The Relation of Influence between Leadership Style and Team Creativity of Integrated Design Companies

Yueh Hsiu Giffen Cheng\textsuperscript{a*}, Teng-Jung Wang\textsuperscript{b}

\textsuperscript{a}Department of Creative Design, National Yunlin University of Science and Technology
\textsuperscript{b}Taipei Municipal Muzha Vocational High School

*Corresponding author e-mail: giffen.cheng@gmail.com

Abstract: As technology progresses rapidly, personal definition of corporate value has inevitably shifted from tangible output to intangible creativity, transforming from independent work to the amplified benefits of teamwork. Hence, “creativity” and “teamwork” eventually become the key criteria for enterprises to progress towards success. Team creativity also becomes the key issue for the success of enterprises. The study is a literature-review based research which searches for the method of creativity inspiration in design teams, followed by conducting in-depth interview with leaders of integrated design companies to analyze the methods and process of leaders from creativity-oriented integrated design companies provoking team creativity. The findings of interview results show that creativity-oriented integrated design companies launch design strategies before collecting the data, where text is the best methods for stimulating creativity. Moreover, experience serves as the conventional education and training, the organization resources effectively assist the team to learn and grow, leaders’ clear guidance determines the success of team members, friendly interaction will establish good interaction and tacit understanding, freedom of work and spatial use will determine work efficiency, and organization incentive comes from the expectation of leaders.

Keywords: Creativity, Team Creativity, Integrated Design Company

1. Introduction

From the perspective of commercial human resource, the market needs talents with innovation and creativity the most now and in the future while creativity inevitably plays a highly important function in enterprises. For this reason, enterprises today no longer pursue on the equipment, hardware, products, and other competition emphasized in the past, but shift the focus to creativity based on knowledge, management and integration. The componental theory of creativity proposed by Amiable (1983) stresses that personal creativity is constituted by motivation to work, relevant work skills, and creative thinking. Later, scholars propose team significance, which claims that in a
corporate organization; teams are the basic working units constituting most organizations (Drucker, 1993; S. A. Mohrman, S. G. Cohen, A. M. Mohrman, 1992).

According to the research, creativity can improve the quality of problem-solving method, help generating effective creativity, produce incentive effects, enhance personal capabilities, and speed up the generation of team effectiveness. Creativity not only makes great contribution and output to teams but also drives enterprises to pursue competitive advantage. Many enterprises believe that the generation of creation and creative application act as the key to long-term development of enterprises. The majority of corporate management believes that the improvement on employee creative behaviors and capabilities is necessary for the commercial success and enhancement of competitive advantage (Burnside, 1990; Shalley, 1995). Good sources of creativity mostly come from the discussion by teams, which generate good ideas to help enterprises succeed. Evidently team creativity is the urgent requirement for all enterprises in this team-power based epoch today. To intensify team creativity, team leaders must understand the elements affecting team creativity and help teams enhance creativity method in order to conclude the elements and formulate decisions, helping employees improve creativity and consequently accomplish corporate innovation by enhancing team creativity. For this reason, team creativity becomes increasingly important and eventually shifts to research on team creativity. The importance of team lies on the combination of power from many people and produces results that individuals could not have achieved. This is the synergy effect of creativity (Amabile, 2001), which further fulfills the utility of team effect. In sum of the aforementioned statements, “creativity” does not only refer to the power owned by few people with creativity in enterprises while “creativity” and “teamwork” eventually evolve to be the key criteria for enterprises to succeed. Subsequently, the adoption of “teamwork” for bringing “creation” into full play in midst of unpredictable future is the key source for corporate profits. For the reasons above, the research conducts in-depth interview with leaders of creativity-oriented integrated design companies and understands the elements affecting team creativity in times of hands-one practice through the analysis of verbatim transcript, thereby providing reference for the fostering of relevant industry professionals or interaction in workplace.

