Journal of Business Ethics (2008) 82:477–495
DOI 10.1007/s10551-008-9898-6

Understanding Corruption in Organizations – Development and Empirical Assessment of an Action Model

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ABSTRACT. Despite a strong sensitization to the corruption problem and a large body of interdisciplinary research, scientists have only rarely investigated which motivational, volitional, emotional, and cognitive components make decision makers in companies act corruptly. Thus, we examined how their interrelation leads to corruption by proposing an action model. We tested the model using a business simulation game with students as participants. Results of the PLS structural equation modeling showed that both an attitude and subjective norm favoring corruption led to a desire to act corruptly. Given high perceived behavioral control, this desire was transformed into an intention that finally resulted in corrupt action. Components related to general private and professional goals did not allow for any prediction. Based on these results, we discuss preventative measures and methods for combating intra- and inter-organizational corruption.

KEY WORDS: action model, business ethics, corrupt actor, corruption in organizations, corruption prevention and counter measures

Introduction

Worldwide, corruption is experienced as a serious problem causing harm not only in politics and public administration, but also in the business sector (Transparency International, 2005). This awareness initiated a lot of interdisciplinary research examining corruption from different perspectives. Economics, sociology, social psychology, criminology, political science, and business ethics have made important contributions to our understanding of the phenomenon (Amundsen, 1999; Andving and Fjeldstad, 2001; Brünner, 1981; Williams, 2000).

As there are various approaches to define corruption, there is no universal conceptualization (Andving and Fjeldstad, 2001). Nevertheless, out of the many definitions the following common dimensions of corruption can be derived:

(1) Exchange: Corruption is based on the interaction between at least two partners (Ashforth and Anand, 2003; Heidenheimer, 2002; Höffling, 2002), between a supplier/corrupter and a recipient/corruptee, the person who induces or initiates the corrupt exchange and the person who accepts it (Van Duyne, 2001). It is an exchange of benefit and reward that occurs voluntarily and takes place by mutual agreement (Park, 2003).
(2) Violation of norms: Corruption is immoral behavior (e.g., Brasz, 1970; Van Duyne, 2001) that includes the deviation from legal norms (e.g., Khan, 1996; Nye, 1967) or from moral values (e.g., Brasz, 1970).
(3) Abuse of power: Corrupt actors utilize the authority, position, and/or knowledge entrusted to them for the sake of their advantage (e.g., Ashforth and Anand, 2003; Huntington, 1989; Khan, 1996; Nye, 1967; Pitt and Abratt, 1986; Tanzi, 1995, 1998; Treisman, 2000; Van Duyne, 2001).
(4) Absence of direct victims: Corruption does not produce victims directly. Rather, there are only offenders who are involved in the corrupt act, and all gain an advantage by acting corruptly (Rügemer, 1996). Victims are only found outside the corrupt relationship (von Arnim, 2003).

(5) Secrecy: Corrupt actors form an intimate, close, and hidden community in which they secretly agree on the illegal aims and advantages of their exchange relationship (Rügemer, 1996). Apart from situational constraints, the possibility of continuing and expanding the corrupt actions mainly depend on the unimpaired victims' trust (Hacker, 1981).

The mix of these aspects leads to the following definition of corruption: Corruption is deviant behavior which manifests itself in an abuse of a function in politics, society, or economy in favor of another person or institution. This abuse of a function occurs on one's own or the other's initiative in order to achieve an advantage for oneself or a third party. As a result, a damage or disadvantage to politics, society, or economy is expected or does actually appear. The corrupt actions are kept secret in mutual, amicable agreement (see Vahlenkamp and Knauß, 1995, p. 20).

Corruption research mainly concentrated on the investigation of causes and consequences on the macro- and microeconomic level (Andving and Fjeldstad, 2001; Lambsdorff, 1999; Pies et al., 2005). The literature also provides some attempts to explain corrupt or corruption-related behavior: the principal-agent theory (e.g., Rose-Ackerman, 1978), the social exchange theory (e.g., Khatri et al., 2006), or Ajzen's (1991) Theory of Planned Behavior (e.g., Powpaka, 2002). But up to now, there has only been little research focusing on the person who acts corruptly.

In her analysis of German court cases, Bannenberg (2002) observed that offenders were male, ambitious, social climbers, and had power and decision scope in their position. They showed strong tendencies regarding justification and neutralization and were not aware of their behavior's illegal character. They denied personal responsibility and the immorality of their behavior as well as the resulting harm (Bannenberg, 2002; Schaupensteiner, 2004; see also Ashforth and Anand, 2003). These findings are congruent with characteristics identified for white-collar offenders (e.g., Coleman, 1998; Simon and Hagan, 1999). They are also supported by both economic and business ethics studies. Despite mainly inconsistent results regarding sex differences in corrupt behavior, many economic micro-data studies (e.g., Dollar et al. 2001; Gatti et al., 2003; Mocan, 2004; Swamy et al., 2001) and experimental studies (e.g., Schulze and Frank, 2003) confirmed a positive relationship between corruption and male sex. In addition, less wealthy individuals were found to be more averse to corruption (Gatti et al., 2003). Furthermore, Cherry and Fraedrich's (2000) results allowed for the conclusion that managers with an internal locus of control exhibited harsher judgments of bribery and less intention to pay a bribe. Regarding the motives for corrupt action, Bannenberg and Schaupensteiner's (2004) research in Germany underlined that only in a few cases financial problems motivated corruption, but rather career ambition, the desire to exercise power, the excessive demands at the work place, disappointment about missed career chances, or the prospect of consequence-free aggrandizement. Moreover, the motivation to close a corrupt contract increased when the value of the return rose (Borner and Schwyzer, 1999; Carrillo, 1999), the risk of detection decreased (Borner and Schwyzer, 1999; Carrillo, 1999; Goel and Rich, 1989), and the degree of penalty (Borner and Schwyzer, 1999; Goel and Rich, 1989) and transaction costs of corruption diminished (Borner and Schwyzer, 1999).

While there are some data on personal characteristics and motives of corrupt actors, the interrelation of motivation, volition,[1] emotion, and cognition leading to corrupt action has only rarely been investigated. That is why our research aims at examining these person-based determinants of human behavior in interaction with a specific situational context, the business context. Our concern is to answer the following questions: What makes decision makers in companies act corruptly? Which motivational, volitional, emotional, and cognitive aspects play a role? How does their interplay lead to corrupt action?

