TENSIONS IN CORPORATE CREATIVITY

CARSTEN DECKERT

ABSTRACT

The standard definition of creativity is based on a tension between originality and effectiveness. Borrowing from the wave-particle duality in physics one could say that there is an originality-effectiveness duality at work for creativity. The paper explores how this tension pervades Amabile's (1997) componential theory of organizational creativity with the components organizational motivation, management practices (including work assignment and work control) and resources. As a method the so called value square ("Wertequadrat") developed by Helwig (1967) and Schulz von Thun (1998) is used which balances a value with its countervalue. The author identifies a tension of corporate tradition and corporate change for organizational motivation, a tension of skills and challenges for work assignment, a tension of management by control and management by loss of control for work control as well as a tension of organizational efficiency and organizational slack for resources. Additionally different implications of these tensions for the resistance of a company to creativity, for an organizational climate conducive to creativity as well as for resource allocation in creative endeavours are discussed.

KEY WORDS: Corporate Creativity, Organizational Creativity, Components of Creativity.

1. INTRODUCTION

According to Runco & Jaeger (2012, p. 92) the standard definition of creativity is bipartite and includes the two complementary criteria of originality and effectiveness. Borrowing from the wave-particle duality in physics it could said that creativity can be described by an originality-effectiveness duality (Deckert 2016b). On the one hand creativity should lead to novel and original ideas which surprise us because they are unexpected or are judged to be inconceivable. On the other hand creativity should lead to useful, valuable and appropriate solutions for problems – especially when we speak about creativity in a business environment. This creates a tension between the two poles: A solution can be novel but useless or inappropriate or it can be highly effective as a possible solution but not really original. To be termed "creative" an idea or solution has to incorporate both criteria to a certain extent.

The definitions of organizational or corporate creativity usually incorporate both criteria of the originality-effectiveness duality. Woodman, Sawyer & Griffin (1993, p. 293) define organizational creativity as "the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system". This definition includes the same general tension between originality and effectiveness as proposed by the standard definition. Robinson & Stern (1998, p. 11) use the term corporate creativity and define it as follows: "A company is creative when its employees do something new and potentially useful without being directly shown or taught." This definition also includes the tension between originality and effectiveness and additionally emphasizes self-initiative and proactivity of the individuals which the work environment conducive to creativity is supposed to stimulate.

The paper at hand focuses on the creative work environment of organizations and tries to show how the tension of originality and effectiveness permeates the components of organizational respectively corporate creativity.

2. ORGANIZATIONAL CLIMATE, WORK ENVIRONMENT AND CREATIVITY

On the organizational level research concerning creativity deals with management-related factors such as leadership, knowledge utilization and networks, organizational structure, work environment (including resource availability and organizational climate) as well as external environment (Anderson, Potocnik & Zhou 2014, p. 1302 ff., Mumford, Hester & Robledo 2012). The concept of organizational climate usually describes the employees' perceptions of their work environment in terms of behavioural patterns such as practices and procedures. Thus, organizational climate is an aggregation of individual perceptions (Patterson et al. 2005, p. 380, West & Sacramento 2012, p. 362f.) and can be seen as an "intervening variable between the context of an organization and the behaviour of its members" (Patterson et al. 2005, p. 379).

With regard to a work environment conducive to creativity several specific climate models have been proposed. Some of these models have also been elaborated into assessment tools and used to measure organizational climate with regard to creativity. Overviews of the different approaches can be found in Hunter, Bedell & Mumford (2007), Mathisen & Einarsen (2004) and Puccio & Cabra (2010). Furthermore Hunter, Bedell & Mumford (2007, p. 74) developed an integrative climate taxonomy with 14 dimensions from an analysis of 42 existent climate models for creativity.

The author of this paper chose to use the work environment model of Amabile and colleagues (Amabile et al. 1996, Amabile 1997). There are mainly two reasons for this choice: Firstly, the model links individual and organizational creativity (see fig. 1) and, thus, complements the author's previous research concerning individual creativity (Deckert 2015, Deckert 2016b). Secondly, the model seems to be the most widely validated model concerning organizational climate for creativity (West & Sacramento 2012, p. 364).

In an early version the model of Amabile comprised five categories (Amabile et al. 1996, p. 1159) which were re-arranged into three in a later version (Amabile 1997, p. 52ff.). The three components of the current model are as follows:

- Organizational Motivation contains the two aspects "basic orientation of the organization toward innovation" and "supports for creativity and innovation throughout the organization". Organizations differ in organizational encouragement and organizational impediments (Amabile 1997, p. 52).

