

# Individual's Personality Traits, Perception of HRM Practices on Innovative Work Behavior: Innovative Climate as A Mediator

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**Abstract:** *This study examines the structural relationships between individual's personality traits, perception of HRM practices, innovative climate and innovative work behavior based on the Trait Activation Theory (TAT) and Social Exchange Theory (SET). The main purpose of this study is to identify the significance of innovative climate as a mediator between individual's personality traits, perception of HRM practices and innovative work behavior. Individual's personality traits consist of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism, perception of HRM practices consist of appropriate staffing and recruitment, a fair performance appraisal system, comprehensive training and development and competitive compensation. Innovative work behavior is measured in terms of creation, promotion and implementation.*

*A quantitative approach is adopted to test the relationships. Questionnaires are used to gather data from 36 iron and steel companies of Tangshan in China, a total of 384 respondents participate in this study. The data are analyzed by using PLS algorithm and the bootstrapping procedure. Hierarchical Multiple Regression Analysis (HMRA) is used to examine (1) the relationship between individual's personality traits, perception of HRM practices and innovative climate; (2) the relationship between individual's personality traits, perception of HRM practices, innovative climate and innovative work behavior; and (3) the mediating role of innovative climate on the relationship between individual's personality traits, perception of HRM practices and innovative work behavior.*

**Keywords:** Individual's Personality Traits, Perception of HRM Practices, Innovative Climate, Innovative Work Behavior.

## 1. INTRODUCTION

### 1.1 Background of the Study

With the sustained and rapid development of China's economy, China has become the world's largest steel producer, however, there are still some problems, such as prominent structural contradictions of products, relative overcapacity, environmental pollution and so on. At the same time, the acceleration of the trend of economic globalization not only has a profound impact on the market order and industrial pattern of the global steel industry, but also has a huge impact on China's steel industry (Hu & Li, 2018). Therefore, with the development of the world's steel industry unprecedented opportunities and challenges, many iron and steel enterprises will face risk of shutdown, merger and acquisition. According to De Jong & Den Hartog (2007, 2010), employees' innovative work behaviors (i.e. developing, promoting and implementing new ideas for products and work methods) are considered as the main reason for some organizations to survive in the turbulence of competitive business environment. Similarly, Muchiri, McMurray, Nkhoma & Pham (2020) argue that as the business environment becomes more dynamic and challenging, employees' innovative work behavior will play a role in aligning the business vision and models with the constant technological changes and volatile business environments. Therefore, iron and steel enterprises must intensely depend on their employees' innovative work behavior to produce more new products for their clients and improve production process to maintain sustainable development.

Innovative work behavior (IWB) of employees has become a key factor for organizations to gain competitive advantage and assure long-term survival in the present highly competitive business environment (Rao Jada, Mukhopadhyay & Titiyal, 2019). According to Janssen (2000), IWB is defined as a work role, conscious creation, promotion and implementation of new ideas to provide benefit for a group or organization. In contrast to jobs which are deliberately focused on creative and innovative work (such as research and development work). In most cases, IWB is a positive, additional job that may be part of informal work expectations toward employees, but that is not part of their formal job description (such as tasks, responsibilities and obligations) (Messmann, Stoffers, Van der Heijden & Mulder, 2017). As employees have no obligation to carry out IWB, the organization has to rely on employees' willingness to carry out this extra role behavior (Huhtala & Parzefall, 2007). In view of the importance

of IWB to the organization, management must know how IWB can be shaped and stimulated (Bos-Nehles, Renkema & Janssen, 2017). Consistent with this, there is a gradually growing body of management literature on the determinants and key influences of innovative work behavior (Mueller, 2019; Suryani, 2019; Afsar, Masood & Umrani, 2019; Dedahanov, Bozorov & Sung, 2019). Therefore, this study intends to analyze the intrinsic influence mechanism of innovative work behavior, and provide some advices on improving innovative work behavior.

