TAKING ADVANTAGE OF DIFFERENCES: INCREASING TEAM INNOVATION THROUGH IDENTITY INTEGRATION

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ABSTRACT

In this chapter, we posit that identity integration, *an individual difference variable measuring the degree to which multiple and disparate social identities are perceived as compatible, moderates the relationship between team diversity and innovation. Prior research shows that individuals with higher levels of identity integration exhibit higher levels of innovation on tasks that draw from identity-related knowledge systems. In this chapter, we extend this research to examine how innovation can be increased in cross-functional teams. We propose that reinforcing the compatibility between functional identities within a team facilitates access to functionally unique knowledge systems, which in turn increases team innovation.*

INTRODUCTION

Innovation is typically defined as encompassing the integration of different and prevailing perspectives and knowledge (Hargadon, 2002; Kanter, 1988). One way to accomplish this is by assembling teams with diverse knowledge and functional expertise; presumably, these cross-functional teams provide a setting whether different knowledge systems and expertise can be brought together and integrated (Jehn, Northcraft, & Neale, 1999). In this chapter, we develop a theory linking team innovation to team members' *identity integration*.

Identity integration refers to team members' perceptions of compatibility or conflict between two identities (Cheng, Sanchez-Burks, & Lee, in press). For example, in a cross-functional team, identity integration refers to team members' perceptions of the compatibility between various functional groups (such as marketing, research, manufacturing, or finance). Here, compatibility does not refer to the nature of the relationship between members of various functions, but rather to the nature of identity negotiation within an organizational context. High levels of identity integration suggest that team members believe that individuals can identify with multiple functions at the same time. Thus, one can be an R&D engineer who now works as a marketing manager, or one can belong to and identify with both the manufacturing department and the research department. In contrast, low levels of identity integration suggest that team members believe that even though individuals can be equipped with more than one functional identity, they can only identify with one function or another at one time, but not with multiple functions at the same time or in the same situation. For example, an environmental scientist employed in a large corporation might believe that in certain situations, such as when working on a business negotiation, they must repress and put aside their identity as an environmental scientist to be an effective business negotiator.

We argue that team members' identity integration or perceived compatibility/conflict between different functional social identities is critical for team innovation. In the ensuing sections, we first review existing theories and research on cross-functional teams and team innovation. Second, we examine how social identities in general and identity integration in particular affect innovation. Third, we discuss how identity integration moderates the relationship between functional diversity and team innovation. Finally, we explore how team innovation can be enhanced by increasing team members' identity integration.

INNOVATION IN CROSS-FUNCTIONAL TEAMS

It is a well-accepted adage that an organization's ability to innovate is critical to its profitability and survival (Ancona & Caldwell, 1987). One common theme across this literature is the idea that innovation entails the integration of different perspectives and knowledge systems to create synergistic solutions. In other words, innovation is the recombination of existing ideas that at first appear unrelated or irrelevant with one another (Schumpenter, 1934; Taylor & Greve, 2006; Weick, 1979). Hargadon (2002; Hargadon & Fanelli, 2002) argues that the history of technological innovations is a history of "smart recombination" – combining old ideas in new ways rather than creating wholly new ideas. For example, the popular Apple iPOD MP3 player was not a new technology, but a recombination of two existing technologies: the walkman and the hard drive. Although the knowledge systems underlying the iPOD were not new, the synthesis of these knowledge systems were novel, resulting in an innovative product.

Knowledge is unevenly distributed within social organizations; for example, within a business corporation, functional departments such as finance, marketing, research and development have different expertise. As such, contextual structures that promote the accessibility and re-combination of diverse and prevalent knowledge have been shown to facilitate innovation (Kanter, 1988). Frequent interaction between members of diverse teams – be it demographic, functional, or cognitive – exposes team members to a variety of knowledge and perspectives, which promote knowledge synthesis and in turn innovation (Phillips, Mannix, Neale, & Gruenfeld, 2004). In the same vein, individuals with networks across different functional departments are more effective at "brokering" existing knowledge systems between functional groups, facilitating the exchange of functionally specific ideas and competencies to yield innovation (Hargadon, 2002).

Cross-functional teams are particularly promising for fostering innovation. Since members of cross-functional teams have different knowledge bases and experiential backgrounds (Jackson, May, & Whitney, 1995; Milliken & Martins, 1996), they provide a structure for dealing with an array of unique and useful knowledge (Bond, Walker, Hutt, & Reingen, 2004; Brown & Eisenhardt, 1995; Sicotte & Langley, 2000). The underlying assumption is that the juxtaposition of members with diverse knowledge sets will enable knowledge exchange and synthesis necessary for innovation. In essence, diversity allows group members to bring in unique opinions and perspectives, combine different ideas though discussion, and thereby facilitate innovation (e.g., Amabile, 1983; Kickul & Gundry, 2001; Northcraft, Polzer, Neal, & Kramer, 1995; Amason, 1996).

