科技部補助專題研究計畫成果報告
期末報告

評估團隊績效過程中的交互記憶、超級競爭與情緒智商

計 畫 類 別 ： 個別型計畫
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執 行 期 間 ： 103年08月01日至104年07月31日
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報 告 附 件 ： 出席國際會議研究心得報告及發表論文

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中 華 民 國 104 年 11 月 12 日

中 文 摘 要 ： 本研究根據交互記憶理論來提出一個模式以分析知識分享與團隊績效的形成過程，在所提出的模式中，團隊績效受到超級競爭與情緒智商的直接與間接影響，同時交互記憶與知識分享扮演著部份中介的角色；同時，知識分享的直接效果受到超級競爭與情緒智商的干擾；超級競爭與情緒智商則受到交互記憶的干擾。最後，本計畫將根據實證發現來探討管理意涵與研究限制。

中 文 關 鍵 詞 ： 知識分享；團隊績效；交互記憶；超級競爭

英 文 摘 要 ： This study proposes a model based on the transactive memory theory to analyze the formation of knowledge sharing and team performance. In the proposed model, team performance is influenced by hypercompetition and team emotional intelligence (i.e., team EQ) directly and indirectly via the mediation of transactive memory and knowledge sharing. At the same time, the direct effect of knowledge sharing on team performance is moderated by both hypercompetition and team EQ, while the direct effects of both hypercompetition and team EQ on team performance are moderated by transactive memory. Lastly, the empirical findings of this study provide managerial implications and research limitations.

英 文 關 鍵 詞 ： Knowledge sharing, team performance, transactive memory, hypercompetition.

科技部補助專題研究計畫成果報告

（□期中進度報告/☑期末報告）

評估團隊績效過程中的交互記憶、超級競爭與情緒智商

計畫類別：☑個別型計畫　□整合型計畫
計畫編號：MOST 103-2410-H-263 -008
執行期間：103 年 8 月 1 日至 104 年 7 月 31 日

執行機構及系所：致理技術學院財金系

計畫主持人：蔡淵輝
共同主持人：
計畫參與人員：蔡欣容、邱欣隆、蘇鈺珊、陳睿昱

本計畫除繳交成果報告外，另含下列出國報告，共 1 份：
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中　華　民　國　104 年　8 月　10 日

科技部專題研究計畫期末報告

評估團隊績效過程中的交互記憶、超級競爭與情緒智商

Assessing Transactive Memory, Hypercompetition, and Emotional Intelligence in the Formation of Team Performance

計畫編號：MOST 103-2410-H-263 -008
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主持人：蔡淵輝/致理技術學院財金系
計畫參與人員：蔡欣容、邱欣隆、蘇鈺珊、陳睿昱

一、中英文摘要

本研究根據交互記憶理論來提出一個模式以分析知識分享與團隊績效的形成過程，在所提出的模式中，團隊績效受到超級競爭與情緒智商的直接與間接影響，同時交互記憶與知識分享扮演著部份中介的角色；同時，知識分享的直接效果受到超級競爭與情緒智商的干擾；超級競爭與情緒智商則受到交互記憶的干擾。最後，本計畫將根據實證發現來探討管理意涵與研究限制。

關鍵詞：知識分享；團隊績效；交互記憶；超級競爭

This study proposes a model based on the transactive memory theory to analyze the formation of knowledge sharing and team performance. In the proposed model, team performance is influenced by hypercompetition and team emotional intelligence (i.e., team EQ) directly and indirectly via the mediation of transactive memory and knowledge sharing. At the same time, the direct effect of knowledge sharing on team performance is moderated by both hypercompetition and team EQ, while the direct effects of both hypercompetition and team EQ on team performance are moderated by transactive memory. Lastly, the empirical findings of this study provide managerial implications and research limitations.

Keywords: Knowledge sharing, team performance, transactive memory, hypercompetition.

二、文獻探討

Team performance often depends on how a team shares its knowledge and turns such shared knowledge into action, suggesting a critical influence of knowledge sharing on team performance (Choi, Lee, & Yoo, 2010). Knowledge sharing is defined as the exchange of information and knowledge relevant to teamwork. The previous literature has demonstrated that knowledge sharing in teams positively impacts team performance (Lee, Gillespie, Mann, & Wearing, 2010), which has been confirmed in various contexts such as software development teams (Faraj & Sproull, 2000), hospitality teams (Hu, Horng, & Sun, 2009), research and development teams (Bain, Mann, Atkins, & Dunning, 2005), and production teams (Choi et al., 2010).

Previous studies have indicated that team performance and knowledge sharing are driven by a socio-cognitive process, called a transactive memory system (e.g., Faraj & Sproull, 2000; Kanawattanachai & Yoo, 2007; Liang, Moreland, & Argote, 1995; Moreland & Argote, 2004; Rico, Sánchez-Manzanares, Gil, & Gibson, 2008). A transactive memory system is defined as a team's information-processing system that details the complementary expertise possessed by team members along with an awareness of the credible knowledge held by other members of the team (Wegner, 1987). Specifically, a transactive memory system developed in a team ensures that critical knowledge (or information) can be recalled in a timely manner (Moreland & Myaskovsky, 2000), because the system integrates what every team member knows with a collective awareness of who knows what professionally (Moreland & Myaskovsky, 2000). That is, a transactive memory system provides a team's members with more abundant and precise knowledge (or information) than any individual of them could recall alone (Moreland & Myaskovsky, 2000). Such a transactive memory system plays an important role in a team's ability to leverage team members' knowledge so as to consequently obtain good performance through efficient knowledge sharing or communication (Choi et al., 2010).

While previous studies focus on how team performance is influenced by knowledge sharing, the precise role of a transactive memory system for understanding knowledge sharing and team performance has not been fully explored. The purpose of this study is to enrich the understanding of transactive memory systems and knowledge sharing by empirically validating their measures to study organizational teams and examine their effects in the formation of team performance. Altogether, we develop several hypotheses for this study based on transactive memory theory and justify these hypotheses in detail in the next section.

三、理論與研究假設

Transactive memory is the shared part of cognitive labor with respect to the encoding, storage, retrieval, and communication of professional knowledge from different expertise domains, which develops in teams and supports the improvement of team performance (Brandon & Hollingshead, 2004). For that reason, this study establishes a research model based on transactive memory theory in order to analyze team performance formation. In the proposed model, team performance is affected by hypercompetition (i.e., within-team hypercompetition) and emotional regulation directly and indirectly through both transactive memory and knowledge sharing. Concurrently, the direct effects of hypercompetition and emotional regulation on team performance are moderated by transactive memory. Finally, to continue the line of our focusing on transactive memory and knowledge sharing in this study, we further extend our research to hypothesize that the direct effect of knowledge sharing on team performance is moderated by the antecedents of transactive memory (i.e., hypercompetition and emotional regulation).