In addition to that, innovative behavior is believed to be influenced by many personal and external determinant (Jung, 2001). According to Sackett, Lievens, Van Iddekinge & Kuncel (2017), the role of different personality traits in individual innovation has a long history. The Five Factor Model (FFM) of personality has become an important mechanism for understanding personality structure (Patterson, Kerrin & Gatto-Roissard, 2009). Meanwhile, Yesil & Sozibilir (2013) claimed that five personality dimensions (Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience) can explain the most meaningful variance in personality. Although some studies have discovered the relationship between personality traits and innovative behavior, their significance levels are different and show inconsistent results (Munir & Beh, 2016). Furthermore, employees' perception of HRM practices may affect the human relations climate and, as a result, leads to employees' outcome behaviors (Li, Rees & Branine, 2019). For example, it's believed that this perception of HRM practices can be directly related to innovative work behavior or indirectly through the mediating role of normative and supportive climate for innovation (Odoardi, 2016). According to Takeuchi & Takeuchi (2013), HRM practice includes appropriate staffing and recruitment, a fair performance, comprehensive training and development and competitive compensation. Besides that, a positive innovative climate may help organizations to manage continuous changes, and adapt to them more easily (Arvidsson, Johansson & Akselsson, 2006). According to the study conducted by Mathisen, Martinsen & Einarsen (2008) and Chen, Lu, Huang & Hsi-Chi (2011), their research results show that the innovative climate has a mediating role between personality and innovation. Meanwhile, climate is a critical mediating construct in exploring multilevel relationships between HRM and organizational performance (Bowen & Ostroff, 2004). Following these discussions, this study intends to demonstrate the antecedents of innovative work behavior and mediating role of innovative climate.

## **1.2 Problem Statement**

In order to provide organizations with tips to promote employee's innovative work behavior in the competitive business environment, many researches have been conducted (Suryani, 2019; Nazir, et al., 2019; Afsar & Masood, 2018; Dedahanov et al., 2019). However, little attention was paid to individual's personality traits (e.g. Big Five Personality) that influence innovative work behavior. Academic scholars such as Chen et al., (2011), Yesil & Sozibilir (2013), Munir & Beh (2016) and Woods, Mustafa, Anderson & Sayer (2018) have argued that individual's personality traits were potential predictors for innovative work behavior, but unfortunately still has not attracted the attention of other researchers. For instance, Ojedokun (2018), Esmaelinezhad & Afrazeh (2018), Hussein (2017), Pour & Taheri (2019) have linked personality traits with environmental citizenship behavior, team performance, knowledge management behavior, career success, knowledge sharing behavior and proved that an individual's personality traits could influence his/her behavior. Thus, following the above discussions, this study intends to contribute to the innovative work behavior literature by examining the influence of individual's personality traits on his/her innovative work behavior.

Moreover, previous innovative work behavior researches have mainly focused on individual perception of work-related factors such as high-performance work systems (Escriba-Carda, Balbastre-Benavent & Canet-Giner, 2017), fairness and justice (Janssen, 2004; Nazir et al., 2019), adverse work conditions (De Clercq, Dimov & Belausteguigoitia, 2016), role clarity (Kundu, Kumar & Lata, 2019), identifiability and shared responsibility (Shih & Susanto, 2017), learning climate (Eldor, 2017) as predictors influencing innovative work behavior. Individual perception of the organizational-related factors, particularly HRM practices (e.g. staffing and selecting, performance appraisal, training and development, compensation) have received less attention from previous researchers since they are more interested to examine the influence of work-related factors on innovative work behavior. Further, some of researchers (Li et al., 2019; Oluwatayo, 2015; Lam, Chen & Takeuchi, 2009) are more likely to correlate perception of HRM practices with employee outcomes, job satisfaction and leave intention rather than innovative behavior. Bos-Nehles & Veenendaal, 2019), Veenendaal & Bondarouk (2015), Odoardi (2016) argued that the positive outcomes of innovative work behavior are influenced by perceptions of HRM practices. Therefore, consistent with their argument, this study intends to contribute to enhance the knowledge of innovative work behavior research.

In addition, previous empirical studies have paid negligible attention on the mediating hypothesis (Sethibe & Steyn, 2018; Chen et al., 2011), and only examined the direct relationship between independent variables (individual's personality traits, innovative climate and perception of HRM practices) and dependent variable (innovative work behavior). Moreover, previous researchers such as Munir & Beh (2019), Liu, Chow, Zhang & Huang (2019), Ahmed & Abd-Elhamid (2019), Park & Jo (2018), Iskandarani (2017), Hill (2017) have ignored the mediating role of innovative climate, as they focused on the direct relationship between innovative climate and innovative work behavior. Few researches have seen innovative climate as a tool for influencing innovative work behavior (Sethibe & Steyn, 2018; Chen et al., 2011). To improve the knowledge of the mediating role of innovative climate, this study intends to examine how innovative climate develop the link between individual's personality traits, perception of HRM practices and innovative work behavior.

