

# A Review of Research on the Effects of Psychological Emotions on Cooperative Innovation Contexts

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## ABSTRACT

Under the double influence of the anti-globalisation trend and the impact of the new crown epidemic, enterprises have gradually found that evaluating innovation performance solely from objective factors such as performance and network status is monotonous and one-sided. Enterprises are a huge and complex whole composed of countless individuals, and individual subjective emotions such as incentives, moods, and experiences also affect the innovation results of enterprises to a certain extent. Therefore, by introducing the factor of psychological emotion into the context of enterprise cooperation and innovation, this paper summarises the research related to psychological emotion of innovation and explores the conceptual connotation, dimension division, and variable measurement of psychological emotion of innovation, with a view to expanding the theoretical derivation of the influence of psychological emotion on enterprise innovation and helping enterprises to achieve innovation and high-quality development.

## KEYWORDS

Psychological Emotion; Cooperative Innovation; Synthesis Study

## 1. INTRODUCTION

Under the dual influence of the trend of anti-globalisation and the impact of the new crown epidemic, the complexity and uncertainty of organisational technology continue to intensify, and independent innovation faces great challenges (Liu and Qian, 2016). In this context, collaborative innovation activities that gather enterprises, universities, research institutions and other multi-party subjects are gradually becoming a new path for organisations to break through their innovation bottlenecks (Tu and Gu, 2013). In this regard, some scholars have conducted research on the enhancement of cooperative innovation in enterprises from the perspectives of internal factors such as the nature of enterprise ownership (Zhang et al., 2015) and the status of enterprise main body (Wang et al., 2020), and have come up with a number of significant results; while some other scholars have hypothesised and verified the influence of external factors on cooperative innovation in enterprises based on the perspectives of organisational distance (Wang and Luan, 2019) and financing constraints (Zhang et al., 2019). However, it is often difficult to transfer innovation results from academics and researchers to enterprises effectively, and the degree of cooperation among the subjects is not high, so the existing studies cannot well explain why the innovation subjects in the same cooperation network show significantly different innovation performance.

Considering that there are many individual motivations within innovation subjects, their motivation and result orientation are influenced by individual emotional perception or organisational leadership behaviour (Shang et al., 2019). As an important explanatory factor of organisational behaviour,

psychological emotions include emotional cognition at the individual level and conceptual identity at the organisational level (Cardon et al., 2017), in the context of innovation, the combination of psychological emotions and innovation experience jointly affects the subject's innovation behaviour. Collaborative innovation not only perceives the spillover effect of heterogeneous resources in the cross-border process, but also feels the contagious effect of its partners' psychological emotions of innovation (Story et al., 2013), i.e., the organisation's strong cognitive and emotional factors of innovation[9], which are also contagious to each other among collaborating subjects. Specifically, in the process of co-operation and innovation, the proactive or compulsive emotions (which can be summarised as harmonious or compulsive innovation psychological emotions (Deng et al., 2018)) of a subject towards innovation will be unconsciously or consciously transmitted to other partners in the process of boundary-crossing interactions between the two parties (Vallerand et al., 2003), which results in the rendering of a single subject's innovation cognition or emotions in the co-operation and innovation context, and thus may, to a certain extent, interfere with other subjects' boundary-crossing interactions. This may interfere with the boundary-crossing effect of other subjects to a certain extent.

## **2. AN OVERVIEW OF THE MENTAL-EMOTIONAL CONNOTATIONS OF INNOVATION**

Descartes firstly put forward the concept of "state of mind", which is a person's active choice of "emotion", and it can influence people's actions. The role of mental emotions has begun to be emphasised by the psychological community, which suggests that mental emotions are emotional experiences, and that positive mental emotions are pleasing, inspiring, and unknowingly enjoyable, whereas negative mental emotions are usually accompanied by negativity and oppression, and constrain people's effectiveness in action under duress. emotions, such as enthusiasm, are often a positive motivator that can inspire people to pursue challenging goals.

In recent years, psychological emotions have gradually spread in management and attracted the attention of many management scientists. Vallerand et al. (2003) believe that positive psychological emotions refer to an individual's "strong tendency" to engage in preferred and meaningful behaviours, and to spend a great deal of time and energy on such behaviours. and energy on this behaviour. At the same time, he extends the concept of positive affect to the world of work, suggesting that affect at work refers to the strong intention or willingness of members of an organisation to perform a particular task, which has become a core motivation for the workplace.