Although the potential links among collective emotion, competition (or conflict), and team performance continue to garner interest, little empirical research has been done to examine this phenomenon (Jordan & Troth, 2004). Previous studies indicate that in the intergroup context, especially when competition is involved, the stage for the emergence and escalation of negative emotions is set (Forsyth, 2000; Kelly & Barsade, 2001). Hence, it is important for this study to examine hypercompetition and emotional regulation as key determinants for understanding the development of team performance. Previous literature finds that emotional regulation is correlated with a team's performance under some circumstances of competition (Crombie, Lombard, & Noakes, 2009; Fatas, Neugebauer, & Perote, 2006; Fellner, 2008; Gross, 2007; Johnson et al., 2006). Moreover,

previous literature has suggested that competition and emotion are equally important for people's problem-solving (Li, Ma, Luo, & Zhang, 2012) and social development (Lane, Thelwell, Lowther, & Devonport, 2009; Sandhu, 2014).

According to transactive memory theory, a transactive memory system is a collective information-processing system made up of the memory systems possessed by the team members as well as the communication processes linking their memory systems together (Yuan, Fulk, Monge, & Contractor, in press). The theory has been extended to include organizational knowledge systems as well as those at the team level (Anand, Manz, & Glick, 1998; Yuan et al., in press). Based on the transactive memory theory, previous studies reveal that a quality transactive system results in effective knowledge sharing among team members (Akgun, Byrne, Keskin, & Lynn, 2006; Hollingshead, 1998; Moreland & Argote, 2004). Transactive memory provides the necessary meta-knowledge that helps team members share credible knowledge within the team (Choi et al., 2010). Previous literature has argued that transactive memory theory offers a useful basis for predicting how team members would share new information that was encountered by the team (Lambert & Shaw, 2002). A team with a superior transactive memory system can help its team members access and leverage key knowledge directly from the right person on the team without wasting too much time searching for information. With their superior transactive memory, team members can not only inquire about the information they need but also share what they know with each other (i.e., effective knowledge sharing), suggesting a positive relationship between transactive memory and knowledge sharing.

Hypercompetition among team members actually increases the cost of communication processes that link these individual memory systems together (i.e., transactive memory), leading to a negative relationship between hypercompetition and transactive memory. Research on expertise transferring or knowledge sharing shows that extensive competition inside a team weakens its transactive memory, because a knowledge group cannot afford the waste of human energy and mental effort caused by the unhealthy competition (e.g., Conklin, 2001). Hypercompetitive situations can engender negative interpersonal effects (e.g., hatred and aggression) and thus negatively affect such within-team communication as transactive memory. Specifically, when a team is hypercompetitive, team members tend to isolate themselves from other team members (Ruscher & Fiske, 1990; Ruscher, Fiske, Mikl, & Van Manen, 1991), negatively affecting a team's shared system for encoding, storing, and retrieving information. Hence, the direct relationship between hypercompetition and transactive memory is negative.

This study also proposes a direct and positive relationship between emotional regulation and transactive memory. Emotional regulation is often considered a proxy of emotional intelligence (Grandey, 2000; Joe, Tsai, Lin, & Liu, 2014; Law et al., 2004). It is defined as the factor by which emotional arousal is redirected, controlled, modulated, and modified so that a team can adaptively function in emotionally challenging situations (Prince-Embury & Courville, 2008). Previous literature indicates that emotional regulation shares a commonality with the concept of team transactive memory (e.g., Elfenbein, Polzer, & Ambady, 2007; Moreland, 1999) in which the knowledge held by different team members can be more effectively combined together for a team (i.e., higher levels of transactive memory) which fosters a stronger emotional regulation (e.g., Hollingshead, 2001). Because a team's collective emotional regulation facilitates its adaptation and change (Klein, Tosi, & Cannella, 1999), a team with high emotional regulation can have superior transactive memory by improving a set of knowledge-relevant transactive storage and retrieval processes that occur among team members (e.g.,

Decker, Landaeta, & Kotnour, 2009; Reus & Liu, 2004). Such phenomenon shows a positive relationship between emotional regulation and transactive memory. As a summary of the above justifications, we state the hypothesis about transactive memory and its determinants as below.

H1: Knowledge sharing is negatively related to hypercompetition, but positively related to emotional regulation through the full mediation of transactive memory.

Knowledge sharing enables the sharing of relevant experiences and information among team members. It helps team members to recognize more alternatives before making decisions, to learn more from the experiences of others, to create better solutions for unexpected problems. This leads to improved team performance (Lee et al., 2010). In other words, knowledge sharing improves team performance by optimizing the availability of scarce team resources to given members, reducing time wasted in trial-and-error, and facilitating overall team performance through a more effective utilization of resources and intellectual capital (Lin, 2007). Previous research supports the perspective that knowledge sharing is a facilitator for team performance (Faraj & Sproull, 2000; Hong, Doll, Nahm, & Li, 2004; Lin, Wang, Tsai, & Hsu, 2010).

A fundamental premise of the transactive memory theory is that other people can serve as external memory aids to improve a group's benefits and outcomes (Hollingshead & Brandon, 2003). A team's accurate and efficient transactive memory helps in quality knowledge sharing, which leads to superior team performance. Therefore, we propose the following hypothesis.

H2: Transactive memory is positively related to team performance via the full mediation of knowledge sharing.

In addition to knowledge sharing, team performance is also directly affected by hypercompetition and emotional regulation. This study defines hypercompetition (i.e., within-team hypercompetition) as a team's working environment, which involves frequent competence-destroying turbulence and weakens its ability to execute teamwork (D'Aveni, 1994). This study defines emotional regulation as a team's ability to regulate its collective emotional responses to others. Hypercompetition is negatively related to team performance, because under hypercompetition, individual members are driven to achieve their own personal interests (or goals) as being their own first priority even at the costs of other team-related interests (or goals). The collective ability of a team for achieving good performance is substantially worn down by hypercompetition. Due to its trait of competence-destroying turbulence (D'Aveni, 1999), hypercompetition often approaches a constant unstable condition of disequilibrium (D'Aveni, 1994). Brown and Eisenhardt (1998) described hypercompetition as being on the "edge of chaos." Hence, it is difficult to effectively accomplish team tasks and achieve good performance. Similarly, when a team is hypercompetitive, team members tend to individuate themselves from other team members (Ruscher & Fiske, 1990; Ruscher et al., 1991), which in turn damages the conditions necessary for successful teamwork. As a result, team performance will suffer when hypercompetition is present.

