

# Conceptualizing teachers' entrepreneurial behavior: An exploratory review

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## Abstract

*The purpose of this paper is to present a review of literature for scholar carrying out teachers' entrepreneurial behavior (TEB) study that understands the conceptual definition of TEB. This is primarily a critical review of a range of recently published literature (2003-2017) focusing on the definition of entrepreneurial behavior from the business and education sector. The review examined research trends, as well as approaches used by scholars studying the definition of entrepreneurial behavior. This review concluded that TEB remain in the early stages of development. No definition has been developed, whereas two common features have been located, personal development process and innovations. This paper summarizes scholars' advocacies, empirical studies and review journals into five crucial attributes for teachers. This paper contribute to highlight the conceptual framework for studying TEB which provides theoretical direction that will advance knowledge in studying entrepreneurship through more systemic and coherent practice. Beyond this board purpose, this review indicates the pattern and approaches of existing empirical studies in defining entrepreneurial behavior for researchers to conduct TEB study in the future.*

**Keywords:** Entrepreneurship, Teacher competencies, Methodology, Literature, Educational research

## 1. Introduction

There is a wide range of meaning in entrepreneurship, which used to describe an entrepreneur in establishing a new venture (Bergevoet et al., 2006). Since the late 1970s, entrepreneurship also has been conceptualized as the individual behavior within organizations as intrapreneurship (Pinchot et al., 1978), where an employee performs cross-functional skills at all levels of hierarchy with the entrepreneurial mindset (Griffin et al., 2012). Scholars conducted various empirical studies to explore the impact of entrepreneurial behavior in the organization. These studies indicated that employees' entrepreneurial behavior enhance the overall organizational performance (Engelen et al, 2012),

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creating competitive advantage for the organization (De Clercq et al., 2010), and promoting organizational learning (Molina et al., 2009) etc. While the discussion of entrepreneurial behavior (Musteen et al., 2010) has been around for many years, connecting it to the teachers' entrepreneurial behavior (TEB) is a much more recent phenomenon (Borasi et al., 2010).

Although a rapid growth of studying teachers/employees' entrepreneurial behavior emphasized the benefit of promoting TEB at schools (Neto et al., 2017), we noticed that there is no empirical study or advocacy to define the definition of entrepreneurial behavior in the education sector, even in the business sector. In general, when scholars conduct studies of entrepreneurial behavior, they define the conceptual definition of entrepreneurship into being an entrepreneur (Wadhvani, 2010) or being an entrepreneurial person (Tramm&Gramlinger, 2006). There are only a few studies discussed the definition of TEB by comparing with the business sector. Although business empirical studies shown that entrepreneurial behaviors are about taking a risk (Weber et al., 2013), developing (Rusu et al., 2012), and managing a new task in term of operational duties (Bosma et al., 2010), these operational attributes cannot directly apply to TEB. The job nature of teachers and business employees are different in the education context. While business organizations are profit-making oriented, schools are students-development oriented. Teachers respond to nurture students' growth, which is not only focusing on the examination score. Accordingly, education studies have not a consolidated definition of TEB.

Business sector scholars tried to confine the definition for entrepreneurial behavior with the literature review (Dess et al., 2005; Rusu et al., 2012), whereas no literature review of teachers' entrepreneurial has been conducted. We decided to present a literature review from the educations' perspective on TEB because education scholars only conducted an entrepreneurial behavior study by reviewing the definition of entrepreneurship from the business sector over ten years. There is a needs to develop a conceptual framework of TEB for the education sector. Conducting a review map trends in theory development, methodological applications and substantive findings to identify productive directions for future applications (Hallinger, 2014) in the education sector. This review contributes to research in TEB in several ways. First, scholars may find a reference to the conceptual framework from this review when studying TEB. Second, this review indicates the pattern and approaches of defining entrepreneurial behavior for researchers to conduct TEB study in the future.

About no conceptual and unconsolidated operational definition of teacher's entrepreneurial behavior, we have the following questions for this literature review:

- (1) What is the research trend on defining TEB?
- (2) Which kind of approaches has been employed in defining TEB?
- (3) How can we conceptual define TEB?

To address the review questions, this review is structured into five sections: the methodology for reviewing literatures, definition of TEB, and research implication.

