situation to state their trust in another
 213 party in such a clear and measurable way: in transferring money. So for fostering the
 214 acceptance the following points are essential:

- 215 - Open communication: This must be done in cooperation with the management and
 216 the employee organization.
- 217 - Procedure: Before applying the trust game every participant has to be informed
 218 about the exact procedure.
- 219 - Results: Dealing with the results is a sensitive task. So the outcome will be
 220 communicated in a cumulative way. The data must neither allow any conclusion
 221 about the trust level within single relationships nor within the departments. Also
 222 this fact has to be brought to the probants before doing the game.

223 **Organizational challenges:**

224 As already pointed out an experimental design for measuring trust in companies is likely to
 225 disturb the work flow. In consequence the trust game has to be prepared carefully in order
 226 to get the disturbance as low as possible. This may sound banal but the solution of this
 227 point is crucial for the company. Three factors are important: time, duration and location.

- 228 - Time: The timing of the trust game has to be in accordance with the schedule of the
 229 participants. As hospitals are running 24 hours and 7 days per week it will be
 230 necessary to prepare the setting in a way that the participants (superiors and
 231 subordinates) can pass it separately.
- 232 - Duration: The trust game itself can be done in a few minutes. But in order to get
 233 valuable data it has to be combined with a questionnaire which will be described
 234 later. Furthermore the probants have to get a brief description of the game. The aim
 235 is to keep the procedure as short as possible and not longer than necessary.
- 236 - Location: The trust game is going to observe trusting behavior within an
 237 organization. So it is necessary to apply it inside the organization. Not only in order
 238 to do the game time efficient but also to keep the simulation level low. The
 239 participants must have the feeling that they are acting within the environment
 240 where they are used to.

241 **Accompanying questionnaire**

242 The aim of the study is to find out whether there exist gender differences in trust within
243 leadership relations. It explicitly is not intended to discover any correlations between
244 answers of a questionnaire and behavior. This work has already been done for example by
245 the before cited Glaeser.

246 In order to reduce the influence of other factors on trust some items have to be checked
247 with an accompanying questionnaire. Beside the demographic data like gender and age,
248 also questions regarding socialization seem to be crucial. Above this also the duration of
249 the leadership position may be important. The following paragraphs will describe this
250 deeper.

251 **Demographic data**

252 Beside gender also age and nationality seem to be important. Gender of course because
253 there is the main focus on. Age because there might be differences in trusting behavior. An
254 interesting findings stems from the already cited Sutter who explored differences in trustor
255 behaviour across six age groups. His findings support the assumption that there are
256 differences of trusting behaviour over the reviewed age groups. But there is only one single
257 age group covering the targeted probants: The age group of the “professionals”.²⁶ So while
258 he has discovered the principle that trusting behaviour is connected to age he did not
259 discover differences within the age group of the professionals. In order to avoid possible
260 differences within this age group the questionnaire will capture smaller age groups. To
261 avoid conclusions on the probants (their data will be anonymous) based on the
262 demographic data the definitions of the age groups must not be too narrow. A possible
263 approach might be a 10-year interval, starting at -30 and ending at +60.

264 The third Item which will be covered by the questionnaire is the cultural affiliation of the
265 participants. In this matter Hofstede’s research gives us hints that cultural differences
266 concerning trust may exist. He did not explicitly explore trust but he explored a
267 contradictive item: Individualism. He defines that term as follows: “Individualism (...) is
268 the degree to which people (...) prefer to act as individuals rather than members of
269 groups.”²⁷ Comparing trust with individualism we can come to the conclusion that trust is
270 fostering the “we” while Hofstede states that individualism fosters the “I”. And trust

²⁶ Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games and Economic Behavior* **2007c**, 59, 364–382

²⁷ Hofstede, G. Cultural constraints in management theories. *Academy of Management Executive* **1993**, 7 (1), 81–94

research supports the assumption that trust is the glue between individuals to become a team or a “collective”. Shorter: the assumption can be:

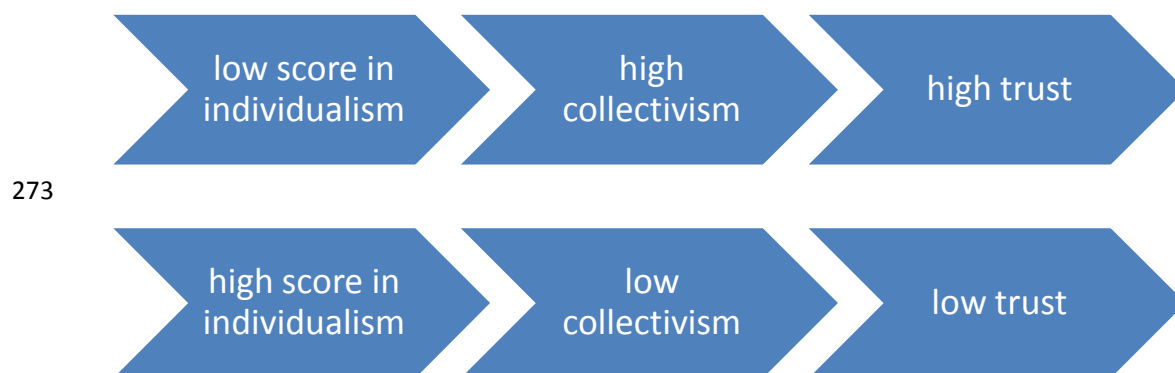


Figure 2: Connecting individualism with trust

Despite the fact that the connection between individualism and trust results from definitions of terms and lack empirical evidence, the influence of cultural affiliation will be excluded by the integration of this item.

Socialization

Trusting behavior and leadership style is often been seen as related to socialization. For example decades ago Zimbardo stated that the mother as the bearer of the female gender role in the early years of life of her children for both sexes is the crucial socialization partner.²⁸ This makes it easier for children to trust their mother but this here is clearly based on socialization and gender role. In the meanwhile gender roles may have changed. So the influence of the socialization process could have been raised in comparison with just the sex of the interaction partner.

Also Billing and Alvesson see the socialization of both sexes as one reason for widely similar leadership styles. They conclude that the reason for minor differences lies in the university education of male and female managers, which is accompanied by a more similar socialization process.²⁹ So for the recent study the influence of socialization has to be eliminated by formulating adequate Items. It is suggested that they regard:

- Education

²⁸ Zimbardo, P.; Angermeier, W.; Westhoff, K. *Psychologie*, 4., neubearbeitete Aufl.; Springer: Berlin [etc.], 1983

²⁹ Billing, Y. D.; Alvesson, M. *Gender, managers, and organizations*; W. de Gruyter: Berlin ;, New York, 1994

- 293 - Family and family role
- 294 - Experience in other branches (not hospitals)

295 **Duration of leadership**

296 Again citing Billing and Alvesson they see another influence on leadership style. They
 297 experienced that differences removed over time because women adapted their style to that
 298 of male managers: (women) "... consciously chose not to use their original way of handling
 299 matters because they felt that it would not be effective/good/acceptable." ³⁰ In trust
 300 literature the influence of the factor time is seen by most researchers (explicitly or
 301 implicitly) for a precondition for trust formation. For example Graeff states that the longer
 302 someone knows a person the more information he gets. And so he can either use these
 303 information rationally or generate an emotion out of the information in order to create a
 304 meta decision level.³¹ And this is the decision level for trusting behavior.

305 The impact of the leadership duration will be deleted by an item which asks for it.

306 **Executing the trust game**

307

308 The major reason for not applying the trust game in companies may become clear when we
 309 are going to look at the game situation itself. The classical setting is that the trustor sits
 310 opposite the trustee and transfers him or her some money. Afterwards the trustee is sending
 311 money back to the trustor. This sounds easy, at least in an experimental and artificial
 312 situation. Now imagine: the superior sits opposite of a subordinate; both are engaged in an
 313 existing leadership relation; the situation is observed by the researcher; both, the trustor
 314 and the trustee, argue that their decision has impact on their relationship. So in this setting
 315 it has to be argued that both are acting trustful in order to leave a good impression and not
 316 to disturb their relationship. This may differ to real behavior and leads to invalid data.

317 Now when the design is going to be changed in a way that both, superior and subordinate,
 318 are anonymous, the data may seem to be valid but will not reflect the trust level within the
 319 leadership relation. There is no anonymity in real relationships. So the outcome lacks

³⁰ Billing, Y. D.; Alvesson, M. *Gender, managers, and organizations*; W. de Gruyter: Berlin ;, New York, 1994

³¹ Graeff, P. *Vertrauen zum Vorgesetzten und zum Unternehmen. Modellentwicklung und empirische Überprüfung verschiedener Arten des Vertrauens, deren Determinanten und Wirkungen bei Beschäftigten in Wirtschaftsunternehmen*; Wiss. Verl.: Berlin, 1998

320 internal validity – “we do not measure what we intend to measure”. Beside that the quasi-
321 experimental design changes into a quasi-questionnaire.