Team performance can increase due to high levels of emotional regulation (e.g., Rhee, 2005). Emotional regulation represents a team's non-cognitive capabilities and skills that influence its ability to succeed in coping with environmental demands and pressures (Wolff, Pescosolido, & Druskat, 2002). Emotional regulation predicts a team's performance at both the initial and later stages (Baruch & Lin, 2012; Perlini & Halverson, 2006) and helps solve problems, eventually enhancing team performance (Jordan & Troth, 2004). A high level of emotional regulation facilitates understanding and utilization, and thus helps cultivate positive social exchange, social support, or advice (e.g., Law, Wong, & Song, 2004), and eventually strengthens team

performance (Baruch & Lin, 2012; Côté & Miners, 2006; Law et al., 2004; Feyerherm & Rice, 2002). Teams with high emotional regulation should be more adept at regulating their own collective emotions and managing the emotions of others (e.g., peer teams, buyers, or suppliers) in order to foster more positive social relationships between both sides, leading to greater performance (Sy, Tram, & O'Hara, 2006). Based on these results, we propose the following hypothesis.

H3: Team performance is directly and negatively related to hypercompetition, but is directly and positively related to emotional regulation.

Although team members under hypercompetition are likely to view things from conflicting perspectives that eventually reduce team performance (Faraj & Sproull, 2000; Hsu, Lin, & Wang, 2012), such a negative relationship between hypercompetition and team performance can grow weaker in case of stronger transactive memory. A fundamental premise of transactive memory theory is that members develop a directory of 'who knows what' so as to determine where to go for information in a particular knowledge domain and what to do to successfully accomplish teamwork (Su, Huang, & Contractor, 2010). Such clarification about an individuals' responsibility in their team helps mitigate the excessively negative effect of within-team hypercompetition.

Transactive memory concerns itself with the prediction of group behavior through a within-team understanding of the manner in which the group processes and structures information (Wegner, 1987). Based on such a within-team understanding, hypercompetition will have less impact even if team members have different ideas about their teamwork from one another. In other words, a team with strong transactive memory tends to bring about richer communication interactions (Alavi & Tiwana, 2002), a smoother exchange of ideas (Thompson & Cohen, 2012), and dynamic capabilities under different levels of complementary expertise (Hsu et al., 2012), thereby relieving the negative effects of hypercomeptition on team performance. A number of studies have found that transactive memory facilitates team coordination (Wegner, Erber, & Raymond, 1991; Moreland, Argote, & Krishnan, 1998; Ren, Carley, & Argote, 2001), the integration of tasks, and the effective utilization of shared knowledge (van der Kleij & Hoeppermans, 2011), thus weakening the negative effect of hypercompetition on team performance. Consequently, we propose the hypothesis below.

H4: The relationship between hypercompetition and team performance is negatively moderated by transactive memory.

Brandon and Hollingshead (2004) called for future studies to evaluate group process issues such as a dispositional mood or emotion that interacts with the development of a transactive memory system (e.g., Huang, 2009). They indicated a lack of research on how members' dispositional mood (or emotion) interacts with the effectiveness of the knowledge-pooling work groups (i.e., teams with transactive memory). Transactive memory facilitates the smooth exchange of ideas that interact with emotional regulation, jointly influencing team performance in a variety of domains, including product production and team creativity (e.g., Tang, 2010). Specifically, the effect of emotional regulation on team performance is larger among teams with greater transactive memory, because emotional regulation helps team performance flourish more highly in a social environment where team members know, help, share, and rely on each other (i.e., strong transactive memory), and where they appreciate each other's unique abilities and contributions (Magnini, 2008).

Because transactive memory contributes to the mutual understanding among team members (Jin, Huang, Wu, & Tsai, 2012), team members with strong transactive memory can regulate and/or harness collective emotions more effectively when

striving to improve team performance. For example, business surveys and practitioners (Emotional Labor, 2012) report that one of the most effective ways to help emotional workers improve their job performance is to share success stories and knowledge among employees through a transactive memory system, suggesting a positive moderating effect of transactive memory on the relationship between emotional regulation and team performance. For that reason, we state the following hypothesis.

H5: The relationship between emotional regulation and team performance is positively moderated by transactive memory.

In addition to transactive memory being a moderator in the formation of team performance, hypercompetition and emotional regulation both play important roles that moderate the relationship between knowledge sharing and team performance. According to the hypercompetition theory (D'Aveni, 1994; Ferrier, Smith, & Grimm, 1999), team members working under intensive competence-destroying turbulence are unlikely to share knowledge with each other (i.e., the turbulence that distorts the equality of within-team communication), consequently decreasing team performance (e.g., Joshi, Sarker, & Sarker, 2007). The turbulence within the team due to its internal hypercompetition is actually "a hidden obstacle" in team performance and knowledge sharing. For example, Pfeffer and Sutton (2000) suggest that too much destructive internal competition (i.e., within-team hypercompetition) causes a serious impediment to the effective functioning of a team, such as knowledge sharing effectiveness for improving team performance (e.g., Connelly & Kelloway, 2000). Therefore, the effect of knowledge sharing on team performance becomes stronger under the condition of lower levels of hypercompetition. Therefore, we propose the following hypothesis.

H6: The relationship between knowledge and team performance is negatively moderated by hypercompetition.

Previous research based on the emotional intelligence theory (Assanova & McGuire, 2009; Goleman, 1997; Stough, Saklofske, & Parker, 2008) indicates that employees with high levels of emotional regulation are more capable of identifying potential problems and solving problems in a creative way than those with lower emotional regulation (Cui, Hu, & Griffith, in press). This suggests a greater effect of knowledge sharing on the improvement of performance problems. This is understandable, because team members with high levels of emotional regulation are often happier and more successful in their knowledge sharing to improve their performance as they have greater ability to effectively deal with emotions in the work place (Poon, 2003). There are an increasing number studies demonstrating that employees with higher levels of emotional regulation economically outperform those who have lower levels of emotional regulation in terms of sales performance, income, knowledge sharing, and so on (Cardy & Miller, 2003; Green, 2012). Therefore, we propose the following hypothesis.

H7: The relationship between knowledge sharing and team performance is positively moderated by emotional regulation.