However, there is equivocal evidence supporting the idea that cross-functional teams are better at innovating than functionally homogeneous teams. The empirical literature has found positive, non-significant, and even negative relationships between cross-functional teams and innovation (Ferlie, Fitzgerald, Wood, & Hawkins, 2005; Gerbert, Boerner, & Kearney, 2006). Several reasons have been proposed to explain the mixed results. Diverse teams are prone to frequent communication problems and relationship conflict (Bassett-Jones, 2005), hampering information sharing and team performance (De Dreu & Weingart, 2003). Social categorization (Caldwell & O'Reilly, 2003; Hogg, Abrams, Otten, & Hinkle, 2004) leads to devaluation and negative stereotyping of out-groups, such that when an individual categorizes herself by her functional identity, she may perceive members with different functional backgrounds as less valued out-group members, negatively affecting communication and relational dynamics (Harrison, Price, & Bell, 1998). One approach to minimize the friction common in functionally diverse teams is to promote a superordinate identity, one that emphasizes a unified team identity and reduces the salience of functional differences between members (Gaertner, Dovidio, Mann, Murrell, & Pomare, 1990; van Knippenberg & Haslam, 2003). Argote and her colleagues showed that making salient a common superordinate identity increased sharing knowledge of existing innovations across organizational units (Darr, Argote, & Epple, 1995; Kane, Argote, & Levine, 2005).

Extending this idea, we similarly propose that team members' social identities play a role in how teams develop new innovations through bringing together existing knowledge sets. We suggest that rather than developing a unified superordinate identity, retaining separate functional identities while fostering perceptions about the compatibility between functional identities will increase team innovation. Particularly, these processes allow team members to draw on different identity-related knowledge sets that are imperative to the innovation process (Adarves-Yorno, Postmes, & Halsam, 2006).

SOCIAL IDENTITY THEORY AND IDENTITY INTEGRATION

Social Identities and Knowledge Systems

Just as knowledge is unevenly distributed within organizations, knowledge is also unevenly distributed within individuals. Individuals do not have

continuous access to their acquired knowledge such as their memories, skills, routines, and heuristics. Rather, knowledge systems are bundled with various social identities, and depending on which social identity is activated, different knowledge structures are made accessible and applied to the task at hand at different times (Hong, Morris, Chiu, & Benet-Martínez, 2000).

Social identity is the aspect of an individual's self-concept that is derived from one's membership in a social group (Tajfel, 1981). Individuals have many social identities: groups to which they belong and roles that are important to them. For example, an individual may be simultaneously a woman, an engineer, a Buddhist, and a Latina. Depending on which of these social identities become activated, different knowledge structures come to the foreground (Roccas & Brewer, 2002; Steele, 1997). Evidence for this idea has been shown in multiple studies. For example, Shih, Pittinsky, and Ambady (1999) found that when Asian women's gender identity was made salient, they did worse on math tests and better on verbal tests. However, the reverse was true when their ethnic identity was made salient; they did worse on verbal tests and better on math tests. Here, verbal and math knowledge were differentially accessed and used depending on the salient social identity. Further support comes from research on bicultural individuals. In a series of studies, Hong et al. (2000) showed that Asian-American biculturals made more external attributions (a prototypical Asian attribution style) when their Asian identity was made salient, and made more internal attributions (a prototypical American attribution style) when their American identity was made salient. Again, depending on which social identity is at the foreground, different knowledge sets, competencies, or references are activated.

These findings suggest that individuals may not bring all their knowledge to bear on a given task or situation where it could be utilized. Even though one might possess the expertise or know-how to solve a problem, certain knowledge systems may not be applied to a task at hand because of perceived incompatibilities between relevant social identities. This is particularly true when individuals have multiple social identities with conflicting values. To illustrate, while simultaneously identifying with being an engineer and a Buddhist may be relatively unproblematic, there could be perceived incompatibilities when identifying with the marketing function (a more customer-driven orientation) and with the manufacturing function (a more product-driven orientation). Even for someone who might have training in and identify with both these functions, it might be difficult to simultaneously activate both functional identities, and make both identity-related knowledge systems available at the same time. We propose that

individuals who are better at activating disparate social identities at the same time will be better at recombining, synthesizing, and integrating dissimilar ideas that are necessary for innovation. In turn, cross-functional teams that facilitate this process among its members are more likely to be innovative.