### **1.3 Research Questions**

In carrying out this study, the researcher seeks to gather findings based on the following research questions:

RQ1: Does individual's personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) influences innovative work behavior among employees in iron and steel companies within Tangshan city, Hebei province, China?

RQ2: Does perception of HRM practices (staffing and selection, performance appraisal, training and development, and compensation) influences innovative work behavior among employees in iron and steel companies within Tangshan city, Hebei province, China?

RQ3: Does innovative climate mediates the relationships between individual's personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) and innovative work behavior among employees in iron and steel companies within Tangshan city, Hebei province, China?

RQ4: Does innovative climate mediates the relationships between perception of HRM practices (staffing and selection, performance appraisal, training and development, and compensation) and innovative work behavior among employees in iron and steel companies within Tangshan city, Hebei province, China?

### **1.4 Significance of the Study**

This study hopes to provide important theoretical and practical contributions to the field of innovative work behavior. From a theoretical perspective, this study attempts to contribute to literature in several ways. Firstly, this study focuses on several potential factors that might influence employee's innovative work behavior in Chinese iron and steel companies, which are individual's personality traits (extraversion, neuroticism, agreeableness, conscientiousness and openness to experience), perception of HRM practices (staffing and selecting, performance appraisal, training and development, compensation) and mediating variable (innovative climate) which received negligible attention by previous researches. As mentioned earlier, the influence of individual psychological variables (Suryani, 2019; Alshamsi & Ahmad, 2018; Afsar & Masood, 2018), organizational variables (Nazir et al., 2019; Liu et al., 2019; Yu, Mai, Tsai & Dai, 2018), job-related variables (Afsar et al., 2019; Dediu, Leka & Jain, 2018; Coetzer, Inma, Poisat, Redmond & Standing, 2018) and leadership-related variables (Dedahanov et al., 2019; Javed, Naqvi, Khan, Arjoon & Tayyeb, 2019; Ariyani & Hidayati, 2018) have been extensively studied. However, the influence of the factors such as individual's personality traits and perception of HRM practices on innovative work behavior have till now received negligible attention. Therefore, this study intends to fill the gaps in the innovative work behavior literature by examining the influence of personality traits and perception of HRM practices on innovative work behavior.

Secondly, from previous studies (Munir & Beh, 2019; Liu et al., 2019; Ahmed, Ata & Abd-Elhamid, 2019; Park & Jo, 2018; Iskandarani, 2017, Hill, 2017), empirical evidence on the mediating role of innovative climate on the relationship between individual's personality traits, perception of HRM practices and innovative work behavior is still not forthcoming. There are some notable exceptions, for example, Chen et al. (2011) examined the mediating effect of organizational innovative climate on the relationship between personality trait and innovative behavior. Bos-Nehles & Veenendaal (2019) examined the moderating effect of an innovative climate on the relationship between perceptions of HR practices and innovative work behavior. Thus, a combination of Trait Activation and Social Exchange theory, integrated model of innovative work behavior that innovative climate could act as a potential mediating variable to influence the relationship between individual's personality traits and perception of

HRM practices and innovative work behavior. Therefore, this study seeks to make a significant theoretical contribution, and extend the knowledge on the mediating role of innovative climate through the examination of the relationship between individual's personality traits and perception of HRM practices and innovative work behavior.

### **1.5 Practical Contribution of the Study**

Substantial amount of innovative work behavior research has been carried out in technology industry (Jason & Geetha, 2019; Uddin, Priyankara & Mahmood, 2019), service industry (Munir & Beh, 2019; Afsar, Masood & Umrani, 2019), education industry (Singh & Sarkar, 2019; Khaola & Coldwell, 2019; Suryani, 2019), financial industry (Heru, Alfrian, Langgeng & Siti, 2019; Etikariena, 2018; Woods et al., 2018), manufacturing industry (Afsar, Masood & Umrani, 2019; Pradhan & Jena, 2019; Bos-Nehles & Veenendaal, 2019). However, little research has been conducted on the steel industry, despite innovative work behavior is very important in this industry under competitive business environment. Hence, this study would be useful for managers to highlight the need to improve employees' innovative work behavior and provide the guidelines on how to stimulate innovative work behavior by practicing HRM and creating innovative climate.

