TREND IN HUMAN CAPITAL RESEARCH: MULTILEVEL STUDIES
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ABSTRACT
Since most management problems involve multilevel phenomena, scholars now aware that multilevel research become a paradigm shift and trends in management research. This paper will specifically discuss trend of multilevel studies in human capital research topic. The paper will include the discussion of the basic concept of multilevel studies, the trend, and the state of the art of human capital research. Since the multilevel study is quite new in management research topic and involve only limited literature, this paper will contribute to introduce this new trend to management scholars and provide state of the art literature related to research in multilevel studies especially in human capital research topic.

Keywords: Human Capital, Multilevel Study, Research Trend.

1. INTRODUCTION
Research in human capital topic involve variety perspectives lead to complexity in construct definition and measurement, so that this topic can be considered in an infant stage, despite its 40 years existence (Wright & McMahan, 2011). In the early of its development, human capital was well-recognized in economics literature (Wright & McMahan, 2011; Larocche, Mérette & Ruggeri, 1999). Economist such as Schultz (1961) and Becker (1962, 1964) is considered as the pioneer in establishing the human capital theory and develop the idea of the importance of investment on education to the national productivity (Namasingtam & Denizci, 2006; Wright & McMahan, 2011) and established human capital theory. According to human capital theory, the value of human capital in a society related to the length and type of education (Becker, 1964; Schultz, 1963 in Namasingtam & Denizci, 2006).
Later, research on human capital topic have been influenced by many perspectives, although still take the basis on human capital theory. Those perspectives includes economics perspective, strategy / resource-based view perspective, strategic human resource management perspective, i/o psychology / organizational behavior perspective, intellectual capital / knowledge-based view perspective, and human resource accounting perspective. Economics perspective tend to examine the investment for education and seek the impact towards macro indicators. Strategy / Resource-based view perspective tend to seek the resource that lead to sustainable competitive advantage, specifically addresses the relationship between a firm’s human capital and its performance. Strategic Human Resource Management perspective concern with the ways in which HRM is critical to organizational effectiveness. I/O psychology / Organizational behavior aims to measure KSAOs of individual and examine the impact towards other individual behavior (Micro-individual level). Intellectual capital / knowledge-based view examine how the contributions of employees added to the asset value of the firm while human resource accounting measure the value human capital as one of components of Intellectual capital of the firm and present it in a report that disclose the value of intangible assets of the firm for stakeholders’ needs.
Due to many perspectives in defining human capital, the issue of the ownership of human capital, is it individual or collective, have risen (Wright and McMahan, 2011). The macro-level approach scholars see human capital as a collective or sum of human capital element posses by individual, “a unit-level resource” (Wright and McMahan, 2011) that is utilized by organization. Another approach from microfoundation or individual level perspective see human capital as components that owned by individual and can not automatically “aggregated
to the unit level” (Wright and McMahan, 2011). Some scholars define human capital construct at individual level, but measured at a collective level (Pandey, 2012). This issue also related to the measurement of human capital (Wright & McMahan, 2011). When consider human capital at unit level, scholars tend to conduct a simple aggregation of individual human capital to the unit level which implies the ‘more is better’ assumption (Wright & McMahan, 2011). It is also problematic to simply aggregating individual scores to a unit score because it fails to explain the mechanism through which the individual knowledge, skills, abilities, or other characteristics (KSAO)’s supposedly lead performance, and fails to explain where the human capital resources originates, how it is created and how it is transformed (Ployhart & Moliterno, 2011). This paper aims to examine the trend of application of multilevel studies in human capital research topics.

2. MULTILEVEL STUDY

Most problems in management and behavior studies involve multilevel (micro and macro) phenomena (Hitt, et.al., 2007). In examining research questions of the studies, single level perspective yields incomplete understanding (Hitt, et.al., 2007) and create standard error connected to the estimation of the effect (Krull and MacKinnon, 2001). It is essential to understand that “micro phenomena are embedded in macro contexts and that macro phenomena often emerge through the interaction and dynamics of lower-level elements” (Kozlowski & Klein, 2000). Therefore, multilevel model should be employed in those studies that involve multilevel phenomena. The advances of multilevel model, both theoretically and analytically were achieved in the 1980s (Hitt, et.al., 2007), and since then, multilevel model is widely applied (Ghayour, et.al., 2013). There are three main focus on mixed-level model : (i) level of theory;(ii) level of measurement and (iii) level of analysis (Hitt,et.al.,2007, Mathieu and Chen, 2011).