322 A possible solution for this dilemma may be the following design:

- 323 - The superior gets a name of one subordinate and a specific virtual amount, called
324 “budget”, (e.g. € 1.000,--), accompanied by the call to define an amount (out of
325 these € 1.000,--) she or he is going to transfer to this person.
- 326 - The superior writes an amount on a paper, the researcher triples the amount and
327 puts it into an envelope. For example the superior gives € 600,-- and keeps € 400,--,
328 the subordinate gets € 1.800,--.
- 329 - The subordinate has already been informed that the amount the superior can give
330 varies. This assures that the subordinate cannot conclude which proportion of the
331 budget she or he receives. This is assumed to be crucial when the ongoing
332 leadership relation has not to be (negatively) influenced by the trust game. In fact
333 the budget of the superior will not be varied very much. If the amount varies too
334 much (e.g. from € 10,-- to € 10.000,--) the budget itself may influence the decisions
335 and questions the validity of data. So the suggestion is to vary the budget in
336 maximum 10 %.
- 337 - This envelope with the tripled amount will be given to the subordinate. She or he
338 has the opportunity (not the obligation) to return an amount to the superior, i.e. to
339 reciprocate.
- 340 - The subordinate writes an amount on a sheet of paper and puts it into an envelope.
341 This happens anonymously. The superior must not conclude from whom the
342 reciprocated money comes from – again in order to not influencing the ongoing
343 leadership relation. Only the researcher knows the identity of this subordinate
344 because logically this is necessary for research and analyses.
- 345 - As the game will be conducted with separated superiors and subordinates, for the
346 game itself it is not necessary to inform the superior about the reciprocated
347 amount(s). Of course the researcher will do so to give the superior the opportunity
348 to derive action from the trust level, but the game itself ends when the subordinate
349 defines the money to be returned.

350 Yet the job of the researcher is to record the budget and the transferred amounts in
351 combination with the identity of the probants. The amounts will be transferred into
352 percentages because the budget changes. The analyses itself has to take place in

353 consideration of the accompanying questionnaire with the items of socialization duration
354 of the leadership relation as moderator variables.

355 **Remarks**

356 As this design is totally new it will be tested beforehand with university students. After this
357 some adaptations in operationalization may take place. The principle design of the trust
358 game applied in an organization will stay the same. If the suggested solutions and the
359 adaption of the game are fruitful this method of measuring trust in organizations can close
360 a gap in trust research. It may have been provided a new way of measuring trusting
361 behavior in leadership relations. Of course the participants are facing an artificial situation
362 but the aim of the game is to keep the simulation level as low as possible. Of course the
363 probands have to deal with virtual money so they have to abstract. As the majority of
364 money running around the world is just virtual it can be assumed that the participants are
365 able to abstract. To boost the outcome some can use real money. But this opens not only
366 budgetary questions but also ethical ones.

367 Robert Jong

368 2012-02-25

369 **References**

- 370
371 Schein, E. H. Culture: The Missing Concept in Organization Studies. *Administrative*
372 *Science Quarterly* **1996**, 41 (2), 229–240.
373 Glaeser, E. L.; Laibson, D. I.; Scheinkman, J. A.; Soutter, C. L. Measuring trust. *The*
374 *quarterly journal of economics* **2000**, 115(3), 811–846.
375 Dietz, G.; Deanne N., D. H. Measuring trust inside organisations [Online] **2006**, 35 (5),
376 557–588. <http://www.worldcat.org/oclc/670199743>.
377 Friedrich, C. *Determinanten der Einschätzung vertrauenswürdigen Verhaltens von*
378 *Transaktionspartnern. ein anwendungsorientierter Erklärungsbeitrag zur Bildung*
379 *subjektiver Wahrscheinlichkeiten*, 2004.
380 Bryman, A.; Bell, E. *Business research methods*, 2nd; Oxford University Press: Oxford ;,
381 2007.
382 Berg, J.; Dickhaut, J.; McCabe, K. Trust, Reciprocity, and Social History. *Games and*
383 *Economic Behavior* **1995**, No. 10, 122–142.
384 Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games*
385 *and Economic Behavior* **2007a**, 59, 364–382.
386 Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games*
387 *and Economic Behavior* **2007b**, 59, 364–382.
388 Buss, D. M. *Evolutionäre Psychologie*, 2., aktualis; Pearson-Studium: München [u.a.],
389 2004.

- 390 Sutter, M.; Kocher, M. G. Trust and trustworthiness across different age groups. *Games*
 391 *and Economic Behavior* **2007c**, 59, 364–382.
- 392 Eberl, P. The development of trust and implications for organizational design: A game-
 393 and attribution-theoretical framework. *Schmalenbach business review* **2004**, 56 (3),
 394 258–273.
- 395 Hofstede, G. Cultural constraints in management theories. *Academy of Management*
 396 *Executive* **1993**, 7 (1), 81–94.
- 397 Zimbardo, P.; Angermeier, W.; Westhoff, K. *Psychologie*, 4., neubearbeitete Aufl.;
 398 Springer: Berlin [etc.], 1983.
- 399 Billing, Y. D.; Alvesson, M. *Gender, managers, and organizations*; W. de Gruyter: Berlin
 400 ;, New York, 1994.
- 401 Graeff, P. *Vertrauen zum Vorgesetzten und zum Unternehmen. Modellentwicklung und*
 402 *empirische Überprüfung verschiedener Arten des Vertrauens, deren Determinanten und*
 403 *Wirkungen bei Beschäftigten in Wirtschaftsunternehmen*; Wiss. Verl.: Berlin, 1998.