Our paper is structured as follows: we propose a theoretical model of corrupt action which is the basis for our hypotheses. After outlining the methodical design, we present and discuss the results of the structural equation modeling procedure used to test the model. Finally, we point out limitations and managerial implications of our study as well as implications for future research.

Conceptual framework and research hypotheses

Model development

The starting point for the development of a model of corrupt action is the Model of Effortful Decision Making and Enactment (Bagozzi et al., 2003). This comprehensive action model appears suitable for our research intention because it integrates both aspects of the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989), which covers the stages of motivated behavior from choice to evaluation, in addition to aspects of the Theory of Planned Behavior (Ajzen, 1991), an attitude-behavior model. This combination is necessary for several reasons: first, the Theory of Planned Behavior (Ajzen, 1991) does not specify clearly the relationship between intention and behavior; rather the intention concept in Ajzen's (1991) theory remains underdeveloped (Eagly and Chaiken, 1993). This weakness has been tackled in the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989) under the heading of the volition construct. Second, Ajzen's (1991) theory does not incorporate desires as a determinant of intentions to perform an action that have been found to improve explanation and prediction substantially (Perugini and Bagozzi, 2001; Perugini and Conner, 2000) and have been conceptualized in the Rubicon Model (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989). Third, both the Theory of Planned Behavior (Ajzen, 1991) and the Rubicon Model (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989) are based on rational choice, but do not consider emotional aspects. As the latter are included in Bagozzi et al. 's (2003) model in addition to motivational, volitional, and cognitive components, it qualifies as pertinent to our research goals. For similar reasons, we did not build upon models explaining ethical decision making (e.g., Bommer et al., 1987; Dubinsky and Loken, 1989; Ferrell and Gresham, 1985; Hunt and Vitell, 1986; Jones, 1991; Rest, 1986; Trevino, 1986). Each of these models includes different subsets of, for example, individual factors such as gender and cognitive moral development, organizational factors such as codes of ethics and ethical climate/culture, and moral intensity factors such as magnitude of consequences and social consensus. They do not examine the complex interplay of motivations, volitions, emotions, and cognitions represented in our model.

A model of corrupt action

Our proposed model of corrupt action which is shown in Figure 1 includes the following components and relationships:

The desire to achieve a private or professional goal

Research trying to define corruption showed that corrupt action aims at achieving a private or

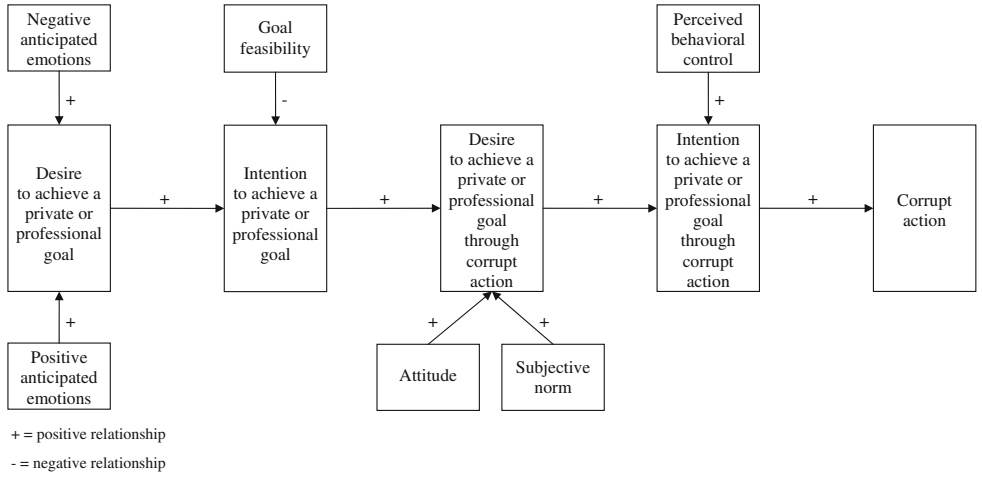

Figure 1. The proposed model of corrupt action.

professional goal (e.g., Ashforth and Anand, 2003; Huntington, 1989; Khan, 1996; Nye, 1967; Pitt and Abratt, 1986). Thus, starting-point in the model is the desire to achieve a private or professional goal.

The influence of positive and negative anticipated emotions

The level of desire depends on the positive and negative emotions anticipated with regard to goal attainment. People, when deliberating to act or not, take into account the emotional consequences of both achieving and not achieving a sought-for goal (Bagozzi et al., 1998). These emotions have motivating power (e.g., Bagozzi et al., 1998; Perugini and Bagozzi, 2001) and trigger decisions as part of a general process of self-regulation (Bagozzi, 1992; Carver and Scheier, 1998). They are related to the concept of valences that describes the goal's attractiveness in the predecisional phase of the Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989). Both the strength of anticipated emotions regarding reaching and falling short of the goal influence goal desire (Bagozzi et al., 2003; Perugini and Bagozzi, 2001). Thus,

Hypothesis 1a: The more positive emotions anticipated if the goal is achieved, the stronger the desire to achieve a private or professional goal.

Hypothesis 1b: The more negative emotions anticipated if the goal is not achieved, the stronger the desire to achieve a private or professional goal.

The intention to achieve a private or professional goal

The desire to achieve the private or professional goal has to be transformed into an intention. This transition from the fluid state of deliberation to a firm sense of commitment is described by the metaphor of ''crossing the Rubicon'' (Heckhausen, 1987b, pp. 6–7) and takes place in the preactional phase of the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989). Compared to intentions, desires are perceived as less performable by the decision maker, are less connected to actions, and enacted over longer time frames (Perugini and Bagozzi, 2004). Desires are necessary antecedents to intentions and pertain to the intensity with which the goal is sought (Bagozzi and Dholakia, 1999). Thus,

Hypothesis 2: The stronger the desire to achieve a private or professional goal, the stronger the intention to achieve this goal.