From an emotional perspective, although it has a long history, its introduction into the study of entrepreneurship and innovation is still a new topic. Innovative psychological emotions combined with innovative situations are creative and innovative psychological emotions. There is no definite conclusion about the meaning of the psychological emotion of innovation. Cardon et al. (2009) argued that the connotation of the psychological emotion of innovation originates from entrepreneurial enthusiasm, i.e., the affective value choices made by creative individuals when discovering and exploring new market opportunities. Laaksonen et al. (2011) proposed that the psychological emotion of innovation refers to the emotional value choices made by individuals when searching for business opportunities, observing external market, and a stronger will or willingness shown when innovating products. According to Shang et al. (2019), the psychological emotion of innovation is a working state of strong willingness, love, and identification shown by creative individuals in the creative activities they carry out. Creative psychological emotion refers to the creative individual's love for a certain creative behaviour and willingness to invest their time and energy in this behaviour. It has been found that individuals with positive positive emotions are more likely to transform their stored knowledge and skills into creative behaviours. Although the above two concepts are not consistent in their definitions of creative mental emotions, with some defining them as a stronger inclination or desire, and others defining them as a state of mind or work, they both encompass the cognitive, motivational, and affective dimensions.

Building on Laaksonen et al. (2011), this project defines the Creative Mood as the positive self-positioning and the strong inclinations, willingness and perceptions demonstrated by creative individuals towards the creativity-related activities they engage in and, through their behaviour, internalise as their identity.

### **3. OVERVIEW OF PSYCHOEMOTIONAL DIMENSIONS AND MEASUREMENT OF INNOVATION**

As the combination of psychological emotions and innovation contexts is a relatively new topic, there has been little academic research on it. Given that the psychological emotion of innovation is a type of entrepreneurial enthusiasm, it is possible to draw on academic work on the meaning and measurement of entrepreneurial enthusiasm. See below for more details:

#### **3.1. Overview of Psychoemotional Dimensions of Innovation**

Viewed from two perspectives. On a 2-dimensional level, Vallerand et al. (2003) suggest that 'mental emotions' are the strong feelings that individuals have towards their favourite behaviours. Driven by such an emotion, it is possible to have two different kinds of mental emotions: a harmonious mental emotion and an obsessive mental emotion. Vallerand et al. (2003) classified "mental emotions" as "harmonious" and "obsessive", and derived the "mental emotion" dyadic theory from this. Harmonious mental emotions are motivated by positive emotions in favourite activities, which can enhance beliefs and promote creative thinking. Driven by obsessive-compulsive mental emotions, individuals cannot perform their favourite behaviours autonomously, which leads to tension and dissatisfaction, and even negative emotions; similarly, Ho et al. (2014) classified human mental emotions into two categories, attuned and obsessive-compulsive, based on Self-Determination Theory (STD) and the internalisation of entrepreneurial behaviours by entrepreneurial identity. Harmonious mental emotions imply that an individual can fully and wholeheartedly engage in an activity and can achieve the internalisation of this activity autonomously, whereas forced mental emotions refer to a feeling of passive slackness in an individual under external pressure, and this behaviour is also a forced internalisation.

From a three-dimensional perspective. In the three-dimensional dimension, Cardon et al. (2009) classified the psychological emotions in the context of innovation into entrepreneurial psychological emotions, innovative psychological emotions and developmental psychological emotions, which correspond to the three categories of entrepreneurs, start-ups and developmental, respectively. Among them, entrepreneurial psychological emotion refers to the emotional value choice shown by entrepreneurs in the process of entrepreneurship; innovative psychological emotion is an emotional value choice shown by innovative subjects in the process of pursuing enterprise development opportunities and carrying out innovative activities; and developmental psychological emotion refers to an emotional value choice shown by creative individuals in the process of enterprise development. Su and Wu (2015) also studied psychological emotions from three dimensions, arguing that emotions are composed of affective emotions, cognitive emotions and behavioural emotions, and that there is an inseparable link between the three.

#### **3.2. An overview of innovative psychoemotional measures**

We have collected and collated the research literature on the combination of psychological emotions and innovative entrepreneurial contexts in the current academic world, and the relatively mainstream measurement method is the questionnaire method, and the measures of the scales are all Likert-type measurement scales. In the following section, we will show the most authoritative scale for measuring psychological emotions of innovation at this stage, as shown in Table 1 and Table 2.