- Management Practices comprise "management at all levels, but most especially the level of individual departments and projects". The scale for distinguishing different climates are challenging work, work group supports, supervisory encouragement and freedom. The two fostering mechanisms which are frequently confirmed by other researchers are challenging work as well as freedom and autonomy (Amabile 1997, p. 54).

- Resources for creativity include "sufficient time for producing novel work in the domain, people with necessary expertise, funds allocated to this work domain, material resources, systems and processes for work in the domain, relevant information, and the availability of training" (Amabile 1997, p. 53-54).

The work environment impacts individual creativity by influencing the components expertise, creativity skills and task motivation of individual creativity. Task motivation is immediately and directly affected, while the other two criteria can be indirectly affected over the medium- to long-term. In the other direction individual creativity fosters organizational creativity and innovation activities in a company (see fig. 1) (Amabile 1996, p. 83ff., Amabile 1997, p. 52ff.).

Figure 1: Componential Theory of Organizational Creativity and Innovation
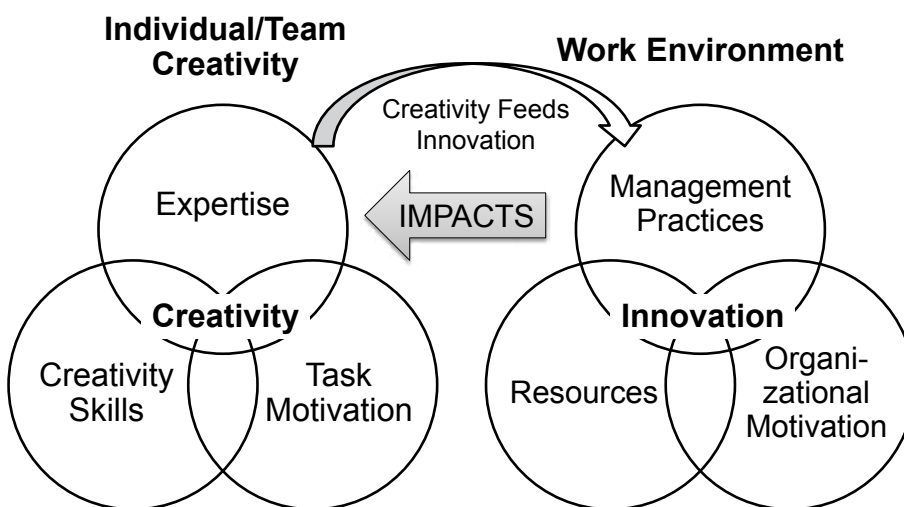

Source: Amabile 1997, p. 53

3. METHODOLOGY

The method used to describe and analyze the tensions of corporate creativity is the so called value square. The value square ("Wertequadrat") is a method to describe complementary value pairs and was developed by Helwig (1967) for character description. It was later used mainly by Schulz von Thun (1998) to show dialectical structures in the intervention into communication. The central idea of the value square is that there can be too much of a value which is the reason why a value should be balanced with a countervalue. This phenomenon can be related to the too-much-of-a-good-thing effect (TMGT effect) of Pierce & Aguinis (2011, p. 313) who propose that some positive antecedents have inflection points after which they cease to be beneficial. Schulz von Thun (1998, p. 40, own translation) writes that "in the value square the notion of an optimum ledger has been abandoned and replaced by the notion of a dynamic balance […]. The notion of a yin-yang-relation of the upper values is also appropriate: They permeate each other, and each contains already a trace element of its opposite pole."

The value square is constructed as follows (see fig. 2): Starting from the positive value on the upper left side (e.g. thrift) one identifies the positive countervalue on the upper right side (e.g. generosity). This upper line represents the positive tension of the two values which together constitute the desired dynamic balance (e.g. one wants to be thrifty while simultaneously being generous). From the value on the upper left along the vertical line downwards one positions the negative exaggeration of this value (e.g. greed). The diagonal leads to the contrarian opposite which at the same time is the negative exaggeration of the countervalue (e.g. prodigality). The lower line represents the overcompensation of the negative values when one goes from one extreme of negative exaggeration to the other extreme (Helwig 1967, Schulz von Thun 1998). The value square is not only a means to describe dialectical structures of values, but also offers the possibility for improvement and can be seen as a development square ("Entwicklungsquadrat"). It helps to choose a developmental path along the diagonal line when one is in a position of negative exaggeration of one of the two values (Schulz von Thun 1998, p. 47).