2. Literature
Terrance defines creativity as the follows: “a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results”. The so-called creativity not only advances and modifies previous cognition but more so timely transforms ideas into new things. Hence creativity plays a considerably important role in human life while the generation of any object or incident relies on creativity. Creativity can be addressed as the driving force for the progress in human society. The studies related to creation or creativity can be generally divided in three orientations: The first orientation is the analysis of the nature, implications and evaluation dimension of creativity through psychology. The second research orientation is the techniques, strategies, and performance evaluation of creativity applied to various instructional domains. The third orientation suggests the correlation between creativity and problem-solving capacity.
2.1 Creativity interactive perspective

Gardner (1993) once proposed that “creativity interactive perspective” based on the “Three-Pronged Systems Model of Creativity”. Such perspective emphasizes on the significance of interaction among “individual,” “other person” and “work.” “Work” refers to the symbolic information system in the subject domain and denotes environmental system in work domain. “Other person” could suggest family or peers, or possibly the competitors and supporters, while denoting partners in work environment. “Individual” refers to a person frequently solving problems and asking new questions in the definition of professional domain (initially perceived as new but is eventually accepted). Such person’s creativity is often generated under the influence of “work” (social and environmental support) and “others” (supporters or competitors).

Team Creativity

The self-expression of creativity is subject to the influence of styles of individualism. Nonetheless in social operation, creative activities mostly come from a group of people exhibiting creative behaviors in various teams and societies. In particular, the influence of corporate teams is most restricted. Team is the collection of individuals while the elements affecting team creativity are far more complex than those of individual creativity. The main purpose of team creativity is to accomplish new ideas through mutual discussions between team members as well as constant re-shaping of exceptional proposals to complete the new ideas (King & Anderson, 1990). Woodman, Sawyer and Griffin (1993) apply a diversity of perspectives to analyze the elements affecting creativity in addition to extending creativity to the discussion of group level, suggesting that team creativity is not the sum of individual creativity. In the process of transforming individual creativity to team creativity, team creativity is subject to the influence of other teams in terms of all elements, including team composition, team properties and team process. Hence, the future science research will be based on team creativity, where a group of researchers with similar background form teams to jointly devote in a research of certain topic, establishing the team properties through the process of team forming.

With regards to the elements of team formation, Leonard and Swap (1999) suggest that the elements of properties in team formation include members’ knowledge, skills, interpersonal confrontation, substantial confrontation, cognitive difference, visual difference, discretion of capacity and knowledge, expertise, and the professional tolerance and preferred thinking model of other members. In terms of team properties, McCoy (2000) refers to the research of creative team operation in the past to compile the studies regarding team properties conducted by scholars. McCoy states that the team properties affective team creativity include cohesion, specification, roles, discretion, tasks, structural properties, time properties, and problem-solving method. Leonard and Swap (1999) propose the inspiration process of team creativity in 5 stages to explain the aforementioned relation:

1. Preparation: The work at this stage aims to select team members and to maximize creativity through team properties.
2. Opportunities for innovation: Validate problems to be solved by the team and understand the creativity required.
3. Diffusive thinking: Constantly encourage thinking through irregular method in order to generate new ideas.
4. Discussion with careful deliberation: Thinking about the possible methods from diversity of ideas.
5. Convergent thinking: Discuss or argument with members to gradually reach consensus.
The explanation of team formation, team properties and team process explicitly shows how the generation of team creativity and that of individual creativity under the same process. The discretion from individual creativity is that teams will likely to change the composition model due to the influence of members while the team process comes from the objective orientation formulated by team and the influence of member properties on team properties. Hence, team creativity is subject to the mutual influence of other members.

2.2 The influence of organization on team creativity

The key influence of organization on creativity includes organizational environment, culture, atmosphere, resource, work stress, and leadership style (Ryhammer & Smith, 1999). Based on the different dimension of influence, the study analyzes the influence of leadership style on the overall organization and team creativity. The main development affecting organization originates from the environment of the organization, where different organizational environment tends to enhance or hinder creativity. The organizational environment that can enhance creativity is mostly equipped with enormous freedom of work, excellent plant management, adequate resource, organization incentive, common collaboration atmosphere, plenty of thinking time, challenge, and work stress (Amabile, 1996).