## **2. Methodology for reviewing literatures**

As this is a large, complex, and limited discovery area, we conducted the exploratory review on TEB for understanding the definition. As Hallinger (2014) explained, exploratory reviews are suitable when research domain is poorly understood, and relevant empirical research remains limited in scope. Although this review is conducted in exploratory basis, a well-formulated and answerable questions direct us to construct a methodology for reviewing literature. Furthermore, the limited empirical studies are a barrier to this review. We tried to review business sector researchers as a reference for understanding entrepreneurial behavior.

### *2.1 Criteria for selecting literature*

This review has two criteria for selecting literature. They are the relevancy of topic and timeliness of studies. First, empirical studies of defining entrepreneurial behavior in education and business sector are basic criteria for enhancing the relevancy of selection, because there are sufficient empirical studies about employees' entrepreneurial behavior in the business sector. Findings of business sector supposed to be reliable. Second, all empirical studies and review journals should be within 12 years with a peered review, except the education literature. The primary reason for this restriction is that there are many quantitative researches of defining entrepreneurial behavior have been conducted since Dess et al. (2005) summarizing previous qualitative studies on entrepreneurial behaviors. Their study is the watershed to consolidate previous studies in defining entrepreneurial behaviors. The time restriction offers a clear dimension for selecting an updated definition of entrepreneurial behavior, while some review journals provide a systematic summary of previous empirical researches. 13 relevant literature has been selected for defining the meaning of TEB. They are presented in Table I:

**Table I. Summary for empirical studies and reviewed journals in defining TEB**

<b>Author</b>	<b>Method used</b>	<b>Discipline</b>	<b>Study dimensions</b>	<b>Participants</b>
Borasi et al. (2010)	Qualitative	Education Sector	Investigate entrepreneurial teacher behavior	6 cases studies
Bosma et al. (2010)	Quantitative	Business Sector	Massive comparison of entrepreneurial behavior	10000 employees from 10 countries
Davis et al. (2016)	Quantitative	Business Sector	Discover personality of entrepreneurial employee	1872 employees
Dess et al. (2005)	Review	Business Sector	Categorize entrepreneurial behavior	3 entrepreneurial behavior model
Eyal et al. (2003)	Quantitative	Education Sector	Measure entrepreneurial school	140 school in Israel
Hayat et al. (2015)	Quantitative	Education Sector	Investigate TEB by students' perspective	1083 Pakistan students 1008 Finland students
Jain et al. (2013)	Review	Business Sector	Categorize entrepreneurial behavior	229 empirical studies
Oplatka. (2014)	Qualitative	Education Sector	Identify teacher entrepreneurial behavior through studying their outstanding performance in curriculum planning	10 principals 30 teachers
Rekha et al. (2014)	Quantitative	Business Sector	Describe entrepreneurial behavior in SMEs	376 SMEs
Rherradet al. (2008)	Quantitative	Education Sector	Describe university staffs' entrepreneurial behavior	1400 Canadian university staff
Rusu et al. (2012)	Review	Business Sector	Categorize entrepreneurial behavior	23 empirical studies
Sayeed et al. (2013)	Quantitative	Business Sector	Identify the linkage between entrepreneurial behavior of manager	101 middle managers
Weber et al. (2013)	Quantitative	Business Sector	Describe entrepreneurial behavior in job advertisements	437 job description

## 2.2 General idea for reviewing literatures

In reviewing the definition of TEB literature, we analyzed the research trend by identifying the research method first. Second, we discussed the approach employed in existing empirical studies and decided a constructive approach for defining TEB. Lastly, we reviewed scholars' advocacies and categories empirical studies' findings to confine the definition of TEB. The detail process was discussed in next section.

## 3. Definition of TEB

### 3.1 Research trend of defining TEB

In the education sector, research of defining the definition of TEB is in the startup stages. We searched for over ten year's studies. Only four empirical studies have been found. Furthermore, there are some limitations in defining TEB. For instance, Borasi et al. (2010) analyzed six schoolteachers only, while Rherradet al. (2008) focused on one TEB. Although Hayat et al. (2015) and Oplaka (2014) conducted systematic studies on defining TEB, their findings were generated from the students' perspective and qualitative based. These findings cannot treat as a generalization for defining TEB.