Individual Differences in Identity Integration

There are several influential theoretical perspectives in the psychological literature that address how multiple social identities are managed. Berry (1990) found that biculturals (people who identify with two cultural identities) used four distinct strategies to manage their multiple cultural identities: assimilation (identification with the dominant cultural identity), integration (identification with both cultural identities), separation (identification with the ethnic cultural identity), or marginalization (low identification with both cultural identities). Extending beyond cultural identities, Roccas and Brewer (2002) proposed four general strategies individuals use to manage multiple social identities across a broader array of domains (e.g., gender, profession, race, etc.), intersection (e.g., a white Christian will identify only with other white Christians), dominance (e.g., a white Christian with a dominant religious identity will identify with other Christians), compartmentalization (e.g., a white Christian identifies with either her racial or religious group depending on external cues), and merger (e.g., a white Christian identities with whites and with Christians).

Recent theory and research in psychology suggest that individual differences in identity integration affect the strategies people use to manage multiple social identities. Research with biculturals shows that those with high identity integration perceive the two cultural identities as largely compatible and complementary. Not unlike those who adopt the "merger" strategy in Roccas and Brewer's (2002) conceptualization, high identity integrators do not find it problematic to identify strongly with both their cultural groups at the same time. In contrast, low identity integrators feel caught between the two identities and prefer to keep them separate, despite the fact that, like high identity integrators, they strongly identify with both cultures. Like those who adopt a compartmentalization strategy, low identity integrators believe they can identify with one or the other cultural group at different times or in different contexts, but not both at the same time. Particularly, low identity integrators perceive their multiple cultural meaning systems as fundamentally in conflict, and they suppress one

cultural identity when the other is being activated or used. For example, low identity integrators often report that they adopt one cultural identity at home and another cultural identity at work or school (Benet-Martínez & Haritatos, 2005).

Like biculturals, women in male-dominated professions (such as business or engineering) also have been found to vary on gender-professional identity integration. Female professionals with high identity integration perceive their gender and professional identities to be compatible, while those with low identity integration perceive the two identities as fundamentally incompatible, and work hard to keep these identities separate (Sacharin & Lee, 2007; Trahan, Lee, & Cheng, 2004). Other individuals who might identify with multiple social groups with disparate values, such as academics with multiple disciplinary appointments, or working-class students in higher education, also have been found to differ on identity integration (Cheng et al., 2007; Cheng et al., 2008).

Identity integration has been found to be an important predictor of cognitive and motivational performance of individuals with multiple, conflicting identities (Benet-Martínez, Lee, & Leu, 2006; Cheng, Lee, & Benet-Martínez, 2006; Cheng et al., in press). Past research showed that identity integration is related to stable personality traits such as openness to experiences and neuroticism (Benet-Martínez & Haritatos, 2005). Also, high identity integrators tend to have more positive experiences about their dual identities in comparison to their low identity integration counterparts (Cheng et al., 2006). There is also evidence that identity integration is malleable; Cheng and Lee (in press) found that by asking individuals to recall positive experiences about multiple social identities, their identity integration increased.

Identity integration has been shown to be useful in describing perceptions of compatibility and conflict between more than two identities. Recent research on multiracial individuals found that identity integration can describe the experiences of individuals who have up to four racial identities (Cheng & Lee, in press). Others have shown that Hispanic women perceive conflict between three identities; specifically, their gender, racial, *and* professional identities (Cheng et al., 2008).

Most important for this chapter, identity integration has been shown to predict individual level innovation across different types of social identities. Using self-reports to measure identity integration, Cheng et al. (in press) showed that Asian-American biculturals with high identity integration between their Asian and American identities exhibited higher levels of innovation in creating Asian-American fusion cuisine compared to

biculturals with low identity integration. They also showed that women engineers with high identity integration between their gender and professional identities were more innovative than those with low identity integration in designing a product targeted for women.

These studies show that high identity integrators are not generally more innovative people; identity integration positively predicts innovation only for identity-relevant tasks. Thus, Asian Americans with high identity integration were more innovative only for creating fusion Asian-American cuisine, but not for creating mono-cultural cuisine; likewise, women engineers with high identity integration were more innovative only when designing a new product for women, but not when designing a new product for the general population. This suggests that the ability to activate multiple social identities at the same time may indeed increase accessibility to multiple knowledge systems. To the extent that the identity-related knowledge systems are relevant to the task at hand, and to the extent that these knowledge systems are typically considered irrelevant and unrelated to each other, identity integration appears to facilitate the activation and synthesis of these knowledge systems to increase individual-level innovation.