The influence of goal feasibility

People consider how difficult it is to achieve the goal. They investigate whether they can obtain the goal through their own activity, whether the situational context they face is facilitating or impeding, and whether the necessary means or opportunities will be available (Gollwitzer, 1990). According to the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989), the strength of the intention to achieve a private or professional goal depends on Ach-Hillgruber's difficulty law of motivation (Ach, 1935; Hillgruber, 1912): The lower the goal feasibility, the higher the strength of intention. This law also was the precursor of Locke and Latham's (1990) goal difficulty function in their theory of goal setting. Several empirical findings approved this linear function between goal difficulty and performance, which only levels off when subjects reach the limits of their ability at high goal difficulty levels. Thus,

Hypothesis 3: The more difficult the achievement of a realistic private or professional goal, the stronger the intention to achieve it.

The desire to achieve a private or professional goal through corrupt action

When a goal intention is formed, plans for how to achieve this goal develop. In our case, one of the ways is corrupt action. As desires are not only directed at ultimate goals, but also at means to these goals (Mele, 1995), in our model, as in the Model of Effortful Decision Making and Enactment (Bagozzi et al., 2003), desire functions on the goal stage as well as on the implementation stage. Similar to the predecisional phase of the Rubicon Model (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989), the desirability of corrupt action as a way to achieve the private or professional goal is considered. In the Model of Effortful Decision Making and Enactment (Bagozzi et al., 2003), implementation desires are caused by goal intention. If there is a high intention to achieve the private or professional goal, it can be

assumed that this may result in a certain desirability of corrupt action. Thus,

Hypothesis 4: The stronger the intention to achieve a private or professional goal, the stronger the desire to achieve this goal through corrupt action.

The influence of attitude and subjective norm

According to the Theory of Planned Behavior (Ajzen, 1991), the stronger an individual's intention to perform the behavior under consideration is, the more favorable the attitude and subjective norm with respect to a behavior are. While the attitude refers to the degree to which a person has a favorable or unfavorable evaluation of the behavior in question, the subjective norm refers to the perceived social pressure to perform or not to perform that behavior (Ajzen, 1991). Bagozzi et al. (2003) argue that the attitude and the subjective norm influence intentions only to the extent that they lead to a desire to act. Desires function as mediator variables between attitude and subjective norm on the one hand and intentions on the other hand (Perugini and Bagozzi, 2001; Perugini and Conner, 2000). Thus,

Hypothesis 5: The desire to achieve the private or professional goal through corrupt action is stronger if the actors have a positive attitude toward corruption.

Hypothesis 6: The desire to achieve the private or professional goal through corrupt action is stronger if people important to the actors accept corrupt action.

The intention to achieve a private or professional goal through corrupt action

For non-routine goals, important components of the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989) are the goal intention and implementation intention. While the goal intention, the decision maker's self-commitment to achieve a chosen goal, is formed as a result of deliberative processes wherein available alternatives are each gauged for their desirability and feasibility, the implementation intention is the selection of an implementation plan, considering and finalizing details regarding when, where, how, and how long to perform goal-directed action in the service of decision enactment (Bagozzi et al., 2003; Gollwitzer, 1996, 1999). Similar to the formation of goal intentions out of goal desires described above, implementation desires result in implementation intentions after crossing the Rubicon (Heckhausen, 1989) and pertain to the intensity and level to which the way of goal achievement is sought (Bagozzi and Dholakia, 1999). Thus,

Hypothesis 7: The stronger the desire to achieve a private or professional goal through corrupt action, the stronger the intention to achieve this goal through corrupt action.

The influence of perceived behavioral control

Whether implementation intentions are actually formed depends on the anticipation of difficulties (Gollwitzer and Brandstätter, 1997). The Theory of Planned Behavior (Ajzen, 1991) includes perceived behavioral control as the concept referring to the perceived ease or difficulty of performing the behavior and being assumed to reflect past experiences as well as anticipated impediments and obstacles. It is used in order to explain behavior over which people have incomplete volitional control. For corrupt action an incomplete degree of volitional control can be assumed because external factors like the likelihood of detection (Borner and Schwyzer, 1999; Carrillo, 1999; Goel and Rich, 1989) and the extent of penalties (Borner and Schwyzer, 1999; Goel and Rich, 1989) play a role. Moreover, perceived behavioral control depends on the transaction costs that occur before, during, and after the corrupt relationship (Lambsdorff, 2002; Lambsdorff and Teksoz, 2002). Big risk for disclosure, high expected penalties, and high transaction costs diminish perceived behavioral control. According to the Theory of Planned Behavior (Ajzen, 1991), the stronger an individual's intention to perform the behavior under consideration is, the greater is the perceived behavioral control. Bagozzi et al. (2003) accordingly argued and showed that perceived behavioral control complemented implementation desires in influencing the implementation intention. Thus,

Hypothesis 8: The intention to achieve the private or professional goal through corrupt action is stronger if the actors think they have control over their corrupt action.

The corrupt action

Whether the intention formed in the preactional phase of the Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989) is transformed into action in the actional phase depends on the volitional strength. The stronger the person is committed to a certain way of achieving a goal, the more likely it is that relevant actions are actually initiated (Gollwitzer, 1990). In the Theory of Planned Behavior (Ajzen, 1991) the reason for an ineffective translation of an intention into behavior also lies in weak intention. Studies of Brandstätter et al. (2001) as well as Gollwitzer and Brandstätter (1997) showed that implementation intentions facilitated the immediate initiation of goal-directed behavior in the face of the specified situation or opportunities. Thus,

Hypothesis 9: The stronger the intention to achieve a private or professional goal through corrupt action, the more likely is corrupt action.

Methods

Sample and procedures

Our sample consisted of 196 German university students from different disciplines (business students and non-business students) and German high school students with a special interest in business topics. 90 participants were females, 106 males. Participants had a median age of 20.91 years (SD = 3.37).

To empirically test our proposed model of corrupt action described above, we chose an experimental simulation design combining a business game with a standardized questionnaire. In the business game, participants were sales and marketing chiefs of a company over four periods. They competed with two to five other companies. In each period, they had to decide on price, expenses for advertisement, product improvement, sales promotion, customer service, and market research. Moreover, they were once required to make a decision on whether they accept a corrupt offer (condition 1) or whether they submit a corrupt offer (condition 2). The participants' aim was to achieve a profit as high as possible after the expiration of the four periods. After each period the participants reported their decisions to the business game conductor using a paper-pencil sheet. Their decisions were then fed into a computer and analyzed. Before starting the next period, they received a printed report of their performance. The participants' decision on accepting or making a corrupt offer or not only influenced the overall performance indicated by the final accumulated profit.