Contrarily, increasing the number of quantitative research and review journal implicate the maturity of defining entrepreneurial behavior studies in the business sector. First, all empirical studies were conducted in quantitative basis. As Johnson et al. (2011) explained, qualitative research discovers new element by concerning contextual factor, while quantitative research is going to consolidate and confirm their findings. Obviously, these studies aimed at validating and identifying employees' entrepreneurial behavior in the different business scenarios. Second, high-quality review journals have been found. Review journal shows a full picture of study trend in defining employees' entrepreneurial behavior. Impressively, there is no review journal for defining employees' entrepreneurial behavior until Dess et al. (2005). After that, there are two more review journals have been conducted. Most importantly, the review method of these two review journal become more systematic. Jain et al. (2013) nearly study all empirical studies in defining employees' entrepreneurial behavior, while Rusu et al. (2012) formed clear criteria and systematic analysis method in reviewing these studies. This reveals that the study of this area is getting mature.

### 5.2 Approaches to defining TEB

To review the different scholars' findings systematically, we compiled a Table II to present scholars' findings by concerning the approach of defining entrepreneurial behavior and type of entrepreneurial behavior.

**Table II. List of empirical studies and reviews' findings**

<b>Approaches of defining entrepreneurial behavior</b>	<b>Author</b>	<b>Type of entrepreneurial behavior</b>
Deductive approach <sup>1</sup>	Borasi et al.	Driven by a vision, Relentlessly engaging in innovations, Being alert to and ready to seize opportunities, Not constrained by resources, Masters at networking, Making quick and timely decisions, Creative problem-solving, Confident risk-taking, Importance of being or finding a champion for each innovation, Capitalizing on crisis and dysfunction
	Davis et al.	Confidence, Optimism, Persistence
	Sayeed et al.	Adventure, Innovator, Designer, Leader, Entrepreneur, Change Agent, Animateur
Mixed (inductive and deductive) approach <sup>2</sup>	Bosma et al.	Own initiative, Overcoming internal resistance, Risk-taking, Develop new product and service
	Dess et al.	Autonomy, Innovativeness, Proactiveness, Competitive aggressiveness, Risk-taking
	Eyal et al.	Innovativeness, Principals' proactiveness
	Hayat et al.	Innovativeness, Proactiveness, Risk-taking
	Jain et al.	Opportunity recognition sensitivity, Marketing orientation, Achievement orientation, Innovativeness, Risk-taking
	Oplatka.	Innovative, Take initiative
	Rekha et al.	Risk taking, Learning from experience, Positive attitude, Innovative
	Rherradet al.	Innovative and productive in knowledge generation
	Rusu et al.	Profit making, Innovation, Creation of new organization, Personal satisfaction, Risk-taking (Carrier of uncertainties)
	Weber et al.	Innovativeness, Autonomy, Risk-taking, Managing

<sup>1</sup>Deductive approach: Scholarsthe operational definition of entrepreneurial behavior by analyzing the data of employees' personality and performance.

<sup>2</sup>Mixed approach: Scholarsreview some studies and construct some basic term of entrepreneurial behavior (Inductive approach). Then, they define entrepreneurial behavior in the operational level by standardizing categories with conducting study (Deductive approach).

Based on Table II, we found that deductive approach have not a systematic literature review in defining TEB. For example, Borasi et al. (2010) is a grounded theory. Sayeed et al. (2013) and Davis et al. (2016) use a general term of personality instead of specific attitude or behavior. Although they generate the entrepreneurial attributes on findings, but there is some problems. First, deductive approach creates duplicated categories in entrepreneurial behavior. Borasi et al. (2010) conducted a six cases study of defining TEB from an entrepreneurial teacher. However, they have not reviewed literature to construct a basic framework for analyzing entrepreneurial behavior. As a result, they defined eleven entrepreneurial behaviors from six samples. Some entrepreneurial behaviors are similar to each other, such as relentlessly engaging in innovations and importance of being or finding a champion for each innovation. Second, this approach also has a limitation of generality in identifying the entrepreneurial employee. Davis et al. (2016) and Sayeed et al. (2013) categories their finding of entrepreneurial behavior into the general description as Adventure, Innovator, Designer, Leader, Entrepreneur, Change Agent, and Animateur etc. When they input their data to test the *Cronbach's alpha*, it indicated that the result is insignificant.