IDENTITY INTEGRATION AND INNOVATION OF CROSS-FUNCTIONAL TEAMS

Identity in Cross-Functional Teams

An extensive literature has suggested that creating a common superordinate identity, or an overarching identity that subsumes subgroups' identities, can be effective in reducing conflict in diverse social groups. In the case of cross-functional teams, a superordinate identity can be made salient by highlighting the higher-order commonalities between the functional subgroups, and reducing the salience and centrality of distinct, lower-order functional identities (Kane et al., 2005; Tajfel & Turner, 1986). Rather than creating a unified superordinate identity, we suggest that retaining distinctiveness of each functional identity and finding a way to integrate the different expertise within a cross-functional team is essential for the team's ability to innovate. High levels of functional identity integration within members of a cross-functional team reflect beliefs that, for instance, although engineers and designers have different goals, values, and expertise, these differences are compatible and complementary. The critical idea from

an identity integration perspective is that keeping the functional identities separate and distinct within a cross-functional team will improve team innovation because team members can better access multiple and disparate knowledge sets which are salient to them.

We suggest several specific pathways where the individual team members' level of identity integration may influence team-level innovation. We focus our discussion on innovation in cross-functional teams, or teams with members coming from a diverse functional background. As such, identity integration refers to perceptions that different functional identities are compatible (or in conflict with one another). However, as we will discuss later, these dynamics may apply to other types of team diversity beyond functional diversity.

FROM INDIVIDUAL TO TEAM: INTEGRATION OF FUNCTIONAL IDENTITIES AND TEAM COMPOSITION

In today's business world, it is not uncommon for individuals to have multiple functional backgrounds. The increasing need for individual and organizational flexibility has fueled a trend toward increasing multiplicity in functional background and expertise within individuals (e.g., Ancona & Caldwell, 1992). Not only do most individuals frequently contemplate career changes, such changes are becoming commonplace. Similarly, one of the main reasons individuals apply to MBA programs is to pursue a career change. Given this backdrop, it is conceivable that many individuals in business organizations will identify with more than a single business function.

However, it is important to note that simply being trained or exposed to multiple business functions does not necessarily mean having a high level of functional identity integration. As mentioned, individuals can manage multiple functional identities by identifying with only a single function in a given context – for example, an engineer-turned-banker only identifies with being a banker – or to identify alternately with one group or the other, at different times and in different contexts (Roccas & Brewer, 2002). Individuals with high functional identity integration have multiple functional training or experience, identify with both functional groups, and perceive the two functions to be compatible; they believe that it is possible to perform both functions at the same time, and that the multiple functional orientations enhance rather than detract from one another.

At the individual level, we propose that individuals who have high functional identity integration are more likely to have access to disparate knowledge sets related to each business function, increasing their own levels of innovation. This proposition is supported by a recent study examining identity integration among academic researchers in a large university with two disciplinary affiliations (e.g., a PhD in one discipline and a faculty appointment in a different discipline; such as a person with a psychology PhD teaching in a business school). These disciplinary distinctions within academia are akin to the functional divisions common in business organizations. Cheng et al. (2007) found that researchers with higher "disciplinary" identity integration, or those who perceived their two disciplinary identities as distinct but compatible, had more peer-reviewed publications, the most common index used to measure academic innovation in the higher-education literature.

Given that individuals with high functional identity integration are more innovative as individuals, we propose that cross-functional teams that have at least a single member with high functional identity integration will facilitate the communication and collaboration between functional sub-groups. This person can serve as a "Cultural Ambassador" to bridge the different knowledge sets between the two functional groups and, more important, help the two functional groups see the compatibilities between function-specific norms, values, habits, and preferences. High functional identity integrators also can provide a model for other mono-functional identifiers about how to acquire a second functional identity. Teams with more high functional identity integration members will be more innovative, since there will be more people bridging the functional subfields.

In essence, when putting together a cross-functional team, managers should consider not only the functional mix, but also the level of functional identity integration of the potential team members. To the extent that team members identify with multiple functional groups and view these functional identities as compatible, the cross-functional team will be better able to access unique and disparate functionally related knowledge sets, and come up with more innovative ideas and solutions.

Going beyond Functional Identities in Team Composition: Enhancing Team Diversity by Integration of Other Social Identities

The research on identity integration and innovation has been studied using multiple types of social identities: cultural identities, gender identities, and

professional identities (Cheng & Lee, in press; Cheng et al., in press; Sacharin & Lee, 2007). We suggest that integration across these types of social identities, in addition to functional identities, can be important for innovation within cross-functional teams.

For example, given the highly globalized and diverse marketplace, it is important to produce innovation that will appeal to people with different demographic backgrounds. One potential way to boost innovation in a cross-functional team is to select team members who have high integration of other types of social identities. For example, women in male-dominated fields who are able to integrate their gender and professional identities might be more able to design products that are more appealing to women users. Or biculturals who are able to integrate their multiple cultural identities might also be better at utilizing both cultural communication styles and knowledge, and generate a creative win-win solution for the negotiation between two cultural teams.