After having read the instruction, but before starting the business game, the participants were asked to answer questions regarding their goal desire, their goal intention, the goal feasibility, and their positive and negative anticipated emotions in a standardized questionnaire. All the other model components were tested in a standardized questionnaire provided after completion of the business game where they were encouraged to reflect upon their decision behavior during the game.

Measures

To measure our model components, we used five-point Likert-scaled items for which the participants were asked to indicate their level of agreement or disagreement. We adopted and selected most of these items from Bagozzi et al. (2003) as well as from Perugini and Conner (2000). We additionally took items from Perugini and Bagozzi (2001) to operationalize positive and negative emotions as well as items from various studies using the Theory of Planned Behavior (e.g., Taylor and Todd, 1995) to measure the intention to achieve a private or professional goal as well as the subjective norm. As we explain in the Results section, items not considered for the data analysis because of small factor loadings are marked by an asterisk (⋆).

Desire to achieve a private or professional goal

As measures for the goal desire, we used the items "I have a strong wish to achieve a higher profit than my competitors in the business game," "For me, other goals are more important in the business game than achieving a higher profit than my competitors" (reverse-coded), and "I regard it desirable to perform better in the business game than my competitors." Low scores indicate a weak goal desire, high scores a strong one.

Positive and negative anticipated emotions
Regarding the positive anticipated emotions, participants were asked to indicate their level of agreement with the item ''If I achieve a higher profit in the business game than my competitors, I will feel …'' with the response options ''happy,'' ''proud'' (⋆), ''surprised'' (⋆), and ''relieved.'' Regarding the negative anticipated emotions, we used the item ''If I achieve a lower profit in the business game than my competitors, I will feel …'' with the response options ''angry,'' ''ashamed'' (⋆), ''disappointed'' (⋆), and ''depressed.'' Low scores indicate a lower intensity of anticipated emotions, higher scores a higher intensity.

Goal feasibility
Items used as indicators for this construct included ''I hardly see any possibility of achieving a higher profit in the business game than my competitors'' (reverse-coded), ''I am convinced I am able to perform better in the business game than my competitors,'' and ''I regard it difficult to be more successful in the business game than my competitors'' (reverse-coded). Low scores indicate high difficulty to achieve the goal, high scores low difficulty.

Intention to achieve a private or professional goal
Our items measuring the goal intention were ''I am very serious in being more successful in the business game than my competitors,'' ''I will do everything possible to perform better in the business game than my competitors,'' and ''I do not care whether I achieve a higher profit in the business game than my competitors or not'' (reverse-coded). Low scores indicate a weak goal intention, high scores a strong one.

Desire to achieve a private or professional goal through corrupt action
We operationalized the desire to act corruptly by the items ''My desire to accept the customer's offer/to make the customer an offer was strong,'' ''The customer's offer/The possibility to make the customer an offer left me cold'' (reverse-coded), and ''I considered it attractive to accept the customer's offer/to make the customer an offer.'' Low scores indicate a weak desire to act corruptly, high scores a strong desire.

Attitude
The participants' attitude toward corruption was measured by nine seven-point semantic differential items. We asked the participants to respond to the item ''I think accepting the customer's offer/making the customer an offer is …'' with the adjective pairs ''bad–good'' (⋆), ''wrong–right,'' ''foolish–wise,'' ''useless–useful,'' ''disadvantageous–advantageous,'' ''boring–exciting,'' ''unpleasant–pleasant,'' ''unattractive–attractive,'' and ''dissatisfying–satisfying.'' Low scores indicate a negative attitude toward corruption, high scores indicate a positive attitude.

Subjective norm
As indicators for the subjective norm served the items ''Most people important to me in my life think that I should have accepted the customer's offer/that I should have made the customer an offer,'' ''My family would bear me out in the decision to accept the customer's offer/to make the customer an offer,'' and ''My friends would have rejected the customer's offer/would not have made the customer an offer'' (reverse-coded). Low scores indicate a corruption-aversive subjective norm, high scores indicate a corruption-friendly subjective norm.

Intention to achieve a private or professional goal through corrupt action
To measure the intention to act corruptly, we used the items ''For me, it was out of question to accept the customer's offer/to make the customer an offer'' (reverse-coded), ''I was sure that I would accept the customer's offer/would make the customer an offer,'' and ''My intention to accept the customer's offer/to make the customer an offer was strong.'' Low scores indicate a weak intention to act corruptly, high scores indicate a strong intention.

Perceived behavioral control
To come up with items relevant for corruption to operationalize perceived behavioral control, we referred to the research findings cited in our literature review, namely that big risk for disclosure, high expected penalties, and high transaction costs diminish perceived behavioral control. So, items included ''I anticipated negative consequences if I accepted the customer's offer/if I made the customer an offer'' (reverse-coded), ''I was convinced to be able to conduct the transaction with the customer

without any risk,'' and ''I assessed the likelihood that the transaction with the customer will be kept secret in front of my competitors to be high'' (*). Low scores indicate low perceived behavioral control, high scores indicate high perceived behavioral control.

Corrupt action

The participants had to decide on whether they finally accept or make the corrupt offer or not. This decision served as a dichotomous measure for corrupt action.

Analysis and results

Analysis

To determine causal models, two different statistical procedures are available: a covariance structure analysis or the partial least squares (PLS) analysis (for the differences see e.g., Chin and Newsted, 1999; Fornell and Bookstein, 1982; Lohmöller, 1989; Schneeweiß, 1991). Because of the high complexity of our model and the low sample size as well as the inclusion of one nominal-scaled variable, we chose the PLS approach that is able to handle these restrictions (Chin and Newsted, 1999). As statistical software program we used SmartPLS (Ringle et al., 2005).

Evaluation of the proposed model

The means, standard deviations, and correlations among all latent variables are presented in Table I. We computed these correlations via a fully saturated PLS model.

To evaluate causal models estimated by PLS procedures, we refer to Chin's (1998) catalog of non-parametric quality criteria. As in contrast to covariance structure analysis no global quality index exists, the structural model and the measurement model of the latent variables have to be evaluated separately (Hansmann and Ringle, 2005).