## **2. LITERATURE REVIEW**

### **2.1 Definition of Variables**

The following literature review attempts to reveal an overview of the definition and conceptualization of innovative work behavior, individual's personality traits, perception of HRM practices, innovative climate and innovative work behavior.

#### **2.1.1 Definitions of Innovative Work Behavior**

Innovative work behavior (IWB) refers to the intentional generation, introduction, and application of novel ideas about products, processes, and procedures within a work role, group, or organization for the benefit of role performance, group or organization (West & Farr, 1989). Scott and Bruce (1994) also pointed out that IWB is a process, which begins with describing the problem, introduction of new or previously accepted ideas and remedies, continues with the support of innovative ideas, and finally ends with the concrete style or the first and new examples of new ideas. Then, De Jong and Den Hartog (2007) defined IWB as the intentional behavior of an individual to introduce and/or apply new ideas, products, processes, and procedures to his or her work role, unit, or organization. Following the above discussion, innovative work behavior is a multi-stage process which consists of the generation, development and application of new ideas about products, processes and procedures within his or her work role, group or organization, in order to benefit role performance, the group or the organization.

#### **2.1.2 Definitions of Individual's Personality Traits**

Allport (1937) presented the same concept of personality in his definition, the dynamic organization with in the individual of those psychophysical systems that determine his unique adjustments to his environment (quoted by Robbins & Judge, 2007). Hodgetts & Luthans (1991) also defined personality as the individual's characteristics and behavior, organized in a way that reflects the unique adjustment the person makes to his or her environment. Then, Mayer (2005) defined personality as the organized, developing system within the individual that represents the collective action of his or her motivational, emotional, cognitive, social planning, and other psychological subsystems. Similarly, Costa & McCrae (2008) defined personality as the intrinsic organization of an individual's mental world that is stable over time and consistent over situations. Following the above discussion, personality can be defined as a collection of intrinsic and extrinsic traits that influence the behavior of an individual.

#### **2.1.3 Definitions of perception of Human Resource Management (HRM) Practices**

HRM practices are the most important source that an organization needs to consider, which have a significant impact on the realization of any organization (Waheed, Miao, Waheed, Ahmad & Majeed, 2019). Schuler and Jackson (1987) defined HRM practices as a system that attracts, develops, motivates, and retains employees to ensure the effective implementation and the survival of the organization and its members. However, as Wright and Nishii (2007) note not the HRM practices as intended in policy documents, but rather how employees experience the practices, that is, to what extent employees feel that the practices implemented by the organization are indeed

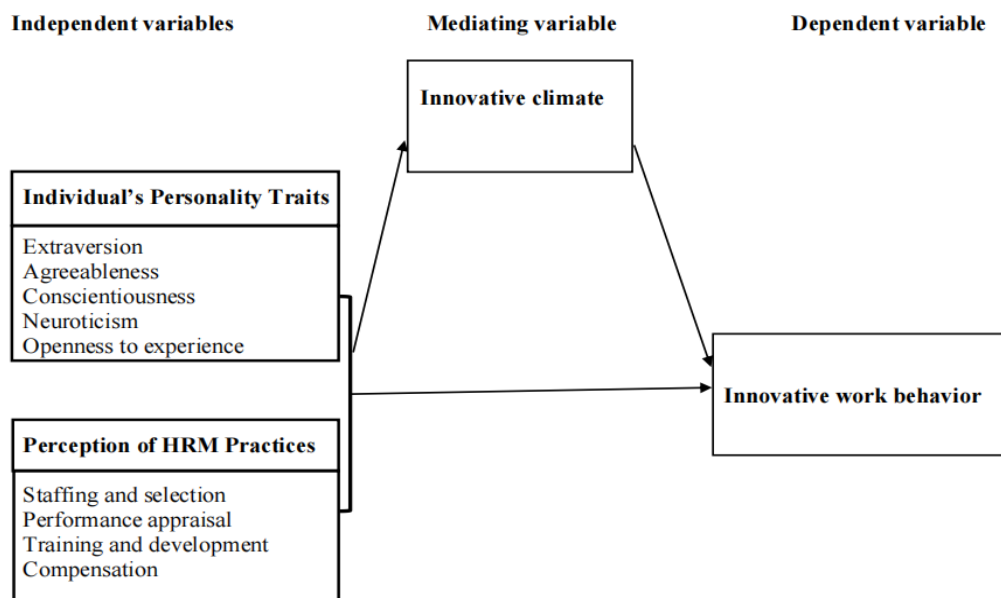
provided to them, which will affect employees. The perception of HRM practices refers to the degree to which a person perceives any set of practices provided to him/her by the organization (Boon, Den Hartog, Boselie, & Paauwe, 2011). Following the above discussion, perception of HRM practices can be defined that the degree of perception of those practices offered by the organization, which will affect individual's attitudes and behaviors towards the organization.