Among the factors of organizational environment that affect design team, findings show that the main influence factors are the freedom of work time, resource supply, and method of organizational incentives. The freedom of work time is mostly determined by the offer of free time for employees, independent time planning, and arrangement procedures by work, which is also the autonomy of work (Hackman & Oldham, 1975). Moreover with regards to resource supply, Gobeli and Brown (1993) proposes the importance of organizational resource which describes how adequate resources help employees focus their time on innovative ideas and thereby enhance creativity. Chendler, Keller and Lyon (2000) suggest that the organizational incentive system in an organizational environment will have certain influence on employees and intrinsic motivation for employee creativity will be enhanced once they find out the type of rewards to be received after accomplishing work objectives.

In sum of the aforementioned, as long as the organization offers certain work autonomy and organizational incentives in the operation process of design team, employees will voluntarily set up goals in order to receive rewards and use the resources provided by the organization to seek for high creative performance.

Leaders account for considerably important roles in a team and the leadership behavior in an organization or group will have tremendous influence on the creative perception of people. Leaders control the resources and are responsible for the role definition in organization, team and groups (Redmondet al., 1993). The key situational elements affecting employee creativity and innovation in a team is leadership, where different leaders may affect the creative performance through their own leadership style. Leadership style is divided into three leadership methods, namely authentic leadership, transformational leadership, and transactional leadership.

Leaders of authentic leadership style mostly require strong self-awareness who has strong ideas in leading team members and must maintain certain mutual relationship with employees, fostering the active self-development in employees. Transformational leadership with inclination to voluntarily encourage subordinates with adoption of innovation and promotion of different perspectives, (Walumbwaet al., 2008).

Transactional leadership was proposed by Hollander (1978) and it is believed that leadership behavior occurs under specific situation, the transactional process where leaders and the followers satisfy each other. According to the discourse made by Bass (1985), it is believed that transactional
leadership helps the subordinates the role and responsible of oneself and complete the work expected by leaders. Hence transactional leadership is based on an exchange process and leaders provide remuneration to rewards the efforts and performance of subordinates in the process. Compared to authentic leadership and transactional leadership behavior, transformational leadership uses intelligence incentive to advocate for different perspective and inspire team members. Leaders guide and inspire subordinates to accomplish tem objectives through identified tasks and role requirement, which is most likely to help provoke creative performance in team members.

3. Research Method and Design

The study selects design companies from the “Top 50 Taiwan Best Design Companies” on Taiwan Brain Magazine for two years in a row. Such integrated design companies involve business lines of least two design dimensions, including printed materials, product development and design, spatial planning design, service design, and activity design. The study then invites five integrated design companies with compatible size and properties to conduct in-depth interview with the design director of the sample companies. The purpose is to understand the phrases need to be experienced by a design project in the design process and analyze the elements of organizational environment that affect the project execution of the team. The data yielded from interview is implemented through grounded theory and completes concepts, categories and propositions through verbatim transcript in order to collect the perspectives on the elements of sample leaders affecting team creativity.

Table 2. Sample Objects and Data ID Code

| ID Code | Company Name          | Company Title        | Work Projects                  | Interview Time | Relevant Work Experience |
|---------|-----------------------|----------------------|--------------------------------|----------------|-------------------------|
| EG      | Onshow AD Servies     | Executive Director   | Brand design, Design management| 2014/04/21     | Approx. 22 years         |
| YD      | YOW!design Inc.       | Planning Manager     | Design communication, Project planning | 2014/04/21     | Approx. 6 years          |
| MC      | Magic Creative Design | Creative Director    | Brand integration, Design management | 2014/04/22     | Approx. 20 years         |
| KA      | KHAN-AD Co., Ltd.     | Creative Director    | Brand design, Project management | 2014/05/08     | Approx. 23 years         |
| LD      | Leaf Design Co., Ltd. | Design Director      | Brand planning, Package integration | 2014/05/09     | Approx. 24 years         |

The interview outline includes the “basic information of respondents” mainly to understand the professional field of respondents, work projects and jobs in the team. “Team situations and design process” predict and understand the process of the team implementing design process, leadership and interaction between teams, thereby to comprehend the type of elements affecting design.
aspiration. The “work environment and organization culture” is scheduled to grasp the elements of work environment and organization affecting the team creativity through the spatial pattern of organization, resource supply, freedom of work, learning growth, organizational incentive, and leisure methods. A total of 20 questions are developed and distributed to the respondents in five days before the scheduled interview for respondents to prepare and respond with reference.