Figure 2: The Value Square
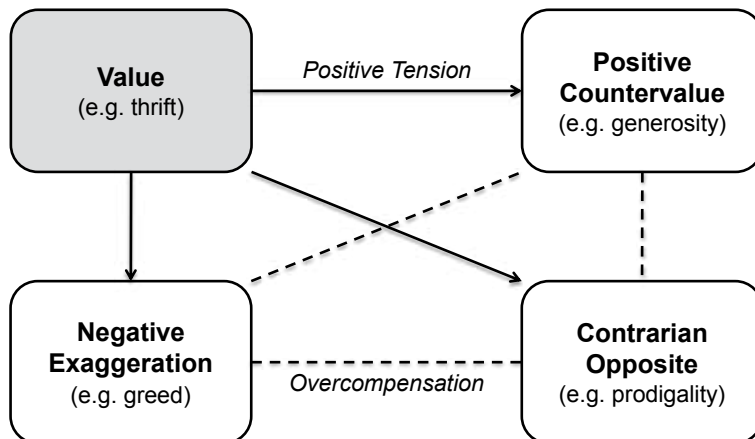
Source: Schulz von Thun 1998, p. 41 (own translation and examples)

4. TENSION CONCERNING ORGANIZATIONAL MOTIVATION

The central tension of a company concerning Organizational Motivation is between corporate tradition and corporate change (see fig. 3). The tradition of a company is reflected by the current business model and the current core competences. By moving too far away from its corporate tradition a company risks losing its corporate identity. But a certain amount of change is necessary to adapt a business model to changes in market needs and to react to technological developments, discontinuities or disruptions. By sticking to closely to the core business companies risk obsolescence of their products and business models and eventually endanger the companies' competitive advantage. Thus, corporate tradition represents the effectiveness side of the standard definition of creativity and corporate change the originality side.

Figure 3: Tension Concerning Organizational Motivation
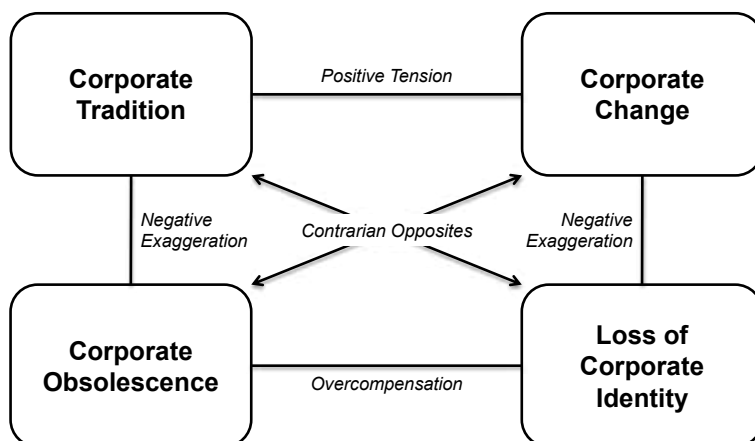
Source: Deckert 2016a, p. 10