Table 1 shows Valleran et al.'s (2003) study based on psychological emotions in entrepreneurial situations, which categorised psychological emotions into positive harmonious psychological emotions and negative obsessive-compulsive psychological emotions, containing a total of 14 question items.

Table 1 Valleran et al. (2003) Measurement Scale on Harmonious Psychoemotional, Obsessive-Compulsive Psychoemotional

dimension (math.)	entry (in a dictionary)
Harmonious Psychoemotions	<p>There are new discoveries to be made in entrepreneurship, which makes me love it even more!</p> <p>Entrepreneurship is a reflection of how I identify with myself</p> <p>There is no conflict between entrepreneurial activities and my life</p> <p>For me, entrepreneurship is a passion I can't control.</p> <p>I'm totally committed to entrepreneurial activity</p> <p>Entrepreneurship has given me a variety of different experiences</p> <p>Entrepreneurship has given me many memorable experiences</p> <p>Entrepreneurial activities are an integral part of my life</p> <p>The desire to start my own business was so strong that I was unconsciously drawn into it</p>
Obsessive-compulsive psychoemotional	<p>It's hard to imagine what my life would be like if I hadn't started my own business.</p> <p>My mood depends on the impact of entrepreneurial activities</p> <p>I find it hard to stop myself from starting my own business.</p> <p>I'm almost obsessed with entrepreneurial activity</p> <p>My mood depends on my ability to do well in entrepreneurial activities</p>

Table 2 shows that Cardon et al. (2009) developed a three-dimensional scale containing entrepreneurial psychoemotions, innovative psychoemotions, and developmental psychoemotions with 15 question items for different identities in innovation activities. The development of this scale has contributed to the promotion of research on the combination of subjective factors represented by psychological emotions and objective factors such as innovation performance, and has been widely used in academia.

Table 2 Cardon et al. (2009) Measurement scales on entrepreneurial psychoemotions, innovative psychoemotions and developmental psychoemotions

dimension (math.)	entry (in a dictionary)
Creating Passion	<p>I'm very happy to be able to set up my own business</p> <p>Owning my own business keeps me motivated.</p> <p>Nurturing a new business to success is very exciting!</p> <p>I have enough energy to run a business</p> <p>Being a business creator is an important part of who I am.</p> <p>It's a pleasure to identify and commercialise potential market needs</p> <p>Finding new ideas is very pleasurable for me</p>
Passion for innovation	<p>I am motivated to find ways to improve the current product or service.</p> <p>Finding new opportunities in the environment is very exciting to me.</p> <p>Exploring new solutions to problems is an important part of who I am.</p> <p>I am very interested in finding employees who can expand my products or services.</p> <p>It's important to be able to get staff that are good for the business.</p>

Passion development	for	The goal of improving staff and self-quality to promote the development of the enterprise can well motivate me to I can acutely recognise the consumer of a product or service. Nurturing and developing businesses is one of the key parts of who I am.
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Through in-depth interviews with 20 entrepreneurs, Xie et al. (2016) revised the questionnaire several times according to the existing research results in the academic world, as well as the actual situation of entrepreneurship in China, and finally obtained 26 entries, such as "I feel like an entrepreneur", "Entrepreneurship excites me", "I know my job well", "I am willing to accept new things and new activities, and I can tolerate stress at work". I feel I am an entrepreneur", "Entrepreneurship excites me", "I know my job very well", "I am willing to accept new things and activities, and I am able to tolerate pressure at work", and other 26 items.

## 4. AN OVERVIEW OF THE MECHANISMS OF THE PSYCHOLOGICAL EMOTIONS OF INNOVATION

### 4.1. Antecedent Variables of Psychological Emotions

#### 4.1.1. Matching people and resources to empower them

In terms of job matching, Therasa (2016) and others found that IT employees' job matching had a significant effect on their organisational commitment, and job matching also had a significant effect on their psychological emotions at work. First, based on "self-determination", two "internalisation" mechanisms, "autonomous internalisation" and "controlled internalisation", were proposed (Jian et al., 2014). "mechanism (Jacob et al., 2010). Person-job matching emphasises whether the job and position can meet the needs of the employee, so that the employee's personal ability and the needs of the position coincide, and the employee will become more autonomous and more controlling in the face of innovative work. Secondly, based on self-regulation theory, it is proposed that employees generate and maintain creative enthusiasm by adjusting the synergistic response between their own behaviour and goal-seeking behaviours (Cardon et al., 2017) argued that in the case of suitable or matching positions, the matching formed through dynamic regulation and adaptation of the state is more likely to stimulate and maintain harmonious psychoemotions.

