

# **Towards systematically developing individuals' ambidextrous performance: A Social Cognitive Perspective**

## **Abstract**

Research on ambidexterity has increasingly taken an interest in individual level ambidexterity as a potential micro-foundation of competitive advantage. While several antecedents of individual ambidexterity have been identified, actionable angles for managing and developing this capability on the level of the employee are largely missing. We adopt a social cognitive perspective and identify explorative self-efficacy as a predictor of individual ambidexterity that can be influenced by transformational leadership. Drawing on primary, multi-informant data from 245 employees we find strong support for our hypotheses. Our results both show actionable angles for practitioners and point the theoretic discussion of the emergence of individual ambidexterity towards the potential of models of self-regulation.

## **Introduction**

How can practitioners systemically manage and develop the ability of their employees to successfully combine the exploration of innovative opportunities and the exploitation of their existing competences in their work?

The relevance of this ability to combine exploration and exploitation, dubbed ambidexterity, on the individual level has been highlighted in reviews on the topic of ambidexterity (e.g. Raisch et al., 2009). In line with a micro-foundations model of strategic management and competitive advantage (Barney & Felin, 2013), measures to systematically develop this capability should be of high interest to both practitioners and the research community. However, while research has provided actionable angles for developing this ability on the organizational level such as shaping the organizational context (e.g. Gibson & Birkinshaw, 2004), there is a lack of such angles for the development at the individual level. This is puzzling, given that developing ambidexterity on the individual level allows to target specific employee groups, which is beneficial since individual ambidexterity has been demonstrated to be important for performance but only for employees working in uncertain and interdependent job functions (Mom, Fourné & Jansen, 2015).

While research on the individual level has produced a variety of antecedents for individual level ambidexterity that have greatly aided our understanding of what makes an individual ambidextrous, many of these antecedents are not well-suited as a basis for systematically developing this capability on the level of the focal employee. Some of these antecedents are on a higher level of analysis and thus require more invasive organizational changes that may yield unintended consequences. These are for example high performance work systems (Patel, Messersmith & Lepak, 2013), cross-functional interfaces (Jansen, Tempelaar, van den Bosch & Volberda, 2009), high involvement HR practices (Preito & Santana, 2012) or cultural variables such as psychological safety (Kostopoulos & Bozionelos, 2011). Others are on a psychological level and thus in principle a good target for systematic development on the level of the focal employee for example in the form of training, but tend to be deep-seated, early formed and hard to influence in a financially viable and limited context such as a training. These are for example motivational orientation (Kauppila & Tempelaar, 2016), proactive personality and intrinsic motivation (Kao & Chen, 2016), or behavioral integration (Lubatkin, Simsek, Ling & Veiga, 2006).

Kauppila and Tempelaar (2016) present to our knowledge the first paper that explicitly builds on well-developed psychological theory to understand the micro-processes leading to ambidexterity on the individual level. We consider this the right approach and an important step in the literature, since it connects individual ambidexterity to a vast and validated nomological network that allows both for conceptual clarification and actionable angles for systematic development of this capability based on solid evidence. More specifically, they focus on Social Cognitive Theory (Bandura, 1989; henceforth: SCT) and generic self-efficacy to explain individual ambidexterity.

Building on this theoretical framework, we argue that explorative self-efficacy as a form of specific self-efficacy is a promising candidate for such an actionable angle, since it is both directly related to the outcome and can be systematically managed and developed. Using established scale development practices, we develop a measure for explorative self-efficacy and demonstrate both its substantive role as an antecedent of individual ambidextrous performance and its malleability with the example of leadership. To do this, we draw on multi-informant survey data from 245 employees and their respective supervisors. Our results both demonstrate the validity of a self-regulation paradigm for explaining the emergence of individual level ambidextrous performance, and show actionable angles for practitioners to systematically develop this micro-foundation of their competitive advantage (Barney & Felin, 2013).

## Theoretical background

SCT holds that learning, motivation and performance are guided by several self-regulatory mechanisms working in synchronization. A central role among these have the beliefs of the employees in their personal efficacy, that can in turn mobilize motivation, resources and activities needed to successfully cope with the challenges at hand. Accordingly, Kauppila and Temepelaar (2016) employ a measure of generic self-efficacy (GSE) as an important antecedent of individual ambidextrous performance.