Thus, when putting together a cross-functional team, managers should consider not only the functional identity of potential team members, but also members' other social identities (such as gender, tenure, nationality, etc.), as well as how conflicts and differences between other social identities are managed. Such a strategy for team composition has been used in the field; for example, managers who create cross-functional teams often take pains to ensure some level of gender and/or ethnic diversity, even when the innovation task is non-gender related.

Team Processes: Facilitating Identification and Perceptions of Compatibility

Cross-functional teams are settings where individuals learn about other functional departments and integrate these multiple functional identities within the self. Being exposed to multiple functional areas can be a seedbed to engender two psychological processes essential to functional identity integration. First, through engagement and participation in behaviors typical of functional areas other than one's own, individuals develop *identification* with multiple functional groups (similar to being acculturated to a second culture; Berry, 1990). For example, in a cross-functional team, a designer might have to work intensively on a marketing analysis project, a task typically performed by a marketing expert, and as a result begins to identify beyond her own functional group to other functional groups as well. Second, members of the cross-functional team begin to see *compatibilities*

between their respective functional identities. For example, designers come to realize that the goals and priorities of the marketing group (such as making the product cheaper), though different from their own, can be compatible with their design goals (such as a cheaper material may make the product lighter and more versatile). Having strong identification with more than one function is merely not enough for generating innovation. One has to perceive the two identities as compatible and not in conflict; otherwise it is unlikely that both identity-relevant knowledge sets will be activated at the same time, in the same context, or applied to the same problem (Cheng et al., in press).

There are specific ways managers can engender multiple identification and perceptions of compatibility. One strategy is to assign subtasks to non-experts, as in the previous example of a designer working on a market analysis. Although this is unlikely to be efficient, this may be a tool to increase innovation as team members begin to identify with multiple functions. Also, team leaders can create subgroups within the cross-functional team where functions that appear unrelated have to work together to solve a problem, for instance, a subgroup consisting a designer and a customer service representative who work together to complete a financial analysis. Here, the designer and the customer service representative are fully engaged in a cross-functional task, interact with one another as equals (where neither has a dominant position based on expertise), and are dependent on each other to complete the task. Clearly, these strategies will be less efficient than assigning subtasks to functional experts, such that the designers take on a design-related subtask, the lawyers are in charge of the regulatory analysis, and so on. However, when the goal is to develop team capabilities for innovating, such strategies may increase team members' ability in accessing different functionally related knowledge sets and perspectives at the same time, thereby increasing innovation.

Team Culture that Retains Subgroup Identities

Under certain conditions, social cultures can be barriers to utilizing identity-related knowledge sets if they blur subgroup identities. For example, in cross-functional teams that try to inhibit the specific culture of the involved functions (e.g., by making it "taboo" to talk about function-specific goals and norms), unique functional expertise will be inhibited and less likely voiced and applied to the team's task. This can inhibit team-level innovation. This is aptly illustrated when organizations manage mergers

and acquisitions, a common way business firms use to bring in disparate knowledge sets to create innovation. For example, the merger of Sprint and Nextel was based on a strategic decision to combine cell phone technology (Sprint's expertise) with walkie-talkie technology (Nextel's expertise); the merger of YouTube and Google was similarly touted as a way to combine search engine technology (Google's expertise) with multi-media/video material (YouTube's expertise). However, the research literature shows equivocal evidence that mergers and acquisitions successfully increase organizational-level innovation. In fact, research finds that mergers and acquisitions are just as often predictive of lower levels of innovation than higher levels of innovation.

Drawing from the identity integration literature, we suggest that one reason for this failure is that post-merger, most firms are quick to create a new, unified organizational identity, often at the expense of the pre-merger organizational identities. New procedures, structures, rules, and artifacts that reflect the post-merger identity are created, and individuals are supposed to adopt these new processes and abandon the ones associated with the former organization. Unfortunately, this also sends the message that implicit and explicit knowledge, expertise, routines, and networks associated with the former organizational unit are irrelevant. Ironically, this undermines the underlying rationale for the merger, which is bringing together disparate expertise and knowledge sets (not abandoning prior expertise and knowledge).

Thus, the ability of mergers and acquisitions to increase innovation may hinge on the organization's ability to create a culture that retains the distinct identities and thus the unique identity-related knowledge sets associated with the ''pre-merger'' organizational units. Bank of America understood this when they acquired MBNA. Even though MBNA embodied contrasting corporate cultures and business philosophies vis-à-vis Bank of America, recent media accounts suggest tremendous effort was invested to retain the pre-merger organizational identities. For example, to the surprise of many MBNA employees, MBNA motto's reflecting their mission and culture remained on the office walls after the merger. MBNA's in-house information technology system was retained (and upgraded), even though Bank of America outsourced all its information technology systems. The post-merger organization had two dress codes – one reflecting the former MBNA norm in front office operations (MBNA's strength) and one reflecting Bank of America's norms in back office operations (Bank of America's strength). This explicit strategy to retain subgroup identities enabled the organization to retain, apply, and integrate the skills of each organizational unit, resulting in numerous innovative financial products.