In terms of resource empowerment, Aizen argues that the willingness and actions of innovative agents depend to some extent on the resources and opportunities available to them. In a traditional company, the company would organise its employees and assign them positions and rights, whereas the employees do not have free access to innovation resources, and many ideas and innovations are hindered, except when their expression is impeded. In the new environment, the company has become a resource network platform, at this time, what attracts the employees is not only the positions within the organisation or the rights and obligations of the corresponding positions, but also the support and guarantee of the resources provided to the employees, and the accessibility of these resources will stimulate the employees' innovative psychological emotions (Yang et al., 2021).

#### 4.1.2. Innovation climate.

It has been shown that the corporate environment (or team environment) (e.g., innovation environment, fair environment, and interpersonal environment) is the key to influencing employees' motivation and behaviour. According to Zhu et al. (2010), in a learning organisation, the team innovation climate has a positive effect on employees' learning behaviour. In a good competitive atmosphere, that is, creating an environment that can stimulate individual creativity, then, on the one hand, the motivation of employees' external autonomy will be continuously stimulated; on the other hand, when some of the employees' innovative expertise and innovative advantages are valued by the leaders or the team, the team will provide them with a lot of facilities, and then the internal effect of

the employees' autonomy will be steadily manifested. Kang et al (2016) empirical study shows that a good creative atmosphere is conducive to encouraging expression, sharing and discussion, which enhances the joy and fascination of the work, and the encouragement and recognition of the creative work of employees by the team leader reinforces the significance of the employees' creative work, which is in line with the innate human curiosity to know more, to seek challenges and to develop one's own abilities nature, which will be conducive to enhancing the harmonious psychological mood of the employees. In the case of a poor climate of strengths-based innovation, that is, when employees feel that the R&D team values playing by the rules and does not encourage individuality, on the one hand, it is difficult to internalise external motivation, and on the other hand, employees feel that there is no room for some of their own expertise to flourish, or even to contribute to the organisation's work performance (Cardon et al., 2017). At this time, even if employees have internal motivation to innovate, their internal motivation is unlikely to be stimulated because the team cannot bring them the appropriate external environment, which leads to the emergence of obsessive-compulsive psychological emotions (Yang et al., 2021).

#### **4.1.3. Autonomy support and identity.**

According to Cardon et al. (2017), shared identity portrays not only "who I am" but also "who we are", and this shared identity is the biggest difference between team and individual emotions, and it is the basis for constructing the team's psychological emotions, which drive the whole team to invest their time and energy in what they love and internalise. This shared identity is the biggest difference between team emotion and individual emotion, and it is the basis for constructing the team's psychological emotion, which drives the whole team to invest their time and energy in what they love and internalise together. (Wei et al., 2018) facilitated the process by constructing team shared identity, which in turn facilitated the construction of common identity and stimulated team-level psychological emotions. Second, the theoretical basis for the generation of psychological emotions is "autonomy", or "autonomy". When a person's autonomy, competence, and emotional needs are met, there is a sense of "self-determination" that allows them to make choices freely and without external influence, i.e., autonomous motivation is formed. In particular, autonomy in innovation is characterised by respect for the value of the innovation itself, freedom from external incentives and pressures, the courage to take risks, the courage to break the mould, and the confidence to innovate.

## **4.2. Psychoemotional outcome variables**

### **4.2.1. Willingness to innovate.**

Creative intention is the concrete manifestation of individual will in the field of innovation, which is an intrinsic motivation driven by the climate of the organisational environment, and external environmental factors can enhance or inhibit this need, which in turn affects the intrinsic motivation of employees, which in turn leads to the differences in their innovative behaviour and innovation effects (Cui et al., 2013). Overall, positive innovative attitudes, higher subjective norms and higher levels of perceived behavioural control produce higher creative intentions and vice versa. When psychological emotions are stimulated, the creative tendencies of their employees will grow positively, and individuals with positive emotional orientation will actively seek different strategies to cope with stress, think in a more jumpy way, and behave in a more positive and creative manner when they are faced with stress.