4. Research Analysis

4.1 Resource Supply and Learning Growth

1. Passing of experience is conventional education and training

With regards to the learning growth dimension of interview, the respondents often add their own experience and expectations from time to time, which indicates the similar role of director as teachers that parents that require continuous guidance and care for members. EG respondents suggest work as the second extension of family and many convention and methods come from the original family (EG-17). Hence many conventions and methods require timely guidance and correction in order to establish good habits (EG-11). EG respondents mention that the average design companies follow certain existing model and designers are expected to seek for help in times of difficulty and understand the reason behind after losing the drafts in order to learn from mistakes. Usually after the revision of design draft, directors would help designers participate in design competition to enhance the competitiveness (EG-18) (EG-33). KA respondent expect designers not only fulfill the respective duties in the execution of design process but also take up different roles frequently. Designers are expected to pursue self-learning and surpass their occupational competency (KA-02) (KA-37) not solely for salary and bonus. Taiwan needs to integrate design talents from multiple dimensions and all designs should project themselves to become an independent supervisor in design (EG-32).

Apart from the self-growth in designers, the director shall offer timely positive encouragement to designers and help them with printing in design execution or back-end technology. Subsequently designers will have comprehensive understanding of project execution, from design to printing, and thereby discussing technical issues rather than just graphic operation (LD-38) (LD-39). Such top-down assistance offers technical and experience heritage and is the existing resource property of integrated design companies.

2. Effective organizational resources assist teams to learn and grow

➢ Internal Resources

Research findings show that the so-called main supply for internal resources in sample design companies mostly come from the mutual discussion and supervision between designers, where peer power is used to encourage designers to learn different dimension of design method and accept each other’s suggestion for mutual growth (MC-29) (LD-26). Teams must have the generosity to accept different suggestions for the young designs to replicate the design experience and bring team creativity into full play.

KA respondent hold different opinions and different from the mutual learning and discussion between teams, KA respondent expects each designer to learn independently and break away from visual thinking. Designers are required to read magazine or books for half an hour because
The Relation of Influence between Leadership Style and Team Creativity of Integrated Design Companies

accumulation of text and importance of stimulation will train designers with expression of design trough text, thereby seeking for new design creativity (KA-28) (KA-35).

It is clear that the source of creativity comes from continuous text reading and the innovation from modifying others’ method. Vision is only the simulation of some ideas while the process of training text expression will help accumulate the experience for senior designers in order to help young designers.

➢ External Resources

With regards to external resources, respondents widely mention that their companies routinely purchase relevant books as reference for designers (YD-20) and take designers regularly to visit exhibition for discussion and learning, sharing different interests of each other. MC respondent emphasizes on enriching one’s life and turn it into the nourishment of works. He states that: “I always believe that the life of designers is the presentation of works and the designer must understand life before understanding the works. If the designer does not know life, the works produced by the designer would be standard and without any change (MC-31)” For this reason the respondent invites people from different domains to give teach the designers and provide inspiration of different ideas. LD respondent also agrees to constantly support designers in pursuing advanced study and explains how the team offers funding for advanced study and invite professional teachers to give lessons to designers in their company. Employees are required to constantly learn new software technology, which saves time and money while helping peers to discuss and learn from each other (LD-31) (LD-32).

4.2 Interactive Relation between Leaders and Team

1. Professional growth also comes from a leadership of mentor and friend

Leadership is divided into two dimensions, where the first dimension is how leaders led team members in executing project. The respondent mainly conducts preliminary understanding of team member properties and work status based on the reference in order to timely guide designs to create and provide assistance in project design (EG-36) (KA-38).