四、方法

We tested the research hypotheses of this study empirically using a survey of professionals working in teams from banking, insurance, and financial firms in Taiwan. These teams were all related to sales, servicing and marketing functions. This study recruited team professionals from these firms because the working mode of teams is very popular across these firms for the purpose of maintaining good customer relationships. After inviting the top 100 firms from our targeted industries in Taiwan to take part our survey, we surveyed a total of 18 large firms that agreed to help with our data collection. Previous literature (Jackson,

Brett, Sessa, Cooper, Julin, & Peyronnin, 1991) recommends that the minimum size for studying a team should be at least three members. Nevertheless, considering that survey respondents sometimes intentionally or unintentionally ignore questions in the questionnaire (in which data become invalid), this study thus surveys four team members (i.e., more than the minimum of three people) from each team as a precaution (for the purpose of collecting more valid data). Finally, since we had planned to investigate both team members and their leader respectively, teams smaller than five people were excluded from our actual survey due to their inappropriateness.

In our survey, personnel departments of our sample firms randomly distributed questionnaires to team leaders and members expressing their interest in volunteering and subsequently traced the status of returned questionnaires. Of the 800 questionnaires distributed to 160 teams (i.e., four members and one leader and from each team), 476 usable questionnaires from 125 teams were returned for a questionnaire response rate of 59.50%. In each team, this study surveyed its members to measure three predictors (i.e., hypercompetition, emotional regulation, and transactive memory) and its leader to measure knowledge sharing and team performance. Given that knowledge sharing and team performance are often synthetically considered as all-around factors related to a team's overall effectiveness, it is more appropriate for team leaders instead of team members to evaluate such factors. Measuring different factors by different research subjects can reduce the serious threat of common method variances, which is one of this study's important advantages. Reliability analysis indicated that each of our constructs had a Cronbach alpha larger than 0.7.

We measured the constructs in this study using 5-point Likert scales based on the existing literature (please refer to the proposal of this project). The scale items of this study were substantially refined by a focus group of seven researchers familiar with organizational behavior, including six graduate students and one professor. Unsuitable items were reworded or removed from our survey questionnaire after a pilot test using exploratory factor analysis. Respondents for the pilot study were then excluded from the actual survey. We aggregated all the data to the team level, which is consistent with Rousseau's (1985) suggestion that the level of analysis should be chosen on the basis of the focal unit of the study — the team (e.g., Dirks, 2000). Focusing on the team level of analysis is particularly important because the dependent variable of team performance is a function of the collective outcome of the team's efforts in terms of transactive memory (i.e., it is an aggregation of them). Because it is necessary to determine whether data aggregation is empirically acceptable and justifiable, we compute ICC1, ICC2, and r_{wg} of our research factors (see Appendix B). All of the study's ICC1 values are greater than the criterion of 0.12 (James, 1982). ICC2 values are higher than the minimum standard value of 0.50 (Baruch & Lin, 2012; Lu, 2010), and all the figures of r_{wg} are greater than the criterion of 0.70 (James, Demaree, & Wolf, 1984). These results indicate that our data aggregation is valid.

五、實證結果

To confirm the mediation effects hypothesized in this study, this study conducted an analysis under three steps proposed by Kenny, Kashy, and Bolger (1998), which has been frequently recommended in the literature (e.g., Frazier, Tix, & Barron, 2004). This study also tested its hypotheses with team-level data by simultaneously including three team-level control variables (e.g., the ratio of members' differences in gender) to avoid unpredictable bias due to a team's traits. Focusing on the team-level analysis for studying transactive memory systems in this study is appropriate because previous literature has suggested that transactive memory systems are specifically important for teams designed to

leverage their collective expertise (Lewis, 2003). Moreover, team-level analysis is more appropriate than the other analyses when performance is collectively interdependent as examined in our study (Elliott, Dalrymple, & Neville, 1997). We explain the three steps in detail below.

First, this study includes our two exogenous determinants (i.e., hypercompetition and emotional regulation) in Model 1. The test results in Model 1 show that both hypercompetition and emotional regulation are positively related to transactive memory. Second, this study examines the direct relationship between transactive memory and knowledge sharing. The test results in Model 2 present that transactive memory is positively related to knowledge sharing. Third, this study includes hypercompetition, emotional regulation, and transactive memory as independent variables in Model 3 for testing the full mediation of transactive memory. The test results in Model 3 show that both hypercompetition and emotional regulation are not directly related to knowledge sharing, while transactive memory sustains a significant effect on knowledge sharing. These results indicate that the full mediation of transactive memory indeed exists between our exogenous determinants and knowledge sharing to a large extent (thus, H1 is supported).

Fourth, the test results of Model 4 show a significant relationship between knowledge sharing and team performance. Fifth, this study includes hypercompetition, emotional regulation, transactive memory, and knowledge sharing in Model 5. The test results of Model 5 show that the relationship between transactive memory and team performance is fully mediated by knowledge sharing (thus, H2 is supported). The results also show that emotional regulation rather than hypercompetition has a direct effect on team performance (thus, H3 is partially supported).

Sixth, for the purpose of testing moderating effects, this study further includes two interaction terms of transactive memory in Model 6. The test results in Model 6 illustrate that only the relationship between emotional regulation and team performance is positively moderated by transactive memory (thus, H4 is not supported, while H5 is supported). Seventh, this study includes two interaction terms connecting hypercompetition and knowledge sharing and between emotional regulation and knowledge sharing in Model 7. The test results in Model 7 show that hypercompetition negatively moderates the relationship between knowledge sharing and team performance (H6 is supported, while H7 is not supported).

Based on the above empirical results, of our seven hypotheses, this study obtains four fully supported hypotheses (i.e., H1, H2, H5, and H6), one partially supported hypothesis (i.e., H3), and two unsupported hypotheses (i.e., H4 and H7).

六、結論與管理意涵

The full mediation of transactive memory between hypercompetition and knowledge sharing and between emotional regulation and knowledge sharing indicate that a collective system for storing and retrieving information based on an awareness of “knowing who has the required knowledge and expertise” can fully facilitate successful knowledge sharing. Team members can be inspired to strengthen transactive memory through low hypercompetition and high emotional regulation. A team leader who wishes to design a reward structure for teamwork should be able to identify a potential negative effect of hypercompetition. Malicious competition might unexpectedly emerge if managers unintentionally push within-team contests without knowing the existence of emotional regulation, which actually plays a major role for improved transactive memory and knowledge sharing. To improve knowledge sharing through increased transactive memory, a team leader should periodically identify and praise team members with different skills and expertise

in team meetings so that a team memory system that details the expertise possessed by different members is clear for all team members to see and to make good use of it.