This general dilemma can also be described as a tension between core and periphery. Every company has its core business which it needs to strengthen and develop to stay competitive. As a company moves further away from its core business, the novelty of its innovations increase but also the risk of failure and of losing track of the company mission. So especially radical innovations often take place at the periphery of the business and not necessarily near the core. A radical innovation is the development of completely new lines of products or business fields based on new ideas, new technologies or substantial reductions in cost or increases in performance, whereas incremental innovations usually deal with cost reductions or performance improvements of existing products or services (Leifer et al., 2010, p. 4ff.). So companies need to develop what Nicholas, Ledwith & Bessant (2013, p. 34) call "a peripheral vision that allows them to see beyond their immediate focus" to explore new business fields. These new ventures can be adjacent to the traditional business or completely new with no or few connections to the core business. Based on Ansoff's classical matrix containing product and market Nagji & Tuff (2012, p. 66ff.) propose an Innovation Ambition Matrix and distinguish between core innovation activities which optimize existing products for existing customers, adjacent activities which expand the innovation efforts into new but related business fields and transformational activities which explore new products for new markets (see fig. 4). They found that companies which allocate on average 70% of their resources to core innovation activities, 20% to adjacent innovation activities and 10% to transformational innovation activities show a higher share price performance. Of course, these values fluctuate according to the specific industry a company operates in and the type of organization (e.g. established company or start-up company), but can be considered a good starting point for discussions. Many companies, however, find it hard to develop their business beyond their core business segments. Anthony (2012, p. 68) calls this tendency the "the sucking sound of the core business".
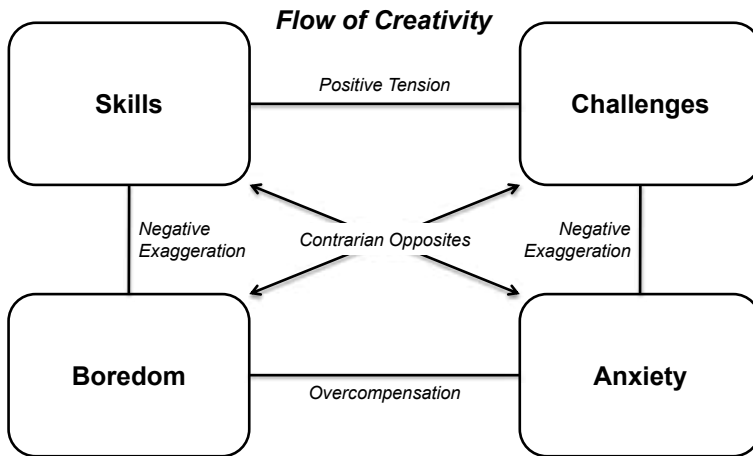
Figure 4: Innovation Ambition Matrix
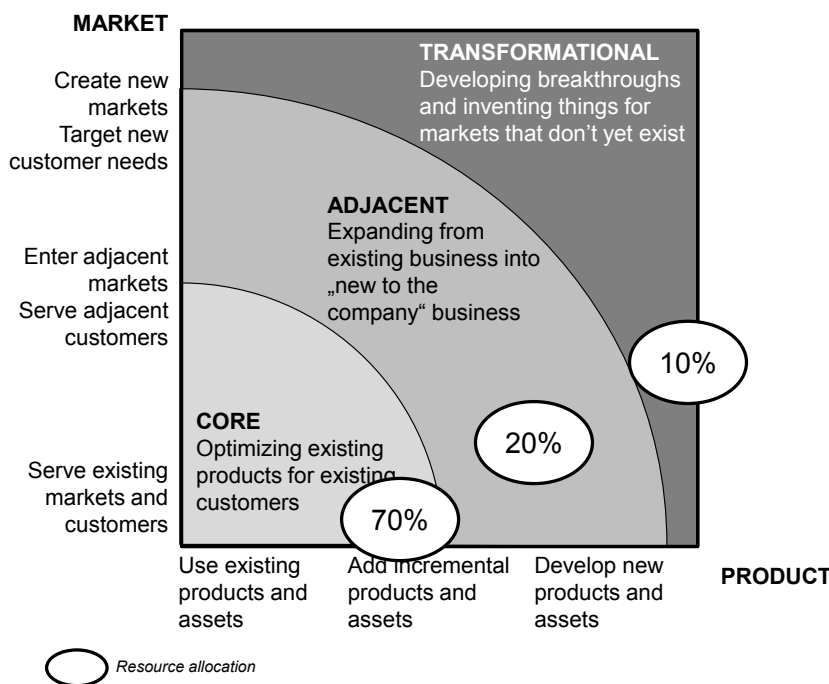
Source: Nagji & Tuff 2012, p. 69

5. TENSIONS CONCERNING MANAGEMENT PRACTICES

The factor challenging work of the component Management Practices can be described as "appropriately matching individuals to work assignments" (Amabile 1997, p. 54). It it usually achieved by a balance of skill and challenge which can be used as the value pair with skills representing the effectiveness side and challenges the originality side (see fig. 5). Csikszentmihalyi (1997, p. 110) calls this balance the flow in creativity and describes it as a "feeling when things were going well as an almost automatic, effortless, yet highly focused state of consciousness". For this to happen the task should also have clear goals, provide immediate feedback, and can be done under exclusion of distractions. The flow in creativity leads to a merging of action and awareness, the forgetting of self, time and surroundings and is generally seen as an autotelic activity meaning an activity which provides joy for its own sake (Csikszentmihalyi 1997, p. 110ff.). If work is assigned with too much focus on existing skills then employees will be bored by the tasks. A task which is too demanding with regard to the skill level of the employee will result most likely in anxiety of the employee.