#### 2.1.4 Definitions of Innovative Climate

According to Pritchard and Karasick (1973), organizational climate represents the lasting quality of the organization's internal environment that distinguishes the organization from others. Innovative organizational climate is referred to as a continuous initiative to stimulate employees' innovation-oriented behavior (Amabile, 1988; Isaksen, 1987). Similarly, innovative climate can be defined as a shared perception of the practices, procedures, and behaviors among organizational members that promotes creation, development, and realization of new and useful ideas (Van der Vegt, Van de Vliert, & Huang, 2005). Likewise, an organization's innovative climate was defined as the adaptation of an idea or behavior which is new to the organization's market or general environment (Daft, 2007). More recently, Zuraik and Kelly (2019) argue that organizational climate is an essential element of innovation and a strategic influencer. Following the above discussion, innovative climate can be viewed as the shared contextual perceptions of individuals regarding the organization's innovation policies, practices and procedures.

### 2.2 Theoretical/Conceptual Framework

Based on the review of literature, the theoretical/conceptual framework for this study is presented in Figure 2.1. As shown in Figure 2.1, this study proposes that individual's personality traits, perception of HRM practice will have direct relationship with innovative climate. Additionally, this study also postulates that individual's personality traits, perception of HRM practices and innovative climate will directly influence innovative work behavior. Further, the framework also proposes that innovative climate mediate the relationship between (1) individual's personality traits and innovative work behavior, (2) perception of HRM practices and innovative work behavior.



**Figure 1:** Conceptual framework of the relationship between individual's personality traits, perception of HRM practices, innovative climate and innovative work behavior

### 2.3 Underpinning Theory

This study incorporates two main underlying theories, namely Trait Activation Theory (Tett & Guterman, 2000) and Social Exchange Theory (Blau, 1964). Both theories are identified to be applicable in explaining the theoretical framework of the study.



### 2.3.1 Trait Activation Theory

Trait activation theory is a theory developed in recent years, which focuses on the interaction between people and situations to explain behavior by responding to trait-related cues in the situation (Tett & Guterman, 2000). According to Tett and Burnett (2003), trait activation theory puts forward three basic principles: (1) traits are expressed as a response to trait-related situational cues in work behavior; (2) sources of trait-related cues can be divided into three categories or three levels: task, social and organizational; (3) trait-expressed work behavior is different from job performance, the latter is defined as valuable work behavior in the simplest terms. Situation is relevant to a trait if it is thematically connected by the provision of cues, responses to which (or lack of responses to which) indicate a person's standing on the trait. In other words, trait activation theory argues in favor of situational specificity—whether a trait predicts performance depends on the context, or, alternatively, whether a particular contextual feature is relevant depends on the trait. Thus, the relevance of the trait and the relevance of the situation must correspond, so that the individuals must have traits that enable them to respond appropriately according to the cues of the situation (Judge & Zapata, 2015).

In relation to individual's personality traits and innovative work behavior, personality plays an important role in understanding individual innovative behavior (Patterson, & Kerrin, 2002). Some studies have found the relationship between individual's personality traits and innovative work behavior. However, the significant level is different and shows inconsistent results. Based on trait activation theory, personality traits can guide the emission of behaviors, situations can enhance or reduce the impact of traits on the behavior. Besides, Tett & Burnett (2003) state that trait-relevant cues exist on organizational, group, and individual level within an organization. Garcia-Garcia, Ramos, Serrano, Ramos Cobos & Souza (2011) point out that organizational climate is one of the most important determinants of individual and group attitudes and behaviors in an organization. Hence, organizational climate can be studied as trait-relevant cues at the organizational level. According to Hong & Kaur (2008), personality has the impact on how employees interpret their organizational environment, and shapes their behavior based on those interpretations. Following the above discussion and trait activation theory, we suppose that individual's personality traits have a major influence in forming an innovative climate that can promote innovative work behavior. Therefore, the main aim of this study will examine how innovative climate variable may act as mediating factors between individual's personality traits and innovative work behavior.