### **4.2.2. Innovation behaviour and innovation performance.**

Employee's innovative behaviour refers to a series of processes in which employees take the initiative to identify problems and come up with creative ideas to solve them, and actively seek resources to facilitate the landing and dissemination of innovative ideas in the activities of the organisation. Based on the theory of emotional contagion, positive emotions of employees in entrepreneurial firms promote creative interactions. Psychological emotions are the intrinsic motivation for the generation of behaviours, and stable and positive psychological emotions are the driving force for the generation

of creative behaviours (Cui et al., 2017). Chen et al. (2009) suggested that people with positive psychological emotional attitudes are more likely to take the initiative to put their ideas into action. Harmonious innovative psychological mood is a positive mood, which is a positive emotion driven by internal motivation, and it reflects the fulfilment of people's psychological needs. When people's basic psychological needs are satisfied, they have a strong internal motivation that drives them to carry out a series of creative activities. Previous research has found that employees' needs for autonomy, relationships and competence all positively affect their creative behaviour. The positive emotional properties of harmonious psychological emotions themselves can have a direct effect on employees' working conditions, making them feel motivated and energised, which in turn promotes the generation of innovative results. (Huang et al., 2019) argued that harmonious innovative psychological emotions, on the other hand, are emotional expressions of employees' work autonomy, which, when internalised, will improve their creative performance by increasing their initiative.

### **4.3. Mechanisms of psycho-emotional action**

#### **4.3.1. Regulatory role**

Emotions are intrinsic to the production of behaviour, and sustained creative activity often requires individuals to be in a stable, positive emotional state (Chen et al., 2013). If one has a strong innovative psychological emotion and each individual has a strong interest in their creative role, they become more resilient in the face of failure. Innovative psychological emotions can increase the level of employee's cognition, increase the motivation to innovate, and improve the opportunity perception of the organisation (Laaksonen et al., 2011). At the same time, Li et al. (2017) argued that innovative psychological emotions can regulate and stimulate the thought activities of employees, increase the sensitivity and cognition between things, discover the similarities and differences between things, more easily integrate different resources, actively search for the root causes of failure and activate the failure recovery mechanism to discover, capture and solve problems. According to Li and Yang (2012), innovative psychological emotions can regulate failure-induced team conflicts, optimize the management process, enhance team cohesion, and promote innovative behaviours (Li and Yang, 2012). Sun et al. (2019) found that both creative atmosphere and harmonious psychological emotions positively affect the continuation of employees' creative behaviour. Better creative atmosphere and more harmonious employee enthusiasm, employees are more inclined to show continuous creative behaviour.

#### **4.3.2. Intermediation**

Most of the research that exists on the mediating effects of psychoemotionality is similar to its moderating effects through its influence on innovative behaviours.

Self-determination theory suggests that Harmonious Psychoemotions encompasses emotions, cognitions and attitudes, and that it is the external environment that exerts an important moderating effect on individual behaviour. Self-determination theory suggests that external environmental factors are usually internalised through three moderating mechanisms, including internalisation, identification and integration, and that "harmonious innovative psychological emotions" are the intrinsic motivation for this "internalisation" (Ryan et al., 2000). It is not only highly autonomous, but also serves as a bridge between the external environment and individual behaviour. In other words, when the external environment allows employees to give full play to their talents, enables them to better express their ideas, actively communicate, and share their work experiences in a timely manner, and provides them with more incentives and recognition, creating an open and interactive work atmosphere, so that employees will be attracted by such an atmosphere, and be more able to appreciate the significance of their work, and thus be more enthusiastic to invested in their work. Spiegelare et al. (2014) found through the study of job insecurity, job autonomy and creative behaviour that job insecurity and job autonomy are important moderating factors in the relationship between these two,

and that a good innovative environment can create a sense of security and autonomy, which can improve their innovative psychological mood and promote their sustainable development.

## **5. PSYCHO-EMOTIONAL EFFECTS ON COLLABORATIVE INNOVATION CONTEXTS**

Innovation passion refers to an individual's strong will and fondness for innovative activities (Shang et al., 2019). Through the obvious emotions generated by individuals rising to collective identity and common emotions, the innovation passion formed by mutual interaction can stimulate similar emotional identity within the industry-university-research co-operation team and improve team cohesion (Cardon et al., 2017; Jian et al., 2017). Therefore, even if they suffer setbacks in the innovation process, individuals will be more resilient, positively regulate and stimulate their thinking activities, actively explore and solve problems, eliminate the negative impacts of setbacks and optimise the innovation performance of University-Industry-Research Collaboration (Xie and Chen, 2020). Based on this, combined with the binary model of passion proposed by Vallerand et al. (2003), this paper classifies innovation passion into harmonious innovation passion and compulsive innovation passion.