In understanding level of theory, the term focal unit is used as vital point to build multilevel theory (Hitt, et.al., 2007; Mathieu and Chen, 2011; Ghayour et.al., 2013). It is an entity in which a theory can be generalized as individuals, groups or organizations (Hitt, et.al., 2007; Ghayour et.al., 2013). Building a multilevel theory start from the level at which the criteria are believed to reside (Mathieu and Chen, 2011). Therefore Kozlowski & Klein (2000) prefer to use the phrase level of the construct instead of level of theory, because constructs are the building blocks of a theory (Kozlowski & Klein, 2000). They identify three types of construct, namely (i) Global unit properties; (ii) Shared unit properties; and (iii) Configural unit properties (Kozlowski & Klein, 2000). Global unit properties are single-level construct that reside at the unit level while shared and configural unit properties involve multilevel in understanding the phenomena (Kozlowski & Klein, 2000). Shared unit properties are constructs that describe characteristics that shared by the members of organization, such as organization culture, it is originate at individual level, the same with configural unit properties (Kozlowski & Klein, 2000). However, not like shared properties, in configural unit properties, what belongs to individual do not isomorph with what lies in the higher level. This configural unit properties involved the emergence phenomena (Kozlowski & Klein, 2000).

Level of measurement refers to the level of the entities from which data are obtained (Hitt, et.al., 2007). Aggregation is the key of multilevel measurement (Mathieu and Chen, 2011). There are two principles of aggregation : (i) Composition ; and (ii) Compilation (Kozlowski & Klein, 2000). Composition refers to the situation where simple descriptive statistics are used to represent the processes that associate lower-level data with higher-level constructs, while compilation is an aggregation principle in which measures collected from lower-level entities are combined so that could not reducible to its constituent parts (Hitt, et.al., 2007). The type of unit-level construct should drive its form of measurement (Kozlowski and Klein, 2000), thus
Individual-level constructs should be assessed with individual-level data, while unit-level constructs, in contrast, may be assessed with either unit-level or individual-level data (Mathieu and Chen, 2011).

Next, the level at which data are analyzed to test hypotheses should be aligned with the level of theory for the constructs involved (Hitt, et al., 2007). Multilevel model analysis incorporate individual and group-level data and differentiate group-level and individual-level effects (Cheung and Au, 2005). Recently, multilevel versions of structural equation modeling techniques (ML-SEM) have been introduced and hold great promise for the future (Hitt, et al., 2007).

3. DISCUSSION

According to Wright & McMahan, (2011) research on human capital topic should be essentially conducted in Strategic HRM field of research. Using the school of thought of Strategic HRM, research on human capital should not only examine the HR practice, but also the human capital resource pool (collective human capital) and the behavior required (microindividual research) (Wright & McMahan, 1992). Because of this lack of focus on composition of human capital and microfoundation research, therefore human capital topic much more developed by other field scholars, especially intellectual capital school of thought. Thus, Wright & McMahan (2011) provoke to bring back the human capital research to Strategic HRM.

In this perspective, there is some flaws includes (i) inconsistency in defining human capital; (ii) the ignorance microfoundation aspect of human capital, or at least put very little concern on it, and dominated by macro-organizational research eventhough the behaviors and outcome for employees are individual level variables (Pandey, 2012); and (iii) failing in explain the model of transformation of individual level human capital towards collective human capital. One factor that might be the cause of those flaws is what Ployhart and Moliterno (2011) call “paradox” between microlevel and macro level scholarship. According to them, “micro scholars emphasize the importance of context-generic KSAOs, whereas macro scholars emphasizes the importance of context-specific HC resources” (Ployhart & Moliterno, 2011: 144). Thus, the multilevel model is needed to resolve this paradox (Ployhart & Moliterno, 2011).

Ployhart and Moliterno (2011) propose the concept of emergence of individual to unit level of human capital as their multilevel model. The emergence concept based on the recognition that “micro phenomena are embedded in macro contexts and that macro phenomena often emerge through the interaction and dynamics of lower-level elements” (Kozlowski & Klein, 2000). According Kozlowski & Klein, (2000), emergence phenomenon is a phenomenon that originates in the cognition, affect, behaviors, or other characteristics of individuals, that is amplified by their interactions and manifest as a higher-level, collective phenomenon. Thus in their model, individual-level employee KSAOs transform into the ‘collective’ unit level human capital resource amplified by the mechanism of enabling process. Due this model, they define human capital level theory in unit level but identify its origins in the psychology of individuals, what other scholars call personal / individual human capital (Gratton & Goshal, 2003).

Ployhart and Moliterno’s (2011) study bridging micro and macro scholarship by exhibit what are typically neglected by both scholars, and converge them into one model, which are the process how individual-level KSAOs become a strategically valuable resource and how unit level human capital resources are created. However, since it is a conceptual paper, operationalizing of the model have not been explained, thus empirical research is needed to examine the model.