Evaluation of the reflective measurement models

We only used reflective measurement models assuming that the indicators measure the same underlying phenomenon (Chin, 1998). To assure that each indicator shares more variance with the component score than with error variance, we only chose indicators with loadings of 0.70 at least (Chin, 1998; Hansmann and Ringle, 2005). We also accepted loadings of 0.60 in case there were additional comparable indicators in the block (Chin, 1998). Indicators we therefore eliminated are marked by an asterisk (*) in the Measures section.

To examine our scales' internal consistency, we used three measures. One is Cronbach's alpha, where according to Nunnally (1978) in basic research a value of 0.70 is acceptable. A second one is the composite reliability assessed by Dillon–Goldstein's rho (Tenenhaus et al., 2005). As Cronbach's alpha assumes tau equivalence, which means that all items have to measure the construct equally well and may only differ in the measurement error, the rho as a measure for the composite reliability is applicable if there is no tau-equivalence. It considers the real factor loadings in contrast to the equal weighting conducted in computing Cronbach's alpha and is therefore a closer approximation under the assumption that the parameter estimates are accurate. Rho can be interpreted like Cronbach's alpha and should be higher than 0.70 (Ringle et al., 2006). Fornell and Larcker's average variance extracted (AVE) measures the amount of variance that a latent variable component captures from its indicators relative to the amount due to measurement error. It can be interpreted as a measure of reliability for the latent variable component score and is more conservative than the composite reliability rho. The AVE should be >0.50 (Chin, 1998). Results for these three measures are shown in Table II. Only for the desire to achieve a goal and positive as well as negative anticipated emotions Cronbach's alpha fell below the recommended level. However, the rho taking into account the indicators' different weighting as well as the conservative AVE were acceptable for all latent variables.

As a means of evaluating discriminant validity, there are two measures: First, the AVEs of the latent variables should be greater than the square of the correlations among the latent variables (Chin, 1998). Second, when calculating the cross-loadings between latent variable component scores and other indicators outside its own block, an indicator should not load higher with other latent variables than the

TABLE I

Descriptive statistics and correlations[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Desire to achieve a private or professional goal	3.87	0.73										
2. Positive anticipated emotions	4.15	0.81	0.38**									
3. Negative anticipated emotions	2.31	0.91	0.26**	0.38**								
4. Intention to achieve a private or professional goal	3.50	0.84	0.70**	0.35**	0.35**							
5. Goal feasibility	3.03	0.79	0.42**	0.05	0.05	0.47**						
6. Desire to achieve a private or professional goal through corrupt action	3.80	0.95	0.13	0.08	0.01	0.15*	−0.01					
7. Attitude	4.88	1.17	0.09	−0.01	0.01	0.11	0.10	0.65**				
8. Subjective norm	3.28	0.76	0.09	0.11	−0.04	0.07	−0.01	0.54**	0.58**			
9. Intention to achieve a private or professional goal through corrupt action	3.64	1.08	0.08	0.03	0.01	0.11	−0.07	0.82**	0.73**	0.58*		
10. Perceived behavioral control	3.48	1.11	0.01	0.01	−0.08	0.00	0.03	0.59**	0.62**	0.51**	0.71**	
11. Corrupt action	–[b]	–[b]	−0.06	−0.07	0.02	0.00	−0.13	0.78**	0.66**	0.49**	0.78**	0.72**

[a]$n = 196$; one-tailed significance test for relationships proposed in the model, two-tailed significance test for all other relationships.

[b]Dichotomous, nominal-scaled variable.

*$p < 0.05$; **$p < 0.01$.

TABLE II

Reliability measures

Scales	α^a	ρ_c^b	AVE^c
Positive anticipated emotions	0.64	0.84	0.73
Negative anticipated emotions	0.59	0.82	0.70
Desire to achieve a private or professional goal	0.67	0.81	0.60
Goal feasibility	0.76	0.85	0.66
Intention to achieve a private or professional goal	0.73	0.85	0.65
Attitude	0.93	0.94	0.67
Subjective norm	0.72	0.84	0.64
Desire to achieve a private or professional goal through corrupt action	0.83	0.90	0.75
Perceived behavioral control	0.80	0.91	0.84
Intention to achieve a private or professional goal through corrupt action	0.87	0.92	0.79
Corrupt action	_[d]	_[d]	_[d]

[a]Cronbach's alpha.
[b]Dillon–Goldstein's rho (composite reliability).
[c]Average variance extracted.
[d]The construct was measured by a single item.

one it is intended to measure (Chin, 1998). As both these conditions are fulfilled, we assume the discriminant validity of our latent variables.

Evaluation of the structural model

Our proposed structural model – including the parameters estimated by the PLS analysis – is shown in Figure 2.

The weights of the relationship between the latent exogenous (independent) and latent endogenous (dependent) variables in Figure 2 indicate the strength of the relationship of these variables. To assess the significance of the path estimates (see Figure 2), we used a bootstrapping procedure calculating *t*-values with 500 re-samples that allows an evaluation of the stability and precision of the

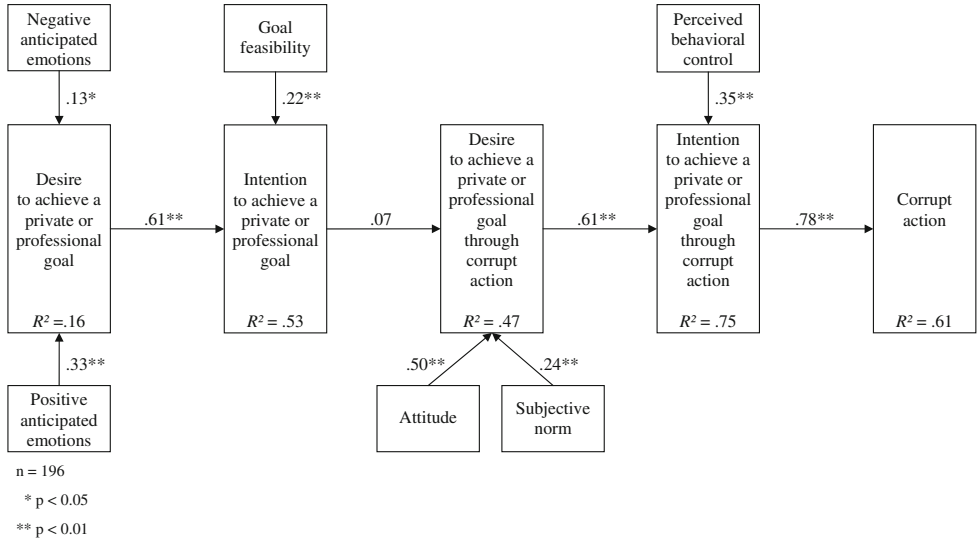

Figure 2. The proposed model of corrupt action – Results of the PLS analysis.