Conversely, most review journals and empirical studies tend to adopt the mixed approach in defining entrepreneurial behavior. Since Dess et al. (2005) compressed entrepreneurial behavior into five attributes, autonomy, innovativeness, proactiveness, competitive aggressiveness and risk-taking, by reviewing three entrepreneurial behavior model studies. Their approach becomes popular for scholars to use mixed approach to categorize teachers/employees' entrepreneurial behaviors in conducting a research (Bosma et al., 2010; Rekha et al., 2014). In reviewed journals, scholars also intend to construct a systematic categorizing method for defining employees' entrepreneurial behavior in mixed approach. By reviewing some advocacy of entrepreneurial behavior, scholars confined several entrepreneurial behavior through studying empirical studies (Jain et al., 2013; Rusu et al., 2012). Although the type of entrepreneurial behaviors is not the exactly the same as others, using the mixed approach to define the meaning of employees' entrepreneurial behavior is the trend. Scholars who adopt the mixed approach in categorizing employees' entrepreneurial behavior got a significant effect on quantitative research method.

The mixed approach is suitable for the scholar to define TEB, because of some successful experiences in the education sector. For instance, Rherrad et al. (2008) conducted a study of identifying entrepreneurial research staff and measure their contribution to the university. After they conduct an inductive literature review by considering the job nature, they define entrepreneurial behavior as innovative behavior only. Based on this definition, they locate entrepreneurial teachers and study their contribution to the university. Their study revealed that it is paramount to categorize and screen some entrepreneurial behavior in operational level for the study, especially education sector. Oplatka (2014) also adopted the same approach in defining TEB by interviewing ten principals and 30 teachers. Because of using indicative approach, he identified outstanding entrepreneurial teachers' behavior in developing new curriculum and discover other entrepreneurial behaviors by using the deductive approach in the interview.

### 5.3 Defining TEB

We decided to use the inductive approach, because this review aimed at constructing conceptual framework of TEB for scholars. This inductive approach divided into two parts, 5.3.1 construct entrepreneurial behavior term as a reference and 5.3.2 categorizes empirical studies and review journal findings to define the temporary meaning of TEB. For part 5.3.1, we review some scholars' advocacy in defining the meaning of teachers/employees' entrepreneurial behavior. This review is similar to the review journal and empirical studies that it provides a direction for the researcher to categorize TEB.



After we conceptualize the general idea of entrepreneurial behavior, we construct a Table III to summaries and elaborate the meaning of TEB in several categories for part 5.3.2.

### 5.3.1 *Construct temporary meaning of entrepreneurial behavior as a reference*

This part provides a direction for research to define the meaning of TEB in part 5.3.2. We categorized entrepreneurial behaviors into four major categories for the public. They are creativity, innovation, risk-taking and ‘ability to plan and manage projects’. It offers a basic direction for us to defining the meaning of entrepreneurial behaviors.

(1) *Creativity*. Creativity is defined as the ability to develop ideas, or problem solutions which are of value to the entrepreneurial individual and/team in their pursuit of an entrepreneurial opportunity and that take place in a heuristic environment. It is better capturing the uniqueness and the distinctiveness of entrepreneurship. This entrepreneurial behavior enhances staff and organization performance in making a creative strategies (Dess et al, 1997) after acquiring new competence.

(2) *Innovation*. Workplace innovation is one of the entrepreneurial behaviors (Miller, 1983). Workplace innovation means improve performance and working lives, and encourages creativity of employees through positive organizational changes (European Commission, 2016). Marshall (2013) stated that there are different between creativity and innovation. He stated that ‘The main difference between creativity and innovation is the focus. Creativity is about unleashing the potential of the mind to conceive new ideas. Creativity is subjective, making it hard to measure, as our creative friends assert. Innovation is about introducing change into relatively stable systems.’

(3) *Risk-taking*. Risk-taking means make a decision in uncertain situations (Weber et al, 2013). It is a behavior that is tolerant of some risk, but in a calculated way, not recklessly (Gibb, 1998). That is common entrepreneurial behavior particularly in the early stages of the entrepreneurship process (Robinson, 2006). Entrepreneurial individual foresee the opportunity in this uncertainty. As Shane et al (2000) researches explained, the recognition, discovery and take action of opportunities is feature of entrepreneurship in risk-taking, which is the key common element at the heart of entrepreneurial behavior.