The respondents suggest that leaders to abide by their belief and constantly guide designers to properly coordinate the pre-reminders of work and expected problems for designers. Such reminder not only helps designers to grow but will also provide good interaction relative to the company. LD respondent also indicates that a good tacit understanding similar to partnership must be established in advance in the guidance process in order to properly guide the designers (LD-17) since the respondents are often more direct and strict when discussion projects with designers. Designers must then have the generosity to receive guidance before further learning (LD-53). In this regard, the leadership of leaders is similar to the authentic leadership proposed by Walumbwa (2008), where leaders must own rich experience and ideas before convincing team members and establishing certain tacit understanding with the members, thereby to lead members in active growth.

The second section involves the private interaction between the leaders and designer. Nonetheless two extreme viewpoints of discretion appear. MC respondent describes the good interaction with members in private and would eat, exercise and engage in other activities with members on the weekends (MC-32). EG respondent on the other hand proposes different idea and suggests that leaders and members should only interact in business but should maintain certain distance with employees in private (EG-19). This section describes the interaction between leaders and team members is somewhat related to the personality of leaders and is irrelevant to work execution.
2. Establishing good tacit understanding through enthusiastic interaction

With regards to team interaction, most respondents suggest that enthusiastic interaction between members will generate good creativity (YD-33) (LD-28). EG respondent indicates that teamwork will undergo a wear-in period and teams must hold common concept for collaboration in order to understand each other and work with success (EG-20).

Teams must recognize the work philosophy of the company in order to execute work with pleasure. Apart from common concept, the competence and ranking of team members must also be complementary before they could collaborate in learning and growing together (KA-11). Moreover, the interaction and sharing between team members are also important, where members shall voluntarily ask for help in times of difficulty and receive help through sharing before receiving certain fun from work (MC-33) and pleasant mood. Consequently designers will make good design and this explains the importance of mutual interaction between members (LD-49). For this reason, enthusiastic team interaction is mainly determined by the personality traits of team members and it suggests that the personality of team members must be cheerful, asking questions and supporting each other (LD-50). Members will then approach positive interaction and establish good tacit understanding.

3. Organizational incentive mostly comes from leaders or supervisor expectation

Most respondents suggest the incentives of organization mostly consist of providing education and training, employee trip, and dining together to enhance the relation of each other. Sometimes the company offers tourism reward for employees through overseas exhibition (MC-38) (KA-46) (LD-33). Except for material reward, respondents also offer some non-material rewards. YD respondent (planning manager) explains that leaders will open department supervisor in observing employee condition and coordination. YD respondent claims: “Our boss is very open and he empowers departmental supervisor with power to decision. The boss usually does not intervene and the employees and reflect problems to him directly (YD-32), which suggests that department supervisors often play the role of reconciliatory between the leaders and employees, helping them with top-down communication. Additionally, MC respondent suggests that designers should get in touch with people frequently to find out their perception and to help themselves produce new ideas constantly (MC-36) (MC-36). The abovementioned shows that leaders may empower some power to department supervisors apart from material rewards in order to encourage and reconcile the problems with members. Alternatively, the department supervisors may share experience and hold expectation to encourage members with voluntary learning, observing people and thereby helping themselves grow.

5. Research Results

1. The guidance of leaders helps with the definition of design issues to improve the effectiveness of team creativity.

The role of leaders becomes highly important when it comes to accepting new design projects. Leaders mainly understand member properties and work status preliminarily by providing timely guidance for team creation and assistance in design project. Leaders will need to add personal experience and expectation from time to time in the definition process so the role of leaders is similar to teachers and parents. Members not only receive logistic training but will are also encouraged to think about the problems and help definition.
2. The foremost analysis of design issues lies on creative strategy while leaders play the key driving force

The nature of design companies is to sell ideas and provide consumers with new brand concept and ideas. The average designers often only care about the aesthetics criteria of outcome but also easily overlook the relevance between market and strategies in the process of project execution. Hence the establishment of framework through effective front-end creative strategy will clarify the needs while the designers will be more concise in the execution process and leaders will become more efficient in project management. Eventually clients will understand the key to design is the significance behind rather than the presentation of final sketch.

3. Design method is inspired by the idea stimulation of text and sketch while leaders play the sensory guidance and rational concluding role.

The useful front-end information and text developed by leaders will lead members to inspire with objectives and direction. The inspiration of design mostly comes from consumers’ emotional connection with the brand and hence the most important concept of design creation is the text describing ideas in order to transform products into sensory text and internalize the perception to consumers.