The positive moderating effect of transactive memory on the relationship between emotional regulation and team performance suggests that transactive memory represents a beneficial catalyzer that amplifies the direct effect of emotional regulation on team performance. Given that strong transactive memory helps team members avoid transmitting unnecessary or inaccurate information inside their team, team members with a higher emotional regulation can more accurately identify, appraise, and discriminate among emotions by themselves and regulate positive and negative emotions during collaboration within the team, which in turn enhances team performance. Team leaders should occasionally monitor the levels of emotional regulation and team transactive memory with their corresponding team performance in order to sketch out the moderating magnitude of transactive memory on the direct linkage between emotional regulation and team action. Based on the records, appropriate mentoring to maintain and improve emotional regulation can be provided in a timely manner.

Finally, the negative moderating effect of hypercompetition on the relationship between knowledge sharing and team performance reveals that knowledge sharing can be more effective in uplifting team performance when hypercompetition is more restrained. For that reason, while stressing the importance of collective teamwork, team leaders should clearly discourage any self-centered working style that may unintentionally foster hypercompetition. Team members can learn through the socialization process to fit into a work group in which they compete through ethical behavior with, rather than against, others to accomplish their collective goals (e.g., Leung, 2008). With the cultivation of rivals through sportsmanship among team members, they can maintain a more psychologically healthy attitude by following team rules in their teamwork and focus on the benefit of the entire team (Ryckman et al., 1997).

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2015 3rd International Conference on Hospitality, Leisure, Sports, and Tourism

論文發表與心得報告

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一、參加會議經過

本次參加的會議下列主辦單位所共同籌辦，參加會議經過如下：

舉辦單位： Waseda University, Tamkang University, International Academy Institute

會議名稱： 2015 3rd ICHLST

地　　點： **Tokyo**, Japan

會議時間： 2015 年 7 月 22 日至 24 日

於 2015 年 7 月下旬出席於日本東京早稻田大學所舉辦的國際學術研討會，會議名稱為" 2015 3rd International Conference on Hospitality, Leisure, Sports, and Tourism (ICHLST)"，主要的研討會議題為與商業管理相關的各種跨學科領域，因此是個兼具研究高度與深度的國際研討會，出席會議的學者來自不同的國家，是個分享研究成果的最佳場所。

議程共計三天，第一天開幕式後進行海報展，第二及第三天依據各項主題分別進行簡報及交流，全部的參與過程均以英文為唯一國際語言，各時段都有多個場次論文發表同時進行。本論文發表為共同發表，場次為 ICHLST Session 5B，發表日期為七月二十四日，發表時間為上午的八點三十分到十點之間，地點為 Room A 會議室，論文發表過程中亦同時進行發問與研討，在與各國學者進行交流互動中，學習到許多學術上思考角度，對於未來個人尋求學術研究品質之提升及不同角度，有很大的助益。在短短三天的會議過程中，學者們可藉由海報表與現場論文發表等不同方式進行研究分享，並交換寶貴意見，由於本研討會的主題與內容相當豐富，參與的專家學者們都在其研究領域上有許多豐富的收獲。

二、與會心得

從參加的學者與專家在會中的發表論文品質與報告內容來看，研討會之舉辦過程有許多值得學習之處，未來國內也可以多舉辦類似的國際研討會，並邀請學者專家進行專題演講，如此不僅可以提升我國學術界在國際上的地位與能見度，並可以提供國內碩士生更多學習與增廣見聞的機會。預估明年五月份會在致理科大先行舉辦國內研討會，之後再舉辦類似的國際研討會。

三、攜回資料名稱及內容

會議光碟與議程各一份。

四、結論

1. 研討會主辦地點：日本首都東京的著名學府早稻田大學，親身體驗該校學風及研究風氣，會議場地良好的規劃與完整設備，同時認識會議場地與設備是舉辦國際研討會的重要成功因素；
2. 參加效益：本次的研討會有許多良好的效益，除了能發表學術論文之外，也其他國家學者交流意見，一定要走出去，才能相得益彰！
3. 總而言之，本研討會主辦單位的細心規劃與安排，可以稱得上是一個成功且具備水準的國際學術研討會。

Conference Program

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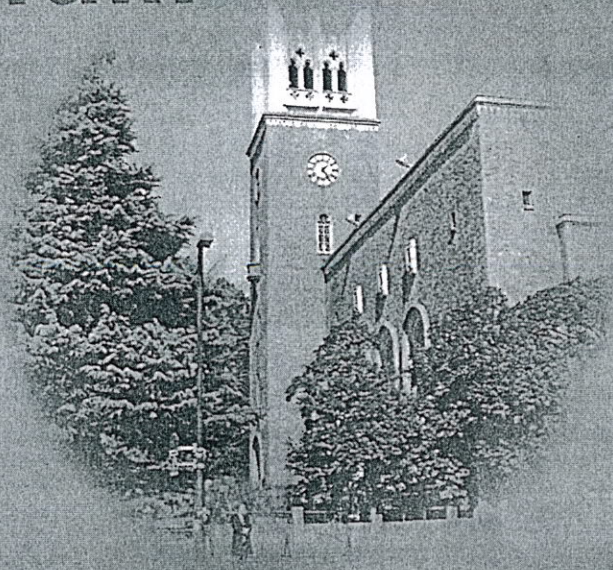