(4) *Ability to plan and manage projects*. The ability of planning and managing projects means integrated and internalized capability to deliver sustainable, effective performance in turning vision into action. Entrepreneurial individual take initiative to implement, evaluate and distribute projects (Weber et al., 2013) for achieving their goal. This ability is closely associated with innovation and risk-taking (Lumpkin et al., 1996) in transforming their idea into the practical plan. It is also the final stage of consolidating learning to the practical aspect.

### 5.3.2 *Categorizes empirical studies and review journal findings to define the meaning of teachers/employees’ entrepreneurial behavior*

Based on part 5.3.1, we classified empirical studies and review journal findings into Table III. Six categories have been identified, innovation, risk-taking (opportunity recognition), the ability of plan and manage a project, autonomy with the positive attitude, profit-making and others.



**Table III. Categorizing entrepreneurial behavior for empirical studies and review journals**

Author	Innovation	Risk-taking (Opportunity recognition)		The ability of plan and manage a project		Autonomy with positive attitude	Profit-making
Borasi et al. 2010	Engaging in innovations	Seize opportunities	Confident risk-taking	Making decisions	Creative problem-solving		
Bosma et al. 2010	Develop new product and service	Risk-taking		Overcoming internal resistance		Own initiative	
Davis et al. 2016						Persistence	
Dess et al. 2005	Innovativeness	Risk-taking				Autonomy   Proactiveness	
Eyal et al. 2003	Innovativeness					Proactiveness	
Hayat et al. 2015	Innovativeness	Risk-taking				Proactiveness	
Jain et al. 2013	Innovativeness	Opportunity recognition sensitivity	Risk taking	Achievement orientation			Marketing orientation
Oplatka. 2014	Innovative					Take initiative	
Rekha et al. 2014	Innovative	Risk-taking		Learning from experience		Positive attitude	
Rherrad et al. 2008	Innovative and productive						
Rusu et al. 2012	Innovation	Risk taking (Carrier of uncertainties)		Creation of new organization		Personal satisfaction	Profit making
Sayeed. 2013	Innovator	Adventure		Leader	Change Agent		Entrepreneur
Weber et al. 2013	Innovativeness	Risk-taking		Managing		Autonomy	

(1) *Innovation*. Nearly all empirical studies and review journals identified innovation as one of the entrepreneurial behavior. Creativity is the process of gathering idea, while innovation is gathering and implementing the new idea with evidence. Compare with European Commission, all studies adopted the broad definition of innovation, which covered the definition of creativity. Most scholars defined innovation as developing new idea/concept/product/service for overcoming changes/difficulties (Rherradet al, 2008; Jain et al, 2013; Rusu et al, 2012). The new product or service is the evidence of employees' innovation. Hayat et al (2015) and Oplatka (2014) have a clear definition of innovation for the education sector. They asserted that developing new curriculum and pedagogy are innovation in teaching. Eyal et al (2003) even use innovativeness as a dimension to measure entrepreneurial school in their research. Their significant findings indicated that innovation is an evident indicator for measuring TEB. This match others scholars advocacy in defining innovation, generation of new ideas, ways of doing the old or new task (Mumford, 2011). It indicated that innovation is an essential element in defining entrepreneurial behavior.

(2) *Risk-taking (opportunity recognition)*. It is similar to innovation that risk raking is a crucial element in defining entrepreneurial behavior in all findings. Coincidentally, their definition of risk-taking is also the same as European commission. They saw risk-taking as an act of seizing opportunities (Dess et al., 2005; Weber et al., 2013). Hayat et al (2015) emphasized that entrepreneurial teachers are taking many kinds of risk in performing their duties, such as more adaptive to work beyond the existing paradigm. Because of this reason, researcher renamed it as 'risk-taking (opportunity recognition)', which should be relevant to TEB.