We build on this work by incorporating the differentiation between GSE and specific self-efficacy (SSE). In SCT GSE is conceptualized as a higher level dynamic personality trait that is relatively stable over time and, as indicated by the term, generic across situations (Schwoerer et al., 2005; Weitlauf, Cervone, Smith & Wright, 2001). SSE, on the other hand, reflects domain specific efficacy expectations that can be focused on different levels of granularity for example on the job and different aspects of the job. Research generally indicates a hierarchical relationship between the two. While GSE is a broader predictor of positive outcomes across situations, SSE has the stronger relationship with the same outcomes in the domain it is specific to, and typically mediates the relationship of GSE to the outcome (Schutte & Malouff, 2016). But integrating SSE into the ambidexterity research is not only meaningful because an appropriate measure of SSE will have a stronger and more direct relationship with individual ambidextrous performance, but also because it is more malleable and thus more suited as a basis for systematic development. Indeed, there is a vast literature demonstrating the effectiveness of training based on systematic intervention principles guided by SCT on SSE (Eden, 1988; Gist et al., 1989; Mathieu, Martineau & Tannenbaum, 1993). GSE, on the other hand, can only be influenced indirectly via increasing SSE ideally in several domains which will generalize eventually but in a qualitatively weaker effect (Mencl, Tay, Schwoerer & Drasgow, 2012).

We take explorative self-efficacy as the most relevant form of SSE for individual ambidextrous performance. As Kauppila and Tempelaar argue, “factors that augment exploration without lowering an existing high level of exploitation are especially relevant antecedents of ambidexterity because organizations and individuals tend to be more engaged in exploitative than explorative activities” (2016, p.1022). In addition to this importance of exploration for individual ambidextrous performance, it seems also the more vulnerable part: Explorative tasks by nature exhibit higher degrees of uncertainty which can be psychologically stressful and lead to adverse coping mechanisms. For example, the inherent ambiguity of explorative work can be managed by relying on old, exploitative routines to restore a sense of control and mastery in the face of uncertainty. This, in turn, may lead to cross-contamination of explorative efforts by implicit assumptions of said exploitative routines. Research on paradoxical demands such as ambidexterity has identified this problem of defensiveness that can lead to “becoming trapped within the comfort of the past” (Lewis, Andriopoulos & Smith, 2014). The same research also suggests a solution: “Confidence is the antidote of defensiveness” (ibid.). Confidence in one’s explorative abilities in turn, is the very same thing as explorative self-efficacy.

The SCT describes several pathways how explorative self-efficacy can influence individual ambidextrous performance: Since people tend to avoid situations which they fear will exceed their coping capabilities, employees that feel overwhelmed with uncertain explorative demands will disengage from these activities, which in turn limits opportunities for future growth of their innovative capabilities. A high explorative self-efficacy implies a high estimation of one’s ability to master explorative challenges, and helps accordingly to avoid this negative cycle of withdrawal. Explorative self-efficacy would also influence the level of motivation and persistence of the explorative efforts, since employees who doubt their own capabilities for exploration will abandon their efforts prematurely and settle for mediocre solutions. Finally, explorative self-efficacy can also influence how much stress and distracting emotional arousal employees experience when dealing with ill-defined exploration tasks, since people with low self-efficacy tend to conjure up apprehensive cognitions. In sum, we argue that explorative success without hindering exploitation is a major source of individual ambidextrous performance, but also one that is strongly vulnerable to feelings of low explorative self-efficacy. Accordingly, we consider explorative self-efficacy to be a central candidate as a basis for evidence-based intervention angles. Thus,

*Hypothesis 1: Explorative Self-Efficacy predicts individual ambidexterity.*

We argue that in order for explorative self-efficacy to be a viable angle for systematically developing individual ambidextrous performance, it also has to fulfill another requirement, i.e. malleability in the organizational context. We focus on Transformational Leadership (Bass, 1985; TFL) as a candidate. TFL is a leadership style that is comprised of four dimensions: Inspirational Motivation, Idealized Influence, Individualized Consideration and Intellectual Stimulation. TFL was found to be particularly effective in situations of uncertainty (Bass, 1990; Jansen, Vera & Crossan, 2009; Waldman et al., 2001). TFL is especially suited as a potential influence on explorative self-efficacy because they influence their followers’ development through role modeling and identification (Kark, Shamir & Chen, 2003). Being exposed to role-models is one of the major sources of self-efficacy (Bandura, 1997), and since transformational leaders are especially proactive and good at exploring new

ideas (Gong, Huang & Farh, 2009), their role-model should emphasize exploration and thus increase explorative self-efficacy. In addition, transformational leaders simultaneously communicate high performance expectations and express confidence in their followers` ability to meet them (Eden, 1992), which is a persuasive basis of efficacy beliefs (Bandura, 1997).