### **5.1. The moderating role of harmonious creative passion**

Harmonised passion for innovation means that individuals have the right to choose, can choose an activity from their heart (rather than being pressured), and are willing to devote time and energy to it (Vallerand and Houliort, 2003). Harmonised passion for innovation derives from the recognition of the value of the innovation activity by the firm, and the sense of self-determination gained from engaging in the activity voluntarily rather than being forced to do so (Jian et al., 2014), which leads to a greater willingness to invest costs and resources in the innovation activity (Cardon et al., 2005).

Driven by the passion for harmonious innovation, firstly, enterprises promote the smooth progress of industry-university-research co-operation and innovation with an open attitude of co-operation. Combined with the self-determination theory, it can be seen that the pursuit of innovation activities prompts enterprises to generate the willingness to share, and the degree of sharing resources and knowledge with partners increases, which helps them to obtain complementary resources in the cooperation network (Shang et al., 2019). The independent initiative to stimulate enterprises to participate in innovation activities largely depends on the harmonious innovation passion, influenced by the harmonious innovation passion, enterprises take the initiative to expand the cooperation network of University-Industry-Research cooperation to obtain more heterogeneous resources (Cardon et al., 2009); Secondly, enterprises respond to the trend of changes in the external environment quickly and efficiently to ensure the smooth progress of University-Industry-Research cooperation and innovation. Harmonious innovation passion can promote the enterprise's use and configuration of IT resources, accelerate its processing of external feedback information, improve the performance and quality of innovative products in a timely manner, and reflect market changes and customer changes into business processes, thus guaranteeing the success of University-Industry-Research Cooperative Innovation (Xie and Chen, 2020); Thirdly, the enterprise actively identifies the innovation opportunities, and promotes the transformation of business opportunities into enterprise performance (Lai and Zhu, 2018). According to the theory of resource conservation, it is known that whether an enterprise's intention to carry out innovative behaviour can be transformed into actual innovative behaviour depends on its efficiency in the use of resources (Jiang et al., 2018). Harmonious innovation passion promotes enterprises to digest, convert and apply the information and resources obtained from the cooperation network in a timely manner, thus promoting the innovation results of industry-university-research cooperation.



## 5.2. The moderating role of obsessive-compulsive creative passions

Compulsive passion for innovation refers to a passive position in which an individual is compelled to engage in an activity due to internal pressure (Vallerand and Houliort, 2003). Obsessive-compulsive passion for innovation comes from the firm's external motivation for an innovative activity, and being forced to engage in that activity due to pressure from an external source causes the firm to be controlled by obsessive-compulsive passion for innovation resulting in negative behaviours and outcomes (Jian et al., 2014).

Under the influence of forced innovation passion, firstly, enterprises inhibit the innovation of industry-university-research co-operation with negative co-operation attitude. Compulsive innovation passion often comes from pressures such as social recognition or performance requirements (Perttula and Cardon, 2003), under the influence of which enterprises are forced to carry out innovation activities, resulting in a reduced willingness to share and less likely to cooperate with academics and researchers. The reduced ability of enterprises to manage and develop external networks is not conducive to the acquisition of resources needed to achieve strategic goals from the outside, and even less conducive to the use of external networks to promote their own innovation capabilities (Zhou et al., 2013); Second, the breadth and depth of enterprises' exploration of resources decreases, which inhibits the innovation of industry-university-research co-operation. Compulsive innovation passion may cause enterprises to ignore the innovation of IT resources, reduce the scope of information perception of enterprises, and is not conducive to the search for potential business opportunities (Laaksonen et al., 2011); Third, enterprises over-pursuing the number of innovation results of University-Industry Cooperation and neglecting the absorption and utilisation of the results will easily lead to an unsound mechanism of transformation of technological achievements, which is difficult to bring competitive advantages for enterprises (Zhu and Xu, 2017).

## 6. RESEARCH SYNTHESIS

Introducing psychological emotions into cooperative innovation contexts is a relatively new topic, which is still in the exploration stage, and there is a lack of relevant research. Even if there are a small number of studies, they are more in the theoretical research stage and lack of relevant empirical studies. This not only fails to provide theoretical support for the research on psychological emotions of innovation, but also is not conducive to the effective development of cooperative innovation activities in enterprises.

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