(3) *The ability to plan and manage a project*. Although various researchers use different terms in describing this element, all terms are directly related to the process of operation. For instance, Borasi et al (2010) and Bosma et al (2010) are focusing on deal with management issue, while Sayeed (2013), Weber et al (2013), Rekha et al (2014) and Rusu et al (2012) discusses the way of leading in addressing management difficulties and achieving their goal. It reveals that these scholars discussed the same element by using different terms only. As a result, the researcher decided to use 'the ability of plan and manage a project'. The reason is that it is applicable for teachers' level, which is required to go through the whole process of management from plan to evaluation in creating a new venture. This term implicates the management process of operation and match scholars' finding. Although there is only one education studies discover this element as TEB, teachers supposed to perform this behavior in developing new teaching and learning strategies.

(4) *Autonomy with positive attitude*. The researcher spots this entrepreneurial behavior in systematic empirical studies and review journals, even it is not mentioned by European Commission. In general, autonomy stands for taking an initiative to complete assigned task or personal goals (Dess et al, 2005; Weber et al, 2013; Bosma et al, 2010). Once again, other scholar adopted another term, but it is the same thing at all. For example, persistence (Davis et al, 2016) is the ability to bounce back quickly from disappointment and to remain persistent in the face of setbacks, while positive attitude (Rekha et al, 2014) and personal satisfaction (Rusu et al, 2012) are about working enthusiastically in the task and towards goals. Eyal et al (2003) stated that proactiveness is also an indicator of measuring entrepreneurial behavior in the education sector. These definitions are stick to one principle, taking an initiative to complete an assigned task or personal goals. Most importantly, Hayat et al (2015) and Oplatka (2014) findings reveal that entrepreneurial teachers must have this behavior in developing innovative teaching and learning strategies. Therefore, we decides to treat it as the crucial element in defining TEB.

(5) *Seeking for external resources.* Some studies showed that profit-making is one of the employees' entrepreneurial behavior (Jain et al, 2013; Rusu et al, 2012). These findings implicated that it can be a paramount element in defining employees' entrepreneurial behavior. Conversely, there is no education studies indicated profit-making as a TEB. The main reason is that profit-making is not applicable in the education sector. However, the researcher intends to amend this entrepreneurial behavior as seeking external resources. The primary reason is that teachers are not seeking for profit but seeking for resources in supporting their innovative teaching and learning pedagogy. As Tuggle et al (2010) asserted that entrepreneurial teachers tend to expand network for gathering resources. As a result, we try to convert this behavior from profit-making to seeking external resources.

To simplify the definition of TEB, we summarize it into '*TEB refers to the teacher performs innovation, risk-taking, the ability to plan and manage a project, autonomy with a positive attitude, and seeking for external resources at school.*'

## **6. Conclusion and future directions**

Since there is insufficient understanding of TEB in the educational research, this review also highlights empirical studies and review journals for understanding how scholars define TEB. By concerning the timeliness and reliability of these findings, we screened five major TEB. Surprisingly, seeking for external resources support was the unique findings in the education sector. This discovery reveals that the operational definition of entrepreneurial behavior is the difference between the business and education sector.

### *6.2 Implication for teachers' entrepreneurial studies*

For the theoretical implication, despite an increasing body of empirical studies on TEB, the research niches of defining the definition of TEB is that there is no conceptual definition of TEB in the educational research. This review indicates the pattern and approaches of existing empirical studies in defining entrepreneurial behavior for researchers to conduct TEB study in the future. Nonetheless, the suggested conceptual framework of the definition of TEB has not been tested, which is valuable for scholars to explore this research niches. An in-depth understanding of defining TEB are required through studying in the school context.

For the practical implication, although TEB study is at the startup stage, rising number of this study is inevitable in the past decade. The recognition of TEB is underestimated in the education research and schools context. Nevertheless, many business empirical studies indicate that the effectiveness of employees' entrepreneurial behavior is significant for the organization (Bagheri et al., 2011). As a result, developing employees' entrepreneurial behavior becomes a part of staff professional development for enhancing organizational competitiveness (Ronald, 2009; Anderson et al., 2008; Marvel et al., 2007). This trend of developing employees' entrepreneurial behavior is an indicator for the educator to reflect the importance of TEB as a teachers' professional development. Education scholars should recognize what is TEB and study how they bring impact to the schools. This review identifies the attribute of TEB that futures scholars in the education sector to conceptualize TEB for their research in teachers' competencies. With this in mind, this review highlights mutually reinforcing trends in studying TEB.

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