TFL has also been linked to ambidexterity on the team level before (Neminach & Vera, 2009). Based on our reasoning about the effects of TFL on explorative self-efficacy, we extend on this and argue that TFL influences individual ambidextrous performance by raising explorative self-efficacy. Thus,

*Hypothesis 2: Transformational Leadership predicts individual ambidexterity, mediated by explorative self-efficacy.*

## Method and Results

We tested our hypotheses in a sample of 245 employees of a Swiss insurance company. We collected data for predictor variables (explorative self-efficacy, transformational leadership) from employees and for the dependent variable (individual ambidextrous performance) from the respective supervisor to minimize common method variance.

*Explorative Self-Efficacy* was measured with a self-developed scale consisting of ten items. Three of the items were adopted based on the creative self-efficacy measure developed by Tierney and Farmer (2002). The remaining seven items were created to capture efficacy beliefs related to implementation and championing of explorative ideas to represent the full life cycle of explorative value creation. The literature on self-efficacy (e.g. Bandura, 1997) and innovation (e.g. de Jong and den Hartog, 2010; Janssen, 2000; Yuan and Woodman, 2010) was analyzed to generate a set of items. The items were optimized and validated in a focus group consisting of 11 employees working in the organization under study. Answers were provided on a Likert scale from 1 (“strongly disagree”) to 5 (“strongly agree”). Based on our theorizing, explorative self-efficacy is considered as a second order construct emerging of efficacy expectations for creativity, implementation and championing. A more detailed description can be found in Dörner (2012).

*Transformational Leadership* was measured with 20 items taken from the transformational leadership assessment of the Multifactor Leadership Questionnaire Form 5X (Bass & Avolio, 1995). Previous studies employing the German version have reported high construct validity and internal consistency of the scale (e.g. Felfe & Schyns, 2002). Employees assessed their supervisor on a Likert scale from 1 (“not at all”) to 5 (“frequently, if not always”).

*Individual Ambidextrous Performance* was assessed as the product of explorative and exploitative performance, following prior operationalization of individual ambidexterity in the literature (e.g. Mom et al., 2009). To measure an employee`s explorative performance, we asked his/her supervisor to assess the employee`s innovative work behavior on de Jong and den Hartog`s (2010) eponymous scale; to measure the employee`s exploitative performance, we asked his/her supervisor to assess the employee`s quality of work, his/her effectiveness, and the extent to which s/he fulfills his/her roles and responsibilities on Wayne and Liden`s (1995) corresponding scale as used by Bolino and Tunley (2003) and Golden, Veiga, and Dino (2008). Both variables were measured on a Likert scale ranging from 1 (“not at all”, “strongly disagree”) to 5 (“frequently, if not always”, “strongly agree”).

Following Mom and colleagues (2009) we also include *organizational tenure* (self-reported) as a control variable.

Descriptive statistics and correlations are shown in table 1:

Table 1: Descriptive statistics, correlations and internal consistencies.

Variable	1	2	3	4
1 Individual Ambidextrous Performance	1.000			
2 Explorative Self-Efficacy	.32**	(.85)		
3 Transformational Leadership	.16*	.2**	(.94)	
4 Organizational Tenure	-.15*	-.15*	-.07	1.000
<i>Mean</i>	13.46	3.94	3.73	11.17
<i>Std. dev.</i>	5.22	.5	.77	8.75
<i>Min</i>	1	2.23	1.55	.25
<i>Max</i>	25	5	5	43

We use hierarchical multiple regression analytics (Hayes, 2017) and find that explorative self-efficacy predicts individual ambidextrous performance ( $\beta = .29$ ;  $p < .001$ ), supporting Hypothesis 1. Using the same procedure and supporting Hypothesis 2, we find a positive prediction of individual ambidextrous performance by transformational leadership, fully mediated by explorative self-efficacy, as shown in figure 1:

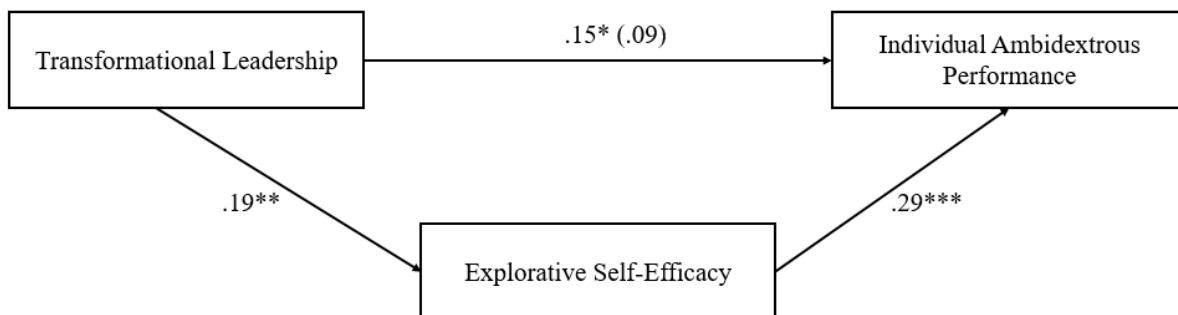


Figure 1: Direct and indirect effects as standardized regression coefficients on individual ambidextrous performance. Organizational tenure included as control ( $\beta = -.13$ ,  $p < .001$ ).

### Discussion

The present study analyzed the emergence of ambidextrous performance on the individual level in search for actionable angles for systematically managing and developing this capability. Using multi-informant data from 245 employees, we identified explorative self-efficacy as such a candidate, and demonstrated both its predictive value for individual ambidextrous performance and its malleability to organizational influences in form of transformational leadership. Our findings have important implications both for theory and practice.

For theory, we present the to our knowledge first mediation perspective of the emergence of individual ambidexterity. The fact that leadership influences on individual ambidextrous performance were fully mediated by explorative self-efficacy points to the importance of individual self-regulation as an antecedent. Given that ambidextrous behaviors rely on the initiative of the focal employee, we raise the question to what degree other contextual predictors of individual ambidexterity are also mediated by factors of self-regulation. If this is the case, models of self-regulation firmly rooted in the psychological literature could serve as a starting point for consolidating the literature on individual ambidexterity and work towards developing a common framework.

For practice, we show with explorative self-efficacy an actionable angle for systematically developing individual ambidextrous performance. We demonstrate transformational leadership to be feasible way to shape explorative self-efficacy and thus individual ambidextrous performance. Furthermore, there are several validated approaches to influence specific self-efficacy such as explorative self-efficacy (Eden, 1988; Gist et al., 1989; Mathieu, Martineau & Tannenbaum, 1993). By using best practice approaches such as providing mastery experiences, role-modeling or verbal persuasion (Bandura, 1997), leaders and trainers can develop the explorative self-efficacy of their employees and consequentially manage their capability for ambidextrous performance. Companies trying to advance their micro-foundations for competitive advantage such as individual ambidexterity can target their efforts on those employees who benefit the most from it (Mom, Fourné & Jansen, 2015).

While we hope to provide the community with some valuable data and insights for deepening our understanding of ambidexterity, we identified several limitations in our data that we want to address. We only included data from the employees of one company in our analysis. While this is not unique to our analysis (e.g. Rogan & Mors, 2014), it still affords the possibility that the relationships we observed could be influenced by specific contextual factors within the setting of this company. Further, our data are cross-sectional, thereby limiting inferences about causality as opposed to longitudinal or experimental set ups.

Further research should address specifically the shortcoming of cross-sectional data. This could be done in a combined approach where an experimental manipulation of explorative self-efficacy in a laboratory setting builds on established lab paradigms for individual ambidexterity (Laureiro-Martinez, Brusoni, Canessa & Zollo, 2015) to provide a substantiated claim of causality. In a follow-up study, these insights could be consolidated and validated in form of a training protocol for developing individual level ambidexterity based on explorative self-efficacy. Based on a thorough validation of this protocol, the research community could provide practitioners with specific and detailed advice for managing individual level ambidexterity based on strong empirical evidence. In addition, we encourage researchers interested in the emergence of individual level ambidextrous performance to carefully consider established psychological models of self-regulation. These could serve as a basis not only for a

possible consolidation in the literature, but also as a guiding framework for more qualitative, process oriented work. We think that especially small and medium sized companies undergoing radical change will have to develop ambidextrous capabilities on the individual level since they lack the resources for structural solutions. Accordingly, they could prove a valuable setting to study the emergence of individual ambidextrous behavior in real-time.

With our research, we hope to provide a first step into a model of the emergence of individual level ambidextrous performance that is firmly rooted in psychological models and provides actionable angles to practitioners. In line with a micro-foundations perspective on strategic management and competitive advantage, we consider this a laborious yet potentially instructive endeavor.

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