IMPLICATIONS: INCREASING TEAM INNOVATION
IN THE WORKPLACE

Given the role identity integration plays in individual and team innovation, it is important to understand how identity integration can be increased. As previously mentioned, there is evidence suggesting that identity integration is stable but malleable (Cheng & Lee, in press). Recent evidence suggests that an individual's previous experiences can affect the perceptions of the relationship between multiple social identities (Roccas & Brewer, 2002). Cheng and Lee (in press) found that when individuals with multiple conflicting social identities were instructed to recall past experiences where it was advantageous to have both identities, they reported an increase in identity integration. The opposite was true when they were asked to recall past experiences where having both identities was a challenge. Since most people tend to have both positive and negative past experiences associated with managing multiple social identities, contextual cues that make positive, rather than negative, past experiences more salient can go a long way in promoting identity integration and innovation.

This line of work has some direct implications for managerial practice. Imagine a financial analyst with previous training as a graphics designer, who identifies with both functional groups. Her colleagues might advise her to play down her designer background, since it undermines her professional reputation as an analyst, casts doubts about her commitment to her job, and may be an obstacle to her career advancement. Alternately, these colleagues might advise her to play up her cross-functional background, since her unique training makes her a better analyst. While the former scenario makes the negative aspects of having multiple functional identities salient, the latter focuses on the positive aspects of identifying with both functions. With the contextual cues represented in the latter scenario, the financial analyst is more likely to have higher identity integration and more likely to be innovative in her job. Socialization early on in one's career, or the type of mentoring one receives from colleagues, can have a strong impact on identity integration.

To increase identity integration, organizations also can create more opportunities for individuals to become identified with multiple functions, and to recognize compatibilities rather than conflicts between functional groups. For example, an increasing number of organizations are eliminating traditional functional departments in favor of job descriptions that encourage multiple functional roles, tasks, and goals. Organizations similarly have increasing numbers of training or internship programs where

new employees rotate through multiple functional groups. However, mere job rotation without explicit attention paid to increasing identification and perceptions of function compatibilities will not, in and of itself, enhance identity integration. Job rotation programs must pay special attention to developing identification with each function and perceptions of compatibility between each functional area.

Such cross-functional contexts should be created not only in the workplace, but also in institutions of higher education. For example, some business schools create "multidisciplinary" classes and projects where faculty and students representing different functional groups come together to solve business problems. In these project teams, each member retains their own functional identity (e.g., finance, operations, marketing, etc.) while at the same time working on a problem and developing solutions that may be outside their functional expertise. If business schools train students to see compatibilities between business functions, for example, how being a good graphic designer might help one become a better financial analyst, they can promote functional identity integration among business students.

FUTURE DIRECTIONS FOR RESEARCH

Reaping the benefits of team diversity to increase innovation has been a holy grail in research on groups and teams (e.g., Cady & Valentine, 1999; O'Reilly, Williams, & Barsade, 1998; Pelled, 1996). In the past, researchers predominantly relied on a single social category to describe diversity, such as gender, race, tenure, or functional background. By acknowledging that individuals simultaneously belong to and negotiate between multiple social categories (Benet-Martínez & Haritatos, 2005; Roccas & Brewer, 2002), identity integration provides an alternative perspective for thinking about group diversity. In this chapter, we presented our theory and reviewed initial findings supporting the notion that the relationship between a team's functional diversity and innovation is moderated by the level of functional identity integration of group members. We predict that when group members identify with multiple functional identities, and when they perceive these identities to be compatible rather than in conflict, both individual and team innovation will increase. The main direction for future research would be to test this central hypothesis.

In addition, we know very little about how individual innovation translates into team innovation. Research should examine the optimal number and proportion of high functional identity integrators needed in a

team to facilitate team innovation. We suggested that having one member who has high functional identity integration may be enough to facilitate innovation in a team. However, if the high functional identity integrator is a lone minority in a group of low functional identity integrators, he or she may be marginalized and discounted. Again, more research is needed to examine this question.

Also, several questions about the transferability of identities and contexts need to be addressed in future research. We suggest that identity integration might be transferable across social identity domains. For example, someone with high gender-professional identity integration also may have high functional identity integration. However, it can also be the case that identity integration is domain specific. As Cheng and Lee (in press) showed, identity integration is affected by the positivity and negativity of past experiences associated with the multiple identities. It is therefore possible that individuals have positive experiences managing one set of social identities (leading to high identity integration), but negative experiences managing a different pair of identities (leading to low identity integration). By the same logic, functional identity integration may be task-specific. For example, someone who identifies with and perceives compatibilities between marketing and finance may not necessarily exhibit high identity integration (and innovation) in a cross-functional team working with designers and manufacturers, or in a team working on a task that does not draw on financial and design expertise.