The emergence concept of human capital is aligned with the dynamic perspective of knowledge (Lopez, 2005), where individual knowledge can transform into collective knowledge through
interaction between individual (e.g. Nonaka, 1999). However, this brand new concept might not be recognized by other disciplines, for example by economist who simply aggregate the individual human capital into organizational human capital without concern to the emergence concept of human capital (Wright and McMahan, 2011).

Recently, scholars begin to realize that human capital also involved multilevel phenomena (Fulmer & Ployhart, 2013). Yet, only a few research on human capital which have employed multilevel research. Although there are several scholars that have employed multilevel study before Ployhart and Moliterno (2011). Still, Ployhart and Moliterno’s (2011) conceptual paper can be considered as an important paper since they propose multilevel study based on emergence process, not simply aggregate the individual data nested into group or organization (e.g., Ang, Slaughter, & Ng, 2002; Naderi & Mace, 2003).

Conducting forward searching using google scholars and proquest, researcher found three recent research that have cited the work of Ployhart and Moliterno (2011). In form of unpublished dissertation, Pandey (2012) examine the impact of individual human capital towards behavior (in-role and extra-role) and performance with relational coordinator as moderator. It actually focus to microfoundation level of individual variables. Pandey do not employ the whole concept of multilevel study which are comprise of level of theory, level of measurement and level of analysis (Klein and Kozlowski 2000; Hitt., et.al., 2007; Mathieu and Chen ,2010) Pandey only used multilevel in level of analysis, because he examine data of human capital, behavior and performance of registered nurses that is nested in their supervisor who rate or provide those data (Pandey,2012). Contrast with Crocker and Eckardt (2013) that employ the whole concept of multilevel. In level of theory, Crocker and Eckardt (2013) examine different level of construct, collective human capital and individual human capital. But unlike Ployhart and Moliterno’s (2011) proposition, Crocker and Eckardt (2013) take the opposing model. Whereas Ployhart and Moliterno (2011) propose the direction from individual KSAOs towards unit’s human capital, Crocker and Eckardt (2013) examine the impact of collective human capital towards individual human capital.

In operationalizing the human capital construct, Pandey (2012) simply adopt the definition of HC from Becker 1964, without devidem them into generic or specific human capital, although prior study put much concern on this issue (e.g., Lepak and Snell, 1999; Hatch and Dryer,2004; Ployhart et.al, 2011). Whereas Crocker and Eckardt (2013) use five dimensions accounting for a pitcher’s skills and knowledge were summed to create a composite measure of individual human capital. Different with the concept of emergence proposed by Ployhart and Moliterno (2011), collective human capital construct used by Crocker and Eckardt (2013) is not originate from individual human capital, rather they use an aggregate indicator to represent the collective knowledge and skills of managerial staff involved in decisions associated with the deployment of pitcher resources. But if we see the indicators, it is closer to HR practice concept. Thus Crocker and Eckardt (2013) repeat the flaw that often been found in the previous human capital research in strategic HRM perspective and intellectual capital perspective (see. Previous section).

Despite of the less quantity, multilevel research in human capital much expand in quality. Recent study from Fulmer and ployhart (2013) propose multilevel and multidisciplinary of human capital valuation, supporting what have been predicted by Molloy, Ployhart & Wright (2010) that multilevel research often bring about multidisciplinary research. In their study, Fulmer and Ployhart (2013) converge strategic management and strategic HRM perspective with HR accounting perspective. The work of Fulmer and Ployhart (2013) continue prior proposition by Ployhart & Moliterno (2011). They employ two different level of human capital construct. They use the term human capital to reference the individual level and human capital resources(s), or where necessary for clarity, unit-or firm-level human capital resource(s) to
reference the aggregate level. Notwithstanding, their paper is conceptual paper that still need to be examine empirically.

4. CONCLUSION
Since most management problems involve multilevel phenomena (Hitt, et al., 2007), scholars now aware that multilevel research become a paradigm shift (Mathieu and Chen, 2010) and trends (Hitt, et al., 2007) in management research. Multilevel research in strategic human resource management field of research is not new and actually start being proposed in the mid of 2000s (Snape & Redman, 2010). However, there is relatively little empirical work adopting a multi-level approach (Snape & Redman, 2010). This paper specifically have discussed a few human capital related studies that have employed multilevel model, includes Ployhart and Moliterno’s (2011), Pandey’s (2012), Fulmer and Ployhart’s (2013), and Crocker and Eckardt’ (2013).

5. REFERENCE


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