### 2.3.2 Social Exchange Theory

Social exchange theory is one of the most influential conceptual paradigms to understand workplace behavior. Homans (1961) defines social exchange theory as the exchange of activities, tangible or intangible, rewarded or costly, between at least two people. Similarly, Blau (1964) states that social exchange is a kind of "voluntary behavior" which may be initiated by the treatment of its employees by an organization, expecting that such treatment will eventually receive the same return. The exact nature and extent of future returns depend on individual's obligation, gratitude and trust in the organization (Haas and Deseran, 1981). According to Cropanzano and Mitchell (2005), a basic principle of social exchange theory is that relationships evolve over time into trusting, loyal, and mutual commitments as long as both parties abide by certain exchange "rules". Exchange rules usually involve reciprocity or repayment rules so that the actions of one party lead to the reaction or behavior of the other. In other words, an exchange begins with one party giving a benefit to another. If the recipient reciprocates, a series of beneficial exchanges occur, and both parties feel obligated to each other (Coyle-Shapiro & Shore, 2007).

In this study, social exchange theory provides a theoretical basis for understanding how the HRM practices are perceived and influenced by organizational members. Based on the norm of reciprocity, which is central to social exchange theory (Blau, 1964), employees are expected to trade their effort and dedication in generating, developing and implementing new ideas through perception of HRM practices such as staffing and selection, training and development, performance appraisal and compensation. If organizations send out signals of encouraging innovation through perceptions of HRM practices toward their employees, these employees will reciprocate with higher levels of discretionary behaviors such as innovative work behavior. Bowen and Ostroff (2004) put forward that the most compelling argument that organizational climate can mediate the relationship between the management of people and work outcomes by suggesting that the strength of the human resources system fosters the emergence of organizational climate from individual-level perceptions. As such, this study proposes perception of HRM practices to lead to a strong climate for innovation, as the perceived HRM practices are messages from the organization to make the employees understand what behaviors and attitudes are expected from them. When innovative climate is present, employees will understand the importance of innovative work

behavior, this will in turn lead to increased innovative work behavior. The mediating effect of innovative climate in the relationship between perception of HRM practices and innovative work behavior is proposed.

## 2.4 Research Hypotheses

This sub-topic will review the literature regarding the relationship between individual's personality traits, perception of HRM practices, innovative climate and innovative work behavior. In the following literature review, the attributes related to innovative work behavior are considered in context of individual's perspectives, and the formation of hypotheses is also indicated.

### 2.4.1 The Relationship between Individual's Personality Traits and Innovative Climate

According to McCrae & Costa (1999), the five-factor theory of personality assumes that everyone interprets their environment in a way consistent with their personality traits (Several studies have included the Big Five personality traits as predictors of climate variables (Beus, Muñoz & Arthur, 2015; Auh, Menguc, Fisher & Haddad, 2011; Lee & Wu, 2011). Therefore, based on the above literatures, this study proposes the following hypothesis:

**Hypothesis 1: There is a significant relationship between individual's personality traits and innovative climate.**

### 2.4.2 The Relationship between Perception of HRM Practices and Innovative Climate

According to Bowen & Ostroff (2004), individuals may interpret the HRM practices specifically, leading to variability in psychological climate perceptions. Similarly, HRM practices can be viewed as a symbolic or signaling function by sending messages that employees use to make sense of and to define the psychological meaning of their work situation (Rousseau, 1995). Thus, following the above discussions, this study proposes the following hypothesis:

**Hypothesis 2: There is a significant relationship between perception of HRM practices and innovative climate.**

### 2.4.3 The Relationship between Individual's Personality Traits and Innovative Work Behavior

According to Sackett et al., (2017), the role of different personality traits in individual innovation has a long history. Similarly, some studies have found personality plays an important role in understanding individual innovative behavior (Munir & Beh, 2016; Woods, et al., 2018; Ali, 2019; Siregar & Suryana, 2019; Zuraik, Kettly & Dyck, 2020). Thus, based on the previous studies, this study proposes the following hypothesis:

**Hypothesis 3: There is a significant relationship between Individual's Personality Traits and Innovative Work Behavior.**

### 2.4.4 The relationship between perception of HRM practices and innovative work behavior

Wright and Nishii (2007) note how employees experience HRM practices, i.e. to what extent employees feel that the HRM practices the organization implements are indeed offered to them, will affect employees' outcomes. On examining employees' perceptions of HRM practices, especially with a focus on the individual level outcomes has been paid extremely limited attention (Li et al., 2019). Thus, following Wright and Nishii (2007), this study proposes the following hypothesis:

**Hypothesis 4: There is a significant relationship between perception of HRM practices and innovative work behavior.**

### 2.4.5 The relationship between innovative climate and innovative work behavior

According to Liu et al., (2019), employees working in innovative environment are more willing to take risk and encouraged to think freely and exchange their opinions and ideas openly. A research conducted by Suliman (2001), stated that perception of employees of work climate plays a major role in their readiness to innovate. Similarly,

Solomon, Winslow & Tarabishy (2004) argued that organizational climate fosters innovative work behavior. In the view of preceding literatures, it is hypothesized that:

**Hypothesis 5: There is a significant relationship between innovative climate and innovative work behavior.**

2.4.6 The relationship between individual's personality traits, innovative climate and innovative work behavior

Mathisen et al., (2008) research shows that when there are relationships between creative personality composition and team innovativeness, they are mediated by an innovative team climate. Similarly, according to Chen et al. (2011), perception on organizational innovative climate has a mediation effect between personality traits and innovative behavior. Therefore, based on the above discussions, this study proposes the following hypothesis:

**Hypothesis 6: Innovative climate has a mediation effect between individual's personality traits and innovative work behavior.**

2.4.7 The relationship between perception of HRM practices, innovative climate and innovative work behavior

According to Bowen & Ostroff (2004), climate is a critical mediating construct in exploring multilevel relationships between HRM and organizational performance. Cafferkey, Heffernan, Harney, Dundon & Townsend (2019) believe that employees view HRM practices as indicators of organizational support in an attributional manner, therefore, employees' perceptions of HRM practices may affect the human relations climate, and resulting in employee outcomes behaviors. Thus, following Cafferkey et al. (2019), this study proposes the following hypothesis:

**Hypothesis 7: Innovative climate has a mediation effect between perception of HRM practices and innovative work behavior.**

### **3. RESEARCH METHOD**

#### **3.1 Research Design**

This study is a quantitative research. Quantitative research allows large sample that can be generalized over the entire population (Kerlinger & Lee, 2000). Besides that, this study utilize questionnaire to collect data. According to Wong (2002), questionnaire is the most frequently used method in social sciences research to collect data. Furthermore, this study adopts a cross-sectional research whereby data is collected and analyzed at a single point in time (Johanim, 2010).

#### **3.2 Population and Sample**

The unit of analysis of this study is individual level. The population of this study comprised of 600,000 employees working in the iron and steel companies of Tangshan in China (Wen, 2019). It is a common method to estimate sample size by using Krejcie and Morgan in research (Chuan & Penyelidikan, 2006). Krejcie and Morgan (1970) have developed a table to determine the required sample size in the case of a finite population. This table is applicable to any population of a defined (finite) size (Hashim, 2010). According to Krejcie & Morgan (1970), the appropriate sample size for this study is 384 employees.

#### **3.3 Data Collection Procedure**

This study uses simple random sampling technique to select the sample. Initially contacts are made with human resource managers to seek their participation in this study. The sample are randomly selected according to their employees' number through the computer. The questionnaires then will be emailed to the 384 employees. The researcher will inform the respondents regarding the purpose of this study, importance of their participation, and confidentiality of data, explaining to them that this study is being conducted only for academic reasons. The respondents will give one week to complete the questionnaires.

#### **3.4 Data Analysis Strategy**

To analyze the data collected from the questionnaire survey, the "Statistical Package for Social Sciences" (SPSS)



and the "Partial Least Squares Structural Equation Modeling" (PLS-SEM) are used. SPSS Statistics is among the most widely used programs for statistical analysis in social sciences (Brezavšček, Šparl & Žnidaršič, 2014). A review of Hair, Sarstedt, Pieper and Ringle (2012) shows that PLS-SEM has become an increasingly widely used multivariate analysis technology in management research. PLS is an SEM technique based on an iterative method, which can maximize the explained variance of endogenous constructs (Fornell and Bookstein, 1982). The PLS-SEM method is particularly useful when the focus of the study is the analysis of a certain target construct's key sources of explanation (Ringle & Sarstedt, 2016). While, for the purpose of data analysis, will decide whether the constructs/variables are reflective or formative, and several statistical tests will be conducted, these will be explained in the following chapter.

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