CONCLUSION

Having a team whose members hold multiple social identities with conflicting values, norms, and goals can be problematic; however, these differences can be turned into a competitive advantage in innovation if utilized properly. In this chapter we posit that identity integration, an individual difference variable measuring the degree to which different social identities are perceived as compatible or in conflict, predicts innovation in cross-functional teams. Individuals with high identity integration between multiple functional identities are better able to access multiple and disparate functional knowledge sets at the same time, facilitating innovation for both individuals and teams. Retaining functional identities within a cross-functional team may therefore be an effective way for facilitating team innovation. When these identities are subsumed or downplayed, the unique functional expertise each member brings to the team may become less accessible – defeating the original purpose of creating a cross-functional team.

REFERENCES

Adarves-Yorno, Postmes, T., & Haslam, S. A. (2006). Creative innovation or crazy irrelevance? The contribution of group norms and social identity to creative behavior. *Journal of Experimental Social Psychology*, *43*, 410–416.

Amabile, T. M. (1983). The social psychology of creativity. *Journal of Personality and Social Psychology*, *45*, 357–376.

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, *39*, 123–148.

Ancona, D., & Caldwell, D. F. (1987). Management issues in new product teams in high technology companies. In: D. Lewin and D. Sockell (Eds), *Advances in industrial and labor relations* (Vol. 4, pp. 199–221). Greenwich, CT: JAI Press.

Ancona, D. G., & Caldwell, D. F. (1992). Demography and design: Predictors of new product team performance. *Organization Science*, *5*, 321–341.

Bassett-Jones, N. (2005). The paradox of diversity management, creativity and innovation. *Diversity Management, Creativity and Innovation*, *14*, 169–175.

Benet-Martínez, V., & Haritatos, J. (2005). Bicultural identity integration (BII): Components and psychological antecedents. *Journal of Personality*, *73*, 1015–1050.

Benet-Martínez, V., Lee, F., & Leu, J. (2006). Describe your culture: Cultural representations in biculturals. *Journal of Cross Cultural Psychology*, *37*, 386–407.

Berry, J. W. (1990). Psychology of acculturation. In: J. Berman (Ed.), *Cross-cultural perspectives: Nebraska symposium on motivation* (pp. 201–234). Lincoln: University of Nebraska Press.

Bond, E. U., Walker, B. A., Hutt, M. A., & Reingen, P. H. (2004). Reputational effectiveness in cross-functional working relationships. *Journal of Product Innovation Management*, *21*, 44–61.

Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of Management Review*, *20*, 343–378.

Cady, S. H., & Valentine, J. (1999). Team innovation and perceptions of consideration: What difference does diversity make? *Small Group Research*, *30*, 730–750.

Caldwell, D. F., & O'Reilly, C. A. (2003). The determinants of team-based innovation in organizations: The role of social influence. *Small Group Research*, *43*, 637–667.

Cheng, C.-Y., Darling, E., Lee, F., Molina, K., Sanchez-Burks, J., Sanders, M., & Zhao, L. (2008). Reaping the rewards of cultural diversity: The role of identity integration. *Social and Personality Psychology Compass, 2*. Retrieved from http://www.blackwell-synergy.com/doi/full/10.1111/j.1751-9004.2008.00103.x

Cheng, C.-Y., & Lee, F. (in press). Multiracial identity integration: Perceptions of conflict and distance among multiracial individuals. *Journal of Social Issues*.

Cheng, C.-Y., Lee, F., & Benet-Martínez, V. (2006). Assimilation and contrast effects in cultural frame switching: Bicultural identity integration and the valence of cultural cues. *Journal of Cross-Cultural Psychology*, *37*, 742–760.

Cheng, C.-Y., Sanchez-Burks, J., & Lee, F. (2007). Increasing innovation through identity integration. Academy of Management Best Paper Proceedings.

Cheng, C.-Y., Sanchez-Burks, J., & Lee, F. (in press). Connecting the dots within: Creative performance and identity integration. *Psychological Science*.

Darr, E., Argote, L., & Epple, D. (1995). The acquisition, transfer, and depreciation of learning in service organizations: Productivity in franchises. *Management Science*, *44*, 1750–1762.

De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, *88*(4), 741–749.

Ferlie, E., Fitzgerald, L., Wood, M., & Hawkins, C. (2005). The nonspread of innovations: The mediating role of professionals. *Academy of Management Journal*, *48*, 117–134.