PLS results. All path coefficients were significant – except one. This was one essential path in the model, the path between the intention to achieve a private or professional goal and the desire to achieve the goal through corrupt action. All significant paths were in the proposed direction except the relationship between goal feasibility and the intention to achieve a private or professional goal. Contrary to our hypothesis, the relationship was positive indicating that the more difficult it is to achieve the goal, the lower the intention to achieve it. Thus, hypotheses 3 and 4 have to be rejected, while hypotheses 1a, 1b, 2, 5, 6, 7, 8, and 9 can be accepted.

The central evaluation criterion of the structural model is the R^2 whose interpretation is identical to that of traditional regression. The R^2s of the latent-dependent variables are also shown in Figure 2. According to Chin's (1998) classification, the R^2 of the intention to act corruptly was substantial, while the model showed a more moderate level for the intention to achieve a private or professional goal, the desire to act corruptly and corrupt action. The desire to achieve a private or professional goal had a weak R^2.

The effect size f^2 represents changes in the R^2 and indicates whether a predictor latent variable has substantive impact on a dependent latent variable. An effect size of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a small, medium, or large effect at the structural level (Chin, 1998). Results for the f^2 measures are presented in Table III. Confirming the non-significance of the corresponding path coefficient, the intention to achieve a private or professional goal had no effect on the desire to act corruptly. Furthermore, the negative anticipated emotions had no influence on the desire to achieve a private or professional goal.

Another measure underlining these results is the predictive relevance. The predictive relevance of the latent predictor variable for the explanation of latent dependent variables is indicated by Q^2 which is calculated by a blindfolding procedure based on the Stone–Geisser test. As this measure was >zero (Chin, 1998) for the desire to achieve a private or

TABLE III

Evaluation of the proposed and revised model of corrupt action

Latent-dependent variable	Latent predictor variable	Proposed model		Revised model	
		f^2 [a]	q^2 [b]	f^2 [a]	q^2 [b]
Desire to achieve a private or professional goal	Negative anticipated emotions	0.01	0.00		
	Positive anticipated emotions	0.12	0.11		
Intention to achieve a private or professional goal	Desire to achieve a private or professional goal	0.64	0.36		
	Goal feasibility	0.08	0.05		
Desire to achieve a private or professional goal through corrupt action	Intention to achieve a private or professional goal	0.01	0.01		
	Attitude	0.31	0.28	0.32	0.29
	Subjective norm	0.08	0.06	0.08	0.06
Intention to achieve a private or professional goal through corrupt action	Desire to achieve a private or professional goal through corrupt action	0.93	0.69	0.93	0.69
	Perceived behavioral control	0.32	0.24	0.32	0.24
Corrupt action	Intention to achieve a private or professional goal through corrupt action	1.53	1.50	1.53	1.50

[a]Effect size: 0.02 – small effect, 0.15 – medium effect, 0.35 – large effect.

[b]Predictive relevance: 0.02 – small predictive relevance, 0.15 – medium predictive relevance, 0.35 – large predictive relevance.

professional goal ($Q^2 = 0.12$), the intention to achieve a private or professional goal ($Q^2 = 0.34$), the desire to act corruptly ($Q^2 = 0.34$), the intention to act corruptly ($Q^2 = 0.59$), and corrupt action ($Q^2 = 0.60$), these latent variables had a reliable predictive relevance. As in the case of the effect size f^2, changes in the Q^2 can be used for a block-wise evaluation of the predictive relevance of the latent predictor variables. Results of the corresponding q^2 measures are shown in Table III. A q^2 of 0.02, 0.15, and 0.35 indicates whether a latent predictor variable has a small, medium, or large predictive relevance (Chin, 1998). The intention to achieve a private or professional goal had no predictive relevance for the desire to act corruptly and the negative anticipated emotions were not a relevant predictor of the desire to achieve a private or professional goal.

As the evaluation of the structural model showed, the link between the first part of the model concerning the goal one would like to achieve and the way to achieve this goal, namely corrupt action, was not significant. This indicates that our model was not appropriate. Thus, we revised it[2] and conducted another PLS analysis. The revised model is described below.

Evaluation of the revised model

Evaluation of the reflective measurement models

The measures for Cronbach's alpha, the composite reliability rho, and the AVE are presented in Table II. For all latent variables, Cronbach's alpha and rho were >0.70 (Ringle et al., 2006) and the AVE was >0.50 (Chin, 1998).

Furthermore, the discriminant validity of the latent variables in our revised model can be assumed because both the conditions set by Chin (1998) are fulfilled. The AVEs of the latent variables were greater than the square of the correlations among the latent variables. When calculating the cross-loadings, no indicator loaded higher with other latent variables than the one it is intended to measure.

Evaluation of the structural model

Our revised structural model – including the parameters estimated by the PLS analysis – is depicted in Figure 3.

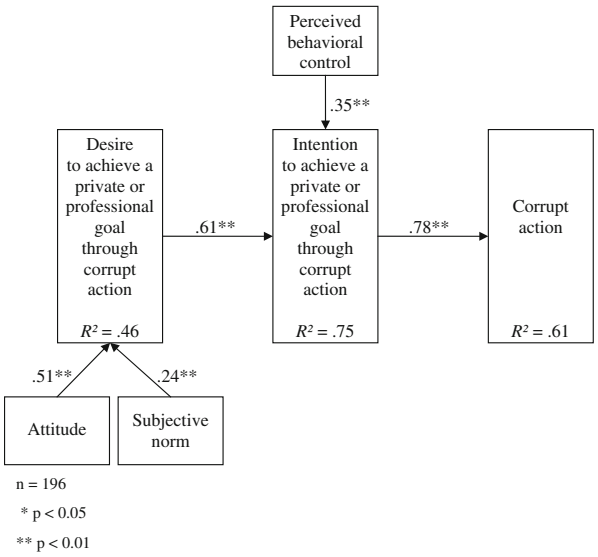

Figure 3. The revised model of corrupt action – Results of the PLS analysis.