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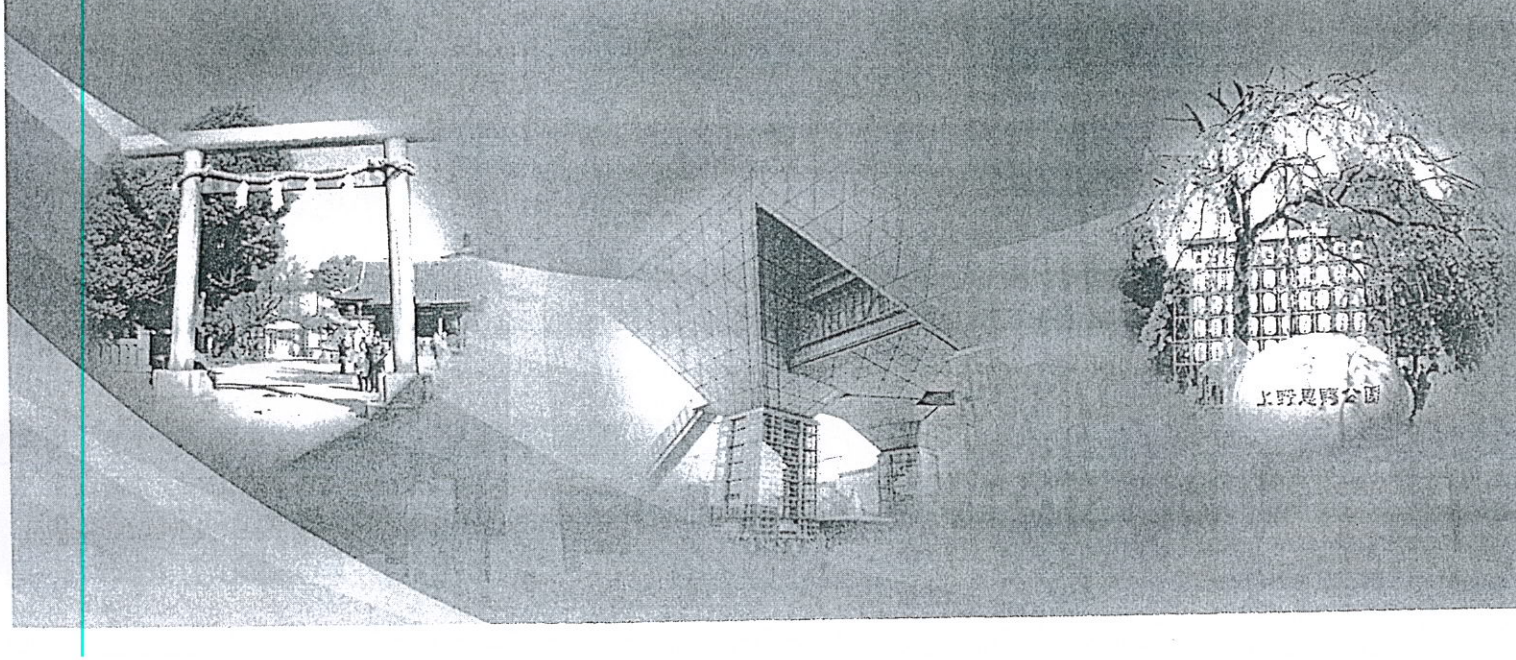

Table of Contents

Assessing Brand Loyalty and Perceived Value

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ABSTRACT

Brand loyalty has become an important issue for establishing essential advantages in severe competition across leisure industries. For that reason, this study explores the relationship between brand loyalty, perceived value, and their exogenous determinants by simultaneously proposing the mediating mechanisms of susceptibility to normative influence (SNI) and susceptibility to personality congruence (SPC). Finally, this study discusses managerial implications and limitations based on its propositions.

Keyword: Brand Loyalty, Perceived Value, Susceptibility to Normative Influence.

1. Introduction

As brand loyalty and perceived value are important factors for establishing essential advantages in severe competition across global markets, strengthening these two has become a strategic part of the value chain or points of product differentiation (e.g., Yi & Jeon, 2003). While brand loyalty is defined as consumers' distinct preference for and repeated acquisition of a brand (Jin & Koh, 1999), consumers' perceived value is defined as the trade-off between the benefits and the sacrifices from the purchase or use of a certain brand (Ulaga & Eggert, 2006). Recent research has posited that perceived value is a factor at a more critical level of abstraction than other factors (e.g., satisfaction) for influencing brand loyalty (Lam, Ahearne, Hu, & Schillewaert, 2010).

An efficient way for achieving brand loyalty is to create the perceived value of the brand by enhancing its determinants such as social identity complexity, social approval, and so on (e.g., Orth & Kahle, 2008). Whereas these determinants have been widely discussed in previous literature, little empirical research has investigated whether critical meditating mechanisms regarding consumers' susceptibility to normative influence (SNI) and susceptibility to personality congruence (SPC) exist to contribute to building brand loyalty and perceived value. SNI is defined as people's

need to identify with or enhance their image in the opinion of significant others through the acquisition and use of a brand (Orth & Kahle, 2008), while SPC is defined as a match between the personality of a brand and that of its consumers (e.g., Govers & Mugge, 2004; Parker, 2009). Although different consumers may have significant differences in terms of their SNI and SPC, such differences are seldom taken into account in previous literature to explain the formation of perceived value and brand loyalty. There is scant research on whether such mediating mechanisms have either partial or full mediations between brand loyalty, perceived value, and their exogenous determinants. This study complements previous research by empirically testing the full mediations of SNI and SPC so that effective ways of improving perceived value of a brand and consumers' brand loyalty can be provided for management.

2. Research model and development of propositions

This study proposes a model that examines the formation of brand loyalty, its mediators, and its exogenous determinants. In the model, brand loyalty is directly affected by perceived value and SPC, while perceived value is directly affected by both SNI and SPC. At the same time, social identity complexity, need for social approval, consumer innovativeness, and consumer efficacy indirectly influence perceived value or brand loyalty through the mediation of SNI and SPC. The development of our propositions is justified in detail in the following.

Perceived value of a brand results from a perceived evaluation of the relative rewards and costs related to the brand (Yang & Peterson, 2004). A high value perceived by consumers is a primary motivation for brand loyalty. O'Brien and Jones (1995) indicate that consumers' perceived value is a key factor for developing brand loyalty in a marketing program. In other words, brand loyalty can be achieved as long as the brand provides superior value perceived by the consumers (Yang & Peterson, 2004). Previous literature has identified perceived value as a major predictor of consumer loyalty for a brand (e.g., Malai & Speece, 2005; Yang & Wang, 2010), suggesting a positive relationship between perceived value and brand loyalty.

Aside from perceived value, SPC can be also positively related to brand loyalty according to the self-congruence theory. The self-congruence theory in consumer behavior suggests that a relationship exists between consumers' SPC (i.e., consumers' perception about a good match between their personality and the brand personality) and their continuous patronage of the brand that best expresses a set of the consumers' characteristics (Kressman, Sirgy, Herrman, Huber, Huber, & Lee, 2006). A brand carrying its personality closely associated with those consumers having a strong SPC can easily enable the consumers to portray their actual or desired self-image (Kuenzel

& Halliday, 2010), strengthening a positive effect of SPC on brand loyalty (e.g., Magin, Algesheimer, Huber, & Herrmann, 2003). In light of the preceding arguments and empirical findings, the first proposition is thus derived as below.

P1: Perceived value and SPC are positively related to brand loyalty.