Gaertner, S. L., Dovidio, J. F., Mann, J. A., Murrell, A. J., & Pomare, M. (1990). How does cooperation reduce intergroup bias? *Journal of Personality and Social Psychology*, *59*, 692–704.

Gerbert, D., Boerner, S., & Kearney, E. (2006). Cross-functionality and innovation in new product development teams: A dilemmatic structure and its consequences for the management of diversity. *European Journal of Work and Organizational Psychology*, *15*, 431–451.

Hargadon, A. B. (2002). Knowledge brokering: A network perspective on learning and innovation. In: B. Staw & R. Kramer (Eds), *Research in organizational behavior* (Vol. 21, pp. 41–85). Greenwich: JAI Press.

Hargadon, A. B., & Fanelli, A. (2002). Action and possibility: Reconciling dual perspectives of knowledge in organizations. *Organization Science*, *13*, 290–302.

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal*, *41*, 96–107.

Hogg, M. A., Abrams, D., Otten, S., & Hinkle, S. (2004). The social identity perspective: Intergroup relations, self-conception, and small groups. *Small Group Research*, *35*, 246–276.

Hong, Y., Morris, M., Chiu, C., & Benet-Martínez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist*, *55*, 709–720.

Jackson, S. E., May, K. E., & Whitney, K. (1995). Understanding the dynamics of diversity in decision-making teams. In: R. A. Guzzo & E. Salas (Eds), *Team effectives and decision making in organizations* (pp. 204–261). San Francisco: Jossey-Bass.

Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why some differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly*, *44*, 741–763.

Kane, A. A., Argote, L., & Levine, J. M. (2005). Knowledge transfer between groups via personnel rotation: Effects of social identity and knowledge quality. *Organizational Behavior and Human Decision Processes*, *96*, 56–71.

Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. In: B. M. Staw & L. L. Cummings (Eds), *Research in Organizational Behavior*, *10*, 169–211.

Kickul, J., & Gundry, L. K. (2001). Breaking through boundaries for organizational innovation: New managerial roles and practices in e-commerce firms. *Journal of Management*, *27*, 347–361.

Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, *21*, 402–433.

Northcraft, G. B., Polzer, J. T., Neal, M. A., & Kramer, R. M. (1995). Diversity, social identity, and performance: Emergent social dynamics in cross-functional teams. In: S. E. Jackson & M. N. Ruderman (Eds), *Diversity in work teams: Research paradigms for a changing workplace* (pp. 69–79). Washington, DC: American Psychological Association.

O'Reilly, C. A., III., Williams, K. Y., & Barsade, S. (1998). Group demography and innovation: Does diversity help? In: D. H. Gruenfeld (Ed.), *Composition* (pp. 183–207). New York: Elsevier Science/JAI Press.

Pelled, L. H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization Science*, *7*, 615–631.

Phillips, K. W., Mannix, E. A., Neale, M. A., & Gruenfeld, D. H. (2004). Diverse groups and information sharing: The effects of congruent ties. *Journal of Experimental Social Psychology*, *40*, 497–510.

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review*, *6*, 88–106.

Sacharin, V., & Lee, F. (2007). Identity in harmony: Identity integration and female business students' congruent and contrary reactions to identity primes. Unpublished manuscript.

Schumpenter, J. (1934). *The theory of economic development*. Cambridge, MA: Harvard University Press.

Shih, M., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Research Report*, *10*, 80–83.

Sicotte, H., & Langley, A. (2000). Integration mechanisms and R&D project performance. *Journal of Engineering and Technology Management*, *17*, 1–37.

Steele, C. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, *52*, 613–629.

Tajfel, H. (1981). *Human groups and social categories*. Cambridge: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In: S. Worchel & W. G. Austin (Eds), *Psychology of intergroup relations* (2nd ed, pp. 7–24). Chicago: Nelson-Hall.

Taylor, A., & Greve, H. R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovation teams. *Academy of Management Journal*, *49*, 723–740.

Trahan, A., Lee, F., & Cheng, C. Y. (2004). Identity integration: Extending the model to the workplace. Paper presented at American Psychology Association Conference, Honolulu, HI.

van Knippenberg, D., & Haslam, S. A. (2003). Realizing the diversity dividend: Exploring the subtle interplay between identity, ideology, and reality. In: S. A. Haslam, D. van Knippenberg, M. Platow & N. Ellemers (Eds), *Social identity at work: Developing theory for organizational practice* (pp. 205–221). New York: Taylor & Francis.

Weick, K. E. (1979). Cognitive processes in organizations. In: B. M. Staw (Ed.), *Research in organizational behavior* (Vol. 1, pp. 41–74). Greenwich, CT: JAI Press.