4. Interchanging use of authentic leadership and transformational leadership can effectively intensify the promotion of team creativity

The interview shows that the method of respondent leading the members is mostly based on the experience to understand the member properties and work status in order to timely guide members with creation. However leaders must uphold to their belief in the guidance process. Moreover, leaders must also instruct apart from guidance in order to provide assistance in project design. Hence it is known that the respondents belong to authentic leadership and expects to provide instruction for members to follow through the passing of self-experience and instruction so that members will upgrade their own capacity.

References

Amabile, T. M. (1983), The social psychology of creativity, New York: Springer.
Amabile, T. M. (1996), Creativity in context, Boulder: Westview Press.
Amabile, T. M. (2001), Beyond talent: John Irving and the passionate craft of creativity, American Psychologist, 56, pp. 333-336.
Bass, B. M. (1985), Leadership and performance beyond expectations, New York: Free Press.
Burnside, R. M. (1990), Improving corporate climates for creativity. In West, M. & Farr, J. (Eds). Innovations and Creativity at Work: Psychological and Organisational Strategies, pp. 265-284, Chichester: Wiley.
Chandler, G.N., Keller, C. and Lyon, D.W. (2000), Unraveling the determinants and consequences of an innovation-supportive organizational culture, Journal of Business Venturing, 8, pp. 391-408.
CreativeReview (2016), Are you a creative leader, website: https://www.creativereview.co.uk/cr-blog/2016/march/are-you-a-true-creative-leader/ (accessed: May 03, 2016)
Drucker, P.F. (1993), Post-Capitalist Society, Butterworth Heinemann, Oxford:Butterworth-Heinemann Ltd.
Gardner, H. (1993), Frames of Mind: The Theory of Multiple Intelligences, New York: Basic Books.
Gardner, H. (1993), Creative Minds, New York: Basic Books.
Hackman, J. R., and Oldham, G. R. (1975), Development of the Job Diagnostic Survey, *Journal of Applied Psychology*, 60(2), pp. 159-170.

Hollander, E. F. J. (1978), *Leadership dynamics*, New York: Free Press.

King, N., and Anderson, N. (1990), *Innovation and creativity at work: Psychological and organizational strategies*, New York: John Wiley and Sons.

Leonard, D.A. and Swap, W.C. (1999), *When sparks fly*, Boston: Harvard Business School Press.

Mohrman, S. A., Cohen, S. G., and Mohrman, A. M., (1992), *Designing Team-Based Organizations: New Forms for Knowledge Work*, San Francisco: Jossey-Bass.

McCoy, J. M. (2000), *The creative work environment: The relationship of the physical environment and creative teamwork at a state agency- A case study*, Madison: The University of Wisconsin.

Redmond, M. R., Mumford, M. D., and Teach, R. (1993), Putting creativity to work: Effects of leader behavior on subordinate creativity, *Organizational Behavior and Human Decision Processes*, 55, pp. 120-151.

Ryhammer, L., and Smith, G. J.W. (1999), Creative and Other Personality Functions as Defined by Percept-Generic Techniques and Their Relation to Organizational Conditions, *Creativity Research Journal*, 12(4), pp. 277-286.

Shalley, C.E. (1995), Effects of coaction, expected evaluation, and goal setting on creativity and productivity, *Journal of Applied Psychology*, 76, pp. 179 - 85.

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

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T.S., and Peterson, S. J. (2008), Authentic leadership: Development and validation of a theory-based measure, *Journal of Management*, 34, pp. 89-126.

About the Authors:

**Yueh Hsiu Giffen Cheng** is a New Media artist, designer, researcher and writer and an associate professor of the Department of Creative Design, National Yunlin University of Science and Technology. She has edited a series of books and papers on New Media Arts, interactive design, Arts infused education and contributed to various exhibitions.

**Teng-Jung Wang** is Teacher of Taipei Municipal Muzha Vocational High School. Her focus is design methodology and design management.

**Acknowledgements:** We are grateful to all study participants for their contributions. This study was funded by the National Science Council, Taiwan. (MST 105-2410-H-224 -015 -)