According to the social identity theory, consumers' awareness that their choice for a brand is likely observed by others influences them to alter their consumption and brand choices (Ratner & Kahn, 2002). Previous research suggests that the normative influence changes people's purchasing decision and behavior towards a product brand (Cialdini & Goldstein, 2004). Previous literature has linked SNI to perceived value and behavior of consumers (e.g., Orth & Kahle, 2008). People count heavily on the reactions of others to help determine what is valuable, what to eat, what is dangerous, what is attractive, what to wear, and what brand to choose (Campbell-Meiklejohn, Bach, Roepstorff, Dolan, & Frith, 2010). Each brand or product, from food to service, brings on a perceived value that can be changed by social normative influence (Campbell-Meiklejohn et al., 2010). Specifically, social normative influence constitutes prescriptions of people's appropriate consuming behavior as a member of a specific group within a specific context (White, Terry, & Hogg, 2002), resulting in a positive effect of SNI on the perceived value towards the brand.

In addition to SNI, SPC is also proposed to have a positive effect on perceived value herein. A brand carrying a personality closely associated with consumers having a strong SPC can easily enable the consumers to acquire emotional benefits (Kuenzel & Halliday, 2010), resulting in enhanced brand value. The value perceived by consumers often extends beyond just satisfying immediate needs (Ahuvia, Lacobucci, & Thompson, 2005; Ekinci, Sirakaya-Turk, & Preciado, in press; Wattanasuwan, 2005). Instead, consumers seek a brand that satisfies their susceptible needs. Indeed, the self-congruence theory (Sirgy, 1982) argues that consumers' perceptions are determined, in part, by a cognitive comparison between their own personality and the personality image of a target brand (e.g., Sirgy & Su, 2000), and thus SPC becomes positively related to perceived value.

Given that consumers tend to evaluate a brand that matches their own personality and the expectations of their reference groups, both SPC and SNI are positively associated with perceived value, as proposed below.

P2: SNI and SPC are positively related to perceived value.

Social identity complexity is considered the degree of overlap perceived to exist

between various social groups to which consumers simultaneously belong (Austin, 2010; Roccas & Brewer, 2002). In the case of a perceived low overlap of multiple in-groups by individuals, they will maintain a relatively complex identity structure whereby their memberships in different groups rarely converge to form a purely single in-group identification (Orth & Kahle, 2008). On the contrary, if consumers recognize that their memberships across multiple in-groups are highly overlapping or convergent, then the associated identity structure is both more simplified and consistent (Roccas & Brewer, 2002). For that reason, SNI that affects the salience of specific in-group identities and cognitive capacities is likely affected by different levels of social identity complexity (Roccas & Brewer, 2002).

High social identity complexity (i.e., high tolerance of out-groups) can buffer the effect of in-group identification by supporting consumers to confront different voices to the status of any single in-group (i.e., low SNI) (Blumberg, Kent, Hare, & Davies, 2012; Dixon & Baumeister, 1991). In other words, consumers with a more complex social identity are likely to have less SNI. On the contrary, consumers with a weaker complex social identity are more likely to have stronger SNI due to more convergent norms prescribed by their in-groups (i.e., a single unified source of social norms) (Austin, 2010; Orth & Kahle, 2008). Consequently, the proposition about social identity complexity and SNI can be stated below.

P3: Social identity complexity is negatively related to SNI without a direct effect on brand loyalty.

Normative influence is based on subjectively perceived pressure to comply or to go along with a social group (Abrams & Hogg, 1990). Its impact is derived from individuals' need for social approval as well as their psychological needs and desire to be welcome and accepted by the social group (Gabbert, Memon, & Allan, 2003). The greater the need is for social approval, the more strongly consumers seek positive evaluations from their group members (Martin & Greenstein, 1983), thus implying a positive relationship between the need for social approval and SNI. In other words, consumers' SNI is driven by the need for social approval, because of their desire to avoid social rejection (Deutsch & Gerard, 1955; Eagly & Chaiken, 1993; Lowry, Albrecht, & Lee, 2002). Therefore, the proposition regarding SNI and need for social approval can be described below.

P4: The need for social approval is positively related to SNI without a direct effect on brand loyalty.

Consumer innovativeness influences the process of consumers choosing and purchasing a brand in a market (Xie, 2008). Previous research on consumer innovativeness has paid little attention on how consumer innovativeness affects the formation of consumers' brand loyalty. Consumer innovativeness is defined as consumers' inherent innovative personality, cognitive style, and predisposition toward new products or brands, which can be applied to the consumption domains across brand classes (Im, Bayus, & Mason, 2003; Steenkamp et al., 1999). Therefore, this factor has a lot to do with consumers' personality and their attention on brand personality. Specifically, consumers with greater innovativeness are likely to show less susceptibility towards the same and specific personality of a brand, because consumer innovativeness is "the predisposition to buy new and different products and brands rather than remain with previous choices and consumption patterns" (Steenkamp et al. (1999, p. 56).

Consumer innovativeness is a factor of personal traits possessed by all consumers at various degrees (Xie, 2008). The propensities of consumers to accept innovative ideas can play an important role in the analyses of the communication of a new brand, the decision making of choosing a new brand, and eventually brand loyalty (e.g., Hirschman, 1980). Consumers with strong innovativeness are likely to accept brands with a different personality that may not match their own personality, and thus they are likely to have their own opinions regarding various kinds of brand personality (Midgley & Dowling, 1978), consequently leading to a negative relationship between consumer innovativeness and SPC. For that reason, the next proposition is derived below.

P5: Consumer innovativeness is negatively related to SPC without a direct effect on brand loyalty.

Consumer confidence is significant in the choices and consumption of many kinds of brands and services (McKee, Simmers, & Licata, 2006). Following such a perspective, this study examines consumers' efficacy of choosing a brand and its effect on their susceptibility towards the brand. Consumer efficacy is defined as the judgment of consumers' ability to choose an appropriate brand or product for themselves (Laukkanen & Lauronen, 2005). Although previous research has studied the influence of consumers' efficacy on their decision making and behavior (Bearden, Hardesty, & Rose 2001; Bettman, Johnson, & Payne 1991; Fleming & Courtney 1984; Gangadharbatla, 2008; Sheth & Parvatiyar, 1995), little discussion has focused on the effect of consumer efficacy on SPC in the formation of brand loyalty.

Consumer efficacy is formed as an outcome of an inferential process from brand

information search (Bandura, 1997; van Beuningen, de Ruyter, Wetzels, & Streukens, 2009). When confronted with various brand options, consumers often deal with multiple information sources (Steckel et al. 2005; van Beuningen et al., 2009; Zauberman, 2003), including those that extend beyond the information provided in the market (Klein & Ford, 2003). Consumers with strong efficacy toward a brand are more likely to have high susceptibility regarding a good match between the personality of the brand and that of themselves (i.e., strong SPC). It is understandable that consumers with no confidence toward a brand often hesitate to recognize a good match between their personality and the brand personality. By contrast, their confidence in choosing an appropriate brand for themselves often facilitates their belief in terms of a good match between their personality and the brand personality, thus fostering their SPC. As a result, consumer efficacy positively relates to SPC, as stated below.