Figure 5: Tension Concerning Work Assignment

Flow of Creativity

	Positive Tension	
Skills		**Challenges**

Negative Exaggeration — Contrarian Opposites — Negative Exaggeration

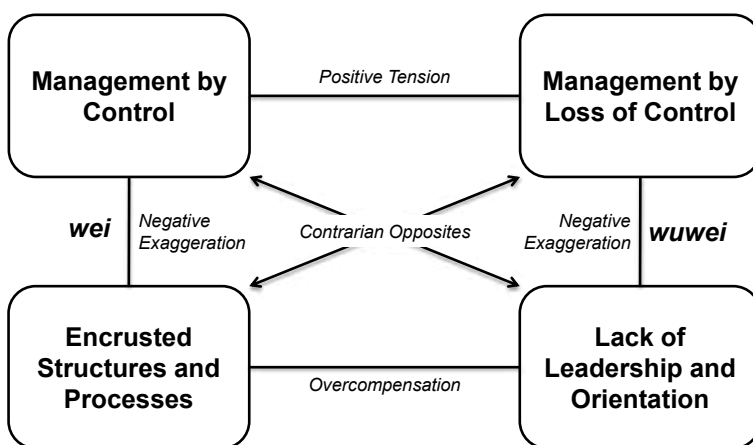|	Overcompensation	
Boredom		**Anxiety**

Source: Deckert 2016a, p. 17 (based on Csikszentmihalyi 1997)

Managers in innovation management should assign tasks with the right challenge-to-skill-balance and need to constitute teams with a diversity of skills to tackle challenging tasks. Further approaches to enhance the flow in creativity are the setting of "stretch goals" for innovation activities which should be demanding yet achievable (Lafley & Charan 2008, p. 12), good planning and feedback in combination with clear communication (Amabile 1997, p. 54), a project veto of employees or a project tender with applications by employees for the project (Meyer 2011, p. 181).

Another factor of the component Management Practices is related to work control and demands a "considerable degree of freedom and autonomy" (Amabile 1997, p. 54) for the employees. Work control for corporate creativity can be displayed as a positive tension between managerial control which represents the effectiveness side and managerial loss of control which represents originality (see fig. 6). Of course, managers want to make sure that only fruitful ideas are developed into products, that innovation budgets are kept, that projects get finished on time and that R&D-productivity is generally high. But too much control can hinder creativity and can lead to encrusted structures and processes where following the rules is more important than having a good idea. Robinson & Stern (1998, p. 124ff.) observe that self-initiated and unofficial activities can lead to highly creative and unanticipated outputs. This happens when employees are given enough freedom and autonomy to follow their intrinsic motivation. This, of course implies that managerial control over the creative process is lost to a certain extent, and management is based on trust. The negative exaggeration of managing by loss of control is a lack of leadership and orientation which leaves employees with no guidance at all. This dilemma can be linked to the concept of wuwei in Chinese philosophy. Wuwei means inaction or non-action but in the sense of letting things happen or not interfering with the natural flow of events. This concept is usually contrasted with wei which means intentional or deliberate action (Deckert & Scherer 2013, p. 4). So the dilemma of work control for creativity can be described as a "controlled loss of control" (Deckert & Scherer 2013, p. 13) and "requires an almost Zen-like ability to control without controlling" (Sawyer 2013, p. 247) by the manager.

Figure 6: Tension Concerning Work Control

	Positive Tension	
Management by Control		**Management by Loss of Control**

wei — Negative Exaggeration — Contrarian Opposites — Negative Exaggeration — *wuwei*

	Overcompensation	
Encrusted Structures and Processes		**Lack of Leadership and Orientation**

Source: Deckert & Scherer 2013, p. 14

Some of the guidelines on how to influence the tension concerning work control have already been transformed into practical approaches by companies. Examples are discretionary time where developers can spend a certain percentage of their working hours on projects of their own choice (20% rule at Google or 15% rule at 3M) (Pillkahn 2011, p. 266ff., 3M 2002, p. 22), projects outside the usual control framework of a company called "stealth innovation", "submarine projects" or "skunkwork projects" (Miller & Wedell-Wedellsborg 2013, Pillkahn 2011, p. 266ff.), the concept of intrapreneuring (i.e. intracorporate entrepreneurs) (Pinchot & Pellman 1999) and certain leadership approaches such as "Managing by Getting out of the Way" by Sutton (2007, p. 134), "catalytic leadership" by Meyer (2011, p. 173, own translation) or more communication than control efforts during innovation activities as proposed by Lafley & Charan (2008, p. 251).

6. TENSION CONCERNING RESOURCES

The resources named by Amabile (1997, p. 53-54) necessary for corporate creativity can be interpreted as a kind of organizational slack. Organizational slack can be defined as "resources that are in excess of what the organization actually needs to fulfill its operations" (Leitner 2009, p. 1). It can be viewed as dysfunctional (i.e. slack is a kind of waste to be reduced through efficient resource reallocation) or functional (i.e. slack opens up new entrepreneurial possibilities and broadens the scope of action through experimentation) (Krcal 2009, p. 14ff.).