The weights of the relationship between the latent exogenous (independent) and latent endogenous (dependent) variables indicating the strength of the relationship of these variables are shown in Figure 3. To assess significant paths and the stability of path estimates (see Figure 3), we used a bootstrapping procedure calculating t-values with 500 re-samples. All path coefficients now were highly significant indicating that our results are stable and precise. Thus, this model allows the acceptance of the hypotheses 5, 6, 7, 8, and 9. The R^2s of the latent dependent variables as presented in Figure 3 were substantial for the intention to act corruptly and moderate for the desire to act corruptly as well as the corrupt action. Results for the effect size f^2 are shown in Table III. They indicate that the attitude toward corruption had a medium effect on the desire to act corruptly, while the subjective norm had a small influence. While the intention to act corruptly was strongly influenced by the desire to act corruptly, perceived behavioral control only had a medium effect. The intention to act corruptly had a strong effect on corrupt action.

As in our first model, all latent predictor variables had a reliable predictive relevance (desire to act corruptly: $Q^2 = 0.34$; intention to act corruptly: $Q^2 = 0.59$; corrupt action: $Q^2 = 0.60$). Results of q^2 measures indicating the relative impact of each latent predictor variable are presented in Table III. While attitude had a medium predictive relevance for the

desire to act corruptly, the impact of the subjective norm was small. The desire to act corruptly had a high predictive relevance for the intention to act corruptly, while perceived behavioral control only had medium impact. The intention to act corruptly was a strong predictor of corrupt action.

Discussion

Summary of results

The aim of our study was to investigate the interrelation of behavioral components leading to corrupt action. Thus, we proposed and empirically tested a model of corrupt action. Our results show that all those components concerning the achievement of a certain private or professional goal (anticipated emotions, goal feasibility, goal desire, and goal intention) do not allow for a prediction of corrupt action. This finding contradicts criminological research (e.g., Bannenberg, 2002) which suggests a high achievement motive of corrupt actors. An explanation for the missing predictive relevance of general goals may be deduced from attitude–behavior research. It suggests that the degree of specificity of the behavior to predict and the predictors have to correspond (Ajzen and Fishbein, 1977). Thus, corrupt action as a very specific behavior can only be predicted by components measured with the same specificity; this means by all those components in the model directly addressing corrupt action, but not relating to a general professional or private goal. In contrast, Bagozzi et al. (2003) were able to predict specific behavior using generally formulated goals. While in their study participants were also asked to indicate their plans for how to achieve a goal they have set themselves, in our case the ways chosen for goal achievement were not planned together with the goal setting in advance. Participants in our study were not sensitized to possible ways of goal achievement. Thus, corruption does not appear to be implemented in an overarching action plan. Rather, it seems that if the situation offers the opportunity, an individual decision on whether to act corruptly or not is evoked. While in our design the anteceding situation – namely, to achieve a profit as high as possible – is the same for all participants, the individual decision for each participant turned out differently either pro or contra corruption. This underlines the importance of person-based components for the prediction of corrupt action.

Our resulting model is a modified extension of Ajzen's (1991) Theory of Planned Behavior. In addition to his model, the desire component as proposed by Bagozzi et al. (2003) represented an important antecedent of the intention component. This also reflects our assumption that Heckhausen's (1989) distinction between desire and intention, between motivation and volition, is relevant to explain corrupt action. Furthermore, the transformation of the intention to act corruptly in real corrupt action is not considered in Ajzen's (1991) model, but in the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1987a, b, 1989) and in the Model of Effortful Decision Making and Enactment (Bagozzi et al., 2003) and therefore also in our model.

The intention to act corruptly was a very strong predictor of corrupt action, explaining more than 60% of its variance. This R^2 indicates that a great portion of the variance in corrupt action is determined by the person-based components included in the model. The remaining variance may be due to other person-based factors like, for example, sociodemographics and situational factors like, for example, organizational culture and climate, codes of conduct, rewards and sanctions, organizational size and level, and industry type and business competitiveness (e.g., Ford and Richardson, 1994; Loe et al., 2000), which were not considered in our model because of our research intention to cover behavioral components leading to corrupt action.

The attitude toward corrupt action had the main impact on the desire to act corruptly. This is consistent with Powpaka's (2002) finding in his survey study using scenarios where the attitude had the strongest impact on the intention to bribe compared to the subjective norm and perceived choice. The subjective norm in our model also had a substantial, but lower impact. Together, the cognitive model components attitude and subjective norm explain nearly half of the variance in the desire to act corruptly. Perceived behavioral control and the desire to act corruptly explain 75% of the variance in the intention to act corruptly with the desire to act corruptly having a stronger impact than the perceived behavioral control. Thus, our results show that in the case of an opportunity, an interplay of

motivational, volitional, and cognitive – but not emotional – components within a situational context lead to corrupt action. While criminological research on corruption (e.g., Bannenberg, 2002) focuses on personal characteristics of corrupt actors, our research stresses the process of action choice and underlines the usefulness of an interactionist perspective of person and situation.

Managerial implications

Our research intended to get hints for the prevention and combat of corruption in and between companies. Because of the psychological focus of the model, we especially expected to give recommendations in the area of human resource management. Nevertheless, managerial implications have to be drawn carefully because – as will be discussed later – our experimental design with a sample of high school and university students allows only limited extrapolation of results to managerial positions in companies.

In our study, three major factors were identified as important influence factors in the decision-making process: the individual's attitude toward corruption, the subjective norm, and the perceived behavioral control. The question that arises is which measures can be undertaken to influence these factors to reduce corruption in organizations.