P6: Consumer efficacy is positively related to SPC without a direct effect on brand loyalty.

3. Conclusion

This study is a pioneer in applying the social identity theory and self-congruence theory to present the full mediations of SNI and SPC in the formation of brand loyalty, thus complementing previous studies of brand loyalty. Particularly, the proposed mediating effects in this study suggest that such mediators as SNI and SPC should be embedded as a part of branding strategies for effectively stimulating perceived value and brand loyalty. Brand loyalty is likely fortified if the marketing strategies, which are affiliated with a variety of consumer groups and present a clear personality of the brand, are well designed.

Affecting brand loyalty directly, both perceived value and SPC can be taken as two critical and dual check points to effectively explain unusual levels of brand loyalty and help those concerned take actions to improve low levels of brand loyalty in a timely manner. Managers may want to conduct periodical market surveys regarding how their target consumers value a brand and why the consumers consider themselves to have a good fit with a certain type of brand personality. Based on the information of the market surveys, managers can adjust their planning and effectively communicate the attractive personality and value of the brand to consumers through websites or ads, consequently increasing consumers' brand loyalty.

A proposed effect of SNI on perceived value suggests that managers should pay attention to social influence that surrounds their target consumers. For example, managers may provide strong support for professional blogs so as to introduce and

promote their brand across online social communities, facilitating a positive SNI on the perceived value of consumers. It is helpful for the improvement of SNI if consumers can be provided with a virtual space (e.g., chat rooms) to discuss and share their knowledge about the brand, since many potential consumers turn to the Internet for advice from different online social groups concerning a brand they are not familiar with.

A negative effect of social identity complexity on SNI suggests that marketers learn about both target consumers and their salient reference groups in order to assess the complexity of the consumers. The stronger the social identity complexity is for consumers, the more investment is required at marketing promotions to foster brand loyalty in the long run. At the same time, a positive effect of a need for social approval on SNI suggests that marketers can communicate with those consumers having strong needs for social approval through social fan groups of the brand to increase their recognition for the brand. For example, a celebrity endorsement strategy for a brand may be used for reinforcing SNI, because such an endorsement reflects certain social approval for the brand.

A positive effect of consumer efficacy on SPC implies that marketers attempting to strengthen the personality image of their brand should first find an effective way to foster consumers' confidence in understanding that brand in depth. In other words, creating a strong and meaningful personality for a brand is useless if its target consumers have no idea about the meaning of the brand due to poor buyer-seller communication. The more the accurate information is about the brand consumers absorb, the more strongly the consumers are confident in choosing the brand for themselves. For example, marketers may provide lectures (or videos) for consumers who want to learn about their brand in more detail. Such lectures help consumers learn about brand history, production, service preparation, and brand knowledge. As consumers become more knowledgeable about the brand, they will have more confidence in choosing the brand due to stronger SPC.

In summary, this study suggests that brand loyalty is indirectly affected by social identity complexity, the need for social approval, and consumer efficacy via the mediation of SNI, SPC, and perceived value. It is important to note that perceived value cannot be arbitrarily fostered by an immediate decree of marketing, but rather it can be enhanced after managers have taken actions in their firm by, for instance, organizing fan groups for a brand, providing incentives for loyal customers to spread their word-of-mouth, investing in the enhancement of brand personality through mass media, etc. The view of dual mediating channels (i.e., SNI and SPC) in this study is quite different from that of the traditional literature solely focusing on a single mediating channel (e.g., only through SNI). By understanding brand loyalty, its

antecedents, and its mediators in depth, management can learn to tailor a variety of branding programs or policies to satisfy customers' expectation for the brand and strengthen their beliefs about the brand, eventually achieving high levels of brand loyalty in the market.

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科技部補助計畫衍生研發成果推廣資料表

日期:2015/09/08

科技部補助計畫	計畫名稱: 評估團隊績效過程中的交互記憶、超級競爭與情緒智商
	計畫主持人: 蔡淵輝
	計畫編號: 103-2410-H-263-008- 學門領域: 人力資源管理

無研發成果推廣資料

103年度專題研究計畫研究成果彙整表

計畫主持人：蔡淵輝	**計畫編號：**103-2410-H-263-008-
計畫名稱：評估團隊績效過程中的交互記憶、超級競爭與情緒智商	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數（含實際已達成數）	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	0%		
		研討會論文	0	0	100%		
		專書	0	0	0%	章/本	
	專利	申請中件數	0	0	0%	件	
		已獲得件數	0	0	0%		
	技術移轉	件數	0	0	0%	件	
		權利金	0	0	0%	千元	
	參與計畫人力（本國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	0%		
		專任助理	0	0	0%		
國外	論文著作	期刊論文	1	1	100%	篇	
		研究報告/技術報告	0	0	0%		
		研討會論文	1	1	100%		
		專書	0	0	0%	章/本	
	專利	申請中件數	0	0	0%	件	
		已獲得件數	0	0	0%		
	技術移轉	件數	0	0	0%	件	
		權利金	0	0	0%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	0%		
		專任助理	0	0	0%		

其他成果（無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。）	無

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估
   ■達成目標
   □未達成目標（請說明，以100字為限）
   　□實驗失敗
   　□因故實驗中斷
   　□其他原因
   說明：

2. 研究成果在學術期刊發表或申請專利等情形：
   論文：□已發表 ■未發表之文稿 □撰寫中 □無
   專利：□已獲得 □申請中 ■無
   技轉：□已技轉 □洽談中 ■無
   其他：（以100字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以500字為限）
   本研究主要是以交互記憶理論為基礎而提出一個研究模式，主要目的是分析知識分享與團隊績效的形成與發展過程，在本計畫所提出的研究模式中，團隊績效主要受到超級競爭與情緒智商的直接與間接之影響，團隊績效的形成過程中，交互記憶與知識分享扮演著部份中介的角色；同時，知識分享的直接效果受到超級競爭與情緒智商的干擾；超級競爭與情緒智商則受到交互記憶的干擾。本研究之發現可以補足過去研究較缺乏之部份，因為過去團隊研究較少從交互記憶的角度去觀察；最後在實務上，本研究提出相當有效的做法，可以協助管理者在短期內透過交互記憶來提升團隊績效。