Overviews on the relation between organizational slack and creativity/innovation can be found in Anderson, Potocnik & Zhou (2014, p. 1313), Damanpour & Aravind (2012, p. 502) and Leitner (2009, p. 118ff.). The results are inconclusive because the analyzed studies use different definitions of slack resources, different ways of operationalization to measure slack resources and sometimes don't sufficiently distinguish between innovation and other dependent variables (e.g. performance) (Leitner 2009, p. 122). But in general a positive effect for short-term unabsorbed resources is recognized. Nohria & Gulati (1996) find an inverse U-shaped relation between unabsorbed slack and innovation in a company caused by a tension between discipline and experimentation, and Krcal (2010, p. 8ff.) concludes that efficiency and slack are complementary with regard to innovation management.

So the tension concerning resources can be constructed as a positive tension between organizational efficiency and organizational slack (see fig. 7). When companies identify a surplus in resources they usually try to reduce this perceived waste, e.g. through programs of lean management and downsizing. But focussing on efficiency too much can lead to an undersized slack which limits the scope for action concerning creativity. Hamel & Prahalad (1996, p. 12) call downsizing the "equivalent of corporate anorexia" because in itself downsizing does not set a company back on a path to competitiveness. On the other side too much slack can lead to undisciplined spending and a reduction in creativity, since constraints often focus creative problem-solving (Boden 1992, p. 82). This negatively exaggerated state can be termed "corporate obesity".

Figure 7: Tension Concerning Resources
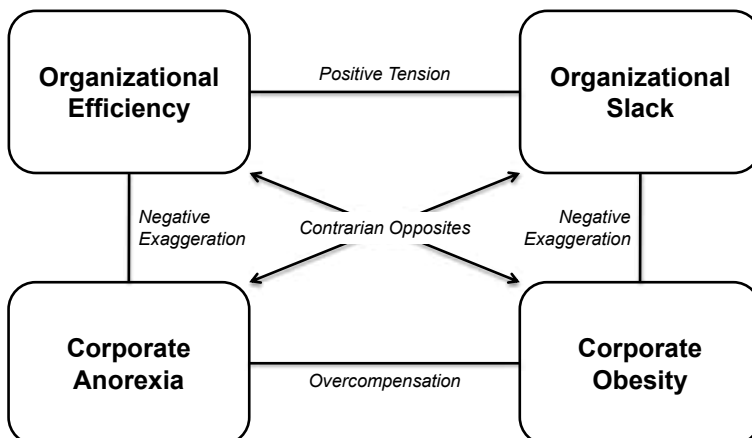
Source: Deckert 2016a, p. 22

As already described organizational slack can be given in the form of discretionary time where researchers are allowed to spend a certain percentage of their working hours on projects of their own choice. Other forms of organizational slack already in use at various companies are innovation labs to experiment in, limited research budgets without application restrictions for notable employees (Pillkahn 2011, p. 266ff.) and "patient money" which is spent over a long period of time without expectations of short-term returns (3M 2002, p. 77ff.).

CONCLUSION

In the paper at hand the value square is used to display, describe and analyze the qualities of the components of corporate creativity. Starting from the tension of originality and effectiveness in the standard definition of creativity the author identifies related tensions underlying the components of corporate creativity. For the three components of the componential theory according to Amabile (1997, p. 53) he proposes the following tensions:

- Organizational Motivation: Corporate Tradition and Corporate Change

- Management Practices: Skills and Challenges (Work Assignment) as well as Management by Control and Management by Loss of Control (Work Control)

- Resources: Organizational Efficiency and Organizational Slack

The results of this paper are limited to the main factors of the work environment of a company. Other factors of the work environment such as leadership style (see e.g. Friedrich et al. 2010) or organizational structure (see e.g. Baer 2012, Damanpour & Aravind 2012) may also have impacts on corporate creativity. Furthermore the paper is limited to the organizational level of analysis and does not include additional impacts of the team level as e.g. described by the model of team climate by West (1990).

A major limitation of the value square is that the research is qualitative, thus, indicating only aggregated directions for improvement for companies. So a next possible step for research is to operationalize the tensions of corporate creativity and assign measurements to each tension. In this way the balance point for the most successful performance could be detected. Furthermore a distinction could be made with regard to aspects affecting innovation activities such as type of product, type of industry or type of company. Doing so could lead to a more finegrained picture of the balance points of corporate creativity and to more fine-tuned recommendations for companies.

LITERATURE

1. 3M = 3M Company (2002). *A Century of Innovation*. The 3M Story. o.O.: 3M Company.