To create a corruption-aversive subjective norm, employees should be shown in various ways that corruption is not tolerated in a company and the integrity of employees is absolutely demanded. The company should aim at establishing an ethical organizational climate and adopt an attitude of permanent rejection of corruption, even if it appears to benefit the company. A non-tolerance of corruption has to be seen as high priority value for the company and all its operations. It should be clear that ethical values are ranked higher than business values. One possibility to institutionally condemn corrupt behavior is the introduction of a code of conduct or code of ethics by the top management. Furthermore, ethical leadership (see Brown and Trevino, 2006) by the (top) management plays an important role in creating a corruption-aversive climate. (Top) management should serve as an example, as a role model for its employees. It should declare its intent to comply with all legislation and to make anti-corruption policy a top priority. All institutionalized measures should be combined with the management's self-commitment against corruption which is communicated in open letters to employees, public speeches, company newsletters, wall posters, or wallet cards. Not only (top) management but all company members should be included in establishing a corruption-aversive organizational culture. Thus, companies may establish ethics or anti-corruption committees. These consist of employees from different sectors and levels and membership is rotated. Such committees discuss ethical dilemmas, especially those including corruption. In addition, they support the realization of anti-corruption measures. A positive signal that may also contribute to a corruption-aversive subjective norm is the cooperation with other companies, governments, employers' organizations, and non-governmental organizations in the fight against corruption (e.g., Argandoña, 2003; Kubal et al., 2006; McDonald, 2000; Stead et al., 1990).

Attitude was found to be an important determinant of the desire to act corruptly. So how can a company on the one hand assure a corruption-aversive attitude of its employees and on the other hand undertake measures for changing their employees' attitudes? One possibility is to check for potential employees' attitude toward corruption already in the recruitment and hiring process. To allow for a choice of candidates who will resist corruption, selection procedures should not only include general integrity tests but also specific corruption-relevant attitude measures. Moreover, companies may allow their potential employees to check their personal attitude with the company's attitude toward corruption by including the code of conduct in all recruiting material and addressing it in the job interview. Furthermore, companies could require their candidates to read the anti-corruption policy and to commit themselves to these standards by signing an obligatory statement during the application process. As soon as employees are members of the company, the organization may undertake efforts to shape their attitude toward corruption. One possibility is the use of persuasive communication in training and workshops for all employees. Again, specificity is necessary. Thus, general ethics training does not suffice. Employees have to be sensitized to the corruption problem in

that they understand what corruption is, why it should be rejected, and what consequences it may have. Another possibility to change attitudes is the use of rewards and sanctions. To create a corruption-aversive attitude, it is necessary that ethical behavior is reinforced and corrupt behavior is punished. Additionally, performance evaluations and the associated rewards have to be tied to ethical behavior (e.g., Argandoña, 2003; Cole and Smith, 1996; McDonald, 2000; Stead et al., 1990).

Our results also showed that high perceived behavioral control had a positive impact on the intention to act corruptly. Thus, it is important to establish effective control mechanisms to maximize the risk for corrupt actors. This may be realized by different measures. Job design offers a number of possibilities to contribute to high transparency and a high likelihood of detection: clearly defined responsibilities, separated functions, a more-eyes-principle in important decisions, job rotation, as well as an effective documentation and records management. These measures should be complemented by institutional control and support tools which help in spotting corruption conflicts in the workplace: the appointment of an anti-corruption officer or ombudsperson, the implementation of internal audits and revisions, the establishment of effective reporting mechanisms for whistle-blowing, as well as the realization of regular performance reviews and employee interviews, which may help to detect corrupt tendencies and to establish the employees' trust to announce corrupt offers to the supervisor. In addition to efforts in increasing the likelihood of detection, companies should also aim at clearly communicating the sanctions which will be implemented in the case of detection. The purpose of this is to heighten the employees' awareness of the risks in committing corrupt actions. It is not sufficient to set high penalties, but the consequences of corrupt action for the individual have to be clearly stressed in speeches, guidelines, newsletters, anti-corruption campaigns, trainings, and seminars (e.g., Argandoña, 2003; McDonald, 2000).

Study limitations and implications for future research

A business game simulating a cut-out of the real business world with participants slipping into the roles of decision makers in companies (Kriz, 2005) offers a realistic environment for studying corrupt action. Nevertheless, when generalizing our results, some restrictions have to be made, especially because of the standardization of the initial situation and the corrupt offers in our business game. For future research, it is advisable to cross-check the model using different research approaches, such as qualitative interviews with real-life corrupters and corruptees. Furthermore, we used a sample of high school and university students. Although they are the future leaders in companies and O'Fallon and Butterfield's (2005) review found students less ethical than practitioners in only three out of seven studies, we recommend a validation of our model with a sample of managers. As we created a strong incentive structure by the size of the bribes chosen, it will also be interesting to see whether our findings will hold true for weaker incentive structures as they may occur in the case of small-scale corruption. Moreover, we did not provide explicit deterrents. Thus, future research may also examine situations where corrupt behavior is penalized.

Because of the complexity of the corruption phenomenon, not every single aspect could be covered in the model. So, some restrictions concerning the applicability of our research model have to be made. The action model outlined above deals with the simple case of a corrupt relationship between only two single actors. Groups of actors and resulting group influences are not considered. Furthermore, corruption often takes place in an international context, which means it occurs between actors from different socio-cultural backgrounds. These external influences also are not covered by the research model. Moreover, the model focuses on the case of a first initiation of a corrupt relationship. Thus, the model intends to describe the relevant person-based components for a first-time corrupt action between two single partners in a mono-national context. Dynamics of a longer-lasting corrupt relationship will have to be included in the model. In this case, corruption already may have been experienced as an effective way of goal achievement. Therefore, it may be regarded as an option from the beginning. Thus, in the case of longer-lasting relationships the link between the model part concerning the goal and the part concerning corrupt action may become significant. Our focus is on corruption in and between German companies.

As corruption also occurs in other sectors like politics and administration, it will require further research to find out whether one general action model for corruption can be identified or whether there are differences in the person-based components of corrupt action according to the sector in which it takes place. Therefore, it will be a great challenge for future research to model aspects of international corrupt relationships, group influences, and the development of the relationship between corrupt actors in different settings. Taking all these aspects into account, research will be able to make further contributions to an effective prevention and deterrence of corruption in and between companies.

Notes

[1] Volitions are processes that determine which motivational tendencies should be realized. They seek to initiate action and realize the formed intention (Heckhausen, 1989).

[2] Further analyses showed that there were no significant paths between constructs of the first part and constructs of the second part of the model either.

Acknowledgment

We thank the foundation ''Wertevolle Zukunft,'' the Business Keeper AG, the Telekom AG, and the ABB AG for the financial support for this research project.

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