2. Amabile, T.M. (1996). *Creativity in Context.* Boulder: Westview Press.

3. Amabile, T.M. (1997). Motivating Creativity in Organizations: On Doing what You Love to Do and Loving what You Do. *California Management Review*. 40 (1), 39-58.

4. Amabile, T.M. (2010). A Model of Creativity and Innovation in Organizations. In N. Anderson, A.C. Costa (eds.). *Innovation and Knowledge Management. Volume One: Individual Creativity and Innovation* (123-167). Thousand Oaks: SAGE Publications.

5. Amabile, T.M., Conti, R., Coon, H., Lazenby, J., Herron, M. (1996). Assessing the Work Environment for Creativity. *Academy of Management Journal.* 39 (5), 1154-1184.

6. Anderson, N., Potocnik, K., Zhou, J. (2014). Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management.* 40 (5), 1297-1333.

7. Anthony, S.D. (2012). *The Little Black Book of Innovation.* Boston: Harvard Business Review Press.

8. Baer, M. (2012). Putting Creativity to Work: The Implementation of Creative Ideas in Organizations. *Academy of Management Journal.* 55 (5), 1102-1119.

9. Boden, M. (1992). *The Creative Mind. Myths and Mechanisms.* London: Cardinal.

10. Csikszentmihalyi, M. (1997). *Creativity: Flow and the Psychology of Discovery and Invention.* New York: HarperPerennial.

11. Damanpour, F., Aravind, D. (2012). Organizational Structure and Innovation Revisited: From Organic to Ambidextrous Structure. In M.D. Mumford (ed.). *Handbook of Organizational Creativity* (483-513). London: Academic Press.

12. Deckert, C. (2015*). Tensions in Creativity. Using the Value Square to Model Individual Creativity*. Working Paper No. 2/2015. CBS Working Paper Series (ISSN 2195-6618). **Köln: CBS.**

13. Deckert, C. (2016a). *Tensions in Corporate Creativity. Using the Value Square to Model Organizational Creativity.* Working Paper No. 1/2016. CBS Working Paper Series (ISSN 2195-6618). **Köln: CBS.**

14. Deckert, C. (2016b). On the Originality-Effectiveness Duality of Creativity: Tensions Concerning the Components of Creativity. *Business Creativity and the Creative Economy.* 2 (1), 70-82.

15. Deckert, C., Scherer, A. (2013). The Dao of Innovation. What European innovators can learn from philosophical Daoism. *Proceeding of the 30th annual conference of EAMSA* (Euro-Asia Management Studies Association). Duisburg: EAMSA.

16. Friedrich, T.L., Mumford, M.D., Vessey, B., Beeler, C.K., Eubanks, D.L. (2010). Leading for Innovation. Reevaluating Leader Influences on Innovation with Regard to Innovation Type and Complexity. *International Studies of Management & Organization.* 40 (2), 6–29.

17. Hamel, G., Prahalad, C.K. (1996). *Competing for the Future.* Boston: Harvard Business School Press.

18. Helwig, P. (1967). *Charakterologie [Characterology].* Freiburg im Breisgau: Herder.

19. Hunter, S.T., Bedell, K.E., Mumford, M.D. (2007). Climate for Creativity: A Quantitative Review. *Creativity Research Journal.* 19 (1), 69-90.

20. Krcal, H.-C. (2009). *Das Management des (un)erwünschten Ressourcenüberschusses. Teil I. Funktionen, Zustände und Entstehung des organisational slack [The Management of (Un)desirable Resource Surplus. Part I. Functions, Conditions and Genesis of Organizational Slack].* Discussion Paper Series No. 482. University of Heidelberg. Retrieved 15.01.2016 from http://www.uni-heidelberg.de/md/awi/forschung/dp482.pdf

21. Krcal, H.-C. (2010). *Das Management des (un)erwünschten Ressourcenüberschusses. Teil III. Das optimale Slack-Niveau – Die Bewertung des organizational slack [The Management of (Un)desirable Resource Surplus. Part III. The Optimum Slack Level – The Evaluation of Organizational Slack].* Discussion Paper Series No. 502. University of Heidelberg. Retrieved 15.01.2016 from http://www.uni-heidelberg.de/md/awi/forschung/dp502.pdf

22. Lafley, A.G., Charan, R. (2008). *The Game-Changer: How You Can Drive Revenue and Profit Growth with Innovation.* New York: Crown Business.

23. Leifer, R., McDermott, C.M., O'Connor, G.C., Peters, L.S., Rice, M.P., Veryzer, R.W. (2000). *Radical Innovation. How Mature Companies Can Outsmart Upstarts.* Boston: HBS Press.

24. Leitner, J.S. (2009). *Organizational slack and its impact on innovation in non-profit organizations. A theoratical [sic!] and empirical approach. Doctoral thesis.* WU Vienna University of Economics and Business.

25. Mathisen, G.E., Einarsen, S. (2004). A Review of Instruments Assessing Creative and Innovative Environments within Organizations. *Creativity Research Journal.* 16 (4), 119-140.

26. Meyer, J.-U. (2011). *Kreativ trotz Krawatte: Vom Manager zum Katalysator [Creative despite the Tie: From Manager to Catalyst].* Göttingen: Business Village.

27. Miller, P., Wedell-Wedellsborg, T. (2013). The Case for Stealth Innovation. When it's Better to Ask for Forgiveness than Seek Permission. *Harvard Business Review.* 91 (3), 91-97.

28. Mumford, M.D., Hester, K.S., Robledo, I.C. (2012). Creativity in Organizations: Importance and Approaches. In M.D. Mumford (ed.). *Handbook of Organizational Creativity* (3-16). London: Academic Press.

29. Nagji, B., Tuff, G. (2012). Managing Your Innovation Portfolio. *Harvard Business Review.* 90 (5), 66-74.

30. Nicholas, J., Ledwith, A., Bessant, J. (2013). Reframing the Search Space for Radical Innovation. *Research-Technology Management.* 56 (2), 27-35.

31. Nohria, N., Gulati, R. (1996). Is Slack Good or Bad for Innovation? *Academy of Management Journal.* 39 (5), 1245-1264.

32. Patterson, M.G., West, M.A., Shackleton, V.J., Dawson, J.F., Lawthom, R., Maitlis, S., Robinson, D.L., Wallace, A.M. (2005). Validating the Organizational Climate Measure: Links to Managerial Practices, Productivity and Innovation. *Journal of Organizational Behavior.* 26, 379–408.

33. Pierce, J.R., Aguinis, H. (2013). The Too-Much-of-a-Good-Thing Effect in Management. *Journal of Management.* 39 (2), 313-338.

34. Pillkahn, U. (2011). *Innovationen zwischen Planung und Zufall: Bausteine einer Theorie der bewussten Irritation [Innovations between Planning and Coincidence: Components of a Theory of Deliberate Irritation].* Norderstedt: BoD.

35. Pinchot, G., Pellman, R. (1999). *Intrapreneuring in Action. A Handbook for Business Innovation.* San Francisco: Berret-Koehler.

36. Puccio, G.J., Cabra, J.F. (2010). Organizational Creativity. A Systems Approach. In J.C. Kaufman, R.J. Sternberg (eds.). *The Cambridge Handbook of Creativity* (145-173). New York: Cambridge University Press.

37. Robinson, A.G., Stern, S. (1998). *Corporate Creativity. How Innovation and Improvement Actually Happen.* San Francisco: Berret-Koehler.

38. Runco, M.A., Jaeger, G.J. (2012). The Standard Definition of Creativity. *Creativity Research Journal.* 24 (1), 92-96.

39. Sawyer, R.K. (2013). *Zig Zag. The Surprising Path to Greater Creativity.* San Francisco: John Wiley & Sons.

40. Schulz von Thun, F. (1998). *Miteinander reden, Teil 2: Stile, Werte und Persönlichkeitsentwicklung [Being on Speaking Terms, Part 2: Styles, Values and Personality Development].* Reinbek bei Hamburg: Rowohlt.

41. Sutton, R.I. (2007). *Weird Ideas That Work: How to Build a Creative Company.* New York: Free Press.

42. West, M.A. (1990). The Social Psychology of Innovation in Groups. In M.A. West & J.L. Farr (Eds.). *Innovation and Creativity at Work: Psychological and Organizational Strategies* (309–333). Chichester: Wiley.

43. West, M.A., Sacramento. C.A. (2012). Creativity and Innovation: The Role of Team and Organizational Climate. In M.D. Mumford (ed.). *Handbook of Organizational Creativity* (359-383). London: Academic Press.

44. Woodman, R.W., Sawyer, J.E., Griffin, R.W. (1993). Toward a Theory of Organizational Creativity. *The Academy of Management Review.* 18 (2), 293-321.

DETAILS ABOUT AUTHOR:

CARSTEN DECKERT
PROFESSOR OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT
COLOGNE BUSINESS SCHOOL
COLOGNE, GERMANY
c.deckert@cbs.de